Alcatel-Lucent

Alcatel-Lucent 1850

Transport Service Switch (TSS-5) | Release 7.1

TL1 Command Guide for T-MPLS

Legal notice

Conformance statements

Federal Communications Commission (FCC) Part 15 Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protections against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's expense.

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Limited warranty

Alcatel-Lucent provides a limited warranty for this product. For more information, consult your local Alcatel-Lucent customer support team.

Notes and Limitations for this edition

This document was produced entirely from TL1 RRS modules, as of March 20 2010, for 1850 TSS-5 R7.1.

The TL1 commands, responses and messages provided herein represent the formal requirements for the TL1 management of this product.

INTRODUCTION

TL1 COMMANDS

INTRODUCTION

1.1 GENERAL

This Manual describes the Transaction Language 1 (TL1) command and response messages available in this release of the NE. These messages consist of input commands, command output response (successful and unsuccessful) messages, acknowledgement output messages, and autonomous output messages.

The general description and syntax for these messages is provided in this section (section 1) of the manual.

A description of each input command and its associated output (successful and unsuccessful) responses is presented in section 2 in alphabetical order by command code.

A description of each autonomous output message is presented in section 3 in alphabetical order by response code.

Supplementary information is included in the appendices which follow section 3. A list of the appendices is provided at the end of this Introduction.

This manual is intended for use by personnel involved in system installation and acceptance, technical support, facility provisioning, plant maintenance, remote administration, and Operations Support Systems development.

1.2 CONVENTIONS

The following conventions, described below, are used in this manual.

1.2.1 TL1 SYNTAX CHARACTERS

The following symbols are used as TL1 command input and response output syntax characters. Some of these symbols are also used in this manual for notational purposes in describing command input format and response output format, but these characters are only used as a literal character in an actual command input or response output as described below.

Symbol	Description
:	A colon is used to separate parameter blocks in an input command or in a parsable text output message.
,	A comma is used to separate parameters within a parameter block of an input command or an output response message.
;	A semi-colon is used as a terminator to indicate the completion, and identify the end, of an input command, a successful or unsuccessful output message, or an autonomous message. A semi-colon does not appear within a parsable text string or within free form, non-parsable, informational text.
>	A greater-than sign is used as a continuation message terminator and indicates additional output associated with the response will follow. A greater-than sign does not appear within a parsable text string or within free form informational text.
<	A less-than sign is used as an acknowledgement message terminator and identifies the end of an acknowledgement output message. A less-than sign does not appear within a parsable text string or within free form informational text.
-	A hyphen is used to separate a command verb and modifiers (the command code) and to separate arguments of a compound parameter.
=	An equal sign is used to separate a keyword parameter from the keyword parameter value.
&	An ampersand is used to group parameter values in an input command (a list of parameter values is generated).
&	An ampersand is used to combine parameter values in an output message (for example, secondary states).
&&	A double-ampersand is used to represent numeric ranging on single or multiple argument values of a (simple or compound) parameter in an input command (a sequential series of parameter values is generated beginning with the first term specified to the last term specified).
.++.	A period - plus sign - plus sign - period is used to indicate a numeric incrementing value, other than zero, is being specified for a numeric &&-range. (Adding the notation .++.N after the last argument value specified in a numeric &&-range results in a sequential series of values where the last argument value of the parameter is incremented by N.)
" ... "	Enclosing quotation marks are used to enclose parsable text strings in an output response message line or to enclose a literal string used for an input parameter value.
/* ... */	Beginning slash-asterisk and ending asterisk-slash is used to enclose non-parsable free-form text strings in an output response message line.
\" ... \"	Enclosing back-slash-quotation is used to enclose non-parsable free-form text strings within a parsable text string in an output response message line.

1.2.2 VALID CHARACTER SET

In the context of this document, a format affector is defined as one of the following characters:

Horizontal Tab (<ht>)

Vertical Tab (<vt>)

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Space (<sp>)

Form Feed (<ff>)

Line Feed (<lf>)

Carriage return (<cr>)

The valid character set for non-string (i.e., characters not enclosed in double quotes "") command input and command output (i.e. characters not enclosed in backslash double quotes sequences \" \") is:

Upper and lower case alphabetical characters unless otherwise specified in a command's descriptions.

Decimal numbers 0 through 9

Special characters:

Character	Description
-	underscore
+	addition or plus sign
%	percent sign
#	number or pound sign
.	single period (for decimal representation)
(-<value>)	negative number representation where <value> is a numerical value

In addition, the following special characters are reserved for TL1 command input syntax and may not be used as part of a parameter's value unless otherwise specified in a command's description

Character	Description
:	colon
;	semi-colon
,	comma
-	hyphen or dash sign
=	equal sign
&	ampersand
"	quotation mark

The maximum acceptable value of a numeric parameter is 4294967295. Beyond that limit, the parser will reject the command with a syntax error.

The following ASCII characters are allowed (valid) to be entered as input parameter values when enclosed in double quotes (""):

Upper and lower case alphabetical characters unless otherwise specified in a command's description.

Decimal numbers 0 through 9

Special characters:

Character	Description
_	underscore
+	addition or plus sign
%	percent sign
#	number or pound sign
.	single period (for decimal representation)
!	exclamation
&	ampersand
*	asterisk
()	parenthesis
'	apostrophe
,	comma
-	dash
.	period
/	forward dash
:	colon
=	equal sign
?	question mark
	space character, ASCII code 32
[]	square brackets
^	caret
$	dollar sign
{}	curly brackets
		pipe
~	tilde
@	at sign

NOTE: terminator characters are excluded from the allowed ones.

The following ASCII characters are allowed (valid) to be displayed as text string in output parameter values:

Upper and lower case alphabetical characters unless otherwise specified in a command's description.

Decimal numbers 0 through 9

Special characters:

Character	Description
_	underscore
+	addition or plus sign
%	percent sign
#	number or pound sign
.	single period (for decimal representation)
!	exclamation
&	ampersand
*	asterisk
()	parenthesis
'	apostrophe
,	comma
-	dash
.	period
/	forward dash
:	colon
=	equal sign
?	question mark
	space character, ASCII code 32
[]	square brackets
^	caret
$	dollar sign
{}	curly brackets
		pipe
~	tilde
@	at sign

All alpha characters entered by the user must in upper case except:

Command code (verb-modifier-modifier), which may be entered in either upper or lower case, or a mixture of upper and lower case.

Values for CTAG (Correlation Tag), which may be entered in upper or lower case.

Values for PID (Password Identifier), UID (User Identifier), which must be entered in the same case as when created.

Values for TID (Target Identifier), which is converted to upper case for comparison to the provisioned SID (Site Identifier) value.

Values for SID (Site Identifier), which is converted to upper case for comparison to the entered TID (Target Identifier) value.

Format affectors are ignored by the system's command parser when entered in a command input message in the following cases:

Before or after a command verb or verb modifier in a command code.

Before or after a command syntax punctuation or operator character, that is:

Character	Description
:	colon
,	comma
;	semi-colon
-	dash
=	equal
&	ampersand
&&	double ampersand
&-	ampersand dash
&&-	double ampersand dash
.++.	period plus sign plus sign period
(	left parenthesis
)	right parenthesis

Before or after a command parameter name or a parameter value.

The case of characters displayed by output messages will be the same case as entered or as when created except:

Values for TID (Target Identifier), which is always displayed in upper case.

Values for SID (Site Identifier), which is always displayed in upper case.

Values for <VERB>-<MODIFIER>[-<MODIFIER>], which is always displayed in upper case.

Values for parameters names, which are always displayed in upper case.

Command echo is always displayed in the same case as entered except for the Command code which as noted above is always displayed in upper case.

The system will ignore all leading zeroes (that are not enclosed in double quotes "") in a command input parameter (e.g., DAT=000002, DAT=02 are accepted). The retrieval output parameter will display the entered parameter in the fixed format specified in such command descriptions (e.g., in the previous example, the output DAT parameter would be displayed as DAT=02 for both cases).

Whenever a parameter value takes a negative number (real or integer), this value must be preceded by the minus sign, and enclosed between parentheses. Valid examples are (-3) or (-2.4).

1.2.3 PARAMETER VALUE SET NOTATION

In most cases, an input parameter of a command has more than one possible value. A parameter's set of values, or domain, is defined in this manual by using the following notation:

Notation	Description
,	A comma is used to separate parameter values when multiple values exist.
-	A hyphen is used to indicate a range of values for the parameter, or a range of values within an argument of a compound parameter. For example, 1-12 indicates a value set of 12 discrete values from one through twelve. A hyphen may also be a literal character of a compound parameter's value.
<...>	Enclosing less-than and greater-than signs are used to enclose a description of the parameter's domain when this is more understandable than an exact definition of the domain. For example, < 1 - 6 VALID CTAG CHARACTERS > describes the CTAG domain of 1-6 case sensitive alphanumeric characters.
{...}	Enclosing braces are used to enclose a set of values. Enclosing braces may be nested. For example: Enclosing braces as used to enclose a set of values. {LOF, LOS} describes a value set consisting of the values LOF and LOS. Enclosing braces as used to enclose an argument of a compound parameter when a range of values exist for the argument of the compound parameter. {ABC - {1-16} - {1-16} }describes a value set of 256 discrete values from ABC-1-1 through ABC-16-16 (note that the hyphens outside of the braces are literal characters in the parameter's value). Braces as used to enclose a value subset that has been named to provide additional clarity. A value subset may be named when the possible values of a parameter consist of more than one type of value (or when naming the value set provides additional clarity). When a value subset is named, the name of the value subset and the value subset are separated by a colon (:). {Date:{0-99} - {1-12} - {1-31}, Day:{SUN,MON,TUE,WED,THU,FRI,SAT,ALL,ODD,EVEN} } describes a value set that consists of two types of value subsets, one value subset named Date and the other value subset named Day.
:	A colon is used to separate the name of a value subset and the value subset when the value subset has been named for additional clarity. Refer to the example above.

The parameter value <NoVal> is used to indicate a parameter value of "no value". <NoVal> is used in describing input parameters when an unpopulated (not entered) parameter value has an explicit definition other than another specific parameter value or "previously existing value". <NoVal> is used in describing output parameters when no displayed output parameter value is part of the output parameter value set.

Assuming the output parameter is supported for a given output response (i.e., output parameter is supported for specified retrieval of a provisioned AID), if <NoVal> or a Null value is a part of the output parameter set and if <NoVal> or a null value is assigned to a keyword defined output parameter then that output parameter will display no output to the right of the "=" sign.

1.2.4 COMMAND INPUT FORMAT NOTATION

The following notation is used in this manual to describe a command's input format:

Notation	Description
[...]	Enclosing brackets are used to enclose an optional command input parameter.
<...>	Enclosing less-than and greater-than signs are used to indicate a value substitution. The enclosing less-than and greater-than signs are not part of the actual input command. Generally, this notation is only used in this section to provide additional clarity in the syntax descriptions for an input command.

Also refer to section 1.2.1., TL1 Syntax Characters, for a description of the TL1 command input syntax characters, and to section 1.4.3, Command Input Format, for a description of each command input parameter block.

1.2.5 OUTPUT RESPONSE FORMAT NOTATION

The following notation is used in this manual to describe a command's output response message or an autonomous output response message:

Notation	Description
^	A caret is used to identify a space in a output response message. Generally, this notation is only used in this section to provide additional clarity in the syntax descriptions for output messages.
cr	"cr" (carriage return) is used to indicate a carriage return in an output response message. Generally, this notation is only used in this section to provide additional clarity in the syntax descriptions for output messages.
lf	"lf" (line feed) is used to indicate a line feed in an output response message. Generally, this notation is only used in this section to provide additional clarity in the syntax descriptions for output messages.
(...)	Enclosing parenthesis may be used to enclose a group of symbols in an output response, generally to provide additional notational clarity. Enclosing parenthesis are also used in the non-parsable command echo line to enclose the Session Number pertaining to the output response message. The enclosing parenthesis are not part of the actual output message, except when used in the command echo line of an output response.
[...]	Enclosing brackets are used to enclose an optional item or group of items (for example, a parameter or output response message line) in an output response. Enclosing brackets are also used in the non-parsable command echo line to enclose the CTAG value pertaining to the output response message. The enclosing brackets are not part of the actual output message, except when used in the command echo line of an output response.
<...>	Enclosing less-than and greater-than signs are used to indicate a value substitution. The enclosing less-than and greater-than signs are not part of the actual output message.
{...}	Enclosing braces are used to enclose a set of values. Generally, enclosing braces are used in the notation for the non-parsable command echo line and in describing an output parameter's value set. The enclosing braces are not part of the actual output message.
,	A comma is used to separate parameters within an output response message, and is also used as part of a parameter's value set notation to separate parameter values. When used to separate parameter values within a value set, the separating comma is not part of the actual output message.
-	A hyphen is used in describing an output parameter's value set to indicate a range of values for the parameter, or a range of values within an argument of a compound parameter. A hyphen may also be a literal character of a compound parameter's value.
*	An asterisk that is following enclosing brackets or parenthesis is used to indicate the enclosed item may appear in an output response message zero, one or more times. The enclosing brackets or parenthesis and asterisk are not part of the actual output message. Generally, this notation is only used in this section to provide additional clarity in the syntax descriptions for output messages.
+	A plus sign that is following enclosing brackets or parenthesis is used to indicate the enclosed item may appear in an output response message one or more times. The enclosing brackets or parenthesis and plus sign are not part of the actual output message. Generally, this notation is only used in this section to provide additional clarity in the syntax descriptions for output messages.

1.3 COMMAND ENTRY

Network and User access is provided through TCP/IP on the LAN port of the LAN Switch board.

One command entry mode is available, Direct Input Command Entry mode. In Direct Input Command Entry mode, commands are entered in their entirety by the user.

1.3.1 DIRECT INPUT COMMAND ENTRY MODE

In Direct Input Command Entry mode, commands are entered by typing the desired command on the command input line, ending with a ; (semi-colon).

1.4 COMMAND DESCRIPTIONS

Command descriptions for each command are located in section 2 of this manual. Each command description consists of the following subsections:

Command Header   consists of the command code and name.

Purpose   provides information on the function of the command.

Input Format   shows the command's TL1 input syntax. Refer to section 1.4.3, Command Input Format, for a description of the format and notation for a TL1 command as used in this manual.

Input Parameters   describes the input parameters and parameter values that can be used with the command. With regards to the input order of the Keyword-defined parameters as the appear in this manual, Keyword-defined parameters may be entered in any order (the keyword defines the parameter value being entered). Refer to section 1.4.4., Input Parameter Descriptions, for a description of the format used for this section of a command description.

Successful Response Format shows the normal (successful) response format for the command. With regards to the output order of the Keyword-defined parameters as the appear in this manual, the system may generate an output response message with the keyword parameters in non-alphabetical order (the keyword in the output response defines the parameter value being reported). Refer to section 1.6., Command Response Messages, for a description and syntax of command output response messages.

Output Parameters   describes the output parameters and parameter values shown in the output response message, if any, except for parameters in the response header. An Output Parameters section is not shown if the command does not provide output parameters. Refer to paragraph 1.4.6., Output Parameter Descriptions, for a description of the format used for this section of a command description.

Unsuccessful Response Format   shows the error (unsuccessful) response format for the command. Refer to section 1.6., Command Response Messages, for a description and syntax of command output response messages.

Error Codes   lists the error codes associated with the command's unsuccessful response.

Examples provides one or more illustrations on the use of the command.

Related Commands   provides a list of closely related or prerequisite (commands that must be executed before the described command can be executed) commands.

Related Autonomous Responses   provides a list of closely related autonomous response messages, if any.

1.4.1 COMMAND HEADER

The Command Header section of a command description is at the top of the first page of the command's description. The command header consists of two parts, the command code which provides the command verb and one or two modifiers as applicable:

COMMAND CODE: ACT-USER

and the command name, which provides the command's full name:

COMMAND NAME: ACTIVATE USER

1.4.2 PURPOSE

The Purpose section of a command description describes the use or effect of the command and discusses the command's functionality.

1.4.3 COMMAND INPUT FORMAT

The Input Format section of a command description shows the command's valid TL1 syntax. A TL1 command is an input message which consists of a command code, blocks of parameters, and punctuation. The input message begins with the command verb and must end with a semicolon (;) terminator. The general command input format takes the form:

VERB-MODIFIER[-MODIFIER]:[TID]:[AID]:[CTAG]:[GENERAL]:[POSITIONAL]:[KEYWORD]:[STATE];

The maximum character length of any input message is 1024 characters.

When this limit is reached, the incomplete truncated command as typed is sent to the parser which will return a syntax error (unless the 1024th character happens to be a semi–colon), as it would for any incomplete command.

A series of parameter blocks follow the command code. Parameter blocks contain zero, one or more parameters. Parameter blocks are separated from the command code, and from each other, by a colon (:). Parameters within a parameter block are separated from each other by a comma (,). All parameter blocks are not required by all commands, nor are all parameters always required for each block.

Brackets [...] are used in the command input format to indicate optional parameters within a block. Absence of brackets indicate the parameter must be entered. The brackets are not entered as part of the actual command and are only shown for notational purposes. The syntax characters , (comma) or : (colon) can also be optional (as described below), but brackets are not necessarily used to indicate that they are optional.

If one or more parameter blocks are omitted from the end of a command (no parameters are entered in the last block(s) of a command), the trailing colons associated with them may be omitted. In addition, if one or more parameters are omitted from the end of a parameter block, the trailing commas associated with them may be omitted. However, if an optional parameter value in a positional parameter block is omitted with other positional parameter values following, all of the intervening place-holder commas must be provided to indicate no value is being entered for that positional parameter. No additional commas are needed if an optional keyword parameter is omitted from a keyword parameter block; only commas separating each keyword parameter are required in the keyword parameter block.

Trailing commas at the end of a Positional, AID, or State block are optional. The parser accepts 0 to n trailing commas (e.g.,[a],, or [a]) where n is the maximum number of input parameters in a block minus 1.

Commas in the Keyword block are used to separate keyword parameters.

An Example of syntactically correct keyword parameter block is:

PARM1=VALUE1, PARM2=VALUE2

Examples of syntactically incorrect keyword parameter blocks are:

,,PARM1=VALUE1, PARM2=VALUE2 (incorrect because of the two leading commas)

PARM1=VALUE1,,PARM2=VALUE2 (incorrect because of the two separating commas)

PARM1=VALUE1, PARM2=VALUE2,, (incorrect because of the two trailing commas)

Trailing colons at the end of any command are optional. The parser accepts 0 to n trailing colons (e.g.,"RTRV-HDR:::;" or "RTRV-HDR;") where n is the maximum number of blocks minus 1.

1.4.4 INPUT PARAMETERS

The Input Parameters section of a command description describes all required and optional parameters listed in the Input Format section of a command description, and describes the possible values, default value, and any addressing or restrictions for each parameter. The general format of the Input Parameters section is:

PARM   {PARAMETER_VALUE_SET}

    Default: {Default Value}

    Addressing: Any parameter addressing or grouping rules

    Description: Description of the parameter. Values are:

        PARM_VALUE Value's Name: Description of the input parameter's values.

    Restrictions: Any restrictions pertaining to the parameter or parameter's values.

where:

    PARM: The parameter identifier. A positional parameter is identified by PARM, a keyword parameter is identified by PARM=.

    PARAMETER_VALUE_SET: The parameter's set of values or domain.

    Default: The default value of the parameter if the parameter is omitted from the input command (the parameter value assumed by the system and/or obtained via an associated retrieve command if the parameter is not entered in the command).

    Addressing: Any parameter ranging and grouping addressing rules.

    Description: The input parameter's name and a brief description of the parameter.

    PARM_VALUE: The parameter's value identifier and description for each of the parameter's values. PARM_VALUE is only shown when applicable, for example, it's not shown for the TID or CTAG parameters.

    Restrictions: Tny restrictions pertaining to the parameter or the parameter's values. Restrictions are only described when applicable.

Input parameters in this release will all abide by the following rules.

Omitting an optional keyword or positional parameter from a TL1 command other than an "ED" or a "SET" type TL1 command will have the identical effect as actually entering that TL1 parameter with its default value assigned.

Except for keyword defined CMDMDE or MODE parameter (whose default is always NORM), omitting an optional keyword or positional parameter from an "ED" or a "SET" type TL1 command will have no effect on that parameter (i.e. the default is "previously existing value" for "ED" or "SET" TL1 command).

Upper or lower case alphabetical characters (a-z, A-Z), decimal numbers (0 through 9), and the special characters underscore (_), plus (+), percentage (%), pound (#) will be the only valid characters for symbolic name values (eg., UID parameter values). Dash (-) is also allowed for separating compound values (eg., TL1 command names, TID, SID, AID parameter values).

1.4.4.1 TID Parameter Block

The Target Identifier (TID) is optional and is the first block after the command code. The TID value is used to specify the target system for remotely issued commands. If unpopulated (not entered), the system assumes a TID value of the (upper case) Site Identifier (SID) value. If a value is entered for TID, that value is converted to upper case and compared with the provisioned (upper case) SID value. The command is denied if the converted upper case TID value and provisioned (upper case) SID value don't match and DCC is not supported.

A TID is the first parameter block after the command code. TID may be optional.

Valid values for TID are:

1 to 20 alphanumeric characters or hyphens (-). A TID value begins with an alpha character and end with an alphanumeric character. Consecutive hyphens (-) will not be allowed.

> OR

1 to 20 characters quoted string, that is any string of maximum 20 characters, including special characters, included in double quotes.

The values for TID may be entered in upper or lower case. If unpopulated (not entered), the system assumes a TID value of the (upper case) Site Identifier (SID) value.

1.4.4.2 AID Parameter Block

The Access Identifier (AID) value is generally a letters and digits compounded value and directs an input command to its intended equipment, facility, or data entity.

An AID is the second parameter block after the command code. An AID may be optional, and may be a compounded value comprised of alphanumeric characters and dashes (where dashes are separators).

An AID value directs an input command to its intended equipment, facility, or data entity.

1.4.4.3 CTAG Parameter Block

The Correlation Tag (CTAG) is an optional block and is used to correlate an input command with its associated output message by copying the command's CTAG value into the appropriate field of the command's output response. An optional CTAG value can be generated by the OS for every command. If an invalid CTAG value is identified in a command, the NE denies the command and responds with the error code IICT and with the number "0" in the CTAG field(s) in the TL1 response, except for the actual command echo. Note that the CTAG value received in a command need not be unique.

The CTAG shall be the third parameter block after the command code. The CTAG is optional, and if present and valid it shall be used to correlate an input command with its associated output message by copying the command's CTAG value into the appropriate field of the command's output response.

In the case where an invalid CTAG value is received with a command, or the NE is unable to parse the CTAG field in the input command, the NE shall deny the command with a IICT (Input, Invalid Correlation Tag) error code, and shall provide a single decimal character zero (0) CTAG value in the deny output response for the command, except for the actual command echo.

In the case where the CTAG value is not received with a command, i.e. CTAG is missing, the NE shall accept the command if not otherwise invalid, and shall use an internally generated CTAG in the response.

Valid values for CTAG shall consist of a TL1 identifier or non-zero decimal number of no more than 6 characters from GR-831 listed below:

```
<ctag> ::= <ident> | <dec num>
Where
<ident> ::= <let> (<let> | <dig>)*
and
<dec num> ::= [D'] <dig>* [.] <dig>+
The definition of a letter is
<let> ::= A | B | ... | Z | a | b | ... | z
and the definition of a digit is
<dig> ::= 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9
```

1.4.4.4 General (Delayed Activation) Parameter Block

Delayed Activation is not supported in this release.

The general block is used for specifying delayed activation (DA) parameters. Delayed activation is only supported by those commands that include the general block in the command's input format. Brackets are used to indicate an optional parameter value. If one or more parameter values are omitted from the end of the block, the trailing commas associated with them may be omitted. However, if a parameter value is omitted with other positional parameter values following, all of the intervening place-holder commas must be provided to indicate no value is being entered for that parameter. The system assumes the default parameter value for omitted optional parameter values.

The format of the general block is:

:[<ON>],[<DATE>],[<TIME>],[<FLAG>]

1.4.4.5 Positional Parameter Block

Parameters in the positional block are defined by their position or sequence in the block. Brackets are used to indicate optional parameter values. Absence of brackets indicate the parameter value must be entered. If one or more parameter values are omitted from the end of the block, the trailing commas associated with them may be omitted. However, if an optional parameter value is omitted with other positional parameter values following, all of the intervening place-holder commas must be provided to indicate no value is being entered for that parameter. The system assumes the default or existing parameter value for omitted optional parameter values. Parameter value combinations are verified by the system whether the value is determined from a default value or explicitly entered in the command.

The format for a positional parameter block is:

:[<PARM#1_Value>],[<PARM#2_Value>],[<PARM#3_Value>],....,[<PARM_Value#n>]

For notational simplicity, the enclosing less-than and greater-than signs are not shown in a command description when describing a command's TL1 syntax. Only the parameter name, and any brackets to identify an optional parameter, is shown in the parameter block (:[PARAMETER#1],[PARAMETER#2] etc.), but the appropriate parameter value is entered for a parameter in an actual input command.

1.4.4.6 Keyword Parameter Block

Parameters in the keyword block are defined by the use of a keyword parameter name. A value for a keyword parameter is specified by entering the parameter name followed by an = (equal sign) followed by the parameter value. Keyword parameters may be entered in any order within the keyword block but must be separated by a comma. Only commas separating each keyword parameter are required in the keyword parameter block, but the keyword block may not begin or end with a comma. Brackets are used to indicate optional parameters and their associated comma separators. Absence of brackets indicate the parameter and any comma separator must be entered. The system assumes the default parameter value for omitted keyword parameters. Parameter value combinations are verified by the system whether the value is determined from a default value or explicitly entered in the command.

The format for a keyword parameter block is:

:[KEYWORD#1=VALUE#1][,KEYWORD#2=VALUE#2]....[,KEYWORD#n=VALUE#n]

For notational simplicity, keyword input parameters in a command input description are (generally) shown in alphabetical order, but the keyword input parameter value is not shown when describing a command's TL1 input syntax. Only the keyword input parameter name followed by an equal sign, and any brackets to identify an optional parameter, is shown in the input parameter block (:[KEYWORD#1=][,KEYWORD#2=] etc.), but the keyword input parameter and keyword value is entered in an actual input command.

For keyword output parameters, the parameters in a command ouput description are also (generally) shown in alphabetical order. The keyword output parameter name followed by an equal sign followed by <value>, and any brackets to identify an optional parameter, is shown in the output parameter block (:[KEYWORD#1=<value>] [,KEYWORD#2=<value>] etc.).

1.4.4.7 State Parameter Block

The state parameter block is a positional block with parameters defined by their position or sequence in the block. The state block is only supported by those commands that include it in the command's input format. When supported, the PST (Primary State) parameter is shown. Brackets are used to indicate optional parameter values. Absence of brackets indicate the parameter value must be entered. Parameter value combinations are verified by the system whether the value is determined from a default value or explicitly entered in the command.

The format for a state parameter block is:

:[<PST>]

For notational simplicity, the enclosing less-than and greater-than signs are not shown in a command description when describing a command's TL1 syntax. Only the parameter name, and any brackets to identify an optional parameter, is shown in the parameter block (:[PST]), but the appropriate parameter value is entered for a parameter in an actual input command.

1.4.5 SUCCESSFUL RESPONSE FORMAT

Command response messages provide information about responses that would result from entering a command. Commands entered result in response messages which provide results or status of the command. A successfully executed command results in a successful response. If a successful response cannot be sent within two seconds of receipt of an input command, an In-Progress acknowledgement response message is sent to the user. Refer to section 1.6., Command Response, for a description and syntax of command output response messages.

1.4.6 OUTPUT PARAMETERS

The Output Parameters section of a command description describes all output parameters included in the command's successful response message, except those in the response header. If the command does not produce output parameters, this section does not appear. The format of the Output Parameters section is:

PARM   { PARAMETER VALUE SET }

> **Description:**   Description of the Output parameter. Values are:
>
> > PARM_VALUE Value's Name: Description of the output parameter's values.

where:

> **PARM:** the output parameter's identifier.
>
> **PARAMETER VALUE SET:**   the output parameter's set of values or domain.
>
> **PARM_VALUE:** the parameter's value identifier and description for each of the output parameter's values. PARM_VALUE is only shown when applicable.

1.4.7 UNSUCCESSFUL RESPONSE FORMAT

Command response messages provide information about responses that would result from entering a command. Commands entered result in response messages which provide results or status of the command. Commands which did not execute properly result in an unsuccessful response. If an unsuccessful response cannot be sent within two seconds of receipt of an input command, an In-Progress acknowledgement response message is sent to the user. Refer to section 1.6, Command Response, for a description and syntax of command output response messages.

1.4.8 ERROR CODES

The Error Codes section of a command description lists the error codes associated with the command's unsuccessful response. The error code acronym, the expanded error code description, and any informational error description text that may be generated by the system for the Error Code, is provided for each Error Code listed. Error Codes common to all commands that are generated because of a Command Parser/Common Application error are shown in Appendix D, Error Codes, and

are not duplicated in this section. Only non-Parser generated Error Codes are shown in this subsection. The Command Parser/Common Application error codes are also described in section 1.11.

1.4.9 EXAMPLES

The Examples section of a command description illustrates the use of the command.

1.4.10 RELATED COMMANDS

The Related Commands section of a command description provides a list of closely related or prerequisite commands.

1.4.11 RELATED AUTONOMOUS RESPONSES

The Related Autonomous Messages section of a command description provides a list of closely related autonomous messages, if any.

1.5 AUTONOMOUS RESPONSE FORMAT

Autonomous response descriptions for each autonomous response are located in section 3 of this manual. Refer to section 1.7, Autonomous Responses, for a description and syntax of autonomous response messages. Each autonomous response description consists of the following subsections:

Response Header   consists of the response code and name.

Purpose   provides information on the function or cause of the autonomous response.

Response Format   shows the response format for the autonomous response.

Output Parameters   describes the parameters and parameter values shown in the autonomous response, except for parameters in the response header. The description format for this section is the same as that used for describing a command's output parameter. (Refer to paragraph 1.4.6., Output Parameter Descriptions.)

Examples provides one or more illustrations of the autonomous response.

Related Commands   identifies any closely related commands, if any.

Related Autonomous Responses   provides a list of closely related autonomous responses, if any.

1.5.1 RESPONSE HEADER

The autonomous response Header section of an autonomous response description is at the top of the first page of the autonomous response description. The autonomous response header consists of two parts, the autonomous response code which provides the response verb (e.g., REPT) and one or two modifiers, as applicable, separated by a ^ (caret) to represent a space:

RESPONSE CODE: REPT^EVT^EQPT

and the autonomous response name, which provides the full name of the autonomous response:

RESPONSE NAME: REPORT EVENT EQUIPMENT

1.5.2 PURPOSE

The Purpose section of the autonomous response description describes the use or cause of the autonomous response.

1.5.3 RESPONSE FORMAT

Refer to section 1.7., Autonomous Responses, for a description and syntax of command output response.

1.5.4 OUTPUT PARAMETERS

See section 1.4.6.

1.5.5 EXAMPLES

The Examples section of each autonomous response description illustrates the autonomous response.

1.5.6 RELATED COMMANDS

The Related Commands section of an autonomous response description provides a list of closely related commands, if any.

1.5.7 RELATED AUTONOMOUS RESPONSES

The Related Response section of an autonomous response description provides a list of closely related responses, if any.

1.6 COMMAND RESPONSES

Command response messages provide information (data, status, etc.) as a result of entering a command. A successfully executed command results in a successful response. Commands which did not execute properly result in an unsuccessful response. If a successful or unsuccessful response cannot be sent within two seconds of receipt of an input command, one In-Progress acknowledgement response message is sent to the user.

All responses, except an Acknowledgement Response, begin with a header line:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS>
```

where:

SID   is the upper case Site Identifier as created by the SET-SID command.

YY-MM-DD   is the year-month-day, where YY is the last two digits of the year, MM is the month, and DD is the day of the month.

HH:MM:SS   is the current time of day, where HH is the hour with a range from 00 to 23, MM is the minutes, SS is the seconds, with a range for MM and SS is from 00 to 59.

The last response line before the message terminator is a non-parsable "command echo" line. The format of a command echo line is:

^^^/*^<Command_Echo>^[<CTAG>]^(<CID[-VCNUM]>)^*/

or

^^^/*^<Command_Echo>^[<CTAG>]^(CRON:<Order_Number>)^*/

or

^^^/*^<Command_Echo>^[<CTAG>]^([<PORT>-]<Session_Number>)^*/

or

^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/

with a composite format representation of

^^^/*^<Command_Echo>^[<CTAG>]^({<CID[-VCNUM]>,CRON:<Order_Number>,[<PORT>-]<Session_Number>})^*/

where:

<Command_Echo>   is an exact matching of the input command entered, except for commands that have password as an input parameter (ACT-USER, ENT-USER,

ED-PID commands) do not display any parameter values after the CTAG as part of the command echo.

<CTAG>   is the associated CTAG value, displayed within brackets [...].

<CID[-VCNUM]>   is the communication port number and virtual channel number, if any, used to enter the command, displayed within parentheses (...).

CRON:<Order_Number>   is the delayed activation order number used to enter the command, displayed within parentheses (...).

[<PORT>-]<Session_Number> is the communication port number (if any) and LAN session number used to enter the command, displayed within parentheses (...)

<Session_Number>   is the LAN session number used to enter the command, displayed within parentheses (...)

The last response line, as well as any other comment line in the response, shall not contain any terminator character (e.g. ";" at the end of the command echo). This is because any terminator char will be interpreted as the end of the response by the NMA system. So, the only allowed terminator char in a response shall be the last char of the response itself.

The maximum character length of any output response line is 1024 characters (before the output is truncated excluding cr lf).

Output response lines that are longer than the terminal display line automatically wrap to the first character position of the next line if the terminal is supporting an auto-wrap capability. The system does not insert a "cr lf" within a single output response line to prevent line "run-off" on terminals that do not have an auto-wrap capability.

Up to six two-character acknowledgment codes (IP, OK, RL, NG, NA, PF) and five completion codes (i.e.., COMPLD, DELAY, PRTL, CANCLD and DENY) can be supported in the output responses.

Two two-character acknowledgment codes (IP, and OK) and four completion codes (i.e.., COMPLD, PRTL, CANCLD and DENY) can be supported in the output responses.

When a valid TL1 command with an AID field that specifies an input range of AIDs is executed, only one complete (COMPLD), partially complete (PRTL), or fail message (DENY) for the entire elements will be sent to the user.

The output response will support the following completion codes:

DELAY: Represents successful queuing of the input command submitted for delayed activation.

CANCLD: Represents the cancellation of an in-progress operation (e.g., cancellation of database backup in progress).

COMPLD: Represents total successful execution of the input command.

PRTL: Represents partial successful execution of the input command. This response code is returned for output response to input commands specifying multiple AIDs of which only a subset (but not an empty subset) have been successfully executed. If all AIDs have failed to be executed, the response code will be DENY.

DENY: Represents total denial of the input command.

Commands which uses a range will send response(s) (whether one or multiple responses) containing the same CTAG.

1.6.1 ACKNOWLEDGEMENT RESPONSE FORMAT

IP (In-Progress) Acknowledgement Message: If the system experiences an excessive delay in the processing of an input command such that a response to a command (successful or unsuccessful) cannot be sent within two seconds of receipt of the command, one command acknowledgement

response (In-Progress message) will be automatically generated and sent to the user. An acknowledgement response does not interrupt other output responses currently in progress. The IP (In-Progress) acknowledgement message indicates the command has been initiated and a completion message follows.

The "cr lf lf" at the beginning of an acknowledgement message, any non-parsable (/* ... */) lines containing informational text in an acknowledgement response, and the non-parsable command echo line in an acknowledgement response shall be always present

The general format of an IP acknowledgement message is:

```
[cr lf lf]
IP^<CTAG> cr lf
[^^^/*^<Free_Form_Informational_Text>^*/ cr lf ]*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf ]
<
```

For the IP acknowledgement message described above, all the messages will have the same CTAG as the command that the system is unable to respond to within two seconds.

The IP acknowledgement response shall be the only type of acknowledgement message provided. The PF (Printout Follows), NA (No Acknowledgement), NG (No Good), OK (Good) and RL (Repeat Later) acknowledgement messages shall not be supported. The system shall generate an unsuccessful DENY response in lieu of any unsupported acknowledgement response that may occur.

If the system experiences an excessive delay in the processing of an input command, the system will send an acknowledgement message indicating the pending state to an OS. If a successful or unsuccessful response can not be sent within two seconds of receipt of an input command, one IP acknowledgement response message will be sent to the user.

1.6.2 SUCCESSFUL RESPONSE FORMAT

A single successful response message is generated if a command with a single AID specified is successfully executed. Information displayed in the response varies with each command and is specified in the command description. The general format of a successful response message is shown below.

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^"<Parsable_Output_Data>" cr lf ]*
[^^^/*^<Free_Form_Informational_Text>^*/ cr lf ]*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)*^*/ cr lf ]
;
```

Unless otherwise specified in the individual I/O manual pages, the output format for any TL1 command that has successfully executed is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^"[AID1[,AID2]]:[<position-defined parameter
value1>,<position-defined parameter
valueN>]:[keyword1=<value>[,keywordN=<value>]]:[PST[,SST]]" cr lf]*
[^^^/* <Free_Form_Informational_Text> */ cr lf]*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

1.6.3 UNSUCCESSFUL RESPONSE FORMAT

A single unsuccessful response message is generated if:

A command (other than to establish a log-on session) with a **single AID** specified fails to execute.

A Retrieval or Non-Retrieval command is issued using &&-ranging or &-grouping and the command **fails to execute for all** of the specified AIDs for a **single error code** (fails to execute for only one type of error - **Single Error Denial Response** generated).

A Retrieval or Non-Retrieval command is issued using &&-ranging or &-grouping and the command **fails to execute for all** of the specified AIDs for **multiple error codes** (fails to execute for more than one type of error - **Multiple Error Denial Response** generated).

An ACT-USER command to establish a log-on session fails to execute (**Session Attempt Denial Response** generated).

The information displayed in an unsuccessful response message varies for different commands and is specified in the command description. If a parsable line of output data is provided, the <Parameter_Block> field provides information about the location of any error(s) in the input command.

Single Error Denial Response: The general format of a Single Error Denial Response is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<Error_Code> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf ]
([^^^"[AID1[,AID2]]:[<position-defined parameter
value1>,<position-defined parameter
valueN>]:[keyword1=<value>[,keywordN=<value>]]:[PST[,SST]]" cr lf ]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf ]*
[^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]*)*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf ]
;
```

Multiple Error Denial Response: The general format of a Multiple Error Denial Response is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^MERR cr lf
(^^^"[<AID1>[,<AID2>]]:ERCDE=<Error_Code>[,<position-defined
parameter value1>,<position-defined parameter
valueN>]:[keyword1=<value>[,keywordN=<value>]]:[PST[,SST]]" cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf ]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf ]*
[^^^/*^<Optional Suggested Action Text>^*/ cr lf ]*)+
[^^^/*^Multiple ERRor^*/  cr lf  ]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf ]
;
```

Session Attempt Denial Response: In the special case where a user attempts to log-on to the system (with the ACT-USER command) but enters an incorrect UID (User Identifier) or an incorrect PID (Password Identifier), the system will generate the following unsuccessful response message. For security reasons, an Error Code is not provided with this response.

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^/*^session^not^active^*/ cr lf
;
```

<Error CODE> and additional expanded error description text will not be provided for any command or any unparsable character sequence prior to a user successfully logging into the system. The output response is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^/*^session^not^active^*/ cr lf
;
```

Unless otherwise specified in the individual I/O manual pages, the output format for any TL1 command that has partially completed is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^PRTL cr lf
(^^^"[<AID1>[,<AID2>]]:ERCDE=<Error_Code>[,<position-defined
parameter value1>,<position-defined parameter
valueN>]:[keyword1=<value>[,keywordN=<value>]]:[PST[,SST]]" cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]*
[^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]*)*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

1.6.4 RETRIEVALS

Successful RETRIEVAL Response: Unless otherwise specified in the individual I/O manual pages, the general format of a Successful Retrieval Response is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^"[AID1[,AID2]]:[<position-defined parameter
value1>,<position-defined parameter
valueN>]:[keyword1=<value>[,keywordN=<value>]]:[PST[,SST]]" cr lf]*
[^^^/* <Free_Form_Informational_Text> */ cr lf]*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

Partially Successful RETRIEVAL Response: Unless otherwise specified in the individual I/O manual pages, the general format of a Partially Successful Retrieval Response is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^PRTL cr lf
(^^^"[<AID1>[,<AID2>]]:[ERCDE=<Error_Code>,][<position-defined
parameter value1>,<position-defined parameter
valueN>]:[keyword1=<value>[,keywordN=<value>]]:[PST[,SST]]" cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf ]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf ]*
[^^^/*^<Free_Form_Informational_Text>^*/ cr lf ]*)*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

The optional use of those parts of the syntax format above described, included in the parenthesis followed by the plus sign "(...)+", shall be considered as following described:

Those rows of the response that are related to AIDs with error report shall include only the AID block, the ERCDE parameter, the Expanded_Error_Code_Description and the Informational_Error_Description_Text.

Those rows of the response that are related to AIDs with successful report shall not include the ERCDE parameter, the Expanded_Error_Code_Description and the Informational_Error_Description_Text.

The rows compounding the response shall be sorted by increasing AID, no matter about the error or successful condition of each row.

For the RTRV-rr command (where rr=facility), when the user specifies an AID or range of AIDs, the primary and secondary state output parameters shall display information about an object entity that matches the search criteria regardless of whether the entity is provisioned or not.

If a range and/or group or ALL is specified for the retrieval AID, each line of parsable output data for each AID successfully retrieved shall be sorted in ascending (numerical and alphabetical) order by the first AID mnemonic/name in the AID block then by bay-shelf-slot-instance fields.

When the user specifies an AID on a RTRV-EQPT or other equipment related retrieve commands, the primary and secondary state output parameters shall display information about an object entity that matches the search criteria regardless of whether the entity is provisioned or not.

For all other retrievals (e.g., RTRV-CRS, RTRV-CRS-rr, RTRV-FFP-rr, RTRV-PM-rr, etc), the retrieval command shall only retrieve information about the provisioned entities when the AID block specifies a range of AIDs (if applicable) or the ALL AID.

1.6.5 CONTINUATION MESSAGE FORMAT (OUTPUT GREATER THAN 4096 BYTES)

If a user receives output on a TTY terminal and a response message contains more than 4096 bytes of data, the data block will end in a > (greater than sign) terminator and subsequent data blocks containing the remainder of the data follow. The subsequent data blocks repeat the message header, the command echo line, and continue the data. The last data block ends with the normal ; (semi-colon) terminator.

The general format for continuation of a response message is:

```
(cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^<Completion_Code> cr lf
[^^^"<Parsable_Output_Data>" cr lf ]*
[^^^/*^<Free_Form_Informational_Text>*/ cr lf ]*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
>)+
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^<Completion_Code> cr lf
[^^^"<Parsable_Output_Data>" cr lf ]*
[^^^/*^<Free_Form_Informational_Text>^*/ cr lf ]*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf ]
;
```

For the output responses described above, all output responses will have the same CTAG and completion code.

1.7 AUTONOMOUS RESPONSES

Autonomous response messages are unsolicited and generated automatically because of an autonomous event detected by the system, as opposed to solicited response messages generated in response to a command entered by a user. There are three general categories of autonomous responses, autonomous system event messages (alarms, events, database changes, scheduled

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performance monitoring reports, and system initialization), autonomous informational messages, and autonomous keep-alive messages.

All autonomous response messages will begin with a header line:

^^^<SID>^<YY-MM-DD>^<HH:MM:SS> where

> **SID**   is the upper case Site Identifier as created by the SET-SID command.
>
> **YY-MM-DD**   is the year-month-day, where YY is the last two digits of the year, MM is the month, and DD is the day of the month.
>
> **HH:MM:SS**   is the current time of day, where HH is the hour with a range from 00 to 23, MM is the minutes, SS is the seconds, and the range for MM and SS is from 00 to 59.

1.7.1 AUTONOMOUS MESSAGE FORMAT

The general format of an autonomous message is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
<CDE>^{<ATAG>,<ITAG>,<KATAG>}^<VERB>^<MODIFIER>[^<MODIFIER>] cr lf
[^^^"<Parsable_Output_Data>" cr lf ]*
[^^^/*^<Free_Form_Informational_Text>^*/ cr lf ]*
;
```

where

> **CDE**   identifies the type of autonomous message. Values are:

Value	Description
*C	autonomous critical alarm being reported.
**	autonomous major alarm being reported.
*^	autonomous minor alarm being reported.
A^	autonomous non-alarm event being reported.

> **ATAG**   is the autonomous message tag used to correlate autonomous messages.
>
> **KATAG** is the autonomous keep-alive message tag used to correlate keep-alive messages.
>
> **VERB^<MODIFIER>[^<MODIFIER>]**   is the autonomous response or informational response code name (e.g.,

> > REPT^ALM^{EQPT|[COM]|<facility-level>}
> >
> > REPT^DBCHG
> >
> > REPT^EVT^{EQPT|[COM]|<facility-level>|[SESSION]|[SECU]}
> >
> > KEEP^ALIVE^MESSAGE
> >
> > REPT^PM^{<facility-level>})

where REPT^ALM, REPT^DBCHG, REPT^EVT, REPT^DEBUG are used with autonomous response messages (ATAG), while KEEP^ALIVE^MESSAGE are used with autonomous keep-alive messages (KATAG).)

where REPT^PM is used with an autonomous response message (has an ATAG),

The ATAG value is sequentially generated by the system for every autonomous message (CDE has a value other than I^). The format for an ATAG is modulo nnnnn where n is decimal 0-9 with leading zeroes suppressed.

The KATAG value will be sequentially generated by the system and per system for every keep-alive message. The format for a KATAG will be modulo 99999.

1.7.2 AUTONOMOUS KEEP^ALIVE MESSAGE FORMAT

The KEEP ALIVE MESSAGE autonomous response is generated by the system to maintain user session communication link activity to any logged-in user provisioned with a KAMINTVL parameter value of {0, 240} (refer to the SET-ATTR-SECUDFLT command).

The format of an autonomous KEEP^ALIVE message is:

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
I^^<KATAG>^KEEP^ALIVE^MESSAGE cr lf
;
```

1.8 AID ADDRESSING

The following Terms are used in this section and this section's requirements:

Simple Element - Defined by a single number. (e.g., 234). A command positional parameter having a single value.

Compound Element - Defined by two or more numbers separated by hyphens or by a pre-defined string of characters followed by one or more numbers separated by hyphens (e.g. 3-4)

Element - A Simple or Compound Element. (e.g., 234)

Subordinate Element - A number or a string of characters used as part of a compound element separated from the other subordinate elements by hyphens.

Sequential Series/Range - An inclusive sequential series of elements is defined by simple elements or subordinate elements in a compound element separated by a pair of ampersands or a pair of ampersands followed by a hyphen (-) respectively. (e.g. 5&&8 would be expanded to the set {5, 6, 7, 8}, 3-4&&-6 would be expanded to the set {3-4, 3-5, 3-6} and 6-3-4&&-6 would be expanded to the set {6-3-4, 6-3-5, 6-3-6})

Compound Non-Sequential Series/Grouping - A Compound Non-Sequential Series/Grouping is defined by subordinate elements in a compound element separated by an ampersand followed by a hyphen (-). (e.g., 3-4&-6 would be expanded to the set {3-4, 3-6})

Incremental step - It is possible to use increment values with && ranges utilizing .++.N where, N is a positive integer defining the increment value. In this case, .++.N should appear at the end of each sequential series.

Term - A single element (simple or compound) or an inclusive sequential series of elementsor a Compound Non-Sequential Series/grouping or an intermix of the last two involving subordinate elements in a compound element .

Range/Parameter Grouping - Set of terms, with each term separated from the others by single ampersands (&). (i.e. in the range 5&8&&12&19 the terms are {5, 8&&12, 19} and in the range 8&10&15&&23 the terms are {8, 10, 15&&23})

Expanded Range - Set of all elements defined by a range/parameter grouping. (i.e. the range 1&&3&5&5-6-8&&-10&XX-1-1-3&&-5-1 would be expanded to the set {1,2,3,5, 5-6-8, 5-6-9, 5-6-10, XX-1-1-3-1, XX-1-1-4-1, XX-1-1-5-1})

1.8.1 Simple Element Format

For simple elements parameters: when the field is specifically addressing an element (or series of elements), a range/parameter grouping is specified as follows:

:element1[{&|&&}element2[{&|&&}element3[{&|&&}element4[...]]]]:

with the stipulation that no two pairs of ampersands may occur consecutively between simple elements (i.e. 1&&3&&5 is invalid) and where :

[ ]   Indicates an optional field.

{A|B}   Indicates a choice (either A or B).

elementN   An integer number

1.8.2 Compound Element Format

For compound elements parameters: when the field is specifically addressing an element, a parameter grouping is specified as follows:

:element1[{&}element2[{&}element3[{&}element4[...]]]]:

and where :

[ ]   Indicates an optional field.

elementN   A compound element (i.e., OC12STS3C-24-2-3-1-1)

1.8.3 Compound Subordinate Element Format

For   compound   element   parameters,   such   as Facility-bay#-shelf#-slot#-facility#-(STS3#)-(STS1/DS3#)-(VTGroup/DS1#)-(VT#), any and all of the integer subordinate elements may be used in a sequential or nonsequential series in a compound element in a term.   NonSequential or Sequential series of subordinate elements within a compound element are defined by a fully qualified compound element followed by one or two ampersands respectively, a hyphen, and the ending subordinate element. (e.g. 3-1&&-5 would indicate the expanded range {3-1, 3-2, 3-3, 3-4, 3-5}).

:Type-subelement1[[{&|&&}-subelement1a]-subelement2[[{&|&&}-subelement2a]-subelement3[[{&|&&}-subelement3a]-subelement4[[...]]]]]:

with the stipulation that no two pairs of or single ampersand(s) may occur consecutively between subordinate elements and and where :

[ ]   Indicates an optional field.

Type   A string of characters (e.g., TUSEG)

subelementN   An integer number representing, e.g. rack number, shelf number, slot number, facility number.....

subelementNa The ranged or grouped integer number representing, e.g. rack number, shelf number, slot number, facility number...

Additionally, incremental step values utilizing .++.N where, N is a positive integer defining the increment value is supported on each integer segment (subordinate element) of the AID field.

1.8.4 Valid Examples of correct usage of & and && operators

Following shows a sample of correct usage of & and && operators. The purpose of this section is to show how to expand a list of Range/Grouping into a set of elements. These are some examples of Ranging/Grouping in general and it is not intended to cover all possible cases.

Please note that although some of these examples are valid for the purposes of showing correct usage of & and && operators in general, but may/may not be valid or exist as a valid AID for a particular product. The AID RRS provides requirements for valid AID and AID structures.

1.   AID-1-1-3-1-1&AID2C-1-1-3-1 would be expanded to the set

    AID-1-1-3-1-1, AID2C-1-1-3-1}

2.   AID-1-1-3-1-1-1&-3 (grouping on last segment), would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-1-1-3

3.   AID-1-1-3-1&-2-1-1 (grouping on 3rd to last only), would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-2-1-1

4.   AID-1-1-3-1-1&-4-1&-2 (grouping on the last two segments), would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-1-1-2, AID-1-1-3-1-4-1,
    AID-1-1-3-1-4-2

5.   AID-1-1-3-1-1-1&&-3 (range on the last segment), would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-1-1-2, AID-1-1-3-1-1-3,

6.   AID-1-1-3-1-1&&-4-1 (range on 2nd to last segment), would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-1-2-1, AID-1-1-3-1-3-1,
    AID-1-1-3-1-4-1

7.   AID-1-1-3-1-1&&-4-1&&-3 (range on last two segments) would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-1-1-2, AID-1-1-3-1-1-3,
    AID-1-1-3-1-2-1, AID-1-1-3-1-2-2, AID-1-1-3-1-2-3,
    AID-1-1-3-1-3-1, AID-1-1-3-1-3-2, AID-1-1-3-1-3-3,
    AID-1-1-3-1-4-1, AID-1-1-3-1-4-2, AID-1-1-3-1-4-3

8.   AID-1-1-3-1-1&-4-1&&-3 (group on 2nd to last segment, range on last segment), would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-1-1-2, AID-1-1-3-1-1-3,
    AID-1-1-3-1-4-1, AID-1-1-3-1-4-2, AID-1-1-3-1-4-3

9.   AID-1-1-3-1-1&&-4-1&-3 (range on second to last segment, group on last segment), would indicate the expanded range:

    AID-1-1-3-1-1-1, AID-1-1-3-1-1-3, AID-1-1-3-1-2-1,
    AID-1-1-3-1-2-3, AID-1-1-3-1-3-1, AID-1-1-3-1-3-3,
    AID-1-1-3-1-4-1, AID-1-1-3-1-4-3

10.   AID-1-1-3-1-1&&4.++.2-1 (range on next to last segment with increment 2) would be expanded to the set

AID-1-1-3-1-1-1, AID-1-1-3-1-3-1.

11.   AID-1-1-3&&-7.++.2-1&&-4-1-1&&-3 (range on three segments, with increment 2 on
             the fourth to last segment), would indicate the expanded range:

                    AID-1-1-3-1-1-1, AID-1-1-3-1-1-2, AID-1-1-3-1-1-3,
                    AID-1-1-3-2-1-1, AID-1-1-3-2-1-2, AID-1-1-3-2-1-3,
                    AID-1-1-3-3-1-1, AID-1-1-3-3-1-2, AID-1-1-3-3-1-3,
                    AID-1-1-3-4-1-1, AID-1-1-3-4-1-2, AID-1-1-3-4-1-3,
                    AID-1-1-5-1-1-1, AID-1-1-5-1-1-2, AID-1-1-5-1-1-3,
                    AID-1-1-5-2-1-1, AID-1-1-5-2-1-2, AID-1-1-5-2-1-3,
                    AID-1-1-5-3-1-1, AID-1-1-5-3-1-2, AID-1-1-5-3-1-3,
                    AID-1-1-5-4-1-1, AID-1-1-5-4-1-2, AID-1-1-5-4-1-3,
                    AID-1-1-7-1-1-1, AID-1-1-7-1-1-2, AID-1-1-7-1-1-3,
                    AID-1-1-7-2-1-1, AID-1-1-7-2-1-2, AID-1-1-7-2-1-3,
                    AID-1-1-7-3-1-1, AID-1-1-7-3-1-2, AID-1-1-7-3-1-3,
                    AID-1-1-7-4-1-1, AID-1-1-7-4-1-2, AID-1-1-7-4-1-3

12.   2-2-1&&-28.++.2 (range on third segment, incrementing by 2), would indicate the
             expanded range:

                    2-2-1, 2-2-3, 2-2-5, 2-2-7, 2-2-9, 2-2-11, 2-2-13, 2-2-15, 2-2-17,
                    2-2-19, 2-2-21, 2-2-23, 2-2-25, 2-2-27

Invalid Examples: of incorrect usage of & and && operators

Following shows a sample of incorrect usage of & and && operators. The purpose of these examples
are to show some invalid usage of & and && operators and it is not intended to cover all possible
incorrect cases.

1.   AID-1-1-3&&-6&&-8-1-1-1 (Two consecutive && Ranging Operators between
            subordinate elements)

2.   AID-1-1-3-1-1**&&**3   (In a compound elements, a hyphen (-) must follow **&&**

3.   AID-1-1-3-1-1-1**&&**AID-1-1-3-1-1   (Different AID Types utilizing **&&**)

4.   AID-1-1-3-1-1**&&**AID-1-1-3-1-3   (Cannot range compound elements, only subordinate elements
            within a compound element.)

1.8.4 && and & Ranging and Grouping

The system supports the Ranging and grouping capability utilizing && and & (ampersand) operators to
comply with the Telcordia Ampersand Ranging standards in GR-831.

Ranging and grouping capability will allow execution of commands involved with more than one AID
utilizing && and & (ampersand) operators to comply with the Telcordia Ampersand Ranging standards.
This will result in generating only one output message for the ranging/grouping commands; except for:

     Partially Successful Retrieve Command.

The AID (Access IDentification code) identifies the key database element (e.g. a port) that a TL1
command is to access. If more than one database element is to be accessed by a single command
and those database elements referred to are ports (facilities), the AID will contain the keys of each
element.

When a TL1 command is executed with an AID field that specifies a range or group of elements, the
command will execute as if a series of commands were executed consecutively, all having only one
output message header for the specified range or group of the original AID, whether all successful,
partially successful or all failed. The exceptions are:

     Partially Successful Retrieve Command

A range or group may only be used if the parameters for the other TL1 blocks in a command are to be the same. The other TL1 blocks that are not ranged or grouped then generally apply to the block that is ranged or grouped. Currently, ranging and grouping is supported in the following blocks:

> The AID positional parameter block

The && and & Ranging/Grouping capability will be supported in the AID field in selected TL1 commands where the AID field deals with the following:

> Facility AIDs

```
Please refer to the Command Descriptions to determine what commands
support && and & ranging/grouping.  The Addressing Field for each
input parameter described in the command descriptions will contain
information as to whether or not the input parameter can be ranged
or grouped.  Any Ranging and Grouping Limitations for the input
parameter should also be described in the Feature TL1 Requirements
```

The Ranging/Grouping capability will allow Ranging/Grouping capability on any and all Integer segments of the Facility AIDs.

Command TL1 blocks that are not ranged or grouped will apply to the block that is ranged or grouped. (i.e., parameter provisioning will apply to all the AIDs in the range and/or group)

When a valid TL1 command is executed that specifies a range and/or group, the command will execute as if a series of commands were executed consecutively, each having only one unique element from the expanded range of the original AID.

Sequential simple elements in a term are specified by entering the first and last elements of the series separated by two ampersands (&&). The first and last elements of the series are always included in the expanded range, except as noted when using .++.N

Sequential compound elements in a term are specified by entering the first and last subordinate elements of the series separated by two ampersands followed by a hyphen (&&-). The first and last subordinate elements of the series are always included in the expanded range (i.e. the term 1-1&&-4 would define the sequential series {1-1, 1-2, 1-3 and 1-4}), except as noted when using .++.N

Sequential elements, whether simple or compound, in a term will be required to be ordered increasing from left to right. This means that the sequentially lower element or subordinate element must always appear first and the sequentially higher element must always appear last.

Non-Sequential simple elements in a term will be specified by entering the simple elements of the series separated by an ampersands (&). (i.e. the term 1&4 would define the non-sequential series {1 and 4}).

Non-Sequential subordinate elements of the compound elements in a term will be specified by entering the subordinate elements of the series separated by an ampersands followed by a hyphen (&-). (i.e. the term 1-1&-4 would define the non-sequential series {1-1 and 1-4})

The system will allow each and every subordinate element in a compound element in a term to be used to generate a sequential or nonsequential series of elements, except the first argument which is typically character strings for facility AIDs.

The system will be capable of supporting increment number with the range in the Sequential series. In this case .++.N (Period followed by two Plus signs followed by another period, followed by a positive integer increment value N) will appear at the end of each sequential series. For example, 2&&10.++.2 will be expanded to the set {2,4,6,8,10}.

It will be possible that the last element of the series will not be in the expanded list, depending on the first element and increment number (i.e.., 2&&10.++.3 will be expanded to the set {2,5,8} which does not include the last element 10.

Multiple terms will be specified/supported by entering all of the terms separated by single ampersands (&).

If any single term in a range (i.e. a set of elements) is found to be invalid defined by the following criteria, the entire range will be rejected and no elements will be processed.

If a term contains invalid ranging and/or grouping syntax (i.e., ranging subordinate elements with && instead of &&-, grouping subordinate elements with & instead of &-), then that term will be considered invalid.

If a term contains an element which references a port number larger than the maximum size configured or allowed, then that term will be considered invalid.

If the expanded range for a term contains an invalid element, then that term will be considered invalid. (i.e. For the NE, AID-2-2-1&&-21-1 when expanded contains invalid AIDs for example AID-2-2-5-1).

If a term contains a sequential series of elements and the elements specified are of different types (i.e. fully defined compound or simple), then that term will be considered invalid.

If a term contains a sequential series of compound elements and the elements specified are both fully defined (e.g. AID-2-2-21-1-1-1-7-1&&AID-2-2-21-1-1-1-7-4), then that term will be considered invalid.

If a term contains two pairs (ranging) of ampersands occurring consecutively between simple elements or subordinate elements in a compound element, the term will never be considered valid (e.g. the range 1&&3&&5 and AID-2-2-21-1-1-1-7-1&&-4&&-7 would be considered invalid).

If the AID positional parameter block of a TL1 command allows two or more AIDs to be specified and ranging and/or grouping is supported for the AID positional parameter block, then the ranges/groups must appear in all the specified AID parameters (e.g. FROM and TO in the ENT-CRS commands) and the exact same number of elements must occur in all ranges otherwise the range is invalid and the command will be rejected and no elements are processed.

1.9 DELAYED ACTIVATION

Delayed Activation is not supported in this release.

1.10 USER SECURITY

The system controls individual user access by user identifier (UID), password identifier (PID). A user's UID and PID control user access to the system.

1.10.1 DEFAULT USER IDENTIFIER (UIDS)

Profile	Default Users	
Default Admin User	"admin"	NULL

Additional users, password creation and modification can be done using the CLI interface ort the GUI. This includes changing the "admin" user password.

1.10.1.1 Capabilities Restricted to the System Administrator

The following capabilities are restricted to the System Administrator (UID of "admin") or the any added admin account user.

User Log-On/Log-Off Restricted Capabilities:

Only the System Administrator can log-off another user.

User Provisioning Restricted Capabilities:

Only Administrators can edit (change) parameters.

User Restricted Capabilities:

Guest and non admin users have read-only priviledge.

1.11 General Syntax Errors

A TL1 command will be an input message which consists of a command code, blocks of parameters, and punctuation. The input message begins with the command verb and must end with a semicolon (;) terminator. The general command input format takes the form:

VERB-MODIFIER[-MODIFIER]:[TID]:[AID]:[CTAG]:[GENERAL]:[POSITIONAL]:[KEYWORD]:[STATE];

The system will check a TL1 command from left to right. If an error is encountered, the system will stop processing the TL1 command, deny the command and send an error message to the user.

The following denial scenarios and error codes are valid and generated for all TL1 commands supported in the system.

Command code (VERB-MODIFIER[-MODIFIER]) may be entered in upper or lower case. If the TL1 command that does not contain a command code, the command will be denied and a IISP (Input, Invalid Syntax or Punctuation) error code with informational error description text will be returned to the user.

If the command-code (VERB-MODIFIER[-MODIFIER]) of the TL1 message is not supported by the system, the command will be denied and a ICNV (Input, Command Not Valid) error code with informational error description text will be returned to the user.

If the entered TID is too long (too many characters), the command will be denied and a IITA (Input, Invalid TArget identifier) error code with informational error description text will be returned to the user.

If the entered TID contains an illegal character, the command will be denied and a IITA (Input, Invalid TArget identifier) error code with informational error description text will be returned to the user.

If the entered uppercase TID or converted uppercase TID does not match the provisioned SID, the command will be denied and a IITA (Input, Invalid TArget identifier) error code with informational error description text will be returned to the user.

If an AID value is specified in the AID field of the TL1 message, and the system only accepts the <NULL> AID, the command will be denied and a IIAC (Input, Invalid ACcess identifier) error code with informational error description text will be returned to the user.

If the AID value is required, but the AID specified in the AID field of the TL1 message is not valid or missing, the command will be denied and a IIAC (Input, Invalid ACcess identifier) error code with informational error description text will be returned to the user.

If any single term in a range (i.e. a set of elements) is found to be invalid, the command will be denied and a error code IDRG (Input, Data RanGe) with informational error description text will be returned the user.

If the number of Terms in a specified range and/or group is not equal to or less than twelve, the command will be denied and a error code IDRG (Input, Data RanGe) with informational error description text will be returned the user.

When parameter (&&- or &&) ranging is employed in the AID field and the expanded ampersand ranging values are outside the range of AIDs supported, the command will be denied and a error code IDRG (Input, Data RanGe) with informational error description text will be returned the user.

If parameter ranging (&&- or &&) is employed in the AID field and parameter ranging is not supported for the TL1 message, the command will be denied and a error code IDRG (Input, Data RanGe) with informational error description text will be returned the user.

If parameter grouping (&- or &) is employed in the AID field and parameter grouping is not supported for the TL1 message, the command will be denied and a error code IDRG (Input, Data RanGe) with informational error description text will be returned the user.

If the CTAG in the TL1 message is not valid, the command will be denied and a IICT (Input, Invalid Correlation Tag) error code with informational error description text will be returned to the user.

If the TL1 message contains extra data blocks (more than the 4 valid blocks in TL1 - General Block, Positional-Defined Block, Keyword Defined Block, or State Block), the command will be denied and a error code IBEX (Input, Block EXtra) with informational error description text will be returned the user.

If the TL1 message contains extra parameters within the General Block, Positional-Defined Block, Keyword-Defined Block, or State Block, the command will be denied and a error code IPEX (Input, Parameter EXtra) with informational error description text will be returned the user.

If the parameter value in the General Block, Positional-Defined Block, Keyword Defined Block or State Block in TL1 message is not valid, the command will be denied and a IDNV (Input, Data Not Valid) error code with informational error description text will be returned to the user.

If the parameter name specified in the Keyword Defined Block in TL1 message is not valid, the command will be denied and a IPNV (Input, Parameter Not Valid) error code with informational error description text will be returned to the user.

If the parameter name specified in the General Block, Position-Defined Block, Keyword Defined Block or State Block in TL1 message is required and missing, the command will be denied and a IPMS (Input, Parameter MiSsing) error code with informational error description text will be returned to the user.

If the user specifies a keyword parameter in the Keyword Defined Block in a TL1 message without specifying a parameter value and that keyword defined parameter does not support the <NoVal> parameter value, the command will be denied and a IDNV (Input, Data Not Valid) error code with informational error description text will be returned to the user.

1.12 APPENDICES

The appendices contain supplementary information useful in using this manual. The following appendices are provided:

Appendix A, Acronyms and Abbreviations   contains an alphabetized list of general acronyms and abbreviations used within this manual.

Appendix B Access Identifiers (AIDs) contains a description of AID formats and an alphabetized list of equipment, facility, and common names.

Appendix C, Condition Types contains a list of all equipment, facility, and common condition types.

Appendix D, Error Codes   contains a list of all Error Codes that may be used in an unsuccessful response message, and a list of Error Codes generated by the system's Command Parser.

Appendix G, State Transitions defines the Primary and Secondary states for equipment, facilities, or cross-connect entities, and provides state transition diagrams for each entity.

Appendix H, Security Levels   contains the Command Access Privilege (CAP) and the indication of whether the command and the related response has to be stored in the security log file, for each command.

Appendix K, **Factory Defaults for TL1 Command Parameters** provides a list of the TL1 commands and the associated command parameter default settings provided with the system for each command. The user should refer to the individual I/O manual pages for allowed ranges.

Command Code: ACT-USER

Command Name: ACTIVATE USER

PURPOSE

The ACT-USER command authenticates a session established with the system by logging in an existing user through a User Identifier and a Password Identifier.

The entered PID (Password Identifier) is not displayed on any screen and is not available to any user in any file. No in-progress message is output by the system in response to an ACT-USER command.

If the UID (User Identifier) does not exist in the system or if the specified PID (Password Identifier) has been deactivated/disabled by the system due to user account inactivity, the command is denied. However, an error message is not generated.

A user's previously valid password identifier (PID) may not be enabled if the system has deactivated the user's PID for security reasons. This condition, if enabled, occurs when the user has not changed the password identifier (PID) within the provisioned system password aging period and then does not change the PID during the first log-in session after that point in time. This condition applies to all user accounts except the system administrator and the vendor user account.

In order to avoid that a password can get accidentally echoed if invalid syntax is used, the response message shall echo only the TL1 command name without any parameter.

In case of ACT-USER entered by an OMS (ZIC) user, the command contains a parameter value indicating the identifier of the OMS user.

The session can optionally be established with output messages and notification disable.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
ACT-USER:[TID]:UID[,OMSID]:[CTAG]::PID;
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target IDentifier, identifies the network node TID for the command.	

UID	Value		Description
	<5-12 VALID UID CHARACTERS>		
	Default:	Entry Required	
	Addressing:	None	

Description: User Identifier, specifies a unique user ID.

Valid values for UID are 5 to 12, case-sensitive alphanumeric characters where the first character must always be an alphabetic character. The following special characters are also accepted as valid characters and will be part of the UID: % (percent sign), + (plus sign), # (pound sign), and _ (under score).

OMSID	Value	Description
	<Alphanumeric string>	

Default: <null string>

Addressing: None

Description: 1350 OMS operator name (see parameter nmoperator, page 20 of the doc 1350 OMS Integration of NE-GUI ZIC Interface Specification http://nm-optics.web.alcatel-lucent.com/system/SubTree/Activities/ZIC/documents/1350OMS_ZIC_Interface_Specification_Ed3.pdf)

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates input command with its output responses.

PID	Value	Description
	<8-12 VALID PID CHARACTERS>	

Default: Entry Required

Addressing: None

Description: Password Identifier, specifies the user's login password.

Valid values for PID are a string of 8 through 12 case-sensitive alphanumeric characters. The PID must contain at least three of the following: at least one upper alphabetic character, at least one lower alphabetic character, at least one numeric character, at least one special character. The following special characters shall be valid: % (percent sign), + (plus sign), # (pound sign), and _ (under score). The first character of the PID can be an alphabetic, numeric, or a valid special character.

SUCCESSFUL RESPONSE FORMAT

The format for a successful ACT-USER response is

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<UID>[,<OMSID>]:LASTLOGIN=<value>,UNSUCCESSATTEMPTS=<value>" cr
lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

UID	Value	Description
	<5-12 VALID UID CHARACTERS>	

Description: User Identifier, specifies a unique user ID.

Valid values for UID are 5 to 12, case-sensitive alphanumeric characters where the first character must always be an alphabetic character. The following special characters are also accepted as valid characters and will be part of the UID: % (percent sign), + (plus sign), # (pound sign), and _ (under score).

OMSID	Value	Description
	<Alphanumeric string>	

Description: 1350 OMS operator name (see parameter nmoperator, page 20 of the doc 1350 OMS Integration of NE-GUI ZIC Interface Specification http://nm-optics.web.alcatel-lucent.com/system/SubTree/Activities/ZIC/documents/1350OMS_ZIC_Interface_Specification_Ed3.pdf)

LASTLOGIN=	Value	Description
	{YYYY-MM-DD-HH-MM-SS}	
	1970-01-01-00-00-00	

Description: LastLoginTimeStamp. This is the last recorded Login time of a user. This time will be displayed every time a user logs in. The format is a string representing <Year>-<Month>-<Day>-<Hour>-<Minute>-<Second>

1970-01-01-00-00-00 A special LastLoginTimeStamp value used in the response to the first-ever successful login of a user.

UNSUCCESSATTE MPTS=	Value	Description
	Integer	

> **Description:** Unsuccessful Login Attempt Number, identifies the number of unsuccessful authentication (login) attempts since the last authenticated session.
>
> Cause a user could be inhibited and still attempt to login, no limit is defined for this parameter.
>
> Upon successful login, the parameter value is reset to zero (0).

UNSUCCESSFUL RESPONSE FORMAT

The ACT-USER unsuccessful response for a session where a user is not currently logged-in is

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^/*^session^not^active^*/ cr lf
;
```

The following unsuccessful response message is generated if a user is currently logged-in to the system and an ACT-USER command is entered

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR^CODE> cr lf
[^^^/*^<Expanded^Error^Code^Description>^*/ cr lf]
[^^^/*^<Informational^Error^Description^Text>^*/ cr lf]
[^^^/*^ACT-USER^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

a user who is currently logged-in to the system executes the ACT-USER command

SSRE   Status, System Resources Exceeded

upon the completion of the ACT-USER command the number of currently active sessions for the UID would exceed the maximum allowed sessions

EXAMPLES

The following example illustrates the command and associated output for logging in a user with a UID of userX.

```
ACT-USER::userX:::******;
```

```
    AM1520 03-07-08 09:04:33
M   P2e002 COMPLD
    /* ACT-USER user5 */
    /* 1671SC,IAS,R01.00.00 */
    /* (c) Copyright 2003 Alcatel */
    "user5:03-07-01,15-14-24,,1671SC,IAS,R01.00.00"
    /* ACT-USER::user5 [P2e002] (2) */
;
```

```
    AM1520 03-07-08 09:04:33
M   P2e002 COMPLD
    "userX:LASTLOGIN=2003-01-19-17-19-58,UNSUCCESSATTEMPTS=1"
    /* ACT-USER::userX:::****** [P2e002] (2) */
;
```

```
    AM1520 03-07-08 17:50:15
A   4268 REPT EVT SESSION
    "userX:NO"
     /* NOTICE: This is a private computer system.
     Unauthorized access or use may lead to prosecution. */
;
```

RELATED COMMANDS

CANC-USER

RELATED AUTONOMOUS RESPONSES

REPT^EVT^SESSION

REPT^EVT^SECU

Command Code: CANC-USER

Command Name: CANCEL USER SESSION

PURPOSE

The CANC-USER command unauthenticates a session with the addressed NE (identified by optional TID parameter)., whether or not that session was previously authenticated by an ACT-USER command, by logging off the user.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
CANC-USER:[TID]:[UID]:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	
	<1-40 HEXADECIMAL NSAP CHARACTERS>	

Default: <SID>

Addressing: None

Description: Target IDentifier, identifies the network node TID for the command.

UID	Value	Description
	<5-12 VALID UID CHARACTERS>	

Default: The <UID> of the user executing the command

Addressing: None

Description: User Identifier, specifies a unique user ID.

Valid values for UID are 5 to 12, case-sensitive alphanumeric characters where the first character must always be an alphabetic character. The following special characters are also accepted as valid characters and will be part of the UID: % (percent sign), + (plus sign), # (pound sign), and _ (under score).

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

CANC-USER

> **Addressing:** None
>
> **Description:** Correlation TAG, associates input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

> **PIUI**   Privilege, Illegal User Identity

the user attempts to unauthenticate another user session

EXAMPLES

The following example illustrates the command and associated output for terminating the user session (logging off).

```
CANC-USER::userX;
```

```
    AM1520 03-07-08 12:32:47
M  P2e319 COMPLD
    /* CANC-USER::userX [P2e319] (2) */
;
```

RELATED COMMANDS

ACT-USER

RELATED AUTONOMOUS RESPONSES

Command Code: DLT-FFP-TMPLS

Command Name: DELETE (T)MPLS FAST FACILITY
PROTECTION GROUP

PURPOSE

The DLT-FFP-TMPLS command deletes a (T)MPLS facility protection group. Upon completion of the DLT-FFP-TMPLS command, the protection group is deleted, and the working facilities that have been disassociated from facility protection function as unprotected facilities. In addition the protection facility can be used again for normal unprotected traffic.

The DLT-FFP-TMPLS command can only be executed against TUNNEL facilities that are provisioned as a protection group (e.g., provisioned via the ENT-FFP-TMPLS command). Successful completion of this command generates a REPT^DBCHG (report database change) autonomous response message.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
DLT-FFP-TMPLS:[TID]:AID:[CTAG]::[KEEP];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target Identifier, specifies the network node TID for the command.

AID	Value	Description
	FFPTUNNEL-1-1{1-64}	

Default: <entry required>
Addressing: &&-ranging and &-grouping
Description: Access identifier of the FFP to delete.

CTAG	Value	Description
	< 1-6 VALID CTAG CHARACTERS >	

Default: < System assigned CTAG value >
Addressing: None

Description: Correlation Tag, associates input command with its output responses.

KEEP	Value	Description
	{ MAIN, SPARE }	

Default: < MAIN >

Addressing: none

Description: Shall define where the PW are mapped when the FFP is deleted

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
^^^/*^<Expanded_Error_Code_Description>^*/ cr lf
^^^/*^<Informational_Error_Description_Text>^*/ cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IENE   Input, Entity does Not Exist

the FFP is not provisioned

EXAMPLES

The following command deletes a (T)MPLS FFP facility.

```
DLT-FFP-TMPLS:: FFPTUNNEL-1-1-10;
```

```
    ALU-1 02-07-30 15:20:29
M   0 COMPLD
    /* DLT-FFP-TMPLS::FFPTUNNEL-1-1-10; */
;
```

RELATED COMMANDS

ENT-FFP-TMPLS

RTRV-FFP-TMPLS

OPR-PROTNSW-TMPLS

RLS-PROTNSW-TMPLS

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: DLT-L2ENCAP-PROF

Command Name: DELETE L2 ENCAPSULATION PROFILE

PURPOSE

The DLT-L2ENCAP-PROF command deletes one user defined L2 encapsulation profile.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System shall not permit to delete a profile if it is referenced by a TUSEG or a PWSEG.

INPUT FORMAT

```
DLT-L2ENCAP-PROF:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

    Default: <SID>
    Addressing: None
    Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	L2ENCAPPROF-{2-32}	(User defined L2 Encapsulation Profile)
	<Product Specific Values>	

    Default: Entry Required
    Addressing: &&-ranging and &-grouping
    Description: L2 Encapsulation Profile AID.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

    Default: <System-assigned CTAG value>
    Addressing: None
    Description: Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IENE   Input, specified object Entity does Not Exist

the L2 encapsulation profile specified by AID is not present in the system

SRQN   Status, Invalid Request

the L2 encapsulation profile specified by AID is referenced by a TUSegment or a PWSegment

EXAMPLES

```
DLT-L2ENCAP-PROF::L2ENCAP-PROF-10:TS002;
```

```
    ALU-01 03-07-19 09:08:33
M   TS002 COMPLD
    /* DLT-L2ENCAP-PROF::L2ENCAP-PROF-10:TS002 [TS002] (1)*/
;
```

RELATED COMMANDS

ENT-L2ENCAP-PROF

ED-L2ENCAP-PROF

RTRV-L2ENCAP-PROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: DLT-OAMPHB-PROF

Command Name: DELETE OAM PER HOP BEHAVIOUR PROFILE

PURPOSE

The DLT-OAMPHB-PROF command shall delete an OAMPHB (OAM PHB Profile) User defined.

For OAM PHB Profile description, see ENT-OAMPHB-PROF command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The system shall reject the command if the OAMPHB is used/referenced (INUSE=YES) by a TUSegment.

INPUT FORMAT

```
DLT-OAMPHB-PROF:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	OAMPHB-{2-8}	(User defined OAM PHB Profile)
	<Product Specific Values>	

Default: Entry Required
Addressing: &&-ranging and &-grouping
Description: Access Identifier, specifies an access Identifier to the OAM PHB Profile.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>
Addressing: None

DLT-OAMPHB-PROF

> **Description:** Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^^COMPLD cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG Input, Data RanGe

one of input parameters provisioned is out of range

IENE Input, specified object Entity does Not Exist

the OAMPHB specified by AID isn't present in the system

IIFM Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

SNVS Status, Not in Valid State

OAMPHB profile referenced by AID is used/referenced by a TUSegment

EXAMPLES

```
DLT-OAMPHB-PROF::OAMPHB-2:QOS001;



    ALCATEL-01 07-03-16 23:59:33
M  QOS001 COMPLD
   /* DLT-OAMPHB-PROF::OAMPHB-2:QOS001; */
;
```

RELATED COMMANDS

ENT-OAMPHB-PROF

ED-OAMPHB-PROF

RTRV-OAMPHB-PROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: DLT-PHB-PROF
Command Name: DELETE PER HOP BEHAVIOUR PROFILE

PURPOSE

The DLT-PHB-PROF command shall delete one Per Hop Behaviour Profile stored in the System.

For description of PHB profile, see ENT-PHB-PROF command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The PHB Profile can't be edited if used/referenced (INUSE=YES) by a TUSegment and/or PWSegment

INPUT FORMAT

```
DLT-PHB-PROF:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

    Default: <SID>
    Addressing: None
    Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	PHBPROF-{2-8}	(User defined PHB Profile)

    Default: Entry Required
    Addressing: &&-ranging and &-grouping
    Description: Access Identifier, specifies an access Identifier to the PHB profile. The PHBPROF-1 and PHBPROF-2 can't be deleted because are permanently stored in the system.

        Restriction: The PHBPROF-1 and PHBPROF-2 can't be deleted because are factory profiles stored in the system.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

    Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

AID refers a PHB profile used/referenced by a TUSegment or a PWSegment

IDRG   Input, Data RanGe

one of input parameters provisioned is out of range

IENE   Input, specified object Entity does Not Exist

PHB Profile specified by AID is not provisioned

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
DLT-PHB-PROF::PHBPROF-3:QOS003;



    ALCATEL-01 07-03-16 23:59:33
M  QOS003 COMPLD
    /* DLT-PHB-PROF::PHBPROF-3:QOS003 */
;
```

RELATED COMMANDS

ENT-PHB-PROF

ED-PHB-PROF

RTRV-PHB-PROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: DLT-TMPLS-PW
Command Name: DELETE TMPLS PSEUDOWIRE

PURPOSE

The DLT-TMPLS-PW command removes a pseudowire. It is possible to remove a specific pseudowire, all the pseudowires present in the systems. A pseudowire could be deleted only if its STATUS = OFF. After this command, all the corresponding PWSEG and CRSPWSEG are deleted.

INPUT FORMAT

```
DLT-TMPLS-PW:[TID]:AID:[CTAG]:::[PW-ID=];
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value		Description
	ALL		
	PW-1-1-{1-250}		(Pseudowire)
	Default:	None	
	Addressing:	None	
	Description:	AID of the pseudowire	

CTAG	Value		Description
	<1-6 VALID CTAG CHARACTERS>		
	Default:	<System-assigned CTAG value>	
	Addressing:	None	
	Description:	Correlation TAG, associates the input command with its output responses.	

PW-ID=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

Default:	None	
Addressing:	None	
Description:	Pseudowire Identifier.	
	Restriction:	If AID<>ALL then this parameter can not be entered.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

None

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDNC Input, Data Not Consistent

PW to be removed has STATUS=ON

IENE Input, Entity does Not Exist

Pseudowire to be edited with the requested AID and PW-ID is not present

EXAMPLES

```
DLT-TMPLS-PW::<PW-AID>:CP001:::;
```

```
    ALU-01 07-03-16 23:59:33
M  CP001 COMPLD
   /*DLT-TMPLS-PW::< PW-AID>:CP001:::*/
;
```

RELATED COMMANDS

ED-TMPLS-PW

RTRV-TMPLS-PW

RELATED AUTONOMOUS RESPONSES

None

Command Code: DLT-TMPLS-TD

Command Name: DELETE TMPLS TRAFFIC DESCRIPTOR

PURPOSE

The DLT-TMPLS-TD command shall delete a TD (Traffic Descriptor) also called MPLS Tunnel Resource Descriptor.

For TMPLS TD (Tunnel Resource Descriptor) description, see ENT-TMPL-TD.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The system shall reject the command if TD is currently used (INUSE=YES) by a Tunnel or a PseudoWire.

INPUT FORMAT

```
DLT-TMPLS-TD:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value	Description
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

Default:	Entry Required	
Addressing:	&&-ranging and &-grouping	
Description:	Access Identifier, specifies an access Identifier to the MPLS TD.	

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>	
Addressing:	None	
Description:	Correlation TAG, associates the input command with its output responses.	

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^^COMPLD cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

AID refers a TD used/referenced by a Tunnel or a PseudoWire

IDRG   Input, Data RanGe

one of input parameters provisioned is out of range

IENE   Input, specified object Entity does Not Exist

a TMPLS Traffic Descriptor specified by AID isn't present in the system

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
DLT-TMPLS-TD::MPLSTD-6:QOS21;
```

```
    ALCATEL-01 07-03-16 23:59:33
M   QOS21 COMPLD
    /* DLT-TMPLS-TD::MPLSTD-6:QOS21 */
;
```

RELATED COMMANDS

ENT-TMPLS-TD

ED-TMPLS-TD

RTRV-TMPLS-TD

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: DLT-TMPLS-TUNNEL
Command Name: DELETE TMPLS TUNNEL

PURPOSE

The DLT-TMPLS-TUNNEL command removes a LSP Tunnel assigned by CP and by MP. Tunnel removal is done with graceful deletion at source node. After this command, all the corresponding TUSEG and CRSTUSEG are deleted.

Command restriction: This command will be refused when the tunnel is active, or when the tunnel is part of a protection group.

INPUT FORMAT

```
DLT-TMPLS-TUNNEL:[TID]:[AID]:[CTAG]:::[TUNNEL-ID=];
```

INPUT PARAMETERS

TID   **Value**   **Description**
                     <VALID TID VALUE>

  Default: <SID>
  Addressing: None
  Description: Target IDentifier, identifies the network node TID for the command.

AID   **Value**   **Description**
                     ALL
                     TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0   (Tunnel)

  Default: None
  Addressing: None
  Description: AID of LSP Tunnel that defines TUNNEL AID. It is made by six parameters: Rack, Subrack.Tunnel Id, Tunnel Instance, Ingress LER address, Egress LER address.

CTAG   **Value**   **Description**
                     <1-6 VALID CTAG CHARACTERS>

  Default: <System-assigned CTAG value>
  Addressing: None
  Description: Correlation TAG, associates the input command with its output responses.

TUNNEL-ID=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

> **Default:** None
> **Addressing:** None
> **Description:** Tunnel Identifier.
>> **Restriction:** If AID<>ALL then this parameter can not be entered.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

None

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDNC Input, Data Not Consistent

Tunnel to be removed has STATUS=ON

Tunnel to be removed is part of a protection group created manually

IDNV Input, Data Not Valid

Tunnel to be removed contains PW

    IENE   Input, Entity does Not Exist

Tunnel to be removed, selected with the AID or TUNNEL-ID parameter, is not present in the System

EXAMPLES

```
DLT-TMPLS-TUNNEL::<TUNNEL-AID>:CP001:::TUNNEL-ID=TEST;



    ALU-01 07-03-16 23:59:33
M  CP001 COMPLD
    /*DLT-TMPLS-TUNNEL::< TUNNEL-AID>:CP001::: TUNNEL-ID=TEST */
;
```

RELATED COMMANDS

    ED-TMPLS-TUNNEL

    RTRV-TMPLS-TUNNEL

RELATED AUTONOMOUS RESPONSES

    The DLT-TMPLS-TUNNEL shall generate a REPT^DBCHG message.

Command Code: DLT-TMPLS-TUSEG

Command Name: DELETE TMPLS TUNNEL SEGMENT

PURPOSE

The DLT-TMPLS-TUSEG command deletes the provisioned T-MPLS TUSegment entity.

Terminated TUSegment will be automatically deleted using DLT-TMPLS-TUNNEL command.

Swapped TUSegment will be automatically deleted using DLT-TMPLS-TUNNEL command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System shall not permit to delete a TUSegment involved in a cross-connection.

The System shall not permit to delete a TUSegment referenced by a PWSegment (see PORT parameter of ENT-TMPLS-PWSEG TL1 command).

For Termination TUSegment, the command will be refused because on TUSegment there is still the TUNNEL automatically generated (see ENT-TMPLS-TUSEG).

INPUT FORMAT

```
DLT-TMPLS-TUSEG:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

> **Default:**   <SID>
> **Addressing:** None
> **Description:** Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

> **Default:**   Entry Required
> **Addressing:** &&-ranging and &-grouping
> **Description:** Access IDentifier, specifies an access to the TUSegment facility.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

> **Default:**   <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IENE Input, specified object Entity does Not Exist

the TUSegment specified by AID is not present in the system

SRQN Status, Invalid Request

the TUSegment specified by AID is involved in a cross connection

the TUSegment specified by AID is referenced by a PWSegment

the TUSegment specified by AID is terminated

EXAMPLES

```
DLT-TMPLS-TUSEG::TUSEG-1-1-10:TS002;



    ALU-01 03-07-19 09:08:33
M  TS002 COMPLD
    /* DLT-TMPLS-TUSEG::TUSEG-1-1-10:TS002 [TS002] (1)*/
;
```

RELATED COMMANDS

ENT-TMPLS-TUSEG

ED-TMPLS-TUSEG

RTRV-TMPLS-TUSEG

DLT-TMPLS-TUNNEL

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-FFP-TMPLS

Command Name: EDIT (T)MPLS FAST FACILITY
PROTECTION GROUP

PURPOSE

The ED-FFP-TMPLS command modifies the FFP protection group previously provisioned through ENT-FFP-TMPLS. It allows the user to change facility protection group attributes: Wait_To_Restore time value and Hold-off timer value. Upon successful completion of ED-FFP-TMPLS, parameter changes will be applied to the protection switching group and the system will send a REPT^DBCHG (report database change) message to all non-originator users.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
ED-FFP-TMPLS:[TID]:AID:[CTAG]:::[RVRTTIM=][,HLDFFTTIM=][,APSPHB=];
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target Identifier, specifies the network node TID for the command.	

AID	Value		Description
	FFPTUNNEL-1-1{1-64}		
	Default:	<entry required>	
	Addressing:	&&-ranging and &-grouping	
	Description:	Access identifier of the FFP to edit.	

CTAG	Value		Description
	< 1-6 VALID CTAG CHARACTERS >		
	Default:	< System assigned CTAG value >	
	Addressing:	None	
	Description:	Correlation Tag, associates input command with its output responses.	

RVRTTIM=	**Value**	**Description**
	{0-12, 3060}	timer value

    Default: <previously existing value>

    Addressing: None

    Description: Specifies revert time in minutes. Note: 3060min.=51h.

HLDFFTTIM=	**Value**	**Description**
	{0,100,200 - 9800,9900,10000}	Hold-off timer value in steps of 100msec

    Default: <previously existing value>

    Addressing: None

    Description: Hold Off Time for automatic protection switching. The value is specified in milliseconds.

APSPHB=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2} (PHB range)	

    Default: EF

    Addressing: None

    Description: PHB Scheduling Class (PSC) associated to APS packets.

                   Also used for the R-APS message for the Dual home case.

                   Restriction: The chosen PSC must be present into PHB profile used by the TUSegment correspondent to the Protecting Tunnel

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
^^^/*^<Expanded_Error_Code_Description>^*/ cr lf
^^^/*^<Informational_Error_Description_Text>^*/ cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IENE   Input, Entity does Not Exist

the FFP is not provisioned

IPNC   Input, Parameter Not Consistent

RVRTTIM parametere value is out of range

the specified HLDFFTTIM=Any value less than 0 or greater than 10 is specified

APSPHB refers to a PSC not included into active PHB profile

EXAMPLES

The following command modifies RVRTTIM parameter for TMPLS protection group.

```
ED-FFP-TMPLS::FFPTUNNEL-1-1-23:::::RVRTTIM=6;
```

```
    ALU-1 03-05-30 15:20:29
M  0 COMPLD
    /* ED-FFP-TMPLS::FFPTUNNEL-1-1-23:::::RVRTTIM=6;*/
;
```

RELATED COMMANDS

DLT-FFP-TMPLS
ENT-FFP-TMPLS
RTRV-FFP-TMPLS

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-L2ENCAP-PROF
Command Name: EDIT L2 ENCAPSULATION PROFILE

PURPOSE

The ED-L2ENCAP-PROF command shall modify a L2 Encapsulation Profile user defined.

This command permits to modify the configuration of MAC DA and other parameters for the encapsulation of MPLS over ethernet.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System shall not permit to modify the profile if referenced by a TUSEG and/or PWSEG.

INPUT FORMAT

```
ED-L2ENCAP-PROF:[TID]:AID:[CTAG]:::[MAC-DA=][,TAG=][,VLAN-ID=][,PRIO
RITY=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

    Default: <SID>
    Addressing: None
    Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	L2ENCAPPROF-{2-32}	(User defined L2 Encapsulation Profile)
	<Product Specific Values>	

    Default: Entry required
    Addressing: None
    Description: L2 Encapsulation Profile AID.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

    Default: <System-assigned CTAG value>
    Addressing: None

ED-L2ENCAP-PROF

Description: Correlation TAG, associates the input command with its output responses.

MAC-DA=	Value	Description
	<12 HEXADECIMAL CHARACTERS>	

    Default: <Previously existing value>

    Addressing: None

    Description: Medium Access Control Address, it is the MAC Destination Address to be used in case of mapping of MPLS over Ethernet when a switched network is present.

    Restrictions: None

TAG=	Value	Description
	UNTAGGED	
	TAGGED	

    Default: <Previously existing value>

    Addressing: None

    Description: Flag Tagged/Untagged

    Restrictions: If TAG=TAGGED, then VLAN-ID, PRIORITY and DE must have valid values.

VLAN-ID=	Value	Description
	<INTEGER32>	
	{0-4094}	

    Default: <Previously existing value>

    Addressing: None

    Description: This is the VLAN Identifier to be used in case of mapping of MPLS over Ethernet when a switched network is present (802.1Q mapping).

    Restrictions: This parameter isn't valid if profile is UNTAGGED.

PRIORITY=	Value	Description
	<INTEGER32>	
	{0-7}	

    Default: <Previously existing value>

    Addressing: None

    Description: Priority value for TAGGED ethernet frame.

    Restrictions: This parameter isn't valid if profile is UNTAGGED.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG   Input, Data RanGe

one of input parameters provided is out of range

IENE   Input, specified object Entity does not Exist

L2 Encapsulation profile specified by AID is not provisioned

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

IPNC   Input, Parameter Not Consistent

TAG=TAGGED and VLAN-ID, PRIORITY haven't valid values

the profile is UNTAGGED and VLAN-ID parameter is provisioned

the profile is UNTAGGED and PRIORITY parameter is provisioned

SRQN   Status, Invalid Request

the L2 encapsulation profile specified by AID is referenced by a TUSegment or a PWSegment

EXAMPLES

```
ED-L2ENCAP-PROF::L2ENCAPPROF-10:TS001:::VLAN-ID=10;




    ALU-01 03-07-19 09:08:33
M  TS001 COMPLD
    /* ED-L2ENCAP-PROF::L2ENCAPPROF-10:TS001:::VLAN-ID=10 [TS001]
(1)*/
;
```

RELATED COMMANDS

ENT-L2ENCAP-PROF

RTRV-L2ENCAP-PROF

DLT-L2ENCAP-PROF

ENT-TMPLS-TUSEG

ED-TMPLS-TUSEG

ENT-TMPLS-PWSEG

ED-TMPLS-PWSEG

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-OAMPHB-PROF

Command Name: **EDIT OAM PER HOP BEHAVIOUR PROFILE**

PURPOSE

The ED-OAMPHB-PROF command shall edit the mapping between OAM type packet and the PHB value to be used.

With OAMPHB we define the AID of PHB profile related to OAM packets.

For OAM PHB Profile description, see ENT-OAMPHB-PROF command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The system shall reject the command if AID refers an OAMPHB referenced/used by a TUSegment.

The System will check that the PHB value correspondent to OAMTYPE1, OAMTYPE2, .. OAMTYPE8 are all taken from:

{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}   (PHB range 2)

INPUT FORMAT

```
ED-OAMPHB-PROF:[TID]:AID:[CTAG]::[OAMTYPE1] ,[OAMTYPE2],[OAMTYPE3]
,[OAMTYPE4],[OAMTYPE5],[OAMTYPE6],[OAMTYPE7],[OAMTYPE8];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	OAMPHB-{2-8}	(User defined OAM PHB Profile)
	<Product Specific Values>	

Default: Entry Required
Addressing: &&-ranging and &-grouping
Description: Access Identifier, specifies an access Identifier to the OAM PHB Profile.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

OAMTYPE1	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to FDI OAM type packet.

Restrictions: None

OAMTYPE2	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE2 packet.

Restrictions: None

OAMTYPE3	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE3 packet.

Restrictions: None

OAMTYPE4	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE4 packet.

Restrictions: None

OAMTYPE5	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE5 packet.

Restrictions: None

OAMTYPE6	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE6 packet.

Restrictions: None

OAMTYPE7	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE7 packet.

Restrictions: None

OAMTYPE8	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE8 packet.

Restrictions: None

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^^COMPLD cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG   Input, Data RanGe

one of input parameters provisioned is out of range

OAMPHB profile referenced by AID is used/referenced by a TUSegment

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
ED-OAMPHB-PROF::OAMPHB-2:QOS001::HIGH2, , , , , , ,LOW2;
```

```
   ALCATEL-01 07-03-16 23:59:33
M  QOS001 COMPLD
   /* ED-OAMPHB-PROF::OAMPHB-2:QOS001::HIGH2, , , , , , ,LOW2 */
;
```

RELATED COMMANDS

ENT-OAMPHB-PROF

RTRV-OAMPHB-PROF

DLT-OAMPHB-PROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-PHB-PROF
Command Name: EDIT PER HOP BEHAVIOUR PROFILE

PURPOSE

The ED-PHB-PROF command shall modify a Per Hop Behaviour Profile.

For description of PHB Profile, see ENT-PHB-PROF command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The PHB Profile can't be edited if used/referenced by a TUSegment and/or PWSegment

The System will check that the PSC correspondent to EXP0, EXP1, .. EXP7 are all distincts and they are all taken from:

{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}   (PHB range 2)

INPUT FORMAT

```
ED-PHB-PROF:[TID]:AID:[CTAG] : : [EXP0] , [EXP1] , [EXP2] , [EXP3] ,
[EXP4] , [EXP5] , [EXP6] , [EXP7];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	PHBPROF-{3-8}	(User defined PHB Profile)

Default: Entry Required
Addressing: &&-ranging and &-grouping
Description: Access Identifier, specifies an access Identifier to the PHB profile.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>
Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

EXP0

Value	Description
{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=0.

Restrictions: None

EXP1

Value	Description
{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=1.

Restrictions: None

EXP2

Value	Description
{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=2.

Restrictions: None

EXP3

Value	Description
{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=3.

Restrictions: None

EXP4	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=4.

Restrictions: None

EXP5	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=5.

Restrictions: None

EXP6	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=6.

Restrictions: None

EXP7	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: <Previously existing value>

Addressing: None

Description: This parameter associates a PHB class to the MPLS packets with EXP=7.

Restrictions: None

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^^COMPLD cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

> **IDRG**   Input, Data RanGe

one of input parameters provisioned is out of range

EXPn (n=0..7) parameters values aren' t all taken from PHB range 2

> **IENE**   Input, specified object Entity does Not Exist

PHB Profile specified by AID is not provisioned

> **IIFM**   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

> **SNVS**   Status, Not in Valid State

AID refers a PHB profile used/referenced by a TUSegment or a PWSegment

EXAMPLES

```
ED-PHB-PROF::PHBPROF-6:QOS100::AF1,EF,AF2,DE,AF3,LOW2,HIGH2,AF4;



    ALCATEL-01 07-03-16 23:59:33
M  QOS100 COMPLD
    /*
ED-PHB-PROF::PHBPROF-6:QOS100::AF1,EF,AF2,DE,AF3,LOW2,HIGH2,AF4*/
    ;
```

RELATED COMMANDS

ENT-PHB-PROF

RTRV-PHB-PROF

DLT-PHB-PROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-TMPLS-CRSTUSEG

Command Name: EDIT TMPLS TUNNEL SEGMENT CROSS CONNECT

PURPOSE

The ED-TMPLS-CRSTUSEG command provides for editing the TUSegment level cross-connect connection attributes that has been previously established via ENT-TMPLS-CRSTUSEG.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System supports the TUSegment cross connections satisfying rules described in ENT-TMPLS-CRSTUSEG command.

For this release the command can be applied only for confirming the previously entered value for the CCT parameter.

The command will be refused if the TUNNEL associated to this cross-connection has STATUS=ON (see ED-TMPLS-TUNNEL command).

INPUT FORMAT

```
ED-TMPLS-CRSTUSEG:[TID]:FROM,TO:[CTAG]::CCT;
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

> **Default:** <SID>
> **Addressing:** None
> **Description:** Target IDentifier, identifies the network node TID for the command.

FROM	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

> **Default:** Entry Required
> **Addressing:** &&-ranging and &-grouping
> **Description:** TUSegment AID identifies the FROM entity of the cross-connection.

TO	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

> **Default:** Entry Required

        Addressing: &&-ranging and &-grouping

        Description: TUSegment AID identifies the TO entity of the cross-connection.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

        Default: <System-assigned CTAG value>

        Addressing: None

        Description: Correlation TAG, associates the input command with its output responses.

CCT	Value	Description
	2WAY	

        Default: Entry Required

        Addressing: None

        Description: Cross-connect Type, identifies the type of cross-connect.

                2WAY Two-Way, identifies a bi-directional cross-connection between the selected FROM and TO facility TUSegments.

        Restrictions: For this release this parameter can be used only for confirming the previously entered value.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG   Input, Data RanGe

one of input parameters provided is out of range

IENE   Input, specified object Entity does Not Exist

the cross connect specified by FROM and TO AID is not present in the system

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

SDNC   Status, Data Not Consistent

FROM and TO refers to the same TUSegment and CCT=2WAY is specified

the STATUS parameter of TUNNEL associated to this cross-connection is equal to ON

EXAMPLES

```
   ED-TMPLS-CRSTUSEG::TUSEG-1-1-10,TUSEG-1-1-20:TS001::2WAY;




      ALU-01 03-07-19 09:08:33
   M TS001 COMPLD
      /* ED-TMPLS-CRSTUSEG::TUSEG-1-1-10,TUSEG-1-1-20:TS001::2WAY
   [TS001] (1)*/
   ;
```

RELATED COMMANDS

ENT-TMPLS-CRSTUSEG

RTRV-TMPLS-CRSTUSEG

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-TMPLS-GLOBAL
Command Name: EDIT TMPLS GLOBAL PARAMETERS

PURPOSE

The ED-TMPLS-GLOBAL command modifies global network parameters assigned to T-MPLS.
Successful completion of this command generates a REPT^DBCHG autonomous response message.

INPUT FORMAT

```
ED-TMPLS-GLOBAL:[TID]::[CTAG]:::[OAM-CVPERIOD-SEL=][,PHB-RANGE-SEL=]
;
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target IDentifier, identifies the network node TID for the command.	

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>	
Addressing:	None	
Description:	Correlation TAG, associates the input command with its output responses.	

OAM-CVPERIOD-SEL=	Value	Description
	0	(3.33ms,10ms,100ms,1s,10s,20ms,50ms)
	2	(3.33ms,10ms,100ms,1s,10s,1m)

Default:	<Previously existing value>	
Addressing:	None	
Description:	Selector of values range for CV Period into OAM CV frames. The default value for this parameter is 2.	

Restrictions: None.

PHB-RANGE-SEL=	**Value**	**Description**
	2	(MPLS profile 2)

Default: <Previously existing value>

Addressing: None

Description: Selector of the default value for PHBPROF (PHBPROF-2) for creation of new TUSEGs. The default value for this parameter is 2 (PHBPROF-2).

Restrictions: None.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG   Input, Data RanGe

one of input parameters provided is out of range

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

IPNC   Input, Parameter Not Consistent
OAM-CVPERIOD-SEL value is in conflict with existing OAM CV Period

EXAMPLES

```
ED-TMPLS-GLOBAL:::TS002:::OAM-CVPERIOD-SEL=1;



    ALU-01 03-07-19 09:08:33
M  TS002 COMPLD
    /* ED-TMPLS-GLOBAL:::TS002:::OAM-CVPERIOD-SEL=1 [TS002] (1)*/
 ;
```

RELATED COMMANDS

RTRV-TMPLS-GLOBAL

ENT-TMPLS-TUSEG

ED-TMPLS-TUSEG

ENT-PHBPROF

ED-PHBPROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-TMPLS-PW
Command Name: EDIT TMPLS PSEUDOWIRE

PURPOSE

INPUT FORMAT

```
ED-TMPLS-PW:[TID]:AID:[CTAG]:::[PW-ID=][,DESCR=][,TD-ID=][,STATUS=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

	Default:	<SID>
	Addressing:	None
	Description:	Target IDentifier, identifies the network node TID for the command. Note that TID must be the source node for the connection.

AID	Value	Description
	PW-1-1-{1-250}	(Pseudowire)

	Default:	Previous existing value
	Addressing:	None
	Description:	AID of PW that defines PW AID. It is made by three parameters: Rack, Subrack and pw index.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

	Default:	<System-assigned CTAG value>
	Addressing:	None
	Description:	Correlation TAG associates the input command with its output responses.

PW-ID=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

	Default:	Previously entered value

> **Addressing:** None
>
> **Description:** Pseudowire Identifier (name assigned by user)
>
> **Restrictions:** Pseudowire Identifier has to be unique in the system.

DESCR=	**Value**	**Description**
	<1-30 VALID NAME CHARACTERS>	

> **Default:** None
>
> **Addressing:** None
>
> **Description:** Pseudowire description assigned by user in the Control Plane

TD-ID=	**Value**	**Description**
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

> **Default:** Previously entered value
>
> **Addressing:** None
>
> **Description:** Traffic Descriptor Identifier for the assigned bandwidth profile to the Pseudowire.
>
> **Restrictions:** Command shall be rejected if matching TD could not be found. Entry is only allowed when Tunnel is not committed (STATUS=OFF).

STATUS=	**Value**	**Description**
	ON	
	OFF	

> **Default:** Previously entered value
>
> **Addressing:** None
>
> **Description:** PW administrative status.
>
> **Restrictions:** Command to disable the administrative status shall be rejected (PW STATUS = OFF), when the PW is involved in active client services
>
> ON: PW is committed.
>
> **OFF:** PW is provisioned but not committed.
>
> **Restrictions:** The parameter STATUS can't be set OFF if PW is involved in active client services (ETS, VPLS).

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   [^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

None

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDNC   Input, Data Not Consistent

the parameter STATUS=OFF and the PW is involved in active client services (ETS, VPLS)

IEAE   Input, Entity Already Exists

the new value of PW-ID parameter is already present

the new value of TD-ID parameter is already used

IENE   Input, Entity does Not Exist

Pseudowire to be edited with the requested AID and PW-ID is not present

the TD-ID selected is not present

IPNC   Input, Parameter Not Consistent

STATUS=ON and a the Tunnel was disabled

PORT parameter refers to a SWAP TUSegment

STATUS=ON and a TD-ID was not assigned

      SRQN Status, INvalid ReQuest

PW CIR parameter value is greater than available Tunnel Bandwidth

PW PIR parameter value is greater than available Tunnel Bandwidth

PW CIR parameter value is less than underlying ETS connections CIR

PW PIR parameter value is less than underlying ETS connection PIR

EXAMPLES

```
ED-TMPLS-PW::<AID>:CP001::: STATUS = ON;



    ALU-01 07-03-16 23:59:33
M  CP-001 COMPLD
    /* ED-TMPLS-PW::<AID>:CP001:::STATUS = ON */
;
```

RELATED COMMANDS

RELATED AUTONOMOUS RESPONSES

None

Command Code: ED-TMPLS-PWSEG
Command Name: EDIT TMPLS PSEUDOWIRE SEGMENT

PURPOSE

The ED-TMPLS-PWSEG command edits MPLS PWSegment parameters.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

INPUT FORMAT

```
ED-TMPLS-PWSEG:[TID]:AID:[CTAG]::[PORT],[DIR],[USERNAME]:[,INLABEL=]
[,OUTLABEL=][,PHBPROF-AID=][,CW=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value	Description
	PWSEG-1-1-{1-250}	(Pseudowire Segment)

Default:	Entry Required	
Addressing:	&&-ranging and &-grouping	
Description:	Access IDentifier, specifies an access to the facility.	

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>	
Addressing:	None	
Description:	Correlation TAG, associates the input command with its output responses.	

PORT	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

ED-TMPLS-PWSEG

Default:	<Previously existing value>	
Addressing:	None	
Description:	AID of the port which is server of the MPLS PWSegment. The server can be only a TUSegment.	
Restrictions:	The TUSegment referenced by this parameter must be already defined and its TYPE must be equal to TERMINATION.	
	If the Tunnel related to TUSegment referenced by this parameter is a protecting Tunnel, the command will be refused.	

DIR	Value	Description
	BIDIR	

Default:	<Previously existing value>	
Addressing:	None	
Description:	PWSegment Direction: Bidir	
Restrictions:	This parameter isn' t editable, in this release.	

USERNAME	Value	Description
	<1-30 VALID CHARACTERS>	

Default:	<Previously existing value>	
Addressing:	None	
Description:	PWSegment User name.	
Restrictions:	None	

INLABEL=	Value	Description
	<INTEGER32>	
	{16-1023} for all services	

Default:	<Previously existing value>	
Addressing:	None	
Description:	Expected Label for incoming segment associated to Sink PWSegment.	
Restrictions:	The label value must be unique in the system.	
	If this PWSegment is involved in "client services", then this parameter can' t be edited.	

OUTLABEL=	Value	Description
	<INTEGER32>	
	{16-1048575}	

Default:	<Previously existing value>	

ED-TMPLS-PWSEG

Addressing: None

Description: Transmitted Label for outgoing segment towards Source PWSegment.

Restrictions: The label value must be unique on a TUSEG basis.

If this PWSegment is involved in "client services", then this parameter can' t be edited.

PHBPROF-AID=	Value	Description
	PHBPROF-{2-8}	(PHB Profile)

Default: <Previously existing value>

Addressing: None

Description: Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.

Restrictions: The System will check if PHB profile is present using this parameter as access-key.

CW=	Value	Description
	ENABLE	
	DISABLE	

Default: DISABLE

Addressing: None

Description: Enabling/disabling capability to insertion/stripping of the Control Word, associated to Termination PWSegment.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IDNC   Input, Data Not Consistent

DIR parameter is edited

INLABEL parameter is edited and PWSegment is involved in "client services"

OUTLABEL parameter is edited and PWSegment is involved in "client services"

      IDRG   Input, Data RanGe

one of input parameters provided is out of range

      IENE   Input, specified object Entity does Not Exist

the PWSegment specified by AID is not present in the system

      IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

      IPNC   Input, Parameter Not Consistent

PORT parameter refers to a TUSegment not yet provisioned

INLABEL parameter provisioned is already used

PHBPROF-AID parameter is specified but the related PHB profile can't be found

the PORT parameter refers to a TUSegment and the related Tunnel is a protecting Tunnel

OUTLABEL parameter provisioned is already used for the TUSEG referenced by PORT parameter

USERNAME parameter provisioned is already used

EXAMPLES

```
ED-TMPLS-PWSEG::PWSEG-1-1-10:TS002::,,PARIGI2;



    ALU-01 03-07-19 09:08:33
M   TS002 COMPLD
    /* ED-TMPLS-PWSEG::PWSEG-1-1-10:TS002::,,PARIGI2 [TS002] (1)*/
;
```

RELATED COMMANDS

ENT-TMPLS-PWSEG

RTRV-TMPLS-PWSEG

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-TMPLS-TD

Command Name: EDIT TMPLS TRAFFIC DESCRIPTOR

PURPOSE

The ED-TMPLS-TD command shall modify a TD (Traffic Descriptor) also called MPLS Tunnel Resource Descriptor. A TD can be associated to Tunnels using ED-TMPLS-TUNNEL commands.

A TD can be associated to PseudoWires using ED-TMPLS-PW commands.

A TD is the a set of CIR, CBS, PIR and PBS parameters used by the System for MPLS packets color marking .

For parameter definition, see ENT-TMPLS-TD command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: If this TD is used by a Tunnel or by a PseudoWire, then CIR, PIR, CBS, PBS parameters value variation is constrained to verification of CAC checks.

INPUT FORMAT

```
ED-TMPLS-TD:[TID]:AID:[CTAG]:::[CIR=][,CBS=][,PIR=][,PBS=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

Default: entry required
Addressing: &&-ranging and &-grouping
Description: Access Identifier, specifies an access Identifier to the MPLS TD.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>
Addressing: None

ED-TMPLS-TD

> **Description:** Correlation TAG, associates the input command with its output responses.

CIR=

Value	Description
<POSITIVE INTEGER>	(Kbit/sec.)

> **Default:** <Previously existing value>
>
> **Addressing:** None
>
> **Description:** MPLS Committed Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.
>
> **Restrictions:** The CIR value must be <= of PIR value.
>
> If this TD is used by a Tunnel or by a PseudoWire , then CIR parameter value variation is constrained to verification of CAC checks.

CBS=

Value	Description
<POSITIVE INTEGER>	(byte)

> **Default:** <Previously existing value>
>
> **Addressing:** None
>
> **Description:** MPLS Committed Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.
>
> **Restrictions:** The CBS value must be <= of PBS value.
>
> If this TD is used by a Tunnel or by a PseudoWire , then CBS parameter value variation is constrained to verification of CAC checks.

PIR=

Value	Description
<POSITIVE INTEGER>	(Kbit/sec.)

> **Default:** <Previously existing value>
>
> **Addressing:** None
>
> **Description:** MPLS Peak Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.
>
> **Restrictions:** The PIR value must be >= of CIR value.
>
> If this TD is used by a Tunnel or by a PseudoWire , then PIR parameter value variation is constrained to verification of CAC checks.

PBS=

Value	Description
<POSITIVE INTEGER>	(byte.)

> **Default:** <Previously existing value>

Addressing: None

Description: MPLS Peak Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.

Restrictions: The PBS value must be >= of CBS value.

If this TD is used by a Tunnel or by a PseudoWire , then PBS parameter value variation is constrained to verification of CAC checks.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^^COMPLD cr lf
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

CIR parameter value is greater than PIR

CBS parameter value is greater than PBS

IDRG   Input, Data RanGe

one of input parameters provisioned is out of range

IENE   Input, specified object Entity does Not Exist

a TMPLS Traffic Descriptor specified by AID isn't present in the system

        IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

        SRQN   Status, INvalid ReQuest

the modified bandwidth of the TD causes the protecting tunnel (PROTN) bandwidth to be minor with respect to the bandwidth of the working tunnel (WKG)

Tunnel CIR parameter value is greater than available link Bandwidth

Tunnel PIR parameter value is greater than available link rate

Tunnel CIR parameter value is less than underlying PWs CIR

Tunnel PIR parameter value is less than underlying PW PIR

PW CIR parameter value is greater than available Tunnel Bandwidth

PW PIR parameter value is greater than available Tunnel Bandwidth

PW CIR parameter value is less than underlying ETS connections CIR

PW PIR parameter value is less than underlying ETS connection PIR

EXAMPLES

```
ED-TMPLS-TD::MPLSTD-100:QOS005:::CIR=48,CBS=8000,PIR=80,PBS=16000;



    ALCATEL-01 07-03-16 23:59:33
M  QOS005 COMPLD
    /*
ED-TMPLS-TD::MPLSTD-100:QOS005:::CIR=48,CBS=8000,PIR=80,PBS=16000 */
    ;
```

RELATED COMMANDS

ENT-TMPLS-TD
RTRV-TMPLS-TD
DLT-TMPLS-TD
ENT-TMPLS-TUNNEL
ED-TMPLS-TUNNEL
ED-TMPLS-PW

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ED-TMPLS-TUNNEL
Command Name: EDIT TMPLS TUNNEL

PURPOSE

INPUT FORMAT

```
ED-TMPLS-TUNNEL:[TID]:AID:[CTAG]:::[TUNNEL-ID=][,DESCR=][,TD-ID=][,S
TATUS=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>

Addressing: None

Description: Target IDentifier, identifies the network node TID for the command. Note that TID must be the source node for the connection.

AID	Value	Description
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

Default: None

Addressing: None

Description: AID of LSP Tunnel that defines TUNNEL AID. The former is made by six parameters: Rack, Subrack, Tunnel Id, Tunnel Instance, Ingress LER address, Egress LER address.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

ED-TMPLS-TUNNEL

TUNNEL-ID=	Value		Description
	<1-30 VALID NAME CHARACTERS>		

	Default:	Previously entered value
	Addressing:	None
	Description:	Tunnel Identifier (as Tunnel name assigned by user in the Control Plane)
	Restrictions:	Tunnel Identifier has to be unique in the system.

DESCR=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

	Default:	Previously entered value
	Addressing:	None
	Description:	Tunnel description assigned by user in the Control Plane

TD-ID=	Value	Description
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

	Default:	Previously entered value
	Addressing:	None
	Description:	Traffic Descriptor Identifier for the assigned bandwidth profile to the LSP Tunnel.
	Restrictions:	Only allowed to be changed when ACD=LOCAL. Command shall be rejected if matching TD could not be found.

STATUS=	Value	Description
	ON	
	OFF	

	Default:	Previously entered value
	Addressing:	None
	Description:	Tunnel administrative status.
		ON: Tunnel is committed.
		OFF: Tunnel is provisioned but not committed.
	Restrictions:	If there is a PW referencing this TUNNEL, this parameter can't be OFF if PW STATUS = ON

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   [^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

None

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lfM^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDNC   Input, Data Not Consistent

STATUS=OFF and the Tunnel is part of an FFP with ACD (FFP) = LOCAL

STATUS=OFF and there is at least a PW referencing the requested tunnel with PW STATUS =ON

IEAE   Input, Entity Already Exists

the new value of TUNNEL-ID parameter is already present

the new value of TD-ID parameter is already used

IENE   Input, Entity does Not Exist

Tunnel to be edited with the requested AID and TUNNEL-ID is not present

the TD-ID selected is not present

IPNC   Input, Parameter Not Consistent

STATUS=ON and a TD-ID was not assigned

STATUS=ON and a the MPLSIF was disabled

      SRQN Status, INvalid ReQuest

Tunnel CIR parameter value is greater than available link Bandwidth

Tunnel PIR parameter value is greater than available link rate

Tunnel CIR parameter value is less than underlying PWs CIR

Tunnel PIR parameter value is less than underlying PW PIR

the bandwidth of the selected TD-ID causes the protecting tunnel (PROTN) bandwidth to be minor with respect to the bandwidth of the working tunnel (WKG)

EXAMPLES

```
ED-TMPLS-TUNNEL::<AID>:CP001::: TUNNEL-ID=TEST, STATUS=ON;
```

```
    ALU-01 07-03-16 23:59:33
M  CP001 COMPLD
    /* ED-TMPLS-TUNNEL::<AID>:CP001::: TUNNEL-ID=TEST, STATUS=ON*/
;
```


RELATED COMMANDS

DLT-TMPLS-TUNNEL

RTRV-TMPLS-TUNNEL

RELATED AUTONOMOUS RESPONSES

The ED-TMPLS-TUNNEL command shall generate a REPT^DBCHG message.

Command Code: ED-TMPLS-TUSEG

Command Name: EDIT TMPLS TUNNEL SEGMENT

PURPOSE

The ED-TMPLS-TUSEG command edits MPLS TUSegment parameters.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

INPUT FORMAT

```
ED-TMPLS-TUSEG:[TID]:AID:[CTAG]::[DIR],[USERNAME]:[L2ENCAPPROF-AID=]
[,INLABEL=][,OUTLABEL=][,PHBPROF-AID=][,OAMPHB-AID=][,MEP=][,MEG-ID=
][,MEP-ID=][,EXPMEP-ID=][,CVRX=][,CVTX=][,CVPERIOD=][,CVPHB=][,ALMPR
OF=][,PS-DDM-SD=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

    Default: <SID>
    Addressing: None
    Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

    Default: Entry Required
    Addressing: &&-ranging and &-grouping
    Description: Access IDentifier, specifies an access to the TUSegment facility.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

    Default: <System-assigned CTAG value>
    Addressing: None
    Description: Correlation TAG, associates the input command with its output responses.

DIR	Value	Description
	BIDIR	

Default:	<Previously existing value>	
Addressing:	None	
Description:	TUSegment Direction: Bidir or Unidir-In or Unidir-Out.	
Restrictions:	This parameter isn' t editable in this release.	

USERNAME	Value	Description
	<1-30 VALID CHARACTERS>	

Default:	<Previously existing value>	
Addressing:	None	
Description:	TUSegment User name.	
Restrictions:	None	

L2ENCAPPROF-AID=	Value	Description
	<Product Specific Values>	

Default:	<Previously existing value>	
Addressing:	None	
Description:	L2 encapsulation profile AID to be used in case of mapping of MPLS over Ethernet when a switched network is present.	
	The System will check if profile is present using this parameter as access-key.	

INLABEL=	Value	Description
	<INTEGER32>	
	{16-1023} for services {130048 - 131071} for IEEE 1588 PTP traffic	

Default:	<Previously existing value>	
Addressing:	None	
Description:	Expected Label for incoming segment associated to Sink TUSegment.	
Restrictions:	The label value must be unique in the system.	
	If this TUSegment is referenced by a PWSegment, then this parameter can' t be edited.	
	If this TUSegment is involved in a cross-connection, then this parameter can' t be edited.	

ED-TMPLS-TUSEG

This parameter can't be edited if the related Tunnel is a working or protecting Tunnel.

OUTLABEL=	Value	Description

<INTEGER32>
{16-1048575}

Default:	<Previously existing value>
Addressing:	None
Description:	Transmitted Label for outgoing segment to Source TUSegment.
Restrictions:	The label value must be unique on MPLS port basis.
	If this TUSegment is referenced by a PWSegment, then this parameter can' t be edited.
	This parameter can' t be edited is the related Tunnel is a working or protecting Tunnel.

PHBPROF-AID=	Value	Description

PHBPROF-{2-8} (PHB Profile)

Default:	<Previously existing value>
Addressing:	None
Description:	Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.
Restrictions:	The System will check if PHB profile is present using this parameter as access-key.
	For termination TUSegments, if CVRX=ENABLE or CVTX=ENABLE, the chosen profile must contain the PSC referenced by CVPHB parameter.
	The chosen profile must be consistent with OAM PHB profile chosen by OAMPHB-AID parameter.

OAMPHB-AID=	Value	Description

OAMPHB-{1-8}   (OAM PHB Profile)

Default:	<Previously existing value>
Addressing:	None
Description:	PHB OAM Profile AID for OAM packets.
Restrictions:	The System will check if profile is present using this parameter as access-key.
	The chosen profile must be consistent with PHB profile chosen by PHBPROF-AID parameter.

MEP=　　　　　　　**Value**　　　　　　　　　　　　　**Description**

ENABLE

DISABLE

Default:	<Previously existing value>
Addressing:	None
Description:	For enabling MEP function (only for termination TUSegment), the direction of MEP is according to the direction of TUSegment. For a MEP sink point, it enables the capability to process the received CV packets and generate the correspondent alarms.
Restrictions:	ENABLE value can't be used if TYPE=SWAP.
	This parameter can' t be edited if the related Tunnel is a working or protecting Tunnel.

MEG-ID=　　　　　　**Value**　　　　　　　　　　　　　**Description**

<1-13 VALID CHARACTERS>

Default:	<Previously existing value>
Addressing:	None
Description:	MEG, 13 ASCII chars string.
Restrictions:	This parameter must be unique in the system.

MEP-ID=　　　　　　**Value**　　　　　　　　　　　　　**Description**

<INTEGER32>

{0-8191}

Default:	<Previously existing value>
Addressing:	None
Description:	Transmitted MEP value, integer associated to Source TUSegment Termination. This parameter is unique inside MEG_ID.
Restrictions:	If provisioned, this parameter must be different from EXPMEP-ID.

EXPMEP-ID=　　　　**Value**　　　　　　　　　　　　　**Description**

<INTEGER32>

{0-8191}

Default:	<Previously existing value>
Addressing:	&grouping
Description:	Expected MEP values list, integer associated to Sink TUSegment Termination, also called PeerMEP-ID. In case of p2p TUSegment, this is only one integer number. In case of p2mp TUSegment, this parameter represents the list of expected MEP-ID. For example <100&200&300> represents 3 different expected MEP-IDs.

Restrictions: If provisioned, this parameter must be different from MEP-ID.

This parameter is no t valid if CVRX=DISABLE.

CVRX=	**Value**	**Description**
	ENABLE	
	DISABLE	

Default:	<Previously existing value>
Addressing:	None
Description:	Enabling/disabling capability to detect the Loss Of Continuity (LOC) alarm, associated to Sink TUSegment Termination.
Restrictions:	ENABLE value can't be used if TYPE=SWAP. If ENABLE also MEP parameter must be ENABLE. If ENABLE also CVTX parameter must be ENABLE.
	If ENABLE, EXPMEP-ID parameter can't be <empty list>.
	If ENABLE, the PHB profile referenced by PHBPROF-AID parameter, must contain the PSC referenced by CVPHB parameter.

CVTX=	**Value**	**Description**
	ENABLE	
	DISABLE	

Default:	<Previously existing value>
Addressing:	None
Description:	Enabling/disabling transmission of CV packets, associated to Source TUSegment Term.
Restrictions:	ENABLE value can't be used if TYPE=SWAP. If ENABLE also MEP parameter must be ENABLE. If ENABLE also CVRX parameter must be ENABLE.
	If ENABLE, the PHB profile referenced by PHBPROF-AID parameter, must contain the PSC referenced by CVPHB parameter.

CVPERIOD=	**Value**	**Description**
	{3.33ms,10ms,100ms,1s,10s,20ms,50 ms,1m}	

Default:	<Previously existing value>
Addressing:	None
Description:	Period (1/Frequency) of CV packet transmission.
Restrictions:	20ms and 50ms values are allowed only if "Standard_Period_Sel=0". 1m value is allowed only if "Standard_Period_Sel=2"(see ED-TMPLS-GLOBAL TL1 command).

CVPHB=	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	

Default:	<Previously existing value>
Addressing:	None
Description:	PHB Scheduling Class (PSC) associated to CV packets, (EF,AF1, AF2, ...).
Restrictions:	For termination TUSegment, if CVRX=ENABLE or CVTX=ENABLE, the chosen PSC must be present into PHB profile used by this TUSegment.

ALMPROF=	Value	Description
	ASAPTUSEG-{1-10}	

Default:	<Previously existing value>
Addressing:	None
Description:	The Alarm Severity Assignment Profile (ASAP) name to use with this facility.
	<userlabel> 1-40 alphanumeric characters (plus '-') assigned as the userlabel for the desired profile.
Restrictions:	None

PS-DDM-SD=	Value	Description
	{ENABLE, DISABLE}	

Default:	<Previously existing value>
Addressing:	None
Description:	This parameter enables/disables the Protection Switch feature for Signal Degrade detected on the basis of the optical power monitored by Digital Diagnostic Monitoring (DDM) capable SSF/TSF. Enables/disable DDM-SD alarm contribution, and FDI packet generation due to DDM-SD failure.
Restrictions:	FDI generation on Port #3 (MPLSIF-1-1-1-3) is not supported.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDNC   Input, Data Not Consistent

MEG-ID parameter provisioned is already used

the CVRX=ENABLE or CVTX=ENABLE and the User edits a CVPHB value that isn't into PHB profile used by this TUSegment

the CVRX=ENABLE or CVTX=ENABLE and the User edits PHBPROF-AID parameter and CVPHB value isn't into PHB profile entered

the User edits CVRX=ENABLE or CVTX=ENABLE and the CVPHB value isn't into PHB profile used by this TUSegment

the User edits CVRX=ENABLE and EXPMEP-ID is an empty list

the TUSegment specified by AID is referenced by a PWSegment and INLABEL parameter is provisioned

the TUSegment specified by AID is referenced by a PWSegment and OUTLABEL parameter is provisioned

PHB profile is not consistent with OAM PHB profile

DIR parameter is edited

INLABEL parameter is edited and TUSegment is involved in a cross-connection

INLABEL parameter is edited and the Tunnel related to TUSegment is a working or protecting Tunnel

OUTLABEL parameter is edited and the Tunnel related to TUSegment is a working or protecting Tunnel

MEP parameter is edited and the Tunnel related to TUSegment is a working or protecting Tunnel

       IDRG   Input, Data RanGe

one of input parameters provided is out of range

       IENE   Input, specified object Entity does Not Exist

the TUSegment specified by AID is not present in the system

       IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

       IPNC   Input, Parameter Not Consistent

L2ENCAPPROF-AID parameter is specified but the related Profile can't be found

INLABEL parameter provisioned is already used

OUTLABEL parameter provisioned is already used for the MPLSIF referenced by PORT parameter

PHBPROF-AID parameter is specified but the related PHB profile can't be found

OAMPHB-AID parameter is specified but the related OAM Profile can't be found

MEP=ENABLE and TYPE=SWAP

MEP=ENABLE and MEG-ID is not provided

MEP=ENABLE and MEP-ID is not provided

CVTX=ENABLE and TYPE=SWAP

CVTX=ENABLE and MEP=DISABLE

CVRX=ENABLE and TYPE=SWAP

CVRX=ENABLE and MEP=DISABLE,

CVRX and CVTX are not set to same value (ENABLE or DISABLE)

CVPERIOD parameter is 20ms or 50ms and "Standard_Period_Sel is not set to 0"

CVPERIOD parameter is 1m and "Standard_Period_Sel is not set to 2"

EXPMEP-ID=MEP-ID

ED-TMPLS-TUSEG

CVRX=DISABLE and EXPMEP-ID is provisioned

EXAMPLES

```
ED-TMPLS-TUSEG::TUSEG-1-1-10:TS002::,,:CVTX=DISABLE,CVRX=DISABLE;



    ALU-01 03-07-19 09:08:33
M  TS002 COMPLD
    /*
ED-TMPLS-TUSEG::TUSEG-1-1-10:TS002::,,:CVTX=DISABLE,CVRX=DISABLE
[TS002] (1)*/
    ;
```

RELATED COMMANDS

ENT-TMPLS-TUSEG

DLT-TMPLS-TUSEG

RTRV-TMPLS-TUSEG

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-FFP-TMPLS

Command Name: ENTER (T)MPLS FAST FACILITY PROTECTION GROUP

PURPOSE

The ENT-FFP-TMPLS command creates a facility protection group. The following types of facility protection group can be provisioned with (T)MPLS tunnels as protection group members with this command:

revertive bidirectional 1:1 (T)MPLS

Dual Home revertive bidirectional (T)MPLS

A bidirectional 1:1 (T)MPLS FFP will consist of two tunnels (working and protection tunnel). The AID of the FFP will be returned as output.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
ENT-FFP-TMPLS:[TID]::[CTAG]:::WKG=,PROTN=[,LAYER=][,RVRTTIM=][,PTYPE
=][,RVRT=][,HLDFFTTIM=][,APSPHB=];
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target Identifier, specifies the network node TID for the command.	

CTAG	Value		Description
	< 1-6 VALID CTAG CHARACTERS >		
	Default:	< System assigned CTAG value >	
	Addressing:	None	
	Description:	Correlation Tag, associates input command with its output responses.	

WKG=	Value	Description
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

	Default:	Entry required
	Addressing:	None
	Description:	Access identifier of the working tunnel
		The bandwidth of the protecting tunnel should always be >= respect to the bandwidth of the protected tunnel

PROTN=	Value	Description
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

	Default:	Entry required
	Addressing:	None
	Description:	Access identifier of the protecting tunnel
		The bandwidth of the protecting tunnel should always be >= respect to the bandwidth of the protected tunnel

LAYER=	Value	Description
	{TUNNEL}	

	Default:	TUNNEL
	Addressing:	None
	Description:	indicated if the protection is done at TUNNEL or PW layer. In this release only TUNNEL is supported.

RVRTTIM=	Value	Description
	{0-12, 3060}	Timer value

	Default:	5
	Addressing:	None
	Description:	Specifies revert time in minutes. Note: 3060min.=51h.

PTYPE=	Value	Description
	{APSBIDIR}	1:1 Bidirectional Linear APS
	{DHOME-COLON}	Dual Homing 1:1

	Default:	APSBIDIR
	Addressing:	None
	Description:	Specifies the type of the protection.
		Dual Homing is used in ring area, where the Tunnels spokes are connected to the intermediate hub nodes in a dual homing,

implementing using 1:1 Tunnel Redundancy without APS. TMPLS encapsulated R-APS messages are used as a MAC flushing mechanism for the dual home nodes.

RVRT=	**Value**	**Description**
	{Y}	

Default: Y
Addressing: None
Description: Determines if the protection shall be revertive or not. In this release only RVRT=Y is supported.

HLDFFTTIM=	**Value**	**Description**
	{0,100,200 - 9800,9900,10000}	Hold-off timer value in steps of 100msec

Default: 0
Addressing: None
Description: Hold Off Time for automatic protection switching. The value is specified in milliseconds.

APSPHB=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2} (PHB range)	

Default: EF
Addressing: None
Description: PHB Scheduling Class (PSC) associated to APS packets.

Also used for the R-APS message for the Dual home case.

Restriction: The chosen PSC must be present into PHB profile used by the TUSegment correspondent to the Protecting Tunnel.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID> "cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	FFPTUNNEL-1-1{1-64}	

       Description: FFPTUNNEL AID. This output parameter is used to refer to the FFPTUNNEL entity in ED-FFP-TMPLS, RTRV-FFP-TMPLS and DLT-FFP-TMPLS commands.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IPNC: Input, Parameter Not Consistent

APSPHB refers to a PSC not included into active PHB profile

      IEAE   Input, Entity Already Exists

the protection group (specified with the working and protection facility) is already provisioned

      IENE   Input, Entity does Not Exist

either of the tunnel segments for this FFP is not provisioned

      IPNC   Input, Parameter Not Consistent

RVRTTIM parameter value is out of range

HLDFFTTIM=Any value less than 0 or greater than 10000, or a value which does not match the defined steps as specified

attribute PTYPE is APSBIDIR and RVRT is not set to Y

attribute PTYPE is DHOME-COLON and RVRT is not set to Y

the specified WKG and PROTN AID type (TUNNEL / PW) doesn't match with the LAYER value

the same Tunnel is specified for both WKG and PROTN

      SARB   System, All Resources Busy

      SNVS   Status, Not in Valid State

one of the specified tunnel segment which shall become member of the new FFP is already a member of another FFP protection group

no MEP is already defined for WKG tunnel and no MEP is already defined for PROTN tunnel

attribute PTYPE is APSBIDIR and the FFP is created in a point where WKG or PROTN TUNNELs are not terminated

attribute PTYPE is DHOME-COLON and the FFP is created in a point where WKG or PROTN TUNNELs are not terminated

the specified protecting tunnel supports PW

the bandwidth of the protecting tunnel (PROTN) is minor respect to the bandwidth of the working tunnel (WKG)

EXAMPLES

The following command a linear FFP is being set up for tunnel

```
ENT-FFP-TMPLS:::::WKG=TUNNEL-1-1-10-1-0-0-0-0-0-0-0-0,PROTN=TUNNEL-1
-1-11-1-0-0-0-0-0-0-0-0,RVRTTIM=12, HLDFFTTIM=1500;



    ALU-1 03-05-30 15:20:29
M   0 COMPLD
    /*
ENT-FFP-TMPLS:::::WKG=TUNNEL-1-1-10-1-0-0-0-0-0-0-0-0,PROTN=TUNNEL-1
-1-11-1-0-0-0-0-0-0-0-0, RVRTTIM=15,HLDFFTTIM=1500; */
;
```

RELATED COMMANDS

DLT-FFP-TMPLS

ED-FFP-TMPLS

RTRV-FFP-TMPLS

OPR-PROTNSW-TMPLS

RLS-PROTNSW-TMPLS

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-L2ENCAP-PROF

Command Name: ENTER L2 ENCAPSULATION PROFILE

PURPOSE

The ENT-L2ENCAP-PROF command shall create a L2 Encapsulation Profile user defined.

This command permits to define the configuration of MAC DA and other parameters for the encapsulation of MPLS over ethernet.

In the System there is a pre-defined L2 encapsulation profile identified by L2ENCAPPROF-1 AID, MAC-DA= all 1 and TAG=UNTAGGED.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System shall support a maximum of 31 user-defined L2 Encapsulation profiles.

INPUT FORMAT

```
ENT-L2ENCAP-PROF:[TID]::[CTAG]:::MAC-DA=,TAG=[,VLAN-ID=][,PRIORITY=]
;
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target IDentifier, identifies the network node TID for the command.	

CTAG	Value		Description
	<1-6 VALID CTAG CHARACTERS>		
	Default:	<System-assigned CTAG value>	
	Addressing:	None	
	Description:	Correlation TAG, associates the input command with its output responses.	

MAC-DA=	Value		Description
	<12 HEXADECIMAL CHARACTERS>		
	Default:	Entry required	

> **Addressing:** None
>
> **Description:** Medium Access Control Address, it is the MAC Destination Address to be used in case of mapping of MPLS over Ethernet when a switched network is present.
>
> **Restrictions:** None

TAG=	**Value**	**Description**
	UNTAGGED	
	TAGGED	

> **Default:** Entry required
>
> **Addressing:** None
>
> **Description:** Flag Tagged/Untagged
>
> **Restrictions:** None

VLAN-ID=	**Value**	**Description**
	<INTEGER32>	
	{0-4094}	

> **Default:** None
>
> **Addressing:** None
>
> **Description:** This is the VLAN Identifier to be used in case of mapping of MPLS over Ethernet when a switched network is present (802.1Q mapping).
>
> **Restrictions:** This parameter is mandatory if TAG=TAGGED, otherwise it is not valid.

PRIORITY=	**Value**	**Description**
	<INTEGER32>	
	{0-7}	

> **Default:** 0
>
> **Addressing:** None
>
> **Description:** Priority value for TAGGED ethernet frame.
>
> **Restrictions:** This parameter isn't valid if TAG=UNTAGGED.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   ^^^"<AID>"cr lf
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	L2ENCAPPROF-{2-32}	(User defined L2 Encapsulation Profile)

> **Description:** L2 Encapsulation Profile AID. This output parameter is used to refer to this profile in ED-L2ENCAP-PROF, RTRV-L2ENCAP-PROF and DLT-L2ENCAP-PROF commands. It is also used to refer to this profile by a TUSEG (see ENT-TMPLS-TUSEG and ED-TMPLS-TUSEG commands).

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV Input, Command Not Valid

number of L2 Encapsulation profiles in the system exceeds maximum number of allowed profiles

IDRG Input, Data RanGe

one of input parameters provided is out of range

IIFM Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

      IPNC   Input, Parameter Not Consistent

TAG=TAGGED and VLAN-ID parameter is not provisioned

TAG=UNTAGGED and VLAN-ID parameter is provisioned

TAG=UNTAGGED and PRIORITY parameter is provisioned

EXAMPLES

```
ENT-L2ENCAP-PROF: :
:TS001:::MAC-DA=002060123456,TAG=TAGGED,VLAN-ID=100;



    ALU-01 03-07-19 09:08:33
M  TS001 COMPLD
   L2ENCAPPROF-10
   /*
ENT-L2ENCAP-PROF:::TS001:::MAC-DA=002060123456,TAG=TAGGED,VLAN-ID=10
0 [TS001] (1)*/
;
```

RELATED COMMANDS

ED-L2ENCAP-PROF

RTRV-L2ENCAP-PROF

DLT-L2ENCAP-PROF

ENT-TMPLS-TUSEG

ED-TMPLS-TUSEG

ENT-TMPLS-PWSEG

ED-TMPLS-PWSEG

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-OAMPHB-PROF

Command Name: ENTER OAM PER HOP BEHAVIOUR PROFILE

PURPOSE

The ENT-OAMPHB-PROF command shall create a PHB profile associated to OAM type packets

The System supports the capability of configuring an association between a PHB value with a TMPLS OAM packet. The configuration is on LSP base. A pool of up to 8 OAM PHB profiles (tables) has to be supported per NE. Each LSP, on user configuration base, points to one of these tables. The chosen PHB is then associated to an EXP bit value, based on the PHB profile pointed by the monitored LSP.

In this version only FDI packets are required to be managed. The other rows of the profiles are for future use.

Then the User, with this command, can establish what PHB value to use for FDI packets and other OAM type packets to be defined in the future.

With OAMPHB we define the AID of PHB profile related to OAM packets.

The User, when defines TUSegment using ENT-TMPLS-TUSEG, establish the association between the TUSegment and one of this 8 Profile using the OAMPHB-AID parameter; then all the FDI packets generated in the terminated source TUSegment shall derive the PHB from the chosen Profile.

In the System is stored one predefined OAMPHB profiles identified by AID=OAMPHB-1 (see RTRV-OAMPHB-PROF)

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The system shall support max 7 OAMPHB User defined.

The System will check that the PHB value correspondent to OAMTYPE1, OAMTYPE2, .. OAMTYPE8 are all taken from:

{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}   (PHB range 2)

INPUT FORMAT

```
ENT-OAMPHB-PROF:[TID]::[CTAG]::[OAMTYPE1] ,[OAMTYPE2] ,[OAMTYPE3]
,[OAMTYPE4] ,[OAMTYPE5] ,[OAMTYPE6] ,[OAMTYPE7] ,[OAMTYPE8];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

> **Default:**   <SID>
> **Addressing:** None
> **Description:** Target IDentifier, identifies the network node TID for the command.

CTAG	**Value**	**Description**
	<1-6 VALID CTAG CHARACTERS>	

    Default: <System-assigned CTAG value>

    Addressing: None

    Description: Correlation TAG, associates the input command with its output responses.

OAMTYPE1	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: EF

    Addressing: None

    Description: This parameter associates a PHB value to FDI OAM type packet.

    Restrictions: None

OAMTYPE2	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: EF

    Addressing: None

    Description: This parameter associates a PHB value to an (future release) OAM TYPE2 packet.

    Restrictions: None

OAMTYPE3	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: EF

    Addressing: None

    Description: This parameter associates a PHB value to an (future release) OAM TYPE3 packet.

    Restrictions: None

OAMTYPE4	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: EF

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE4 packet.

Restrictions: None

OAMTYPE5	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: EF

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE5 packet.

Restrictions: None

OAMTYPE6	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: EF

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE6 packet.

Restrictions: None

OAMTYPE7	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: EF

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE7 packet.

Restrictions: None

OAMTYPE8	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

Default: EF

Addressing: None

Description: This parameter associates a PHB value to an (future release) OAM TYPE8 packet.

Restrictions: None

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^^COMPLD cr lf
^^^"<AID>"cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	OAMPHB-{2-8}	(User defined OAM PHB Profile)

> **Description:** Access Identifier, specifies an access Identifier to the OAM PHB Profile.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

number of OAM PHB profile in the system exceeds maximum number of allowed profile

IDRG   Input, Data RanGe

one of input parameters provisioned is out of range

OAMTYPEn (n=1..8) parameters values aren' t all taken from PHB range 2

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
ENT-OAMPHB-PROF:::QOS001::HIGH2,EF,EF,EF,EF,EF,EF,EF;



    ALCATEL-01 07-03-16 23:59:33
M   QOS001 COMPLD
    OAMPHB-2
    /* ENT-OAMPHB-PROF:::QOS001::HIGH2,EF,EF,EF,EF,EF,EF,EF */
;
```

RELATED COMMANDS

ED-OAMPHB-PROF

RTRV-OAMPHB-PROF

DLT-OAMPHB-PROF

ENT-TMPLS-TUSEG

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-PHB-PROF

Command Name: ENTER PER HOP BEHAVIOUR PROFILE

PURPOSE

The ENT-PHB-PROF command shall create a Per Hop Behaviour Profile user defined.

A PHB is the externally observable forwarding behavior applied at a DS-compliant (Diff-Serv) node belonging to a DS domain.

A set of "data treatments" (defined as PSCs) are requested to be applied to packets on each NE inside DiffServ domain, where this treatment includes both:

Then a PSC (PHB Scheduling Class) is the grouping of one or more PHBs.

The User can profile the NE forwarding behavior for TUSegment and PWSegment, combining PHB.

The User can uses the following PSCs:

Table below reports MPLS Diff-Serv Forwarding Plane as supported in the System with:

Corresponding Ethernet Forwarding Classes;

Queue types (either Strict Priority queue or Weighted Fair Queue).

Figure 1 PSC set and related CIR,PIR,CBS and PBS relationship.

PHB	Ethernet Forw. Class	Bandwidth based PSC parameters				Queue Type
		CIR	PIR	CBS	PBS	
EF	Gua	(PIR=CIR)&(CIR>0)		(PBS=CBS)&(CBS>0)		Strict Priority
HIGH2	Gua(2)	(PIR=CIR)&(CIR>0)		(PBS=CBS)&(CBS>0)		Strict Priority
AF1	Reg(1)	(PIR>=CIR)&(CIR>=0)		(PBS>0)&(CBS>=0)		Weighted Fair Queue
AF2	Reg	(PIR>=CIR)&(CIR>=0)		(PBS>0)&(CBS>=0)		Weighted Fair Queue
AF3	Reg(3)	(PIR>=CIR)&(CIR>=0)		(PBS>0)&(CBS>=0)		Weighted Fair Queue
AF4	Reg(4)	(PIR>=CIR)&(CIR>=0)		(PBS>0)&(CBS>=0)		Weighted Fair Queue
DE	BE	(PIR>=CIR)&(CIR>=0)		(PBS>0)&(CBS>=0)		Weighted Fair Queue
LOW2	BackGr	(PIR>=CIR)&(CIR>=0)		(PBS>0)&(CBS>=0)		Weighted Fair Queue

For the System behaviour on MPLS EXP bits marking, see MPLS QoS RRS document.

For each MPLS packet received there is (in the MPLS header) a EXP-bits field. For each EXP value received the User must associate a PHB. In this way the User builds the PHB profile.

EXPn stands for EXP-bit field values n.

In the System are stored 1 proprietary factory PHB profiles identified by PHBPROF-2, and one reserve (not used) PHBPROF-1 (see RTRV-PHB-PROF)

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System supports the configuration of 6 MPLS Egress Mapping Profile, then the User can enter 6 PHB profile using PHBPROF-{3-8} AIDs.

The System will check that the PSC correspondent to EXP0, EXP1, .. EXP7 are all distinct and they are all taken from:

{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}　　　(PHB range 2)

Figure 2 System defined PHB ranges.

Second system defined PHB range						
Class Type	PSC	Drop Precedence	CIR	PIR	CBS	PBS
High priority	EF	Green	>0	=CIR	>0	=CBS
	HIGH2					
Assured	AF2		>= 0	>= CIR	>= 0	>0
	AF2					
	AF4					
	AF4					
Best effort	LOW2					
	DE					

INPUT FORMAT

```
ENT-PHB-PROF:[TID]::[CTAG]::EXP0,EXP1,EXP2,EXP3,EXP4,EXP5,EXP6,EXP7;
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

　　　Default: 　　<SID>
　　　Addressing: None
　　　Description: Target IDentifier, identifies the network node TID for the command.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

　　　Default: 　　<System-assigned CTAG value>
　　　Addressing: None
　　　Description: Correlation TAG, associates the input command with its output responses.

EXP0	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=0.

    Restrictions: None.

EXP1	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=1.

    Restrictions: None

EXP2	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=2.

    Restrictions: None

EXP3	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=3.

    Restrictions: None

EXP4	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=4.

    Restrictions: None

EXP5	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=5.

    Restrictions: None

EXP6	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=6.

    Restrictions: None

EXP7	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB range 2)

    Default: Entry Required

    Addressing: None

    Description: This parameter associates a PHB class to the MPLS packets with EXP=7.

    Restrictions: None

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^^COMPLD cr lf
   ^^^"<AID>"cr lf
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	PHBPROF-{3-8}	(User defined PHB Profile)

Description: Access Identifier, specifies an access Identifier to the PHB profile.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

number of PHBPROF in the system exceeds maximum number of allowed profile

IDRG   Input, Data RanGe

one of input parameters provisioned is out of range

EXPn (n=0..7) parameters values aren' t all taken from PHB range 2

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
ENT-PHB-PROF:::QOS001::AF1,AF2,EF,HIGH2,AF3,DE,AF4,LOW2;



    ALCATEL-01 07-03-16 23:59:33
M  QOS001 COMPLD
    PHBPROF-6
    /* ENT-PHB-PROF:::QOS001::AF1,AF2,EF,HIGH2,AF3,DE,AF4,LOW2 */
;
```

RELATED COMMANDS

ED-PHB-PROF

RTRV-PHB-PROF

DLT-PHB-PROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-TMPLS-CRSTUSEG
Command Name: ENTER TMPLS TUNNEL SEGMENT
CROSS CONNECT

PURPOSE

The ENT-TMPLS-CRSTUSEG command creates a cross-connect entity and establishes a two-way cross-connection between the specified TUSegments.

Successful completion of this command generates automatically a TUNNEL (see TUNNEL-AID output parameter). The TUNNEL parameters can be modified using ED-TMPLS-TUNNEL command. The TUNNEL can be deleted using DLT-TMPLS-TUNNEL command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System supports a maximum of 250 MPLS bidirectional TUSegment cross   connects.

The System supports the TUSegment cross connections satisfying rules described into following Figure 1.

Figure 1 : CCT usage rules depending on TUSegment DIR parameter.

FROM TUSeg. DIR	TO TUSeg. DIR	CCT value allowed
BIDIR	BIDIR	2WAY
Note: FROM <> TO		

INPUT FORMAT

```
ENT-TMPLS-CRSTUSEG:[TID]:FROM,TO:[CTAG]::[CCT];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

	Default:	<SID>
	Addressing:	None
	Description:	Target IDentifier, identifies the network node TID for the command.

FROM	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

	Default:	Entry Required

                    Addressing: &&-ranging and &-grouping

                    Description: TUSegment AID identifies the FROM entity of the cross-connection.

                    Restrictions: The referenced TUSegment must have TYPE=SWAP.

TO	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

                    Default: Entry Required

                    Addressing: &&-ranging and &-grouping

                    Description: TUSegment AID identifies the TO entity of the cross-connection.

                    Restrictions: The referenced TUSegment must have TYPE=SWAP.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

                    Default: <System-assigned CTAG value>

                    Addressing: None

                    Description: Correlation TAG, associates the input command with its output responses.

CCT	Value	Description
	2WAY	

                    Default: 2WAY

                    Addressing: None

                    Description: Cross-connect Type, identifies the type of cross-connect.

                                2WAY Two-Way, identifies a bi-directional cross-connection between the selected FROM and TO facility TUSegments.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"TUNNEL-AID=<value>"cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

TUNNEL-AID=	**Value**	**Description**
	TUNNEL-1-1-1-500-1-0-0-0-0-0-0-0-0	(Tunnel)

> **Description:** Tunnel AID identifies the TUNNEL automatically generated for Swapped TUSegment.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

number of TUSegment cross connections in the system exceeds maximum number of allowed cross connections

SDNC   Status, Data Not Consistent

FROM and TO refers to the same TUSegment and CCT=2WAY is specified

SRQN   Status, iNvalid ReQuest

the TUSegments specified by FROM or TO are not provisioned

the TUSegments specified by FROM or TO are already cross connected

FROM parameter refers to a TUSegment with TYPE=TERMINATION

TO parameter refers to a TUSegment with TYPE=TERMINATION

EXAMPLES

```
ENT-TMPLS-CRSTUSEG::TUSEG-1-1-10,TUSEG-1-1-20:TS001;
```

```
    ALU-01 03-07-19 09:08:33
M TS001 COMPLD
    TUNNEL-AID=1-1-1-120-1-0-0-0-0-0-0-0-0
    /* ENT-TMPLS-CRSTUSEG::TUSEG-1-1-10,TUSEG-1-1-20:TS001 [TS001]
(1)*/
;
```

RELATED COMMANDS

ED-TMPLS-CRSTUSEG

RTRV-TMPLS-CRSTUSEG

ED-TMPLS-TUNNEL

DLT-TMPLS-TUNNEL

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-TMPLS-PWSEG
Command Name: ENTER TMPLS PSEUDOWIRE SEGMENT

PURPOSE

The ENT-TMPLS-PWSEG command shall create a PWSegment to be used in the product.

Successful completion of this command generates automatically a PW (see PW-AID output parameter) only if TYPE=TERMINATION. The PW parameters can be modified using ED-TMPLS-PW command. The PW can be deleted using DLT-TMPLS-PW command.

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System shall support a maximum of 250 bidirectional MPLS PWSegments.

INPUT FORMAT

```
ENT-TMPLS-PWSEG:[TID]::[CTAG]::PORT,[TYPE],[DIR],[USERNAME]:[,INLABE
L=][,OUTLABEL=][,PHBPROF-AID=][,CW=];
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target IDentifier, identifies the network node TID for the command.	

CTAG	Value		Description
	<1-6 VALID CTAG CHARACTERS>		
	Default:	<System-assigned CTAG value>	
	Addressing:	None	
	Description:	Correlation TAG, associates the input command with its output responses.	

PORT	Value		Description
	TUSEG-1-1-{1-750}		(Tunnel Segment)
	Default:	Entry Required	
	Addressing:	None	

Description: AID of the port which is a TUSegment.

Restrictions: TUSegment must be already defined and TYPE must be equal to TERMINATION.

If the parameter refers to a TUSegment and the related Tunnel is a protecting Tunnel, the command will be refused.

TYPE	Value	Description
	TERMINATION	

    Default: TERMINATION
    Addressing: None
    Description: Functional Type: TERMINATION.
    Restrictions: None

DIR	Value	Description
	BIDIR	

    Default: BIDIR
    Addressing: None
    Description: PWSegment Direction: Bidir or Unidir-In or Unidir-Out.

USERNAME	Value	Description
	<1-30 VALID CHARACTERS>	

    Default: None
    Addressing: None
    Description: PWSegment User name.
    Restrictions: None
    Restrictions: The USERNAME is unique in the System.

INLABEL=	Value	Description
	<INTEGER32>	
	{16-1023} for all services	

    Default: None
    Addressing: None
    Description: Expected Label for incoming segment associated to Sink PWSegment.
    Restrictions: The label value must be unique in the system.

When INLABEL is not specified, the NE returns a value for INLABEL.

OUTLABEL=	Value	Description
	<INTEGER32>	
	{16-1048575}	

Default:	None
Addressing:	None
Description:	Transmitted Label for outgoing segment associated to Source PWSegment.
Restrictions:	The label value must be unique on a TUSEG basis.

PHBPROF-AID=	Value	Description
	PHBPROF-{2-8}	(PHB Profile)

Default:	PHBPROF-2
Addressing:	None
Description:	Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.
Restrictions:	The System will check if PHB profile is present using this parameter as access-key.

CW=	Value	Description
	ENABLE	
	DISABLE	

Default:	DISABLE
Addressing:	None
Description:	Enabling/disabling capability to insertion/stripping of the Control Word, associated to Termination PWSegment.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>: INLABEL=<value>, OUTLABEL=<value> [,PW-AID=<value>] "cr
lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	PWSEG-1-1-{1-250}	(Pseudowire Segment)

> **Description:** PWSegment AID.

INLABEL=	Value	Description
	<INTEGER32>	
	{16-1023}	

> **Description:** Expected Label for incoming segment associated to Sink PWSegment.

OUTLABEL=	Value	Description
	<INTEGER32>	
	{16-1048575}	

> **Description:** Transmitted Label for outgoing segment to Source PWSegment.

PW-AID=	Value	Description
	PW-1-1-{1-250}	(Pseudowire)

> **Description:** Pseudowire AID identifies the PW automatically generated for Terminated PWSegment.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV Input, Command Not Valid

number of MPLS PWSegments in the system exceeds maximum number of allowed segments

IDRG   Input, Data RanGe

one of input parameters provided is out of range

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

IPNC   Input, Parameter Not Consistent

PORT parameter refers to a TUSegment not yet provisioned

PORT parameter refers to a SWAP TUSegment

INLABEL parameter provisioned is already used

PHBPROF-AID parameter is specified but the related PHB profile can't be found

the PORT parameter refers to a TUSegment and the related Tunnel is a protecting Tunnel

OUTLABEL parameter provisioned is already used for the TUSEG referenced by PORT parameter

USERNAME parameter provisioned is already used

SRQN   Status, INvalid ReQuest

the PORT parameter refers to a TUSegment and the Tunnel associated to this TUSEG has no TD-ID

EXAMPLES

```
ENT-TMPLS-PWSEG:::TS001::TUSEG-1-1-1,TERMINATION,BIDIR:
INLABEL=1000, OUTLABEL=1025;



    ALU-01 03-07-19 09:08:33
M   TS001 COMPLD
PWSEG-1-1-1: INLABEL=1000, OUTLABEL=1025,PW-AID=PWSEG-1-1-1
    /* ENT-TMPLS-PWSEG:::TS001::TUSEG-1-1-1,TERMINATION,BIDIR [TS001]
(1)*/
;
```


RELATED COMMANDS

ED-TMPLS-PWSEG
RTRV-TMPLS-PWSEG
ED-TMPLS-PW
DLT-TMPLS-PW

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-TMPLS-TD

Command Name: ENTER TMPLS TRAFFIC DESCRIPTOR

PURPOSE

The ENT-TMPLS-TD command shall create a TD (Traffic Descriptor) also called MPLS Tunnel Resource Descriptor. A TD can be associated to Tunnels using ED-TMPLS-TUNNEL commands.

A TD can be associated to PseudoWires using ED-TMPLS-PW commands.

A TD is the a set of CIR, CBS, PIR and PBS parameters used by the System for bandwidth checks related to "port bit rate" or "Virtual Transport port bit rate" on which Tunnels/PseudoWires are defined.

The User can use the following parameter for conditioning MPLS packets:

CIR and PIR values are used for CAC checks with respect to both input Ethernet flows . CBS and PBS values are used only for CAC checks with respect to the corresponding parameters of the input Ethernet flows.

When the TD will be referenced by a Tunnel (or PseudoWire) then System will check if CIR <= (transport port bandwidth) on which the Tunnel (or PseudoWire) is defined. All CAC checks are involved when this TD is used by a Tunnel (PseudWire).

Successful completion of this command generates a REPT^DBCHG autonomous response message.

INPUT FORMAT

```
ENT-TMPLS-TD:[TID]::[CTAG]:::CIR=,CBS=,PIR=,PBS=;
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>

Addressing: None

Description: Target IDentifier, identifies the network node TID for the command.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

CIR=   **Value**   **Description**

             <POSITIVE INTEGER>   (Kbit/sec.)

Default:	Entry Required
Addressing:	None
Description:	MPLS Committed Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.
Restrictions:	The CIR value must be <= of PIR value.

CBS=   **Value**   **Description**

             <POSITIVE INTEGER>   (byte)

Default:	Entry Required
Addressing:	None
Description:	MPLS Committed Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.
Restrictions:	The CBS value must be <= of PBS value.

PIR=   **Value**   **Description**

             <POSITIVE INTEGER>   (Kbit/sec.)

Default:	Entry Required
Addressing:	None
Description:	MPLS Peak Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.
Restrictions:	The PIR value must be >= of CIR value.

PBS=   **Value**   **Description**

             <POSITIVE INTEGER>   (byte)

Default:	Entry Required
Addressing:	None
Description:	MPLS Peak Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.
Restrictions:	The PBS value must be >= of CBS value.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^^COMPLD cr lf
   ^^^"<AID>"cr lf
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

Description: Access Identifier, specifies an access Identifier to the TD that to be used in a Tunnel (or PseudoWire).

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

number of MPLS TD in the system exceeds the allowed maximum number

IDRG   Input, Data RanGe

one of input parameters provisioned is out of range

CIR parameter value is greater than PIR

CBS parameter value is greater than PBS

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
ENT-TMPLS-TD:::QOS006:::CIR=48,CBS=12000,PIR=64,PBS=16000;



    ALCATEL-01 07-03-16 23:59:33
M   QOS006 COMPLD
    MPLSTD-100
    /* ENT-TMPLS-TD:::QOS006:::CIR=48,CBS=12000,PIR=64,PBS=16000; */
;
```

RELATED COMMANDS

ED-TMPLS-TD

RTRV-TMPLS-TD

DLT-TMPLS-TD

ENT-TMPLS-TUNNEL

ED-TMPLS-TUNNEL

ED-TMPLS-PW

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: ENT-TMPLS-TUSEG
Command Name: ENTER TMPLS TUNNEL SEGMENT

PURPOSE

The ENT-TMPLS-TUSEG command shall create a TUSegment to be used in the product.

Successful completion of this command generates automatically a TUNNEL (see TUNNEL-AID output parameter) only if TYPE=TERMINATION. The TUNNEL parameters can be modified using ED-TMPLS-TUNNEL command. This TUSegment will be automatically deleted when the TUNNEL will be deleted (see DLT-TMPLS-TUNNEL command).

Successful completion of this command generates a REPT^DBCHG autonomous response message.

Command restriction: The System shall support a maximum of 750 bidirectional MPLS TUSegment, of which up to 250 may be terminated Tunnels.

The command might be refused if OAM resources are not available: the system shall check if bandwidth reserved to OAM or total number of OAM points exceeds value specified in RRS Core requirements.

INPUT FORMAT

```
ENT-TMPLS-TUSEG:[TID]::[CTAG]::PORT,[TYPE],[DIR],[USERNAME]:[L2ENCAP
PROF-AID=][,INLABEL=][,OUTLABEL=][,PHBPROF-AID=][,OAMPHB-AID=][,MEP=
][,MEG-ID=][,MEP-ID=][,EXPMEP-ID=][,CVRX=][,CVTX=][,CVPERIOD=][,CVPH
B=][,ALMPROF=][,PS-DDM-SD=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>
Addressing: None
Description: Correlation TAG, associates the input command with its output responses.

PORT	Value	Description
	MPLSIF-1-1-1-{1-3}	(Local MPLS Interface)

Default:	Entry Required	
Addressing:	None	
Description:	AID of the port which is server of the MPLS TUSegment.	
Restrictions:	The parameter must refer to a provisioned port.	
	If the Local MPLS interface port 3 is chosen, the Functional TYPE must be set to SWAP.	

TYPE	Value	Description
	TERMINATION	
	SWAP	

Default:	TERMINATION	
Addressing:	None	
Description:	Functional Type: TERMINATION, SWAP (adaptation).	
Restrictions:	SWAP value can't be used if MEP=ENABLE.	
	TERMINATION value is only supported on port 1 and 2.	

DIR	Value	Description
	BIDIR	

Default:	BIDIR	
Addressing:	None	
Description:	TUSegment Direction: Bidir or Unidir-In or Unidir-Out.	
Restrictions:	None	

USERNAME	Value	Description
	<1-30 VALID CHARACTERS>	

Default:	None	
Addressing:	None	
Description:	TUSegment User name.	
Restrictions:	None	

L2ENCAPPROF-AID=	Value	Description
	L2ENCAPPROF-{1-32}	(L2 Encapsulation Profile)

Default:	L2ENCAPPROF-1	

Addressing: None

Description: L2 encapsulation profile AID to be used in case of mapping of MPLS over Ethernet when a switched network is present.

The System will check if profile is present using this parameter as access-key.

INLABEL=	Value	Description

<INTEGER32>

{16-1023}   for   services
{130048 - 131071} for IEEE 1588 PTP
traffic

Default: None

Addressing: None

Description: Expected Label for incoming segment associated to Sink TUSegment.

When INLABEL is not specified, the NE returns a value for INLABEL.

Restrictions: The label value must be unique in the system.

OUTLABEL=	Value	Description

<INTEGER32>

{16-1048575}

Default: None

Addressing: None

Description: Transmitted Label for outgoing segment to Source TUSegment.

Restrictions: The label value must be unique on MPLS port basis.

Parameter INLABEL must also be specified.

PHBPROF-AID=	Value	Description

PHBPROF-{2-8} (PHB Profile)

Default: PHBPROF-2

Addressing: None

Description: Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.

The default value is depending on the value of PHB-RANGE-SEL parameter of ED-TMPLS-GLOBAL command.

Restrictions: The System will check if PHB profile is present using this parameter as access-key.

For termination TUSegments, if CVRX=ENABLE or CVTX=ENABLE, the chosen profile must contain the PSC referenced by CVPHB parameter.

The chosen profile must be consistent with OAM PHB profile chosen by OAMPHB-AID parameter.

OAMPHB-AID=	**Value**	**Description**
	OAMPHB-{1-8}	(OAM PHB Profile)

    Default: OAMPHB-1

    Addressing: None

    Description: PHB OAM Profile AID for OAM packets.

    Restrictions: The System will check if profile is present using this parameter as access-key.

    The chosen profile must be consistent with PHB profile chosen by PHBPROF-AID parameter.

MEP=	**Value**	**Description**
	ENABLE	
	DISABLE	

    Default: DISABLE

    Addressing: None

    Description: For enabling MEP function (only for termination TUSegment), the direction of MEP is according to the direction of TUSegment. For a MEP sink point, it enables the capability to process the received CV packets and generate the correspondent alarms.

    Restrictions: ENABLE value can't be used if TYPE=SWAP. If ENABLE, MEG-ID, MEP-ID are mandatory.

MEG-ID=	**Value**	**Description**
	<1-13 VALID CHARACTERS>	

    Default: <empty string>

    Addressing: None

    Description: MEG, 13 ASCII chars string.

    Restrictions: This parameter must be unique in the system.

MEP-ID=	**Value**	**Description**
	<INTEGER32>	
	{0-8191}	

    Default: None

    Addressing: None

Description: Transmitted MEP value, integer associated to Source TUSegment Termination (MEP_ID in T-MPLS CV OAM frame identifying the transmitting MEP). This parameter is unique inside MEG_ID

Restrictions: If provisioned, this parameter must be different from EXPMEP-ID.

EXPMEP-ID=	**Value**	**Description**
	<INTEGER32>	
	{0-8191}	

	Default:	<empty list>
	Addressing:	&grouping
	Description:	Expected MEP values list, integer associated to Sink TUSegment Termination, also called PeerMEP-ID. In case of p2p TUSegment, this is only one integer number. In case of p2mp TUSegment, this parameter represents the list of expected MEP-ID. For example <100&200&300> represents 3 different expected MEP-IDs.
	Restrictions:	If provisioned, this parameter must be different from MEP-ID.
		This parameter isn' t valid if CVRX=DISABLE.

CVRX=	**Value**	**Description**
	ENABLE	
	DISABLE	

	Default:	DISABLE
	Addressing:	None
	Description:	Enabling/disabling capability to detect the Loss Of Continuity (LOC) alarm, associated to Sink TUSegment Termination.
	Restrictions:	ENABLE value can't be used if TYPE=SWAP. If ENABLE also MEP parameter must be ENABLE. If ENABLE also CVTX parameter must be ENABLE.
		If ENABLE, EXPMEP-ID parameter is mandatory.

CVTX=	**Value**	**Description**
	ENABLE	
	DISABLE	

	Default:	DISABLE
	Addressing:	None
	Description:	Enabling/disabling transmission of CV packets, associated to Source TUSegment Term.
	Restrictions:	ENABLE value can't be used if TYPE=SWAP. If ENABLE also MEP parameter must be ENABLE. If ENABLE also CVRX parameter must be ENABLE.

CVPERIOD=	**Value**	**Description**

{3.33ms,10ms,100ms,1s,10s,20ms,50ms,1m}

	Default:	3.3ms
	Addressing:	None
	Description:	Period (1/Frequency) of CV packet transmission.
	Restrictions:	20ms and 50ms values are allowed only if "Standard_Period_Sel=0". 1ms value is allowed only if "Standard_Period_Sel=2"(see ED-TMPLS-GLOBAL TL1 command).

CVPHB=	**Value**	**Description**

EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}

	Default:	EF
	Addressing:	None
	Description:	PHB Scheduling Class (PSC) associated to CV packets, (EF,AF1, AF2, ...).
	Restrictions:	For termination TUSegment, if CVRX=ENABLE or CVTX=ENABLE, the chosen PSC must be present into PHB profile used by this TUSegment.

ALMPROF=	**Value**	**Description**

ASAPTUSEG-{1-10}

	Default:	ASAPTUSEG-1
	Addressing:	None
	Description:	The Alarm Severity Assignment Profile (ASAP) name to use with this facility.
	Restrictions:	None

PS-DDM-SD=	**Value**	**Description**

{ENABLE, DISABLE}

	Default:	DISABLE
	Addressing:	None
	Description:	This parameter enables/disables the Protection Switch feature for Signal Degrade detected on the basis of the optical power monitored by Digital Diagnostic Monitoring (DDM) capable SSF/TSF. Enables/disable DDM-SD alarm contribution, and FDI packet generation due to DDM-SD failure.
	Restrictions:	FDI generation on Port #3 (MPLSIF-1-1-1-3) is not supported.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   ^^^"<AID>: INLABEL=<value>, OUTLABEL=<value> [,TUNNEL-AID=<value>]
   "cr lf
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

>   **Description:** TUSegment AID. This output parameter is used to refer to the
>   TUSegment entity in ED-TMPLS-TUSEG, RTRV-TMPLS-TUSEG
>   and DLT-TMPLS-TUSEG commands.

INLABEL=	Value	Description
	<INTEGER32>	
	{16-1023} for services {130048 - 131071} for IEEE 1588 PTP traffic	

>   **Description:** Expected Label for incoming segment associated to Sink
>   TUSegment.

OUTLABEL=	Value	Description
	<INTEGER32>	
	{16-1048575}	

>   **Description:** Transmitted Label for outgoing segment to Source TUSegment.

TUNNEL-AID=	Value	Description
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

>   **Description:** Tunnel AID identifies the TUNNEL automatically generated for
>   Terminated TUSegment.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

ICNV   Input, Command Not Valid

number of MPLS TUSegments in the system exceeds maximum number of allowed segments

IDNC   Input, Data Not Consistent

MEG-ID parameter provisioned is already used

the CVRX=ENABLE or CVTX=ENABLE and the User enters a CVPHB value that isn't into PHB profile used by this TUSegment

the CVRX=ENABLE or CVTX=ENABLE and the User enters PHBPROF-AID parameter and CVPHB value isn't into PHB profile entered

the User enters CVRX=ENABLE it is mandatory to enter the EXPMEP-ID value

PHB profile is not consistent with OAM PHB profile

PORT parameter refers to a Local MPLS interface port 3, but its TYPE parameter is different from SWAP

IDRG   Input, Data RanGe

one of input parameters provided is out of range

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

IPNC   Input, Parameter Not Consistent

PORT parameter refers to a port not yet provisioned

L2ENCAPPROF-AID parameter is specified but the related Profile can't be found

INLABEL parameter provisioned is already used

OUTLABEL parameter provisioned is already used for the MPLSIF referenced by PORT parameter

PHBPROF-AID parameter is specified but the related PHB profile can't be found

OAMPHB-AID parameter is specified but the related OAM Profile can't be found

MEP=ENABLE and TYPE=SWAP

MEP=ENABLE and MEG-ID is not provided

MEP=ENABLE and MEP-ID is not provided

CVTX=ENABLE and TYPE=SWAP

CVTX=ENABLE and MEP=DISABLE

CVRX=ENABLE and TYPE=SWAP

CVRX and CVTX are not set to same value (ENABLE or DISABLE)

CVRX=ENABLE and MEP=DISABLE,

CVPERIOD parameter is 20ms or 50ms and "Standard_Period_Sel is not set to 0"

CVPERIOD parameter is 1m and "Standard_Period_Sel is not set to 2"

EXPMEP-ID=MEP-ID

CVRX=DISABLE and EXPMEP-ID is provisioned

EXAMPLES

```
    ENT-TMPLS-TUSEG:::TS001::MPLSIF-1-1-1-1,SWAP,BID;



    ALU-01 03-07-19 09:08:33
M   TS001 COMPLD
    TUSEG-1-1-10: INLABEL=102
    /* ENT-TMPLS-TUSEG:::TS001::MPLSIF-1-1-1-1,SWAP,BID [TS001] (1)*/
  ;
```

RELATED COMMANDS

    ED-TMPLS-TUSEG

DLT-TMPLS-TUSEG

RTRV-TMPLS-TUSEG

ED-TMPLS-TUNNEL

DLT-TMPLS-TUNNEL

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: OPR-PROTNSW-TMPLS

Command Name: OPERATE TMPLS PROTECTION SWITCH

PURPOSE

The OPR-PROTNSW-TMPLS command is used to initiate protection commands for provisioned facility protection groups.

The OPR-PROTNSW-TMPLS command can be used for the following FFP types:

1:1 (T) MPLS Protection

Dual Home revertive bidirectional (T)MPLS

User requests initiated with this command remain active until released via the RLS-PROTNSW-TMPLS command or overridden by a higher priority protection switch request (i.e., Lockout or a SF condition on the working or protection tunnel, or a forced switch request on the working or protection tunnel).

Assignment of protection resources is made in response to automatic or user initiated requests. The Protection Switching Request Priority Table shows the hierarchy or priority levels for requests in descending order.

PRIORITY	REQUEST TYPE
1 (Highest)	Lockout of Protection
2	Signal Fail for Protection (SF-P)
3	Forced Switch for Working (FS)
4	Signal Fail for Working (SF)
5	Manual Switch to Working || Manual Switch to Protection
6	Wait to Restore
7 (Lowest)	No Request

The following items have to be taken into account w.r.t. switch requests

lockout, forced to working, manual switch to working, manual switch to protection are switch commands which can be issued by the operator.

signal fail on protection has higher priority than any of the requests that would cause working traffic to be transported via the protection tunnel. This implies, that lockout to working have a higher prority.

Active Side	Request State	FFP Standing Condition	Working(Protected) Facility SST	Protection Facility SST
WKG	LOCKOUT	LOCKOUTOFPR	WRK	STBYS
PROTN	FRCD	FRCDWKSWPR	STBYS	WRK
WKG	SF (on Protn)	WKSWBK	WRK	STBYS
PROTN	SF (on Wkg)	WKSWPR	STBYS	WRK
WKG	MAN	MANWKSWBK	WRK	STBYS
PROTN	MAN	MANWKSWPR	STBYS	WRK
PROTN	WTR	WTR	STBYS	WRK
WKG	No Request - cleared while active=WKG	(no condition)	WRK	STBYH

A clear command will clear only those externally initiated commands issued at that node. The clear command (see RLS-PRONTSW) , will clear the WTR if the node is in WTR state.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
OPR-PROTNSW-TMPLS:[TID]:AID:[CTAG]::SWTCHCMD[,DESTINATION];
```

INPUT PARAMETERS

TID   **Value**   **Description**
                           <VALID TID VALUE>

    Default: < SID >
    Addressing: None
    Description: Target Identifier, specifies the network node TID for the command.

AID   **Value**   **Description**
                           FFPTUNNEL-1-1-{1-64}

    Default: <entry required>
    Addressing: None
    Description: Access identifier of the FFP to switch.

CTAG   **Value**   **Description**
                           < 1-6 VALID CTAG CHARACTERS >

Default: < System assigned CTAG value >

Addressing: None

Description: Correlation Tag, associates input command with its output responses.

SWTCHCMD	Value	Description
	{FRCD, LOCKOUT, MAN }	

    Default: Entry required

    Addressing: None

    Description: Switch Command to be performed.

	FRCD	Forced Switch: If the DESTINATION identifies the protection line, a Forced Switch to protection tunnel occurs. A Forced Switch to protection switches the specified channel to the protection line unless a request of equal or higher priority is in effect
	LOCKOUT	Lockout of Protection. A lockout of protection prevents the channel from switching to the protection tunnel. If already switched to the protection side, a switch back to working occurs.
	MAN	Manual Switch: If the DESTINATION identifies the protection tunnel, a Manual Switch to protecting tunnel occurs. A Manual Switch to protection switches the specified to the protection tunnel unless a request of equal or higher priority is in effect. If the DESTINATION identifies the working tunnel, a Manual switch to working occurs. A Manual Switch to working switches the specified channel back from the protection tunnel to the working unless a request of equal or higher priority is in effect.

DESTINATION	Value	Description
	{WKG, PROTN}	

    Default: <entry required if allowed>

    Addressing: None

    Description: Destination of the switch action addressed by the command and only applicable if SWTCHCMD is MAN.

	WKG	Execute the requested switch action such that service ends up on the working section of the protection group
	PROTN	Execute the requested switch action such that service ends up on the protection section of the protection group.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IENE   Input, Entity does Not Exist

the FFP is not provisioned

      SRQN   Status, iNvalid ReQuest

an equal or higher priority protection switch state currently exists according to the Protection Switching Request Priority Table

SWTCHCMD = FRCD and DESTINATION = WKG

EXAMPLES

The following command operates a lockout protection switch.

```
   OPR-PROTNSW-TMPLS::FFPTUNNEL-1-1-2:::LOCKOUT;
```

```
    ALU-1 02-07-30 15:20:29
M   0 COMPLD
    /*OPR-PROTNSW-TMPLS::FFPTUNNEL-1-1-2:::LOCKOUT */
;
```

The following command operates a manual protection switch to protecting.

```
OPR-PROTNSW-TMPLS::FFPTUNNEL-1-1-2:::MAN,PROTN;
```

```
    ALU-1 02-07-30 15:20:29
M   0 COMPLD
    /*OPR-PROTNSW-TMPLS::FFPTUNNEL-1-1-2:::MAN,PROTN */
;
```

RELATED COMMANDS

RLS-PROTNSW-TMPLS

RTRV-FFP-TMPLS

RELATED AUTONOMOUS RESPONSES

REPT-EVT-FFP

Command Code: RLS-PROTNSW-TMPLS
Command Name: RELEASE TMPLS PROTECTION SWITCH

PURPOSE

The RLS-PROTNSW-TMPLS command is used to clear a protection switch request on a TMPLS FFP group.

The RLS-PROTNSW-TMPLS command can be used for the following FFP types:

1:1 TMPLS Protection

Dual Home revertive bidirectional (T)MPLS

On successful completion of this command, the system will reassess the switching conditions which are present of the FFP group identified by the specified by the AID, and will honor the highest priority request. This request may not have been honored earlier because of an earlier requested higher priority protection switch command.

If the FFP is provisioned to work in revertive mode and the current switch request state is Wait-To-Restore, the RLS-PROTNSW-TMPLS will terminate the wait-to-restore timer and therefore the service will be switched back to working.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
RLS-PROTNSW-TMPLS:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target Identifier, specifies the network node TID for the command.

AID	Value	Description
	FFPTUNNEL-1-1-{1-64}	

Default: <entry required>
Addressing: None
Description: Access identifier of the FFP where the switch request is to delete

CTAG	Value	Description
	< 1-6 VALID CTAG CHARACTERS >	

Default:	< System assigned CTAG value >	
Addressing:	None	
Description:	Correlation Tag, associates input command with its output responses.	

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
^^^/*^<Expanded_Error_Code_Description>^*/ cr lf
^^^/*^<Informational_Error_Description_Text>^*/ cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IENE   Input, Entity does Not Exist

the FFP is not provisioned

      SSRD   Status, Switch Request Denied

AID not involved in external switch operations (i.e., OPR-PROTNSW has not been performed on the AID) or in WTR state

EXAMPLES

The following command releases the protection switch:

```
RLS-PROTNSW-TMPLS::FFPTUNNEL-1-1-4;



    ALU-1 02-07-30 15:20:29
M  0 COMPLD
   /* RLS-PROTNSW-TMPLS::FFPTUNNEL-1-1-4 */
;
```

RELATED COMMANDS

OPR-PROTNSW-TMPLS

RTRV-FFP-TMPLS

RELATED AUTONOMOUS RESPONSES

REPT^EVT^FFP

Command Code: RTRV-ALM-ALL

Command Name: RETRIEVE ALARM ALL

PURPOSE

The RTRV-ALM-ALL command retrieves the current status of any existing, reported alarm conditions in the system, or any alarm conditions matching a specified combination of position-defined input parameters.

The alarm conditions to be retrieved can be specified by using the input parameters NTFCNCDE and/or CONDTYPE as the filter, i.e., existing conditions satisfying all the specified input parameters will be reported in the message response.

The successful response for a RTRV-ALM-ALL command contains one line of parsable output data for each alarm condition being reported. If multiple alarm conditions exist, a line of output is provided for each alarm.

Each equipment entity with alarms is grouped by equipment type and displayed in ascending order of each of the AID fields (excluding the equipment type field) left to right, and in ascending order by date and time of occurrence.

Each common (no specific entity) alarm is displayed in ascending order by date and time of occurrence.

Each facility entity with alarms grouped by facility type is displayed in ascending order of each of the AID fields (excluding the facility type field, if any) left to right, and in ascending order by date and time of occurrence.

If there are no alarms to report, the system outputs a COMPLD response.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
RTRV-ALM-ALL:[TID]::[CTAG]::[NTFCNCDE],[CONDTYPE],[SRVEFF],[LOCN],[D
IRN];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

> **Default:**   <SID>
> **Addressing:** None
> **Description:** Target IDentifier, identifies the network node TID for the command.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

> **Default:**   <System-assigned CTAG value>

RTRV-ALM-ALL

    Addressing: None

    Description: Correlation TAG, associates input command with its output responses.

NTFCNCDE	Value	Description
	CR	
	MJ	
	MN	
	WR	

    Default: <All Values>

    Addressing: None

    Description: Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.

        CR   Critical alarm

        MJ   Major alarm

        MN   Minor alarm

        WR   Warning Alarm

CONDTYPE	Value	Description
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	RDI	Remote Defect Indication (FEND)
	SSF	Server Signal Failure
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

    Default: <All Applicable Values>

    Addressing: None

    Description: Condition Type, specifies the condition type to be retrieved.

SRVEFF	Value	Description
	NSA	
	SA	

    Default: <All Values>

    Addressing: None

    Description: Service Effect, identifies the effect on service caused by the event.

        NSA   Nonservice-affecting

        SA   Service-affecting

LOCN	Value		Description
	NEND		
	FEND		
	BIDIR		

Default: <All Applicable Locations>

Addressing: None

Description: Location, identifies the location where the condition type is monitored.

NEND	Near End	
FEND	Far End	
BIDIR	Bidirectional	

DIRN	Value		Description
	RCV		
	TRMT		

Default: <All Values>

Addressing: None

Description: Direction, indicates the direction of the condition relative to the specified AID.

RCV	Receive Direction	
TRMT	Transmit Direction	

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^"<AID>,<AIDTYPE>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>,<OCRTM>
,[<LOCN>],[<DIRN>]" cr lf]*
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Description: Access Identifier, identifies the entity access identifier.

AIDTYPE	Value	Description
	TUSEG	

Description: Identifies the type of AID for the notification being retrieved.

NTFCNCDE	Value	Description
	CR	
	MJ	
	MN	
	WR	

Description: Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.

CR	Critical alarm
MJ	Major alarm
MN	Minor alarm
WR	Warning Alarm

CONDTYPE	Value	Description
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	RDI	Remote Defect Indication (FEND)
	SSF	Server Signal Failure
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

Description: Condition Type, specifies the reported condition type.

SRVEFF	Value	Description
	NSA	
	SA	

Description: Service Effect, identifies the effect on service caused by the event.

NSA	Nonservice-affecting
SA	Service-affecting

OCRDAT	Value	Description
	{01-12}-{01-31}	

Description: Occurrence Date, identifies the date when the event occurred.

<MONTH_OF_YEAR>-<DAY_OF_MONTH>

OCRTM	Value	Description
	{00-23}-{00-59}-{00-59}	

Description: Occurrence Time, identifies the time when the event occurred.

<HOUR_OF_DAY>-<MINUTE_OF_HOUR>-<SECOND_OF_MINUTE>

LOCN	Value	Description
	NEND	
	FEND	
	BIDIR	

Description: Location, identifies the location where the condition type is monitored.

NEND	Near End
FEND	Far End
BIDIR	Bidirectional

DIRN	Value	Description
	RCV	
	TRMT	

Description: Direction, indicates the direction of the condition relative to the specified AID.

RCV	Receive Direction
TRMT	Transmit Direction
NA	Not Applicable

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR_CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IDNC   Input, Data Not Consistent

the command is entered with parameter values that are inconsistent with the Condition Types specified in the CONDTYPES Table (/Core Transport Requirements/TL1 Database/CondTypes)

EXAMPLES

In the following example, all alarms in the system are retrieved.

```
RTRV-ALM-ALL::;
```

The output response is shown below.

```
    AM1520 03-07-19 09:08:33
M  P10981 COMPLD
    "TUSEG-1-1-100:CR,LOC,SA,07-18,01-00-06"
    "TUSEG-1-1-101:CR,MMG,NSA,07-18,01-00-06"
    /* RTRV-ALM-ALL:: [P10981] (5) */;
```

RELATED COMMANDS

RELATED AUTONOMOUS RESPONSES

REPT^ALM^TUSEG

Command Code: RTRV-ALM-TUSEG

Command Name: RETRIEVE ALARM TUSEG

PURPOSE

The RTRV-ALM-TUSEG command retrieves the current status of any reported alarm conditions for the specified TUSEG, or for the specified TUSEG and any alarm conditions matching the specified combination of position-defined input parameters.

The successful response for a RTRV-ALM-TUSEG command contains one line of parsable output data for each alarm condition being retrieved. If multiple alarm conditions exist, a line of output is provided for each alarm.

Multiple alarms are displayed in ascending order by date and time of occurrence.

If there are no alarms to report, the system outputs a COMPLD response.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
RTRV-ALM-TUSEG:[TID]:AID:[CTAG]::[NTFCNCDE],[CONDTYPE],[SRVEFF],[LOC
N],[DIRN];
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value		Description
	ALL		(ALL AID)
	TUSEG-1-1-{1-750}		(Tunnel Segment)
	Default:	Entry Required	
	Addressing:	&&–ranging and &–grouping	
	Description:	TUSEG Access Identifier, specifies the TUSEG facility.	

CTAG	Value		Description
	<1-6 VALID CTAG CHARACTERS>		
	Default:	<System-assigned CTAG value>	

RTRV-ALM-TUSEG

Addressing: None

Description: Correlation TAG, associates input command with its output responses.

NTFCNCDE	Value	Description
	CR	
	MJ	
	MN	
	WR	

Default: <All Values>

Addressing: None

Description: Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.

CR	Critical alarm	
MJ	Major alarm	
MN	Minor alarm	
WR	Warning Alarm	

CONDTYPE	Value	Description
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	SSF	Server Signal Failure
	RDI	Remote Defect Indication (FEND)
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

Default: <All Applicable Values>

Addressing: None

Description: Condition Type, specifies the condition type to be retrieved.

SRVEFF	Value	Description
	NSA	
	SA	

Default: <All Values>

Addressing: None

Description: Service Effect, identifies the effect on service caused by the event.

NSA	Nonservice-affecting	
SA	Service-affecting	

LOCN	Value	Description
	NEND	
	FEND	
	BIDIR	

Default:	<All Applicable Locations>
Addressing:	None
Description:	Location, identifies the location where the condition type is monitored.

NEND	Near End
FEND	Far End
BIDIR	Bidirectional

DIRN	Value	Description
	RCV	
	TRMT	

Default:	<All Applicable Values>
Addressing:	None
Description:	Direction, indicates the direction of the condition relative to the specified AID.

RCV	Receive Direction
TRMT	Transmit Direction

SUCCESSFUL RESPONSE FORMAT

Format for the successful response with a single alarm

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>[,<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>,<OCRTM
>,<LOCN>,<DIRN>" cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Description:	TUSEG Access Identifier, specifies the TUSEG facility.

AIDTYPE	**Value**	**Description**
	TUSEG	

Description: Identifies the type of AID for the notification being retrieved.

NTFCNCDE	**Value**	**Description**
	CR	
	MJ	
	MN	
	WR	

Description: Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.

CR	Critical alarm
MJ	Major alarm
MN	Minor alarm
WR	Warning Alarm

CONDTYPE	**Value**	**Description**
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	RDI	Remote Defect Indication (FEND)
	SSF	Server Signal Failure
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

Description: Condition Type, specifies the reported condition type.

SRVEFF	**Value**	**Description**
	NSA	
	SA	

Description: Service Effect, identifies the effect on service caused by the event.

NSA	Nonservice-affecting
SA	Service-affecting

OCRDAT	Value	Description
	{01-12}-{01-31}	

Description: Occurrence Date, identifies the date when the event occurred.
<MONTH_OF_YEAR>-<DAY_OF_MONTH>

OCRTM	Value	Description
	{00-23}-{00-59}-{00-59}	

Description: Occurrence Time, identifies the time when the event occurred.
<HOUR_OF_DAY>-<MINUTE_OF_HOUR>-<SECOND_OF_MINUTE>

LOCN	Value	Description
	NEND	
	FEND	
	BIDIR	

Description: Location, identifies the location where the condition type is monitored.

NEND	Near End	
FEND	Far End	
BIDIR	Bidirectional	

DIRN	Value	Description
	RCV	
	TRMT	

Description: Direction, indicates the direction of the condition relative to the specified AID.

RCV	Receive Direction

TRMT Transmit Direction

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR_CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

   IDNC   Input, Data Not Consistent

the command is entered with parameter values that are inconsistent with the Condition Types specified in the CONDTYPES Table (/Core Transport Requirements/TL1 Database/CondTypes)

EXAMPLES

In the following example, all TUSEG alarms in the system are retrieved.

```
   RTRV-ALM-TUSEG::ALL;
```

The output response is shown below.

```
   AM1520 03-07-19 09:08:33
M  P10981 COMPLD
   "TUSEG-1-1-100:CR,LOC,SA,07-18,01-00-06"
   "TUSEG-1-1-101:CR,MMG,NSA,07-18,01-00-06"
   /* RTRV-ALM-TUSEG::ALL [P10981] (5) */;
```

RELATED COMMANDS

RTRV-COND-TUSEG

RELATED AUTONOMOUS RESPONSES

REPT^ALM^TUSEG

Command Code: RTRV-COND-FFP

Command Name: RETRIEVE CONDITION FFP

PURPOSE

The RTRV-COND-FFP command retrieves the current status of any reported alarmed, not alarmed, or not reported standing conditions, for the specified FFP AID, matching the specified combination of position-defined input parameters.

The command is completed regardless of whether the FFP is provisioned.

The successful response for a RTRV-COND-FFP command contains one line of parsable output data for each condition being reported. If multiple conditions exist, a line of output is provided for each condition in ascending order by date and time of occurrence.

If there are no conditions to report, the system outputs a COMPLD response.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
RTRV-COND-FFP:[TID]:AID:[CTAG]::[CONDTYPE];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	ALL	(ALL AID)
	FFPTUNNEL-1-1-{1-64}	(TMPLS TUNNEL Protection Group)

Default: Entry required
Addressing: &&-ranging and &-grouping
Description: FFP Access Identifier, specifies the FFP facility.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates input command with its output responses.

CONDTYPE	**Value**	**Description**
	FRCDWKSWBK	Working entity forced to switch back to working
	FRCDWKSWBK-FE	Working entity forced to switch back to working-Far End
	FRCDWKSWPR	Working entity forced to switch to protection
	FRCDWKSWPR-FE	Working entity forced to switch to protection-Far End
	LOCKOUTOFPR	Lockout of Protection
	LOCKOUTOFPR-FE	Lockout of Protection-Far End
	MANWKSWBK	Manual switch from the protection entity to the working entity.
	MANWKSWBK-FE	Manual switch from the protection line to the working line - Far End.
	MANWKSWPR	Manual switch of working entity to protection
	MANWKSWPR-FE	Manual switch of working entity to protection - Far End
	WKSWBK	Working entity switched back to working.
	WKSWBK-FE	Working entity switched back to working - Far End
	WKSWPR	Automatic switch of working entity to protection.
	WKSWPR-FE	Working entity switched to protection - Far End
	WTR	Wait to Restore

Default: <All Applicable Values>

Addressing: None

Description: Condition Type, specifies the condition type to be retrieved.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   ^^^"<AID>[,<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>,<OCRTM
   >" cr lf
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	FFPTUNNEL-1-1-{1-64}	(TMPLS TUNNEL Protection Group)

    Description: FFP Access Identifier, specifies the FFP facility.

AIDTYPE	Value	Description
	FFP	

    Description: Identifies the type of AID for the notification being retrieved.

NTFCNCDE	Value	Description
	NA	

    Description: Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.

        NA   Not Alarmed

CONDTYPE	Value	Description
	FRCDWKSWBK	Working entity forced to switch back to working
	FRCDWKSWBK-FE	Working entity forced to switch back to working-Far End
	FRCDWKSWPR	Working entity forced to switch to protection
	FRCDWKSWPR-FE	Working entity forced to switch to protection-Far End
	LOCKOUTOFPR	Lockout of Protection
	LOCKOUTOFPR-FE	Lockout of Protection-Far End
	MANWKSWBK	Manual switch from the protection entity to the working entity.
	MANWKSWBK-FE	Manual switch from the protection line to the working line - Far End.
	MANWKSWPR	Manual switch of working entity to protection
	MANWKSWPR-FE	Manual switch of working entity to protection - Far End
	WKSWBK	Working entity switched back to working.
	WKSWBK-FE	Working entity switched back to working - Far End
	WKSWPR	Automatic switch of working entity to protection.
	WKSWPR-FE	Working entity switched to protection - Far End
	WTR	Wait to Restore

Description: Condition Type, specifies the reported condition type.

SRVEFF	Value	Description
	NSA	
	SA	

Description: Service Effect, identifies the effect on service caused by the event.

NSA Nonservice-affecting

SA Service-affecting

OCRDAT	Value	Description
	{01-12}-{01-31}	

Description: Occurrence Date, identifies the date when the event occurred.
<MONTH_OF_YEAR>-<DAY_OF_MONTH>

OCRTM	Value	Description
	{00-23}-{00-59}-{00-59}	

Description: Occurrence Time, identifies the time when the event occurred.

<HOUR_OF_DAY>-<MINUTE_OF_HOUR>-<SECOND_OF_MINUTE>

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR_CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser.

EXAMPLES

In the following example, all conditions against FFPtunnel-1-1-4;are retrieved.

```
RTRV-COND-FFP::FFPTUNNEL-1-1-4;
```

The output response is shown below.

```
   AM1587 03-08-12 09:08:33
M  P10981 COMPLD
   "FFPTUNNEL-1-1-4,FFP:NA,WTR,NSA,08-11,01-00-07"
   /* RTRV-COND-FFP::FFPTUNNEL-1-1-4 [P10981] (5) */;
```

RELATED COMMANDS

RELATED AUTONOMOUS RESPONSES

REPT^EVT^FFP

Command Code: RTRV-COND-TUSEG

Command Name: RETRIEVE CONDITION TUSEG

PURPOSE

The RTRV-COND-TUSEG command retrieves the current status of any reported alarmed, not alarmed or not reported standing conditions, for the specified TUSEG AID, matching the specified combination of position-defined input parameters. All existing conditions may be retrieved with the RTRV-TUSEG command.

The command is completed regardless of whether the TUSEG is provisioned.

The successful response for a RTRV-COND-TUSEG command contains one line of parsable output data for each condition being reported. If multiple conditions exist, a line of output is provided for each condition in ascending order by date and time of occurrence.

If there are no conditions to report, the system outputs a COMPLD response.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
RTRV-COND-TUSEG:[TID]:AID:[CTAG]::[CONDTYPE],[LOCN],[DIRN];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	ALL	(ALL AID)
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Default: Entry required
Addressing: &&–ranging and &–grouping
Description: TUSEG Access Identifier, specifies:

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

RTRV-COND-TUSEG

Addressing: None

Description: Correlation TAG, associates input command with its output responses.

CONDTYPE	Value	Description
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	SSF	Server Signal Failure
	RDI	Remote Defect Indication (FEND)
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

Default: <All Applicable Values>

Addressing: None

Description: Condition Type, specifies the condition type to be retrieved.

LOCN	Value	Description
	NEND	
	FEND	
	BIDIR	

Default: <All Applicable Locations>

Addressing: None

Description: Location, identifies the location where the condition type is monitored.

NEND	Near End	
FEND	Far End	
BIDIR	Bidirectional	

DIRN	Value	Description
	RCV	
	TRMT	

Default: <All Values>

Addressing: None

Description: Direction, indicates the direction of the condition relative to the specified AID.

RCV	Receive Direction	
TRMT	Transmit Direction	

SUCCESSFUL RESPONSE FORMAT

Format for the successful response with a single condition

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   ^^^"<AID>[,<AIDTYPE>]:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>,<OCRTM
   >,<LOCN>,<DIRN>" cr lf
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

     Description: TUSEG Access Identifier, specifies:

AIDTYPE	Value	Description
	TUSEG	

     Description: Identifies the type of AID for the notification being retrieved.

NTFCNCDE	Value	Description
	CR	
	MJ	
	MN	
	NA	
	NR	

     Description: Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.

CR	Critical alarm
MJ	Major alarm
MN	Minor alarm
NA	Not Alarmed
NR	Not Reported

CONDTYPE	**Value**	**Description**
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	SSF	Server Signal Failure
	RDI	Remote Defect Indication (FEND)
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

> **Description:** Condition Type, specifies the reported condition type.

SRVEFF	**Value**	**Description**
	NSA	
	SA	

> **Description:** Service Effect, identifies the effect on service caused by the event.
>
> | **NSA** | Nonservice-affecting |
> |---|---|
> | **SA** | Service-affecting |

OCRDAT	**Value**	**Description**
	{01-12}-{01-31}	

> **Description:** Occurrence Date, identifies the date when the event occurred.
> <MONTH_OF_YEAR>-<DAY_OF_MONTH>

OCRTM	**Value**	**Description**
	{00-23}-{00-59}-{00-59}	

> **Description:** Occurrence Time, identifies the time when the event occurred.
> <HOUR_OF_DAY>-<MINUTE_OF_HOUR>-<SECOND_OF_MINUTE>

LOCN	**Value**	**Description**
	NEND	
	FEND	
	BIDIR	

> **Description:** Location, identifies the location where the condition type is monitored.
>
> | **NEND** | Near End |
> |---|---|
> | **FEND** | Far End |

BIDIR   Bidirectional

DIRN	Value	Description
	RCV	
	TRMT	

Description: Direction, indicates the direction of the condition relative to the specified AID.

RCV   Receive Direction

TRMT Transmit Direction

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR_CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDNC   Input, Data Not Consistent

the command is entered with parameter values that are inconsistent with the Condition Types specified in the CONDTYPES Table (/Core Transport Requirements/TL1 Database/CondTypes)

EXAMPLES

In the following example, all conditions against TUSEG-1-1-200 are retrieved.

```
RTRV-COND-TUSEG::TUSEG-1-1-200;
```

The output response is shown below.

```
   AM1587 03-08-12 09:08:33
M  P10981 COMPLD
   "TUSEG-1-1-200,TUSEG:NA,MMG,NSA,08-11,01-00-07,NEND,RCV"
   /* RTRV-COND-TUSEG::TUSEG-1-1-200 [P10981] (5) */;
```

RELATED COMMANDS

RTRV-ALM-TUSEG

RELATED AUTONOMOUS RESPONSES

REPT^ALM^TUSEG
REPT^EVT^TUSEG

Command Code: RTRV-FFP-TMPLS

Command Name: RETRIEVE (T)MPLS FAST FACILITY
PROTECTION INFORMATION

PURPOSE

The RTRV-FFP-TMPLS command retrieves provisioned parameter values, pertaining to the specified FFP protection group. The RTRV-FFP-TMPLS command is executed regardless of the state of the specified facility.

The RTRV-FFP-TMPLS command retrieves provisioned parameter values and the current switching state for all the provisioned facility protection groups.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

```
RTRV-FFP-TMPLS:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target Identifier, specifies the network node TID for the command.	

AID	Value	Description
	ALL	
	FFPTUNNEL-1-1{1-64}	

Default:	ALL	
Addressing:	&&-ranging and &-grouping	
Description:	Access identifier of the FFP to retrieve.	

CTAG	Value	Description
	< 1-6 VALID CTAG CHARACTERS >	

Default:	< System assigned CTAG value >	
Addressing:	None	

> **Description:** Correlation Tag, associates input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"AID::LAYER=<value>,PTYPE=<value>,RVRT=<value>,WKG=<value>,PROTN=
<value>,ACTIVE=<value>,CURRREQ=<value>,PENDREQ=<value>,HLDFFTTIM=<va
lue>,RVRTTIM=<value>,ACD=<value>,APSPHB=<value>"cr lf
^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf
;
```

OUTPUT PARAMETERS

AID	Value	Description
	FFPTUNNEL-1-1{1-64}	

> **Description:** Access identifier of the FFP to retrieve.

LAYER=	Value	Description
	{TUNNEL}	

> **Default:** TUNNEL
> **Addressing:** None
> **Description:** indicated if the protection is done at TUNNEL or PW layer. In this release only TUNNEL is supported.

PTYPE=	Value	Description
	{APSBIDIR}	1:1 Bidirectional Linear APS
	{DHOME-COLON}	Dual Homing 1:1

> **Description:** Specifies the type of the protection.
>
> Dual Homing is used in ring area, where the Tunnels spokes are connected to the intermediate hub nodes in a dual homing, implementing using 1:1 Tunnel Redundancy without APS. TMPLS encapsulated R-APS messages are used as a MAC flushing mechanism for the dual home nodes.

RVRT=	Value	Description
	{Y}	

Description: Determines if the protection shall be revertive or not. In this release only RVRT=Y is supported.

WKG=	**Value**	**Description**
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

   Description: Access identifier of the working tunnel

PROTN=	**Value**	**Description**
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

   Description: Access identifier of the protecting tunnel

ACTIVE=	**Value**	**Description**
	{WKG, PROTN}	

   Description: The current switch position. The following values are supported:

   WKG The Working/Protected facilities is currently carrying traffic

   PROTN The Protection facilities is currently carrying traffic

CURRREQ=	**Value**	**Description**
	{FRCD|FRCD-FE|LOCKOUT|LOCKOUT-FE|MAN|MAN-FE|NR|SF|SF-P|SF-FE|SF-P-FE|WTR|WTR-FE}	

   Description: Current request: returns the state of APS executed for a FFP.

   FRCD A Forced switch requested at local node has been completed.

   FRCD-FE A Forced switch requested at far-end node has been completed.

   LOCKOUT The protection facility has been locked out requested at local node.

   LOCKOUT-FE The protection facility has been locked out at far-end node.

   MAN A Manual switch to working | protecting requested at local node has been completed.

   MAN-FE A Manual switch to working | protecting requested at far-end node has been completed.

   NR No switch request.

   SF A switch has occurred due to a signal fail condition detected at local node.

   SF-P A switch has occurred due to a signal fail condition for protection detected at local node.

	SF-FE	A switch has occurred due to a signal fail condition detected at far-end node.
	SF-P-FE	A switch has occurred due to a signal fail condition for protection detected at far-end node.
	WTR	Wait to Restore. The defect causing a switch to protection has cleared at local node.
	WTR-FE	Wait to Restore. The defect causing a switch to protection has cleared at far-end node.

PENDREQ=   Value   **Description**

{AUTOSWITCH, NR}

Description: Pending request: returns the pending APS command which will executed if the current request clears.

	AUTOSWITCH	A SF condition is present for one of member ports of the FFP group.
	NR	No switch request is pending.

HLDFFTTIM=   Value   **Description**

{0,100,200 - 9800,9900,10000}   Hold-off timer value in steps of 100msec

Description: Hold Off Time for automatic protection switching. The value is specified in milliseconds.

RVRTTIM=   Value   **Description**

{0-12, 3060}   Revert timer value in minutes.

Description: Specifies the revert time in minutes. Note: 3060min.=51h.

ACD=   Value   **Description**

LOCAL

Description: Access Control Domain: local, Control Plane or Lost.

APSPHB=   Value   **Description**

{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2} (PHB range)

Description: PHB Scheduling Class (PSC) associated to APS packets. The reported PSC is present into PHB profile used by this TUSegment.

Also used for the R-APS message for the Dual home case.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
^^^/*^<Expanded_Error_Code_Description>^*/ cr lf
^^^/*^<Informational_Error_Description_Text>^*/ cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IENE   Input, Entity does Not Exist

a specific AID is given and this FFP is not provisioned

EXAMPLES

Retrieve information on a specific protection group:

```
RTRV-FFP-TMPLS::FFPTUNNEL-1-1-30;
```

```
    ALU-1 02-07-30 19:26:57
M   0 COMPLD
"FFPTUNNEL-1-4-300::
WKG=TUNNEL-1-1-10-1-0-0-0-0-0-0-0-0,PROTN=TUNNEL-1-1-12-1-0-0-0-0-0-
0-0-0, HOFFTTIM=5000, RVRTTIM=5, ACTIVE=WKG, CURRREQ=NR, PENDREQ=NR"
    /* RTRV-FFP-TMPLS::FFPTUNNEL-1-1-30 */
;
```

RELATED COMMANDS

DLT-FFP-TMPLS

ED-FFP-TMPLS

ENT-FFP-TMPLS

RELATED AUTONOMOUS RESPONSES

Not applicable

Command Code: RTRV-HDR

Command Name: RETRIEVE HEADER

PURPOSE

The RTRV-HDR command is used to retrieve the system's output response (site) header. Normally, the output response header consists of the site identifier (SID) and the current date and time.

The denials for this command are detailed in section ERROR CODES.

INPUT FORMAT

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	
	<40 HEXADECIMAL NSAP CHARACTERS>	

Default:	<SID of receiving NE>	
Addressing:	None	
Description:	Target IDentifier of the target network element for this command. 40 hexadecimal character NSAP address may be used to address an NE with unknown TID	

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>	
Addressing:	None	
Description:	Correlation TAG, associates the input command with its output responses.	

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^^DENY cr lf
   ^^^<ERROR^CODE> cr lf
   [^^^/*^<Expanded^Error^Code^Description>^*/ cr lf]
   [^^^/*^<Informational^Error^Description^Text>^*/ cr lf]
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IITA   Input, Invalid TArget identifier

an invalid TID has been entered

EXAMPLES

In the following example, a RTRV-HDR command is issued towards an NE named LASVEGAS:

RTRV-HDR:LASVEGAS;

A successful response for that command would be:

```
   ^^^LASVEGAS^01-02-07^08:46:59
   M^^P00001^COMPLD
   /* RTRV-HDR:LASVEGAS [P00001] (5) */
   ;
```

RELATED COMMANDS

None.

RELATED AUTONOMOUS RESPONSES

None.

Command Code: RTRV-L2ENCAP-PROF

Command Name: RETRIEVE L2 ENCAPSULATION PROFILE

PURPOSE

The RTRV-L2ENCAP-PROF command shall retrieve one or all L2 Encapsulation Profiles.

INPUT FORMAT

```
RTRV-L2ENCAP-PROF:[TID]:[AID]:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

> **Default:** <SID>
> **Addressing:** None
> **Description:** Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	ALL	
	L2ENCAPPROF-{1-32}	(L2 Encapsulation Profile)
	<Product Specific Values>	

> **Default:** ALL
> **Addressing:** None
> **Description:** L2 Encapsulation Profile AID.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

> **Default:** <System-assigned CTAG value>
> **Addressing:** None
> **Description:** Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^COMPLD cr lf
   ^^^"<AID>:: MAC-DA=<value>,TAG=<value>[, VLAN-ID=<value>]
   [,PRIORITY=<value>],INUSE=<value>"cr lf
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	L2ENCAPPROF-{1-32}	(L2 Encapsulation Profile)
	<Product Specific Values>	

    Description: L2 Encapsulation Profile AID.

MAC-DA=	Value	Description
	<12 HEXADECIMAL CHARACTERS>	

    Description: Medium Access Control Address, it is the MAC Destination Address to be used in case of mapping of MPLS over Ethernet when a switched network is present.

TAG=	Value	Description
	UNTAGGED	
	TAGGED	

    Description: Flag Tagged/Untagged

VLAN-ID=	Value	Description
	<INTEGER32>	
	{0-4094}	

    Description: This is the VLAN Identifier to be used in case of mapping of MPLS over Ethernet when a switched network is present (802.1Q mapping).

PRIORITY=	Value	Description
	<INTEGER32>	
	{0-7}	

      Description: Priority value for TAGGED ethernet frame.

INUSE=	Value	Description
	{YES,NO}	

      Description: This parameter reports if the L2 encapsulation profile is referenced by a TUSEG or a PWSEG.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IDRG   Input, Data RanGe

one of input parameters provided is out of range

      IENE   Input, specified object Entity does not Exist

L2 Encapsulation profile specified by AID is not provisioned

      IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
RTRV-L2ENCAP-PROF::L2ENCAPPROF-10:TS001;
```

```
      ALU-01 03-07-19 09:08:33
  M   TS001 COMPLD

  "L2ENCAPPROF-10::MAC-DA=002060123456,TAG=TAGGED,VLAN-ID=10,PRIORITY=
  3,INUSE=YES"
      /* RTRV-L2ENCAP-PROF::L2ENCAPPROF-10:TS001 [TS001](1)*/
  ;
```

RELATED COMMANDS

ENT-L2ENCAP-PROF

ED-L2ENCAP-PROF

DLT-L2ENCAP-PROF

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-MPLSIF

Command Name: RETRIEVE MPLS INTERFACE

PURPOSE

The RTRV-MPLSIF command retrieves MPLS Interface parameters (according to RFC3813 mplsInterfaceTable parameters. This table represents the interfaces that are MPLS capable. An entry is created for every MPLS capable interface on a LSR). MPLS Interface exists if and only if a corresponding entry in ifTable exists (with ifType = mpls (166)).

INPUT FORMAT

```
RTRV-MPLSIF:[TID]:[AID]:[CTAG]:::[SHOW-MODE=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value	Description
	ALL	
	MPLSIF-1-1-1-{1-3}	(MPLS Interface)

Default:	ALL	
Addressing:	&&-ranging and &-grouping	
Description:	Access Identifier, specifies an access to the MPLS interfaces.	

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>	
Addressing:	None	
Description:	Correlation TAG, associates the input command with its output responses.	

SHOW-MODE=	Value	Description
	{BRIEF, DETAIL}	

	Default:	DETAIL
	Addressing:	None
	Description:	Show modality of output parameters.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>::MPLSIF-LABEL-MIN-IN=<value>, MPLSIF-LABEL-MAX-IN=<value>,
MPLSIF-LABEL-MIN-OUT=<value>, MPLSIF-LABEL-MAX-OUT=<value>,
MPLSIF-TOTAL-BAND=<value>, MPLSIF-AVAILABLE-BAND=<value>,
MPLSIF-LABEL-PARTICIPATION-TYPE=<value>:<PST>"cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>::MPLSIF-TOTAL-BAND=<value>,
MPLSIF-AVAILABLE-BAND=<value>:<PST>"cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	MPLSIF-1-1-1-{1-3}	(MPLS Interface)

	Description:	Access Identifier, specifies an access to the facility.

MPLSIF-LABEL-MIN-IN=	Value	Description
	<numeric string>	(MPLS label type)
	{16-1023} for services	
	{130048 - 131071} for IEEE 1588 PTP traffic (not reported)	

	Description:	It is the minimum value of a MPLS label that this LSR is willing to receive on this interface.

MPLSIF-LABEL-MAX-IN=	Value	Description
	\<numeric string\>	(MPLS label type)
	{16-1023} for services	
	{130048 - 131071} for IEEE 1588 PTP traffic (not reported)	

Description: It is the maximum value of a MPLS label that this LSR is willing to receive on this interface.

MPLSIF-LABEL-MIN-OUT=	Value	Description
	\<numeric string\>	(MPLS label type)
	{16-1048575}	

Description: It is the minimum value of a MPLS label that this LSR is willing to send on this interface

MPLSIF-LABEL-MAX-OUT=	Value	Description
	\<numeric string\>	(MPLS label type)
	{16-1048575}	

Description: It is the maximum value of a MPLS label that this LSR is willing to send on this interface

MPLSIF-TOTAL-BAND=	Value	Description
	(32 bit bitfield)	

Description: It indicates the total amount of usable bandwidth on this interface and it is specified in kilobits per seconds

MPLSIF-AVAILABLE-BAND=	Value	Description
	(32 bit bitfield)	

Description: It indicates the total amount of available bandwidth on this interface and it is specified in kilobits per seconds. This value is calculated as the difference between tha amount of bandwidth currently in use and that specified in MPLSIF-TOTAL-BAND, at the egress point.

MPLSIF-LABEL-PA RTICIPATION-TYP E=	Value	Description
	PerPlatform	

> **Description:** The values of MPLSIF-LABEL-MIN-IN, MPLSIF-LABEL-MIN-OUT, MPLSIF-LABEL-MAX-OUT and MPLSIF-LABEL-MAX-OUT reflect the label ranges for all interfaces.

PST	Value	Description
	IS	In-Service
	OOS-AUMA	Out-Of-Service, AUtonomous and MAnagement
	OOS-AU	Out-Of-Service, AUtonomous
	OOS-MA	Out-Of-Service, MAnagement

> **Description:** Primary state. Specifies the primary state to which the entity is set.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

> **IENE**   Input, specified object Entity does Not Exist

a MPLSIF specified by AID is not present in the system

EXAMPLES

```
RTRV-MPLSIF::MPLSIF-1-1-1-1:TS001:::SHOW-MODE=DETAIL;
```

```
ALU-01 03-07-19 09:08:33
M  TS001 COMPLD
    "MPLSIF-1-1-1-1:MPLSIF-LABEL-MIN-IN=16, MPLSIF-LABEL-MAX-IN=1023,
MPLSIF-LABEL-MIN-OUT=16, MPLSIF-LABEL-MAX-OUT=1048575,
MPLSIF-TOTAL-BAND=1000000, MPLSIF-AVAILABLE-BAND=50000,
MPLSIF-LABEL-PARTICIPATION-TYPE=PerPlatform:IS"
    /* RTRV-MPLSIF::MPLSIF-1-1-1-1:TS001:::SHOW-MODE=DETAIL [TS001]
(1)*/
;
```

```
RTRV-MPLSIF::MPLSIF-1-1-1-1:TS001:::SHOW-MODE=BRIEF;
```

```
 ALU-01 03-07-19 09:08:33
M  TS001 COMPLD
    "MPLSIF-1-1-1-1:MPLSIF-TOTAL-BAND=1000000,
MPLSIF-AVAILABLE-BAND=50000:IS"
    /* RTRV-MPLSIF::MPLSIF-1-1-1-1:TS001:::SHOW-MODE=BRIEF [TS001]
(1)*/
;
```

RELATED COMMANDS

None

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-OAMPHB-PROF

Command Name: RETRIEVE OAM PER HOP BEHAVIOUR PROFILE

PURPOSE

The RTRV-OAMPHB-PROF command shall retrieve the OAMPHBs (max 8 OAM PHB Profile) stored in the system.

For OAM PHB Profile description, see ENT-OAMPHB-PROF command.

In the System already exists the factory default OAM PHB profile whose configuration is reported in fig.4. Its AID is OAMPHB-1

Figure 6 Factory OAMPHB Profile (default)

T-MPLS OAM packet type	PHB value
FDI	EF
future release	EF
future release	EF
future release	EF
future release	EF
future release	EF
future release	EF
future release	EF

INPUT FORMAT

```
RTRV-OAMPHB-PROF:[TID]:[AID]:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>

Addressing: None

Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	ALL	(All OAM PHB Profile)
	OAMPHB-{1-8}	(OAM PHB Profile)

Default:	ALL	
Addressing:	&&-ranging and &-grouping	
Description:	Access Identifier, specifies an access Identifier to the OAM PHB profile.	

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>	
Addressing:	None	
Description:	Correlation TAG, associates the input command with its output responses.	

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^^COMPLD cr lf
^^^"<AID>::
OAMTYPE1=<value>,OAMTYPE2=<value>,OAMTYPE3=<value>,OAMTYPE4=<value>,
OAMTYPE5=<value>,OAMTYPE6=<value>,OAMTYPE7=<value>,OAMTYPE8=<value>,
INUSE=<value>"cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	OAMPHB-{1-8}	(OAM PHB Profile)
	<Product Specific Values>	

Description:	Access Identifier, specifies an access Identifier to the OAM PHB Profile.	

OAMTYPE1=	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

Description: This parameter reports the PHB value associates to OAM FDI
packet.

OAMTYPE2=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

   Description: This parameter reports the PHB value associates to (Future
   release) OAM TYPE2 packet.

OAMTYPE3=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

   Description: This parameter reports the PHB value associates to (Future
   release) OAM TYPE3 packet.

OAMTYPE4=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

   Description: This parameter reports the PHB value associates to (Future
   release) OAM TYPE4 packet.

OAMTYPE5=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

   Description: This parameter reports the PHB value associates to (Future
   release) OAM TYPE5 packet.

OAMTYPE6=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

   Description: This parameter reports the PHB value associates to (Future
   release) OAM TYPE6 packet.

OAMTYPE7=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

   Description: This parameter reports the PHB value associates to (Future
   release) OAM TYPE7 packet.

OAMTYPE8=	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

> **Description:** This parameter reports the PHB value associates to (Future release) OAM TYPE8 packet.

INUSE=	Value	Description
	{YES,NO}	

> **Description:** This parameter reports if the OAMPHB is referenced by a TUSegment.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

　　　IDRG　Input, Data RanGe

one of input parameters provisioned is out of range

　　　IENE　Input, specified object Entity does Not Exist

the OAMPHB referenced by AID isn't present in the system

　　　IIFM　Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
RTRV-OAMPHB-PROF::ALL:QOS001;
```

```
    ALCATEL-01 07-03-16 23:59:33
M   QOS001 COMPLD
    OAMPHB-1::
OAMTYPE1=EF,OAMTYPE2=EF,OAMTYPE3=EF,OAMTYPE4=EF,OAMTYPE5=EF,OAMTYPE6
=EF,OAMTYPE7=EF,OAMTYPE8=EF,INUSE=YES;
    OAMPHB-2 ::
OAMTYPE1=HIGH2,OAMTYPE2=EF,OAMTYPE3=EF,OAMTYPE4=EF,OAMTYPE5=EF,OAMTY
PE6=EF,OAMTYPE7=EF,OAMTYPE8=LOW2,INUSE=NO;
    /*RTRV-OAMPHB-PROF::ALL:QOS001 */
;
```

RELATED COMMANDS

ENT-OAMPHB-PROF

ED-OAMPHB-PROF

DLT-OAMPHB-PROF

RELATED AUTONOMOUS RESPONSES

REPT^DBCHG

Command Code: RTRV-PHB-PROF

Command Name: RETRIEVE PER HOP BEHAVIOUR PROFILE

PURPOSE

The RTRV-PHB-PROF command shall retrieve one or all Per Hop Behaviour Profile stored in the System.

For description of PHB profile, see ENT-PHB-PROF command.

In the System already exists the factory default PHB Profile whose configuration is reported (below). Its AID is PHBPROF-2

Figure 5 Retrievable PHB Profiles

	"Factory" & "User defined" PHB profiles								
N°	EXP-0 000	EXP-1 001	EXP-2 010	EXP-3 011	EXP-4 100	EXP-5 101	EXP-6 110	EXP-7 111	Port type
PHBPROF-1	Reserved								Standard MPLSIF
PHBPROF-2	DE	LOW2	AF4	AF3	AF2	AF1	HIGH2	EF	
PHBPROF-3..8	USER defined								

INPUT FORMAT

```
RTRV-PHB-PROF:[TID]:[AID]:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	ALL	
	PHBPROF-{2-8}	(PHB Profile)

Default: ALL
Addressing: &&-ranging and &-grouping

Description: Access Identifier, specifies an access Identifier to the PHB profile. Using ALL the System shall retrieve the factory PHB Profile plus those User entered.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>: :
EXP0=<value>,EXP1=<value>,EXP2=<value>,EXP3=<value>,EXP4=<value>,EXP
5=<value>,EXP6=<value>,EXP7=<value>,INUSE=<value>"cr lf
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	PHBPROF-{2-8}	(PHB Profile)

Description: Access Identifier, specifies the access Identifier to the PHB profile stored in the System.

EXP0=	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

Description: This parameter reports the User association between the EXP-bit field value 0 and a PHB class.

EXP1=	Value	Description
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

Description: This parameter reports the User association between the EXP-bit field value 1 and a PHB class.

EXP2=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

    Description: This parameter reports the User association between the EXP-bit field value 2 and a PHB class.

EXP3=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

    Description: This parameter reports the User association between the EXP-bit field value 3 and a PHB class.

EXP4=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

    Description: This parameter reports the User association between the EXP-bit field value 4 and a PHB class.

EXP5=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

    Description: This parameter reports the User association between the EXP-bit field value 5 and a PHB class.

EXP6=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

    Description: This parameter reports the User association between the EXP-bit field value 6 and a PHB class.

EXP7=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	(PHB classes)

    Description: This parameter reports the User association between the EXP-bit field value 7 and a PHB class.

INUSE=	**Value**	**Description**
	{YES,NO}	

Description: This parameter reports if the PHB is referenced by a TUSegment or PWSegment

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG Input, Data RanGe

one of input parameters provisioned is out of range

IENE Input, specified object Entity does Not Exist

PHB Profile specified by AID is not provisioned

IIFM Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
RTRV-PHB-PROF::ALL:QOS003;
```

```
    ALCATEL-01 07-03-16 23:59:33
M  QOS003 COMPLD

"PHBPROF-2::EXP0=DE,EXP1=LOW2,EXP2=AF4,EXP3=AF3,EXP4=AF2,EXP5=AF1,EX
P6=HIGH2,EXP7=EF,INUSE=YES"
    "PHBPROF-4::
EXP0=DE,EXP1=AF1,EXP2=AF2,EXP3=EF,EXP4=AF4,EXP5=AF3,EXP6=LOW2,EXP7=H
IGH2,INUSE=YES"
    /* RTRV-PHB-PROF::ALL:QOS003 */
;
```

RELATED COMMANDS

ENT-PHB-PROF

ED-PHB-PROF

DLT-PHB-PROF

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-PRMTR-NE

Command Name: RETRIEVE PARAMETER NETWORK
ELEMENT

PURPOSE

The RTRV-PRMTR-NE command retrieves general system level configuration information consisting of: system type, software release identifier, software release date, matrix size, system restart status.

The RLSID output parameter should only reports, for customer releases, the actual official product release. It is possible during integration activities to use other intermediate versioning, but these should never appear in the customer release.

RTRV-PRMTR-NE retrieves also the information about the NE node type, i.e. UNVRSL12.

RTRV-PRMTR-NE retrieves also the information about the NE Application type, i.e. ANSI or ETSI values for the REGION parameter.

RTRV-PRMTR-NE retrieves also the information about the type of Equipment and Facility provisioning, contained in the PROVMODE parameter value.

INPUT FORMAT

```
RTRV-PRMTR-NE:[TID]::[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target IDentifier, identifies the network node TID for the command.	

CTAG	Value	Description
	< 1-6 VALID CTAG CHARACTERS >	

Default:	< System assigned CTAG value >	
Addressing:	None	
Description:	Correlation Tag, associates input command with its output responses.	

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^"<AID>:<SYSTYPE>,,<RLSID>,<RLSDATE>,<MTXSIZE>:REGION=<value>,PRO
VMODE=<value>[,NODETYPE=<value>][,USERLABEL=\"<value>\"]:STATUS" cr
lf]+
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID

Description: AID, identifies the entity for which the output data are retrieved

SYSTYPE	Value	Description
	1850 TSS-5	

Description: System Type, identifies the system type.

RLSID	Value	Description
	{E, F, R, P}{00-99}.{00-99}.{00-99}	

Description: Release Identification, it identifies the release ID of the actual official product release.

RLSDATE	Value	Description
	{ 05-99 }-{ 01-12 }-{ 01-31 }	

Description: Release Date, identifies the date of the system software release in the format of <YY>-<MM>-<DD>.

MTXSIZE	Value	Description
	12	

Description: Matrix Size, identifies the maximum matrix size in terms of bandwidth switching capacity (Gb/s): 12 value refers to 1850 TSS-5 NE type

REGION=	Value	Description
	ANSI	
	ETSI	

Description: Type of NE Application

PROVMODE=	Value	Description
	AUTOEQ-AUTOFC	eqpt autoprovisioning enabled - facility automatic creation enabled

Description: Type of Equipment and Facility Entities Provisioning supported by the NE

NODETYPE=	Value	Description
	UNVRSL12	

Description: Node type, identifies the role of the NE.

USERLABEL=	Value	Description
	"< 1-32 VALID USERLABEL CHARACTERS >"	
	<NoVal>	

Description: A Userlabel consists of 0-15 Userlabel Characters enclosed with escaped double quotes

STATUS	Value	Description
	COMPLETE	
	IN-PROGRESS	

Description: Status, identifies the status of any system restart process

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
      ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser.

EXAMPLES

In the following example, RTRV-PRMTR-NE is used to retrieve general system:

RTRV-PRMTR-NE;

A successful response for this comand would be:

```
    MARGARITA 05-02-27 08:46:59
M   C0001 COMPLD
    "::NODETYPE=UNVRSL12"
    "ACTSW:1850TSS-5,,R07.00.00,05-02-20,12::COMPLETE"
    /* RTRV-PRMTR-NE [Pad567] (2) */
;
```

RELATED COMMANDS

SET-PRMTR-NE

Command Code: RTRV-TMPLS-CRSTUSEG

Command Name: RETRIEVE TMPLS TUNNEL SEGMENT CROSS CONNECT

PURPOSE

The RTRV-TMPLS-CRSTUSEG command retrieves all TUSegment cross connections that have the specified AID as FROM and/or as TO.

The AID = ALL will be used to retrieve all TUSegment cross connections provisioned on this LSR.

INPUT FORMAT

```
RTRV-TMPLS-CRSTUSEG:[TID]:AID:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value	Description
	ALL	
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Default:	None
Addressing:	&&-ranging and &-grouping
Description:	TUSegment AID, specifies the selected TUSegment facility to which the command is directed. This parameter will be used when the User want retrieve complete list of TUSegment cross connections entered on this LSR (AID=ALL) or cross connections where the TUSegment, specified by AID, is involved.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>
Addressing:	None

Description: Correlation TAG, associates the input command with its output
responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<FROM>,<TO>:<CCT>" cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

FROM	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

> **Description:** TUSegment AID identifies the FROM entity of the
> cross-connection.

TO	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

> **Description:** TUSegment AID identifies the TO entity of the cross-connection.

CCT	Value	Description
	2WAY	

> **Description:** Cross-connect Type, identifies the type of cross-connect.
>
> **2WAY** Two-Way, identifies a bi-directional
> cross-connection between the selected FROM and
> TO facility TUSegments.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

      IENE   Input, specified object Entity does Not Exist

the TUSegment specified by AID is not present in the system

EXAMPLES

```
RTRV-TMPLS-CRSTUSEG::TUSEG-1-1-10:TS002;



   ALU-01 03-07-19 09:08:33
M TS002 COMPLD
    "TUSEG-1-1-10, TUSEG-1-1-20:2WAY"
    /* RTRV-TMPLS-CRSTUSEG::TUSEG-1-1-10:TS002 [TS002] (1)*/
;
```

RELATED COMMANDS

ENT-TMPLS-CRSTUSEG

ED-TMPLS-CRSTUSEG

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-TMPLS-GLOBAL

Command Name: RETRIEVE TMPLS GLOBAL PARAMETERS

PURPOSE

The RTRV-TMPLS-GLOBAL command retrieves all the global network parameters assigned to T-MPLS by the ED-TMPLS-GLOBAL command.

INPUT FORMAT

```
RTRV-TMPLS-GLOBAL:[TID]::[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>
Addressing:	None
Description:	Target IDentifier, identifies the network node TID for the command.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>
Addressing:	None
Description:	Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"::OAM-CVPERIOD-SEL=<value>, PHB-RANGE-SEL=<value> "cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

OAM-CVPERIOD-S EL=	Value	Description
	0	
	2	

Description: Selector of values range for CV Period into OAM CV frames.

PHB-RANGE-SEL=	Value	Description
	2	(MPLS profile 2)

Description: Selector of the default value for PHBPROF (PHBPROF-2) for creation of new TUSEGs. The default value for this parameter is 2 (PHBPROF-2).

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser.

EXAMPLES

RTRV-TMPLS-GLOBAL;

```
   ALU-01 03-07-19 09:08:33
M  TS001 COMPLD
   "::OAM-CVPERIOD-SEL=1, PHB-RANGE-SEL=2"
   /* RTRV-TMPLS-GLOBAL [TS001] (1)*/
;
```

RELATED COMMANDS

ED-TMPLS-GLOBAL

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-TMPLS-PW

Command Name: RETRIEVE TMPLS PSEUDOWIRE

PURPOSE

INPUT FORMAT

```
RTRV-TMPLS-PW:[TID]:AID:[CTAG]:::[PW-ID=];
```

INPUT PARAMETERS

TID	Value		Description
	<VALID TID VALUE>		
	Default:	<SID>	
	Addressing:	None	
	Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value		Description
	ALL		
	PW-1-1-{1-250}		(Pseudowire)
	Default:	None	
	Addressing:	None	
	Description:	AID of PW that defines PW AID. It is made by three parameters: Rack, Subrack and pw index.	

CTAG	Value		Description
	<1-6 VALID CTAG CHARACTERS>		
	Default:	<System-assigned CTAG value>	
	Addressing:	None	
	Description:	Correlation TAG associates the input command with its output responses.	

PW-ID=	Value		Description
	<1-30 VALID NAME CHARACTERS>		
	Default:	None	

          Addressing: None

          Description: Pseudowire Identifier (as Pseudowire name assigned by user in the Control Plane). Pseudowire Identifier is unique in the System.

          Restrictions: This parameter is entered if AID is set to ALL. Pseudowire identifier must be unique in the System.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>::PW-ID=<value>[,DESCR=<value>][,TD-ID=<value>][,SEGFROM-AI
D=<value>][,STATUS=<value>][,STATE=<value>]" cr lf
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	PW-1-1-{1-250}	(Pseudowire)

        Description: Access Identifier of the Pseudowire.

PW-ID=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

        Description: Pseudowire Identifier

DESCR=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

        Description: Pw description assigned by user in the Control Plane.

TD-ID=	Value	Description
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

        Description: Traffic Descriptor Identifier for the assigned bandwidth profile to the LSP Tunnel.

SEGFROM-AID=	Value	Description
	PWSEG-{1}-{1}-{1-250}	(Pseudowire Segment)

Description: Identifies the FROM entity of the cross-connection

STATUS=	Value	Description
	ON	
	OFF	

Description: PW administrative status, set by management.

ON: PW is committed.

OFF: PW is provisioned but not committed.

STATE=	Value	Description
	UP	
	DOWN	

Description: Pseudowire operative status.

UP: Pseudowire is operative.

DOWN: Pseudowire is released.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IENE   Input, Entity does Not Exist

Pseudowire to be retrieved with specific requested AID is not present

EXAMPLES

```
RTRV-TMPLS-PW::<AID>:CP001:::;
```

```
   ALU-01 07-03-16 23:59:33
M  CP-001 COMPLD
     /*RTRV-TMPLS-PW::<AID>:CP001:::
STATE=UP,STATUS=ON,SEGFROM-AID=PWSEG-1-1-45*/
   ;
```

RELATED COMMANDS

ED-TMPLS-PW

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-TMPLS-PWSEG
Command Name: RETRIEVE TMPLS PSEUDOWIRE SEGMENT

PURPOSE

The RTRV-TMPLS-PWSEG command retrieves the provisioned parameters for MPLS PWSegments. The AID = ALL will be used to retrieve all PWSegments provisioned on this LSR.

INPUT FORMAT

```
RTRV-TMPLS-PWSEG:[TID]:[AID]:[CTAG]::[USERNAME];
```

INPUT PARAMETERS

TID   **Value**   **Description**
                    <VALID TID VALUE>

        Default: <SID>
        Addressing: None
        Description: Target IDentifier, identifies the network node TID for the command.

AID   **Value**   **Description**
                    ALL
                    PWSEG-1-1-{1-250}   (Pseudowire Segment)

        Default: <ALL if USERNAME parameter not provided.>
        Addressing: &&-ranging and &-grouping
        Description: Access Identifier, specifies an access to the T-MPLS PWSegments entered. This parameter will be used when the User want retrieve complete list of PWSegments entered on this LSR (AID=ALL) or a single PWSegment or a range of PWSegments.
        Restrictions: If the user uses this parameter then he can't use USERNAME parameter.

CTAG   **Value**   **Description**
                    <1-6 VALID CTAG CHARACTERS>

        Default: <System-assigned CTAG value>
        Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

USERNAME	Value	Description
	<1-30 VALID CHARACTERS>	

Default: None

Addressing: None

Description: PWSegment User name. The USERNAME can be not unique in the System then specifying this parameter the OUTPUT response can contain one or more lines.

Restrictions: If the User uses this parameter then he can't use AID parameter.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>: <PORT>, <TYPE>, <DIR>[ , <USERNAME>]:INLABEL=<value>,
OUTLABEL=<value> [, PW-AID=<value>][, PW-ID=<value>],
PHBPROF-AID=<value>, ACD=<value>[,CW=<value>]:<PST>"cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	PWSEG-1-1-{1-250}	(Pseudowire Segment)

Description: PWSegment AID.

PORT	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Description: AID of the port which is a TUSegment.

TYPE	Value	Description
	TERMINATION	

Description: Functional Type: TERMINATION.

DIR	Value	Description
	BIDIR	

Description: PWSegment Direction: Bidir or Unidir-In or Unidir-Out.

USERNAME	Value	Description
	<1-30 VALID CHARACTERS>	

Description: PWSegment User name.

INLABEL=	Value	Description
	<INTEGER32>	
	{16-1023} for all services	

Description: Expected Label for incoming segment associated to Sink PWSegment.

OUTLABEL=	Value	Description
	<INTEGER32>	
	{16-1048575}	

Description: Transmitted Label for outgoing segment to Source PWSegment.

PW-AID=	Value	Description
	PW-1-1-{1-250}	(Pseudowire)

Description: Pseudowire AID, identifies the PW automatically generated for Terminated PWSegment.

PW-ID=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

Description: Pseudowire Identifier assigned by user.

PHBPROF-AID=	Value	Description
	PHBPROF-{2-8}	(PHB Profile)

Description: Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.

ACD=	Value	Description
	LOCAL	

Description: Access Control Domain: local or ControlPlane, PWSegment Term is assigned to GMPLS.

CW=	Value	Description
	ENABLE	
	DISABLE	

Description: Enabling/disabling capability to insertion/stripping of the Control Word, associated to Termination PWSegment.

PST	Value	Description
	IS	In-Service
	OOS-AUMA	Out-Of-Service, AUtonomous and MAnagement
	OOS-AU	Out-Of-Service, AUtonomous
	OOS-MA	Out-Of-Service, MAnagement

Description: Primary state. Specifies the primary state to which the entity is set.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG Input, Data RanGe

one of input parameters provided is out of range

IENE Input, specified object Entity does Not Exist

the PWSegment specified by AID is not present in the system

IIFM   Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

IPNC   Input, Parameter Not Consistent

AID parameter is provisioned and also USERNAME parameter is provisioned

EXAMPLES

```
RTRV-TMPLS-PWSEG::PWSEG-1-1-10:TS002;



    ALU-01 03-07-19 09:08:33
M  TS002 COMPLD
    "PWSEG-1-1-10: TUSEG-1-1-1, TERMINATION, BIDIR: INLABEL=102,
OUTLABEL=10024, PHBPROF-AID=PHBPROF-2, ACD=LOCAL:OOS-AU"
    /* RTRV-TMPLS-PWSEG::TUSEG-1-1-1:TS002 [TS002] (1)*/
;
```

RELATED COMMANDS

ENT-TMPLS-PWSEG
ED-TMPLS-PWSEG

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-TMPLS-TD

Command Name: RETRIEVE TMPLS TRAFFIC DESCRIPTOR

PURPOSE

The RTRV-TMPLS-TD command shall retrieve a TD (Traffic Descriptor) also called MPLS Tunnel Resource Descriptor.

For TMPLS TD (Tunnel Resource Descriptor) description, see ENT-TMPLS-TD.

INPUT FORMAT

```
RTRV-TMPLS-TD:[TID]:[AID]:[CTAG];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	ALL	
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

Default: ALL
Addressing: &&-ranging and &-grouping
Description: Access Identifier, specifies an access Identifier to the MPLS TD.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>
Addressing: None
Description: Correlation TAG, associates the input command with its output responses.

SUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^^COMPLD cr lf
   ^^^"<AID>::
   CIR=<value>,CBS=<value>,PIR=<value>,PBS=<value>,INUSE=<value>"cr lf
   [^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
   ;
```

OUTPUT PARAMETERS

AID	Value	Description
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

> **Description:** Access Identifier, specifies an access Identifier to the MPLS TD.

CIR=	Value	Description
	<POSITIVE INTEGER>	(Kbit/sec.)

> **Description:** MPLS Committed Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.

CBS=	Value	Description
	<POSITIVE INTEGER>	(byte)

> **Description:** MPLS Committed Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.

PIR=	Value	Description
	<POSITIVE INTEGER>	(Kbit/sec.)

> **Description:** MPLS Peak Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.

PBS=	Value	Description
	<POSITIVE INTEGER>	(byte)

> **Description:** MPLS Peak Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.

INUSE=	Value	Description
	{YES,NO}	

Description: This parameter reports if the TD is referenced by a Tunnel or PseudoWire.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command^Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG Input, Data RanGe

one of input parameters provisioned is out of range

IENE Input, specified object Entity does Not Exist

a TMPLS Traffic Descriptor specified by AID isn't present in the system

IIFM Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

EXAMPLES

```
RTRV-TMPLS-TD::ALL:QOS0021;



    ALCATEL-01 07-03-16 23:59:33
M  QOS0021 COMPLD
   MPLSTD-6::CIR=48,CBS=8000,PIR=96,PBS=16000,INUSE=YES
   MPLSTD-27::CIR=48,CBS=8000,PIR=48,PBS=16000,INUSE=YES
   MPLSTD-116::CIR=96,CBS=16000,PIR=96,PBS=16000,INUSE=YES
   /* RTRV-TMPLS-TD::ALL:QOS0021 */
;
```

RELATED COMMANDS

ENT-TMPLS-TD
ED-TMPLS-TD
DLT-TMPLS-TD

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-TMPLS-TUNNEL

Command Name: RETRIEVE TMPLS TUNNEL

PURPOSE

The RTRV-TMPLS-TUNNEL command retrieves TMPLS TUNNEL parameters edited with ED-TMPLS-TUNNEL.

In order to reduce the amount of output parameters (especially in case of AID=ALL), the user can explicitly choose to retrieve only a subset of values through SHOW-DETAILS input parameter.

INPUT FORMAT

```
RTRV-TMPLS-TUNNEL:[TID]:AID:[CTAG]:::[TUNNEL-ID=][,ACD=][,SHOW-DETAI
LS=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>

Addressing: None

Description: Target IDentifier, identifies the network node TID for the command.

AID	Value	Description
	ALL	
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

Default: ALL

Description: AID of LSP Tunnel that defines TUNNEL AID. It is made by six parameters: Rack, Subrack.Tunnel Id, Tunnel Instance, Ingress LER address, Egress LER address.

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default: <System-assigned CTAG value>

Addressing: None

Description: Correlation TAG, associates the input command with its output responses.

TUNNEL-ID=	**Value**	**Description**
	<1-30 VALID NAME CHARACTERS>	

	Default:	None
	Addressing:	None
	Description:	Tunnel Identifier (as Tunnel name assigned by user in the Control Plane). Tunnel identifier must be unique in the System.
	Restrictions:	This parameter is entered if AID is set to ALL. Tunnel identifier must be unique in the System.

ACD=	**Value**	**Description**
	LOCAL	

	Default:	None
	Addressing:	None
	Description:	Access Control Domain: Local (MP) or Control Plane. It filters output tunnels on the basis on who has created them.

SHOW-DETAILS=	**Value**	**Description**
	ALL	
	GENERAL	

	Default:	GENERAL
	Addressing:	None
	Description:	It filters output parameters. it is possible to retrieve all or only a subset of output parameters.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>:TUNNEL-ID=<value>
[,DESCR=<value>][,ACD=<value>][,DIR=<value>][,TD-ID=<value>][,SEGFRO
M-AID=<value>][,SEGTO-AID=<value>][,SRC-LABEL=<value>][,
DEST-LABEL=<value>][,
ROLE=<value>][,STATUS=<value>][,STATE=<value>][,PHBPROF-AID=<value>]
" cr lf
[^^^"<AID>::PW-AID=<value>"cr lf]*
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
^^^"<AID>:TUNNEL-ID=<value>
[,DESCR=<value>][,ACD=<value>][,DIR=<value>][,TD-ID=<value>][,SEGFRO
M-AID=<value>][,SEGTO-AID=<value>][,SRC-LABEL=<value>][,
DEST-LABEL=<value>][,
ROLE=<value>][,STATUS=<value>][,STATE=<value>][,PHBPROF-AID=<value>]
" cr lf
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

OUTPUT PARAMETERS

AID	Value	Description
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

Description: Access Identifier of the LSP tunnel for the network connection.

TUNNEL-ID=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

Description: Tunnel Identifier

DESCR=	Value	Description
	<1-30 VALID NAME CHARACTERS>	

Description: Tunnel description assigned by user in the Control Plane.

ACD=	Value	Description
	LOCAL	

Description: Access Control Domain: local or Control Plane,

DIR=	Value	Description
	BIDIR	

Description: Tunnel direction (unidirectional/bidirectional).

TD-ID=	**Value**	**Description**
	MPLSTD-{1-750}	(MPLS Traffic Descriptor)

Description: Traffic Descriptor Identifier for the assigned bandwidth profile to the LSP Tunnel.

SEGFROM-AID=	**Value**	**Description**
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Description: Identifies the FROM entity of the cross-connection

This parameter is only displayed for TRANSIT Tunnels

SEGTO-AID=	**Value**	**Description**
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Description: Identifies the TO entity of the cross-connection

This parameter is displayed for TRANSIT and TERMINATED Tunnels

SRC-LABEL=	**Value**	**Description**
	<numeric value> (MPLS label type)	
	{16-1023} for services {130048 - 131071} for IEEE 1588 PTP traffic	

Description: Generalized Label value used at Tunnel source on ingress node port. Label format depends on the selected label type for the tunnel layer (PSC/TDM).

Not displayed when tunnel is created by Management Plane, ACD = LOCAL

DEST-LABEL=	**Value**	**Description**
	<numeric value> (MPLS label type)	
	{16-1048575}	

Description: Generalized Label value used at Tunnel target on egress node port. Label format depends on the selected label type for the tunnel layer (MPLS/TDM).

Not displayed when tunnel is created by Management Plane, ACD = LOCAL

ROLE=	Value	Description
	HEAD	
	TRANSIT	

Description: Tunnel position role. For Bidirectional Tunnel originated from local node the HEAD flag is used, on transit nodes TRANSIT.

STATUS=	Value	Description
	ON	
	OFF	

Description: Tunnel administrative status, set by management.

ON:	Tunnel is committed.
OFF:	Tunnel is provisioned but not committed.

STATE=	Value	Description
	UP	
	DOWN	

Description: Tunnel operative status.
UP: Tunnel is operative.
DOWN: Tunnel is released.

PHBPROF-AID=	Value	Description
	PHBPROF-{2-8}	(PHB Profile)

Description: Per-Hop Behavior (PHB) Profile, AID of PHB Profile resource. In case of bidirectional tunnels, the mapping between PHB profile and EXP bit is the same in both directions.

Not displayed when tunnel is created by Management Plane, ACD = LOCAL

PW-AID=	Value	Description
	PW-1-1-{1-250}	(Pseudowire)

Description: The System shall return a list of AID of all the pseudowires belonging to the tunnel to be retrieved.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^<CTAG>^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IENE   Input, Entity does Not Exist

Tunnel to be retrieved with specific requested AID and TUNNEL-ID is not present

EXAMPLES

```
RTRV-TMPLS-TUNNEL::<AID>:CP001::: TUNNEL-ID=TEST;
```

```
ALU-01 07-03-16 23:59:33
M  CP001 COMPLD
  "<AID>:CONN-ID=TEST, <list of CONN-ID parameters>"
   /*RTRV-TMPLS-TUNNEL::<AID>:CP001::: TUNNEL-ID=TEST*/
;
```

RELATED COMMANDS

ED-TMPLS-TUNNEL
DLT-TMPLS-TUNNEL

RELATED AUTONOMOUS RESPONSES

None

Command Code: RTRV-TMPLS-TUSEG

Command Name: RETRIEVE TMPLS TUNNEL SEGMENT

PURPOSE

The RTRV-TMPLS-TUSEG command retrieves the provisioned parameters for MPLS TUSegments.

The AID = ALL will be used to retrieve all TUSegments provisioned on this LSR.

INPUT FORMAT

```
RTRV-TMPLS-TUSEG:[TID]:[AID]:[CTAG]::[USERNAME];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default:	<SID>	
Addressing:	None	
Description:	Target IDentifier, identifies the network node TID for the command.	

AID	Value	Description
	ALL	
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Default:	<ALL if USERNAME parameter not provided.>	
Addressing:	&&-ranging and &-grouping	
Description:	Access Identifier, specifies an access to the TUSegment entered. This parameter will be used when the User want retrieve complete list of TUSegments entered on this LSR (AID=ALL) or a single TUSegment or a range of TUSegments.	
Restrictions:	If the user uses this parameter then he can't use USERNAME parameter.	

CTAG	Value	Description
	<1-6 VALID CTAG CHARACTERS>	

Default:	<System-assigned CTAG value>	
Addressing:	None	

Description: Functional Type: TERMINATION, SWAP (adaptation).

DIR	Value	Description
	BIDIR	

Description: TUSegment Direction: Bidir or Unidir-In or Unidir-Out.

USERNAME	Value	Description
	<1-30 VALID CHARACTERS>	

Description: TUSegment User name.

L2ENCAPPROF-AID=	Value	Description
	L2ENCAPPROF-{1-32}	(L2 Encapsulation Profile)

Description: L2 encapsulation profile AID to be used in case of mapping of MPLS over Ethernet when a switched network is present.
The System will check if profile is present using this parameter as access-key.

INLABEL=	Value	Description
	<INTEGER32>	
	{16-1023} for services	
	{130048 - 131071} for IEEE 1588 PTP traffic	

Description: Expected Label for incoming segment associated to Sink TUSegment.

OUTLABEL=	Value	Description
	<INTEGER32>	
	{16-1048575}	

Description: Transmitted Label for outgoing segment to Source TUSegment.

TUNNEL-AID=	Value	Description
	TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0	(Tunnel)

Description: Tunnel AID identifies the TUNNEL automatically generated for Terminated TUSegment or for Swapped (and cross-connected) TUSegment.

TUNNEL-ID=	**Value**	**Description**
	<1-30 VALID NAME CHARACTERS>	

    Description: Tunnel Identifier assigned by user.

PHBPROF-AID=	**Value**	**Description**
	PHBPROF-{2-8} (PHB Profile)	

    Description: Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.

OAMPHB-AID=	**Value**	**Description**
	OAMPHB-{1-8}	(OAM PHB Profile)

    Description: PHB OAM Profile AID for OAM packets.

MEP=	**Value**	**Description**
	ENABLE	
	DISABLE	

    Description: This parameter reports if MEP function (only for termination TUSegment), is enabled. For a MEP sink point, it reports the capability to process the received CV packets and generate the correspondent alarms.

MEG-ID=	**Value**	**Description**
	<1-13 VALID CHARACTERS>	

    Description: MEG, 13 ASCII chars string.

MEP-ID=	**Value**	**Description**
	<INTEGER32>	
	{0-8191}	

    Description: Transmitted MEP value, integer associated to Source TUSegment Term. (MEP_ID in T-MPLS CV OAM frame identifying the transmitting MEP).

EXPMEP-ID=	**Value**	**Description**
	<list of integer values separated by &>	

    Description: Expected MEP value list, integers associated to Sink TUSegment Term, also called PeerMEP-IDs.

CVRX=	**Value**	**Description**
	ENABLE	
	DISABLE	

Description: This parameter reports capability to detect the Loss Of Continuity (LOC) alarm, associated to Sink TUSegment Termination.

CVTX=	**Value**	**Description**
	ENABLE	
	DISABLE	

Description: Enabling/disabling transmission of CV packets, associated to Source TUSegment Term.

CVPERIOD=	**Value**	**Description**
	{3.33ms,10ms,100ms,1s,10s,20ms,50ms,1m}	

Description: Period (1/Frequency) of CV packet transmission.

CVPHB=	**Value**	**Description**
	{EF, HIGH2, AF1, AF2, AF3, AF4, DE, LOW2}	

Description: PHB Scheduling Class (PSC) associated to CV packets, (EF, AF1, AF2, ...).

ACD=	**Value**	**Description**
	LOCAL	

Description: Access Control Domain: local or ControlPlane, TUSegment Term is assigned to GMPLS.

ALMPROF=	**Value**	**Description**
	<userlabel>	

Description: The Alarm Severity Assignment Profile (ASAP) name to use with this facility.

    <userlabel>   1-40 alphanumeric characters (plus '-') assigned as the userlabel for the desired profile.

PS-DDM-SD=	Value	**Description**
	{ENABLED , DISABLED}	

Description: This parameter enables/disables the Protection Switch feature for Signal Degrade detected on the basis of the optical power monitored by Digital Diagnostic Monitoring (DDM) capable SSF/TSF. Enables/disable DDM-SD alarm contribution, and FDI packet generation due to DDM-SD failure.

Restrictions: FDI generation on Port #3 (MPLSIF-1-1-1-3) is not supported.

PST	Value	**Description**
	IS	In-Service
	OOS-AUMA	Out-Of-Service, AUtonomous and MAnagement
	OOS-AU	Out-Of-Service, AUtonomous
	OOS-MA	Out-Of-Service, MAnagement

Description: Primary state. Specifies the primary state to which the entity is set.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
[^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
[^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IDRG Input, Data RanGe

one of input parameters provided is out of range

IENE Input, specified object Entity does Not Exist

the TUSegment specified by AID is not present in the system

IIFM Input, Invalid data ForMat

one of input parameters provisioned is in wrong format

IPNC Input, Parameter Not Consistent

AID parameter is provisioned and also USERNAME parameter is provisioned

EXAMPLES

```
RTRV-TMPLS-TUSEG::TUSEG-1-1-10:TS002;



    ALU-01 03-07-19 09:08:33
M  TS002 COMPLD
    "TUSEG-1-1-10: MPLSIF-1-1-1-1, TERMINATION, BIDIR: INLABEL=102,
OUTLABEL=1002, PHBPROF-AID=PHBPROF-2, OAMPHB-AID=OAMPHB-1,
MEP=ENABLE, MEG-ID=\"Rome-Milan\", MEP-ID=100, EXPMEP-ID=200,
CVRX=ENABLE, CVTX=ENABLE, CVPERIOD=1s, CVPHB=EF, ACD=LOCAL,
ALMPROF=ASAPTUSEG-1, PS-DDM-SD=ENABLED :OOS-AU"
    /* RTRV-TMPLS-TUSEG::TUSEG-1-1-10:TS002 [TS002] (1)*/
;
```

RELATED COMMANDS

ENT-TMPLS-TUSEG

DLT-TMPLS-TUSEG

ED-TMPLS-TUSEG

RELATED AUTONOMOUS RESPONSES

None

Command Code: SET-PRMTR-NE
Command Name: SET NE TYPE PARAMETER

PURPOSE

The SET-PRMTR-NE command allows the setting of an NE level parameter able to manage the Region context of NE Application.

The rule that should be followed in the setting of this parameter are:

*   Default value for the Region is ETSI

The successful completion of the command shall cause REPT^DBCHG autonomous messages.

INPUT FORMAT

```
SET-PRMTR-NE:[TID]::[CTAG]:::[REGION=][,PROVMODE=][,USERLABEL=];
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

CTAG	Value	Description
	< 1-6 VALID CTAG CHARACTERS >	

Default: < System assigned CTAG value >
Addressing: None
Description: Correlation Tag, associates input command with its output responses.

REGION=	Value	Description
	ETSI	

Default: ETSI
Addressing: None
Description: Type of NE Application

PROVMODE=	Value	Description
	AUTOEQ-AUTOFC	eqpt autoprovisioning enabled - facility automatic creation enabled

Default:	AUTOEQ-AUTOFC
Addressing:	None
Description:	Type of Equipment and Facility Entities Provisioning supported by the NE

USERLABEL=	Value	Description
	"< 1-32 VALID USERLABEL CHARACTERS >"	

Default:	<Previously-existing value>
Addressing:	None
Description:	The beginning USERLABEL value is <NoVal>.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr
lf]
   ;
```

OUTPUT PARAMETERS

There are no output parameters for this command.

UNSUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^DENY cr lf
^^^<ERROR CODE> cr lf
^^^/* <Informational_Error_Description_Text> */ cr lf
   ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser. Parser generated Error Codes are not duplicated below. Other non-Parser Error Codes used with this command are:

IPNC   Input, Parameter Not Consistent

the command is entered with REGION, or PROVMODE set to an invalid value

EXAMPLES

None

RELATED COMMANDS

RTRV-PRMTR-NE

ACT-USER

Command Code: SET-SID
Command Name: SET SITE IDENTIFIER

PURPOSE

The SET-SID command is used to set the Site Identifier (SID) code that is compared to any Target Identifier (TID) value entered in a command.

If lower-case characters are entered for the SID, they are converted to an upper-case character string and stored as the SID value.

If a quoted string is entered for the SID, no case conversion is applied

Upon completion of the command the new site identification is displayed in the response message.

The successful completion of the command shall cause REPT^DBCHG autonomous messages.

INPUT FORMAT

```
SET-SID:[TID]::[CTAG]::SID;
```

INPUT PARAMETERS

TID	Value	Description
	<VALID TID VALUE>	

Default: <SID>
Addressing: None
Description: Target IDentifier, identifies the network node TID for the command.

CTAG	Value	Description
	< 1-6 VALID CTAG CHARACTERS >	

Default: < System assigned CTAG value >
Addressing: None
Description: Correlation Tag, associates input command with its output responses.

SID	Value	Description
	<VALID TID VALUE>	

Default: <Entry Required>; Factory Default = "PLEASE-SET-SID-xxxxx"
Addressing: None

Description: Site Identifier, identifies the new SID. The SID value shall follow the same syntax rules as the TID value, as specified in the Core TL1 RRS. That is, the SID value can be either up to 20 noncase-sensitive alphanumeric characters, including the special hyphen (-) character, or up to 20 characters quoted string.

If it is a non quoted string, the hyphen (-) is the only special character allowed. The SID must start with a letter and shall end with an alphanumeric character. Consecutive hyphens (-) shall not be allowed. Number of hyphens shall be not greater than 4. If a lower-case character string is entered for the SID, it is automatically converted to an uppercase character string for comparison to any TID value entered in a command.

If it is a quoted string, any character is allowed, included any special character, and no case conversion is applied.

On initial turnup, the NE shall automatically generate an unique SID, using the last 5 hexadecimal characters of the NE's MAC address and appending them to the PLEASE- SET- SID name. This SID will be updated (by reading the MAC address from the appropriate NE hardware module) and stored in the NE's database during any cold restart of the NE, as long as the SID is already set to PLEASE-SET-SID- xxxxx, or a default database is created.

SUCCESSFUL RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
M^^<CTAG>^COMPLD cr lf
[^^^/*^<SID>^*/ cr lf]
[^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
    ;
```

OUTPUT PARAMETERS

SID	Value	Description
	<VALID SID VALUE>	

Description: Site Identifier, identifies the new SID. The SID value shall be reported as a quoted string only if it contains special chars.

UNSUCCESSFUL RESPONSE FORMAT

```
   cr lf lf
   ^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
   M^^<CTAG>^DENY cr lf
   ^^^<ERROR CODE> cr lf
   [^^^/*^<Expanded_Error_Code_Description>^*/ cr lf]
   [^^^/*^<Informational_Error_Description_Text>^*/ cr lf]
   [^^^/*^<Optional_Suggested_Action_Text>^*/ cr lf]
   [^^^/*^<Command_Echo>^[<CTAG>]^(<Session_Number>)^*/ cr lf]
      ;
```

ERROR CODES

Refer to Appendix D, Error Codes, for a complete list of Error Codes. Appendix D also contains a list of Error Codes that are used if the command cannot be correctly parsed by the Command Parser.

EXAMPLES

In the following example, SET-SID is used to set the SID to ITA1977.

```
   SET-SID:::::ITA1977;
```

RELATED COMMANDS

None

Response Code: REPT^ALM^TUSEG

Response Name: REPORT ALARM TUSEG

PURPOSE

The REPT^ALM^TUSEG autonomous message is generated by the system to report the occurrence of an alarmed condition for the indicated TUSEG path or to report the clearing of a previously-reported alarmed condition for the indicated TUSEG path.

RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
<ALMCDE>^<ATAG>^REPT^ALM^TUSEG cr lf
^^^"<AID>:<NTFCNCDE>,<CONDTYPE>,<SRVEFF>,<OCRDAT>,<OCRTM>,[<LOCN>][,
<DIRN>][:\"<CONDDESCR>\"]" cr lf
;
```

OUTPUT PARAMETERS

ALMCDE	Value	Description
	*C	
	**	
	*^	
	A^	

Description:	Alarm Code, identifies the nature of the autonomous response based on the priority of action. (Note. The ^ shown in the value set is used to represent a space. The ^ does not actually appear in the output response.)

	*C	Critical Alarm, indicates a critical alarm is being reported.
	**	Major Alarm, indicates a major alarm is being reported.
	*^	Minor Alarm, indicates a minor or warning alarm is being reported.
	A^	Autonomous Message, indicates the clearing of an alarm is being reported.

ATAG	Value	Description
	0-99999	

Description: Autonomous Message Tag, the system assigned tag number used to correlate autonomous messages.

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

Description: Access Identifier, identifies the entity access identifier.

NTFCNCDE	Value	Description
	CR	
	MJ	
	MN	
	WR	
	CL	

Description: Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.

CR	Critical alarm
MJ	Major alarm
MN	Minor alarm
WR	Warning Alarm
CL	Cleared Alarm

CONDTYPE	Value	Description
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	RDI	Remote Defect Indication (FEND)
	SSF	Server Signal Failure
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

Description: Condition Type, specifies the reported condition type.

SRVEFF	Value	Description
	NSA	
	SA	

Description: Service Effect, identifies the effect on service caused by the event.

NSA	Nonservice-affecting
SA	Service-affecting

OCRDAT	Value	Description
	{01-12}-{01-31}	

      Description: Occurrence Date, identifies the date when the event occurred.
                    <MONTH_OF_YEAR>-<DAY_OF_MONTH>

OCRTM	Value	Description
	{00-23}-{00-59}-{00-59}	

      Description: Occurrence Time, identifies the time when the event occurred.
                    <HOUR_OF_DAY>-<MINUTE_OF_HOUR>-<SECOND_OF_MINUTE>

LOCN	Value	Description
	NEND	
	FEND	

      Description: Location, identifies the location where the condition type is monitored.

NEND	Near End
FEND	Far End

DIRN	Value	Description
	RCV	

      Description: Direction, indicates the direction of the condition relative to the specified AID.

RCV	Receive Direction

CONDDESCR	Value	Description
	<1-10 lines of up to 64 valid output characters per line>	

      Description: Condition Description, an optional, non-parsable text description of the condition or problem being reported.

EXAMPLES

The following example shows the autonomous message generated by the system to report a service affecting LOC condition on TUSEG TUSEG-1-1-30.

The autonomous response is shown below.

```
AM1587 03-08-12 09:08:33
*   7420 REPT ALM TUSEG
     "TUSEG-1-1-30:CR,LOC,SA,08-12,09-08-31,NEND,RCV"
;
```

RELATED COMMANDS

RTRV-ALM-TUSEG

RTRV-COND-TUSEG

Response Code: REPT^DBCHG

Response Name: REPORT DATABASE CHANGE

PURPOSE

The REPT^DBCHG autonomous response is generated by the system to report a database change to all users.

REPT^DBCHG messages are transmitted to all active users except for the user originating an entity provisioning command.

A separate REPT^DBCHG message is generated for each AID specified (explicitly or implicitly) in an entity provisioning command.

A separate REPT^DBCHG message is generated for each auto-created or auto-deleted entity.

The REPT^DBCHG autonomous response is generated to report database changes resulting from the following database change events:

- Provisioning change to the SID
- Provisioning changes to equipment and/or facility entities
- Any equipment and/or facility entity state provisioning transitions.
- Cross Connection Provisioning Changes
- Protection Group Provisioning Changes
- Alarm & TCA profiles Changes

The REPT^DBCHG autonomous message is also generated for the following autonomous events:

- Autonomous change in the primary state of any equipment, facility, and/or cross connect entity.

The Output Parameter STATE indicates the actual state when triggered by an automatic event, or by a user external request (e.g. TL1).

RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
A^^<ATAG>^REPT^DBCHG cr lf
^^^"[SOURCE=<value>,]DATE=<value>,TIME=<value>:<EVENT>:[<AID>]:[<POS
ITBLK>]:[<KYWDBLK>]:[<STATE>]" cr lf
;
```

OUTPUT PARAMETERS

ATAG	Value	Description
	0-999999	

Description: Autonomous Message Tag, the system assigned tag number used to correlate autonomous messages.

SOURCE=	**Value**	**Description**
	<1-6 VALID CTAG CHARACTERS>	

    Description: If this report is due to a TL1 command, the CTAG of that command, otherwise not provided.

DATE=	**Value**	**Description**
	{ 05-99 }-{ 01-12 }-{ 01-31 }	

    Description: Date, identifies the date the database change occurred. The format of DATE is <YEAR> - <MONTH>-<DAY>.

TIME=	**Value**	**Description**
	{ 00-23 }-{ 00-59 }-{ 00-59 }	

    Description: Time, identifies the time the database change occurred. The format of TIME is <HOUR>-<MINUTE>-<SECOND>.

EVENT	**Value**	**Description**
	Description:	

    Description: Triggering Event, identifies the executed command or autonomous event that caused the database change.

AID	**Value**	**Description**
	<AID of the affected entity>	

    Description: Access Identifier, identifies the entity access identifier of the affected entity(ies).

POSITBLK	**Value**	**Description**
	<Data entered in the command's Positional Parameter Block>	
	<NoVal>	

    Description: Command's Positional Block, identifies any data entered in a command's positional block if the database change message was caused by executing a command. No value is provided in the POSITBLK field (the field is unpopulated) if the database change message was caused by an autonomous event.

KYWDBLK	Value	Description
	\<Any data entered in the command's Keyword Parameter Block\>	
	\<NoVal\>	

Description: Command's Keyword Block, identifies any data entered in a command's keyword block if the database change message was caused by executing a command. No value is provided in the KYWDBLK field (the field is unpopulated) if the database change message was caused by an autonomous event.

STATE	Value	Description
	\<Entity's new PST resulting from an autonomous state change\>	

Description: The STATE field indicates the entity's new state whether the database change message was caused by either a command or an autonomous event.

EXAMPLES

The following example shows the autonomous REPT^DBCHG message generated by the system caused by the execution of a SET-SID command.

The autonomous response is shown below.

```
    AM1520 05-10-03 09:08:33
A   2466 REPT DBCHG

"SOURCE=Pad582,DATE=05-08-21,TIME=09-35-13:SET-SID::THIS-IS-A-SITEID
"
;
```

RELATED COMMANDS

None.

RELATED AUTONOMOUS RESPONSES

None

Response Code: REPT^EVT^FFP

Response Name: REPORT EVENT FFP

PURPOSE

The REPT^EVT^FFP autonomous message is generated by the system to report the occurrence of a non-alarmed condition for the protection group facility or to report the clearing of a previously-reported non-alarmed condition for the protection group facility.

RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
A^^<ATAG>^REPT^EVT^FFP cr lf
^^^"<AID>:<CONDTYPE>,<CONDEFF>,<OCRDAT>,<OCRTM>[:\"<CONDDESCR>\"]"
cr lf
;
```

OUTPUT PARAMETERS

ATAG	Value	Description
	0-999999	

Description: Autonomous Message Tag, the system assigned tag number used to correlate autonomous messages.

AID	Value	Description
	FFPTUNNEL-1-1-{1-64}	(TMPLS TUNNEL Protection Group)

Description: Access Identifier, identifies the entity access identifier.

CONDTYPE	**Value**	**Description**
	FRCDWKSWPR	Working entity forced to switch to protection
	FRCDWKSWPR-FE	Working entity forced to switch to protection-Far End
	LOCKOUTOFPR	Lockout of Protection
	LOCKOUTOFPR-FE	Lockout of Protection-Far End
	MANWKSWBK	Manual switch from the protection entity to the working entity.
	MANWKSWBK-FE	Manual switch from the protection line to the working line - Far End.
	MANWKSWPR	Manual switch of working entity to protection
	MANWKSWPR-FE	Manual switch of working entity to protection - Far End
	WKSWBK	Working entity switched back to working.
	WKSWBK-FE	Working entity switched back to working - Far End
	WKSWPR	Automatic switch of working entity to protection.
	WKSWPR-FE	Working entity switched to protection - Far End
	WTR	Wait to Restore

Description: Condition Type, specifies the reported condition type.

CONDEFF	**Value**	**Description**
	CL	
	SC	
	TC	

Description: Condition Effect, identifies the effect of the condition being reported or the standing condition being cleared. A value for CONDEFF is only reported for a non-TCA condition.

      CL   Cleared, a previously declared non-alarmed standing condition has cleared.

      SC   Standing Condition, a non-alarmed standing condition has occurred.

      TC   Transient Condition, a non-alarmed transient condition has occurred.

OCRDAT	**Value**	**Description**
	{01-12}-{01-31}	

Description: Occurrence Date, identifies the date when the event occurred.

<MONTH_OF_YEAR>-<DAY_OF_MONTH>

OCRTM	Value	Description
	{00-23}-{00-59}-{00-59}	

Description: Occurrence Time, identifies the time when the event occurred.

<HOUR_OF_DAY>-<MINUTE_OF_HOUR>-<SECOND_OF_MINUTE>

CONDDESCR	Value	Description
	<1-10 lines of up to 64 valid output characters per line>	

Description: Condition Description, an optional, non-parsable text description of the condition or problem being reported.

EXAMPLES

The following example shows the autonomous message generated by the system to report a lockout of working FFPTUNNEL-1-1-23.

The autonomous response is shown below.

```
    AM1587 03-08-12 09:08:33
A   7420 REPT EVT FFP
    "FFPTUNNEL-1-1-23:LOCKOUTWR,SC,08-12,09-08-30"
;
```

RELATED COMMANDS

RTRV-COND-FFP

Response Code: REPT^EVT^TUSEG

Response Name: REPORT EVENT TUSEG

PURPOSE

The REPT^EVT^TUSEG autonomous message is generated by the system to report the occurrence of a non-alarmed condition for the tunnel segment or to report the clearing of a previously-reported non-alarmed condition for the tunnel segment.

RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
A^^<ATAG>^REPT^EVT^TUSEG cr lf
^^^"<AID>:<CONDTYPE>,[<CONDEFF>],<OCRDAT>,<OCRTM>,<LOCN>,[<DIRN>][:\
"<CONDDESCR>\"]" cr lf
;
```

OUTPUT PARAMETERS

ATAG	Value	Description
	0-99999	

  Description: Autonomous Message Tag, the system assigned tag number used
                    to correlate autonomous messages.

AID	Value	Description
	TUSEG-1-1-{1-750}	(Tunnel Segment)

  Description: Access Identifier, identifies the entity access identifier.

CONDTYPE	Value	Description
	LOC	Loss of Connectivity
	MMG	Unexpected MEG
	SSF	Server Signal Failure
	RDI	Remote Defect Indication (FEND)
	UNM	Unexpected MEP
	UNP	Unexpected Period
	UNPHB	Unexpected PHB

  Description: Condition Type, specifies the reported condition type.

CONDEFF	**Value**	**Description**
	CL	
	SC	
	TC	

Description: Condition Effect, identifies the effect of the condition being reported or the standing condition being cleared. A value for CONDEFF is only reported for a non-TCA condition.

	CL	Cleared, a previously declared non-alarmed standing condition has cleared.
	SC	Standing Condition, a non-alarmed standing condition has occurred.
	TC	Transient Condition, a non-alarmed transient condition has occurred.

OCRDAT	**Value**	**Description**
	{01-12}-{01-31}	

Description: Occurrence Date, identifies the date when the event occurred.

<MONTH_OF_YEAR>-<DAY_OF_MONTH>

OCRTM	**Value**	**Description**
	{00-23}-{00-59}-{00-59}	

Description: Occurrence Time, identifies the time when the event occurred.

<HOUR_OF_DAY>-<MINUTE_OF_HOUR>-<SECOND_OF_MINUTE>

LOCN	**Value**	**Description**
	NEND	
	FEND	

Description: Location, identifies the location where the condition type is monitored.

	NEND	Near End
	FEND	Far End

DIRN	**Value**	**Description**
	RCV	

Description: Direction, indicates the direction of the condition relative to the specified AID.

REPT^EVT^TUSEG

RCV   Receive Direction

CONDDESCR	Value	Description
	<1-10 lines of up to 64 valid output characters per line>	

Description: Condition Description, an optional, non-parsable text description of the condition or problem being reported.

EXAMPLES

The following example shows the autonomous message generated by the system to report an UNP of TUSEG-1-1-30.

The autonomous response is shown below.

```
 AM1587 03-08-12 09:08:33
A  7420 REPT EVT TUSEG
   "TUSEG-1-1-30:UNP,SC,08-12,09-08-30,NEND,RCV"
 ;
```

RELATED COMMANDS

DLT-TUSEG

RTRV-COND-TUSEG

Response Code: REPT^MPLSIFCHG

Response Name: REPORT MPLS INTERFACE CHANGE

PURPOSE

The REPT^MPLSIFCHG autonomous response is generated by the System to report MPLS interface parameters changes.

REPT^MPLSIFCHG messages are transmitted to all active users.

The REPT^MPLSIFCHG autonomous message is generated for changes of the following attributes of the corresponding MPLS Interface:

- ADMIN-STATUS

- OPER-STATUS

- TOTAL-BANDWIDTH

- AVAILABLE-BANDWIDTH

RESPONSE FORMAT

```
cr lf lf
^^^<SID>^<YY-MM-DD>^<HH:MM:SS> cr lf
A^^<ATAG>^REPT^MPLSIFCHG cr lf
^^^"DATE=<value>,TIME=<value>:<EVENT>:<AID>" cr lf
;
```

OUTPUT PARAMETERS

ATAG	Value	Description
	0-999999	

Description: Autonomous Message Tag, the system assigned tag number used to correlate autonomous messages.

DATE=	Value	Description
	{ 05-99 }-{ 01-12 }-{ 01-31 }	

Description: Date, identifies the date the change occurred. The format of DATE is <YEAR> - <MONTH>-<DAY>.

TIME=	Value	Description
	{ 00-23 }-{ 00-59 }-{ 00-59 }	

Description: Time, identifies the time the change occurred. The format of TIME is <HOUR>-<MINUTE>-<SECOND>.

EVENT	Value	Description
	ADMIN-STATUS CHANGE	
	OPER-STATUS CHANGE	
	TOTAL-BANDWIDTH CHANGE	
	AVAILABLE-BANDWIDTH CHANGE	

> **Description:** Event, identifies the event that caused the change notification.

AID	Value	Description
	MPLSIF-1-1-1-{1-3}	(MPLS Interface)

> **Description:** MPLS interface identifier, as the affected entity for the event.

EXAMPLES

<no examples were found>

RELATED COMMANDS

None

RELATED AUTONOMOUS RESPONSES

None

APPENDIX A: ACRONYMS AND ABBREVIATIONS

This appendix contains an alphabetized list of the general terms, acronyms and abbreviations used within this I/O manual and its related reference documents.

Other appendices included in this I/O manual where applicable include:

Appendix B: Access Identifiers (AIDs) provides an alphabetized list of all the equipment names/mnemonics used in this product.

Appendix C: Condition Types provides a list of the equipment and facility standing (non-transient) conditions types used in this product.

Appendix D: Error Codes contains an alphabetized list of the Error Codes used in unsuccessful response messages in this product.

Appendix E: (Command Entry) Menus contains a list of the TL1 command menus for this product.

Appendix F: Monitored PM Parameters provides a list of the facility performance monitoring parameters supported in this product.

Appendix G: State Transitions provides a definition of the Primary and Secondary States (PST and SST) used in this product.

Appendix H: User Command Privilege Defaults (CAP) contains the system Command Access Privilege (CAP) default values for each command.

Appendix I: VDT Function Keys provides a description of each function key supported on a VDT terminal for this product.

Appendix J: Default Equipment Drawings provides figures showing typical rack and shelf configurations for this product.

Appendix K: Factory Defaults for TL1 Command Parameters provides a list of the TL1 commands available and the associated default settings for each command for this product.

A.1 ACRONMYNS AND ABBREVIATIONS

This is an alphabetized list of the acronyms and abbreviations.

CP	Control Plane
ERO	Explicit Route Object
FA	Forwarding Adjacency
FSC	Fiber Switch Capable
GMPLS	Generalized Multi-Protocol Label Switching
IGP	Interior Gateway Protocol
IS-IS	Intermediate System to Intermediate System
ISCD	Interface Switching Capability Descriptor
L2SC	Layer-2 Switch Capable
LAPD	Link Access Procedure-D
LSA	Link State Advertisement
LSC	Lambda Switch Capable
LSP	Label Switched Path
LSR	Label Switching Router
PSC	Packet Switch Capable
RA	Routing Adjacency
RC	Routing Controller
RRO	Record Route Object
RSVP	ReSource reserVation Protocol
SC	Soft Connection
SPC	Soft Permanent Connection
SRLG	Shared Risk Link Groups
TDM	Time Division Multiplexing
TE	Traffic Engineering
TNA	Transport Network Address

APPENDIX B: ACCESS IDENTIFIERS

B.1 General Facility AID Format:

The general forms of the Input/Output (I/O) facilities are listed in the following requirements,

where: optional fields are enclosed in parentheses

where: facility = the facility type

where: bay# = the number of the bay within the system.

where: shelf# = the number of the shelf within the specified bay.

where: slot# = the number of the slot or position within the shelf in which either the PIM or the facility is present.

B.2 General Profile AID Format:

The syntax for ASAP (Alarm Severity Assigned Profile) identifiers in TL1 commands or responses is:

ASAP name-ASAP index#

where: ASAP name = the ASAP type mnemonic/name

where: ASAP index# = the number of the ASAP instance for that ASAP type.

NOTE: ASAP indexes 0-4 are related to system default ASAP instances, while the other indexes are assigned by the NE at the ASAP instances creation.

B.3 TMPLS AIDs

The AID for a Local MPLS Interface is:

MPLSIF-1-1-1-{1-3}   (MPLS Interface)

The AID for a Tunnel Segment is:

TUSEG-1-1-{1-750}   (Tunnel Segment)

The AID for a Pseudowire Segment is:

PWSEG-1-1-{1-250}   (Pseudowire Segment)

The AID for a Tunnel is:

TUNNEL-1-1-{1-500}-1-0-0-0-0-0-0-0-0   (Tunnel)

The AID for a Pseudowire is:

PW-1-1-{1-250}   (Pseudowire)

The AID for a MPLS Traffic Descriptor is:

MPLSTD-{1-750}   (MPLS Traffic Descriptor)

The AID for a PHB Profile is:

PHBPROF-{2-8}   (PHB Profile)

The AID for a User defined PHB Profile is:

PHBPROF-{3-8}   (User defined PHB Profile)

The AID for an OAM Experimental Bit Profile is:

OAMPHB-{1-8}   (OAM PHB Profile)

The AID for a User defined OAM Experimental Bit Profile is:

OAMPHB-{2-8}   (User defined OAM PHB Profile)

The AID for the TMPLS FFP shall be:

FFPTUNNEL-1-1-{1-64}   (TMPLS TUNNEL Protection Group)

The AIDs for L2 Encapsulation Profile is:

L2ENCAPPROF-{1-32}   (L2 Encapsulation Profile)

L2ENCAPPROF-{2-32}   (User defined L2 Encapsulation Profile)

The AIDs for the Alarm Severity Assigned Profiles shall be:

ASAPTUSEG-{0-4}   {System-defined TUSEG ASAP}

ASAPTUSEG-{5-10}   {User-defined TUSEG ASAP}

APPENDIX C: CONDITION TYPES

This appendix provides a list of the equipment, facility, and common (no specific entity) condition types used in the product, along with the factory default notification codes (CRitical, MaJor, MiNor, Not-Alarmed, or Not-Reported) for each service effect setting (Sevice Affecting or Non-Service Affecting).

This appendix does not include a list of the transient facility performance monitoring conditions supported by the system. Refer to the performance monitoring specific commands for a list of the performance monitoring parameters that could cause a transient condition and to the REPT^ALM^rr or REPT^EVT^rr autonomous responses (where rr is a facility or payload type) for a list of the transient condition types for each facility type.

The product uses standing condition types to report non-transient (standing) abnormal or trouble conditions pertaining to an equipment entity, facility entity, or non-specific entity (common). The notification code for each standing condition type may be provisionable by the SET-ATTR-rr commands - refer to those individual commands for additional information on possible choices.

Conditions with condition types with notification codes of critical, major or minor are alarms reported with REPT^ALM^rr autonomous response messages and are retrievable with the RTRV-ALM-rr commands. Conditions with condition types with notification code of not-alarmed are reported with REPT^EVT^rr autonomous response messages and are retrievable with the RTRV-COND-ALL commands. Conditions with condition types with notification code of not-reported are not autonomously reported but can be retrieved with the RTRV-COND-ALL commands.

Sections C.2 list the relationship between the standing condition types, the equipment/facility type, and the factory default notification code for equipment, facility, and system common condition types. Section C.4 provides the same information for transient condition types.

The various notification codes are as follows:

CR	Critical Alarm
MJ	Major Alarm
MN	Minor Alarm
NA	Not Alarmed
NR	Not Reported

C.2. Facility Condition Types

The following table shows the facility condition types used in the system. The AID column identifies the type of facility associated with each condition type. The factory default service affecting (SA) and non-service affecting (NSA) notification code setting for each condition type is shown in the Notification Code columns (a dash indicates that setting does not apply for that condition type).

Condition Type (CONDTYPE)	DIRN	LOCN	Notification Code (NTFCNCDE)	Service Effect (SRVEFF)	Condition Effect (CONDEFF)	Description	Affected Entity
FRCDWKSWPR-FE	RCV	NEND	NA	NSA	SC	Forced Switch of Service from Working to Protection facility die to request from Far End.	FFP
FRCDWKSWPR	RCV	NEND	NA	NSA	SC	Forced Switch of Service from Working to Protection facility.	FFP
LOC	RCV	NEND	MJ	SA	SC	Loss of CV packets for a period greater than 3.5 the CV provisioned period	TUSEG
LOCKOUTOFPR-FE	RCV	NEND	NA	NSA	SC	Lock out of Protection facility due to a request from far end.	FFP
LOCKOUTOFPR	RCV	NEND	NA	NSA	SC	Lock out of Protection facility.	FFP
MANWKSWBK-FE	RCV	NEND	NA	NSA	SC	Manual Switch of Service from Protection back to Working facility due to a request from far end.	FFP
MANWKSWBK	RCV	NEND	NA	NSA	SC	Manual Switch of Service from Protection back to Working facility.	FFP
MANWKSWPR-FE	RCV	NEND	NA	NSA	SC	Manual Switch of Service from Working to Protection Facility due to request from far end.	FFP
MANWKSWPR	RCV	NEND	NA	NSA	SC	Manual Switch of Service from Working to Protection Facility.	FFP
MMG	RCV	NEND	MJ	SA	SC	A CV packet with MEL = 0 and an invalid MEG value (that is with a MEG_ID different from the configured MEG_ID at the receiving MEP) has been received.	TUSEG
RDI	RCV	FEND	WR	SA	SC	Remote Defect Indication and Not Protected	TUSEG
SSF	RCV	NEND	MJ	SA	SC	cSSF = FDI or CI-SSF	TUSEG
UNM	RCV	NEND	MJ	SA	SC	A CV packet with MEL = 0 and a valid MEG_ID, but with an invalid MEP (that is with a MEP_ID different from the configured PeerMEP_ID at the receiving MEP) has been received.	TUSEG
UNPHB	RCV	NEND	MN	SA	SC	A CV packet with MEL = 0, valid MEG_ID, valid MEP_ID, but with an invalid CV_PHB (that is with a received PHB value different from the configured PHB at the receiving MEP) has been received.	TUSEG
UNP	RCV	NEND	MN	SA	SC	A CV packet with MEL = 0, valid MEG_ID, valid MEP_ID, but with an invalid CV_Period (that is with a received period value different from the configured period at the receiving MEP) has been received.	TUSEG
WKSWBK-FE	RCV	NEND	NA	NSA	SC	(Automatic) Switch of Service from Protection back to Working facility due to a request from far end.	FFP
WKSWBK	RCV	NEND	NA	NSA	SC	(Automatic) Switch of Service from Protection back to Working facility.	FFP
WKSWPR-FE	RCV	NEND	NA	NSA	SC	(Automatic) Switch of Service from Working to Protection facility due to a request from Far End.	FFP

Condition Type (CONDTYPE)	DIRN	LOCN	Notification Code (NTFCNCDE)	Service Effect (SRVEFF)	Condition Effect (CONDEFF)	Description	Affected Entity
WKSWPR	RCV	NEND	NA	NSA	SC	(Automatic) Switch of Service from Working to Protection facility.	FFP
WTR	RCV	NEND	NA	NSA	SC	Wait to Restore state. A failure has cleared and traffic will be restored to the working side when the revert timer expires	FFP

APPENDIX D: ERROR CODES

This appendix contains an alphabetized list of the Error Codes used in an unsuccessful response message and referenced in this I/O manual and its related reference documents.

Section D.1. contains the complete list of the Error Codes used in an unsuccessful response message by the system.

Section D.2. contains a list of the Error Codes and associated Informational_Error_Description_Text used in an unsuccessful response message by the system when a command cannot be successfully parsed by the system's Command Parser.

D.1. ERROR CODE MNEMONICS

Shown below is an alphabetized list of the Error Code mnemonics used in an unsuccessful response message.

ICNV	Input, Command Not Valid
IDNC	Input, Data Not Consistent
IDNV	Input, Data Not Valid
IDRG	Input, Data RanGe
IEAE	Input, Entity Already Exists
IENE	Input, Entity does Not Exist
IIFM	Input, Invalid data ForMat
IITA	Input, Invalid TArget identifier
IPNC	Input, Parameter Not Consistent
PIUI	Privilege, Illegal User Identity
SARB	Status, All Resources Busy
SDNC	Status, Data Not Consistent
SNVS	Status, Not in Valid State
SRQN	Status, iNvalid ReQuest
SSRD	Status, Switch Request Denied
SSRE	Status, System Resources Exceeded

D.2. COMMAND PARSER ERROR CODES

Shown below is an alphabetized list of the Error Codes, and associated Informational_Error_Description_Text, used in an unsuccessful response message by the system when a command cannot be successfully parsed by the system's Command Parser.

IBEX	Input, Block EXtra
ICNV	Input, Command Not Valid
IDNV	Input, Data Not Valid
IDRG	Input, Data RanGe
IIAC	Input, Invalid ACcess identifier
IICT	Input, Invalid Correlation Tag
IISP	Input, Invalid Syntax or Punctuation
IITA	Input, Invalid TArget identifier
IPEX	Input, Parameter EXtra

IPMS   Input, Parameter MiSsing

IPNV   Input, Parameter Not Valid

PICC   Privilege, Invalid Command Code

SARB   Status, All Resources Busy

SDBE   Status, internal DataBase Error

SROF   Status, Requested Operation Failed

SSRE   Status, System Resources Exceeded

APPENDIX E: COMMAND ENTRY MENUS

Menus are not currently supported on this product.

APPENDIX F: MONITORED PM PARAMETERS

This appendix provides a list and description of the facility performance monitoring parameters supported in this product, along with the factory default threshold crossing alert level for each parameter.

Most facility performance monitoring parameters (MONTYPE PARAMETERS) are capable of generating a transient Threshold Crossing Alert (TCA) at a configurable threshold count level. However, some MONTYPE PARAMETERS do not support generation of a TCA. These MONTYPE PARAMETERS are marked in the following tables with a Factory Default Threshold Level of "No TCA" and cannot be set to generate a TCA.

F.1 Monitored Types

not currently supported on this product.

APPENDIX G: STATE TRANSITIONS

G.1. Equipment State Transitions

G.2. Facility State Transitions

not currently supported on this product.

APPENDIX H: USER COMMAND PRIVILEGE DEFAULTS AND LOG INDICATION

H.1. GENERAL USER PRIVILEGES AND LOG INDICATION

This appendix provides a list of the TL1 commands available and the associated user command privilege default setting provided with the system for each command. User command privileges are controlled by the command's CAP (Command Access Privilege). This appendix provides also the indication of which commands, with their related responses, shall be stored in the security log file.

H.2. USER PRIVILEGE DEFAULTS AND LOG INDICATION

The following is an alphabetized list of TL1 commands and the associated system defaults for each command's CAP. The "Security Log" column contains "Y" for the commands (and related responses) to be stored in the security log file, "N" for commands and responses not to be logged.

Command Code	Default Privilege	Default SecuLog (not supported in this release)
ACT-USER	READ	Y
CANC-USER	READ	Y
DLT-FFP-TMPLS	ADMIN	Y
DLT-L2ENCAP-PROF	ADMIN	Y
DLT-OAMPHB-PROF	ADMIN	Y
DLT-PHB-PROF	ADMIN	Y
DLT-TMPLS-PW	ADMIN	Y
DLT-TMPLS-TD	ADMIN	Y
DLT-TMPLS-TUNNEL	ADMIN	Y
DLT-TMPLS-TUSEG	ADMIN	Y
ED-FFP-TMPLS	ADMIN	Y
ED-L2ENCAP-PROF	ADMIN	Y
ED-OAMPHB-PROF	ADMIN	Y
ED-PHB-PROF	ADMIN	Y
ED-TMPLS-CRSTUSEG	ADMIN	Y
ED-TMPLS-GLOBAL	ADMIN	Y
ED-TMPLS-PW	ADMIN	Y
ED-TMPLS-PWSEG	ADMIN	Y
ED-TMPLS-TD	ADMIN	Y
ED-TMPLS-TUNNEL	ADMIN	Y
ED-TMPLS-TUSEG	ADMIN	Y
ENT-FFP-TMPLS	ADMIN	Y
ENT-L2ENCAP-PROF	ADMIN	Y
ENT-OAMPHB-PROF	ADMIN	Y
ENT-PHB-PROF	ADMIN	Y
ENT-TMPLS-CRSTUSEG	ADMIN	Y
ENT-TMPLS-PWSEG	ADMIN	Y
ENT-TMPLS-TD	ADMIN	Y
ENT-TMPLS-TUSEG	ADMIN	Y
OPR-PROTNSW-TMPLS	ADMIN	N
RLS-PROTNSW-TMPLS	ADMIN	N
RTRV-ALM-ALL	READ	N
RTRV-ALM-TUSEG	READ	N
RTRV-COND-FFP	READ	N
RTRV-COND-TUSEG	READ	N
RTRV-FFP-TMPLS	READ	N
RTRV-HDR	READ	N
RTRV-L2ENCAP-PROF	READ	N

Command Code	Default Privilege	Default SecuLog (not supported in this release)
RTRV-MPLSIF	READ	N
RTRV-OAMPHB-PROF	READ	N
RTRV-PHB-PROF	READ	N
RTRV-PRMTR-NE	READ	N
RTRV-TMPLS-CRSTUSEG	READ	N
RTRV-TMPLS-GLOBAL	READ	N
RTRV-TMPLS-PW	READ	N
RTRV-TMPLS-PWSEG	READ	N
RTRV-TMPLS-TD	READ	N
RTRV-TMPLS-TUNNEL	READ	N
RTRV-TMPLS-TUSEG	READ	N
SET-PRMTR-NE	ADMIN	Y
SET-SID	ADMIN	Y

APPENDIX I: VDT FUNCTION KEYS

VDT terminal access is not currently supported on this product.

APPENDIX J: DEFAULT EQUIPMENT DRAWINGS

not currently supported on this product.

APPENDIX K: FACTORY DEFAULTS FOR TL1 COMMAND PARAMETERS

K.1 GENERAL

This appendix provides a list of the TL1 commands and the associated command parameter default settings provided with the system for each command. The user should refer to the individual I/O manual pages for allowed ranges.

K.2 PARAMETER DEFAULTS

The following is an alphabetized list of the TL1 commands and associated defaults for the parameters within the positional defined block, keyword parameter block and state parameter block.

Command	Description	Parameter	Default
ACT-USER	User Identifier, specifies a unique user ID.	UID	Entry Required
	1350 OMS operator name (see parameter nmoperator, page 20 of the doc 1350 OMS Integration of NE-GUI ZIC Interface Specification http://nm-optics.web.alcatel-lucent.com/system/SubTree/Activities/ZIC/documents/1350OMS_ZIC_Interface_Specification_Ed3.pdf)	OMSID	<null string>
	Password Identifier, specifies the user's login password.	PID	Entry Required
CANC-USER	User Identifier, specifies a unique user ID.	UID	The <UID> of the user executing the command
DLT-FFP-TMPLS	Shall define where the PW are mapped when the FFP is deleted	KEEP	< MAIN >
DLT-L2ENCAP-PROF	-	-	-
DLT-OAMPHB-PROF	-	-	-
DLT-PHB-PROF	-	-	-
DLT-TMPLS-PW	Pseudowire Identifier.	PW-ID	None
DLT-TMPLS-TD	-	-	-
DLT-TMPLS-TUNNEL	Tunnel Identifier.	TUNNEL-ID	None
DLT-TMPLS-TUSEG	-	-	-
ED-FFP-TMPLS	Specifies revert time in minutes. Note: 3060min.=51h.	RVRTTIM	<previously existing value>
	Hold Off Time for automatic protection switching. The value is specified in milliseconds.	HLDFFTTIM	<previously existing value>
	PHB Scheduling Class (PSC) associated to APS packets.	APSPHB	EF
ED-L2ENCAP-PROF	Medium Access Control Address, it is the MAC Destination Address to be used in case of mapping of MPLS over Ethernet when a switched network is present.	MAC-DA	<Previously existing value>
	Flag Tagged/Untagged	TAG	<Previously existing value>
	This is the VLAN Identifier to be used in case of mapping of MPLS over Ethernet when a switched network is present (802.1Q mapping).	VLAN-ID	<Previously existing value>
	Priority value for TAGGED ethernet frame.	PRIORITY	<Previously existing value>
ED-OAMPHB-PROF	This parameter associates a PHB value to FDI OAM type packet.	OAMTYPE1	<Previously existing value>

Command	Description	Parameter	Default
	This parameter associates a PHB value to an (future release) OAM TYPE2 packet.	OAMTYPE2	<Previously existing value>
	This parameter associates a PHB value to an (future release) OAM TYPE3 packet.	OAMTYPE3	<Previously existing value>
	This parameter associates a PHB value to an (future release) OAM TYPE4 packet.	OAMTYPE4	<Previously existing value>
	This parameter associates a PHB value to an (future release) OAM TYPE5 packet.	OAMTYPE5	<Previously existing value>
	This parameter associates a PHB value to an (future release) OAM TYPE6 packet.	OAMTYPE6	<Previously existing value>
	This parameter associates a PHB value to an (future release) OAM TYPE7 packet.	OAMTYPE7	<Previously existing value>
	This parameter associates a PHB value to an (future release) OAM TYPE8 packet.	OAMTYPE8	<Previously existing value>
ED-PHB-PROF	This parameter associates a PHB class to the MPLS packets with EXP=0.	EXP0	<Previously existing value>
	This parameter associates a PHB class to the MPLS packets with EXP=1.	EXP1	<Previously existing value>
	This parameter associates a PHB class to the MPLS packets with EXP=2.	EXP2	<Previously existing value>
	This parameter associates a PHB class to the MPLS packets with EXP=3.	EXP3	<Previously existing value>
	This parameter associates a PHB class to the MPLS packets with EXP=4.	EXP4	<Previously existing value>
	This parameter associates a PHB class to the MPLS packets with EXP=5.	EXP5	<Previously existing value>
	This parameter associates a PHB class to the MPLS packets with EXP=6.	EXP6	<Previously existing value>
	This parameter associates a PHB class to the MPLS packets with EXP=7.	EXP7	<Previously existing value>
ED-TMPLS-CRSTUSE G	TUSegment AID identifies the FROM entity of the cross-connection.	FROM	Entry Required
	TUSegment AID identifies the TO	TO	Entry Required

Command	Description	Parameter	Default
	entity of the cross-connection.		
	Cross-connect Type, identifies the type of cross-connect.	CCT	Entry Required
ED-TMPLS-GLOBAL	Selector of values range for CV Period into OAM CV frames. The default value for this parameter is 2.	OAM-CVPERIOD-SEL	<Previously existing value>
	Selector of the default value for PHBPROF (PHBPROF-2) for creation of new TUSEGs. The default value for this parameter is 2 (PHBPROF-2).	PHB-RANGE-SEL	<Previously existing value>
ED-TMPLS-PWSEG	AID of the port which is server of the MPLS PWSegment. The server can be only a TUSegment.	PORT	<Previously existing value>
	PWSegment Direction: Bidir	DIR	<Previously existing value>
	PWSegment User name.	USERNAME	<Previously existing value>
	Expected Label for incoming segment associated to Sink PWSegment.	INLABEL	<Previously existing value>
	Transmitted Label for outgoing segment towards Source PWSegment.	OUTLABEL	<Previously existing value>
	Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.	PHBPROF-AID	<Previously existing value>
	Enabling/disabling capability to insertion/stripping of the Control Word, associated to Termination PWSegment.	CW	DISABLE
ED-TMPLS-PW	Pseudowire Identifier (name assigned by user)	PW-ID	Previously entered value
	Pseudowire description assigned by user in the Control Plane	DESCR	None
	Traffic Descriptor Identifier for the assigned bandwidth profile to the Pseudowire.	TD-ID	Previously entered value
	PW administrative status.	STATUS	Previously entered value
ED-TMPLS-TD	MPLS Committed Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.	CIR	<Previously existing value>
	MPLS Committed Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.	CBS	<Previously existing value>
	MPLS Peak Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive	PIR	<Previously existing value>

Command	Description	Parameter	Default
	value.		
	MPLS Peak Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.	PBS	\<Previously existing value\>
ED-TMPLS-TUNNEL	Tunnel Identifier (as Tunnel name assigned by user in the Control Plane)	TUNNEL-ID	Previously entered value
	Tunnel description assigned by user in the Control Plane	DESCR	Previously entered value
	Traffic Descriptor Identifier for the assigned bandwidth profile to the LSP Tunnel.	TD-ID	Previously entered value
	Tunnel administrative status.	STATUS	Previously entered value
ED-TMPLS-TUSEG	TUSegment Direction: Bidir or Unidir-In or Unidir-Out.	DIR	\<Previously existing value\>
	TUSegment User name.	USERNAME	\<Previously existing value\>
	L2 encapsulation profile AID to be used in case of mapping of MPLS over Ethernet when a switched network is present.	L2ENCAPPROF-AID	\<Previously existing value\>
	Expected Label for incoming segment associated to Sink TUSegment.	INLABEL	\<Previously existing value\>
	Transmitted Label for outgoing segment to Source TUSegment.	OUTLABEL	\<Previously existing value\>
	Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.	PHBPROF-AID	\<Previously existing value\>
	PHB OAM Profile AID for OAM packets.	OAMPHB-AID	\<Previously existing value\>
	For enabling MEP function (only for termination TUSegment), the direction of MEP is according to the direction of TUSegment. For a MEP sink point, it enables the capability to process the received CV packets and generate the correspondent alarms.	MEP	\<Previously existing value\>
	MEG, 13 ASCII chars string.	MEG-ID	\<Previously existing value\>
	Transmitted MEP value, integer associated to Source TUSegment Termination. This parameter is unique inside MEG_ID.	MEP-ID	\<Previously existing value\>
	Expected MEP values list, integer associated to Sink TUSegment Termination, also called PeerMEP-ID. In case of p2p TUSegment, this is only one integer number. In case of p2mp TUSegment, this parameter	EXPMEP-ID	\<Previously existing value\>

Command	Description	Parameter	Default
	represents the list of expected MEP-ID. For example <100&200&300> represents 3 different expected MEP-IDs.		
	Enabling/disabling capability to detect the Loss Of Continuity (LOC) alarm, associated to Sink TUSegment Termination.	CVRX	<Previously existing value>
	Enabling/disabling transmission of CV packets, associated to Source TUSegment Term.	CVTX	<Previously existing value>
	Period (1/Frequency) of CV packet transmission.	CVPERIOD	<Previously existing value>
	PHB Scheduling Class (PSC) associated to CV packets, (EF,AF1, AF2, ...).	CVPHB	<Previously existing value>
	The Alarm Severity Assignment Profile (ASAP) name to use with this facility.	ALMPROF	<Previously existing value>
	This parameter enables/disables the Protection Switch feature for Signal Degrade detected on the basis of the optical power monitored by Digital Diagnostic Monitoring (DDM) capable SSF/TSF. Enables/disable DDM-SD alarm contribution, and FDI packet generation due to DDM-SD failure.	PS-DDM-SD	<Previously existing value>
ENT-FFP-TMPLS	Access identifier of the working tunnel	WKG	Entry required
	Access identifier of the protecting tunnel	PROTN	Entry required
	indicated if the protection is done at TUNNEL or PW layer. In this release only TUNNEL is supported.	LAYER	TUNNEL
	Specifies revert time in minutes. Note: 3060min.=51h.	RVRTTIM	5
	Specifies the type of the protection.	PTYPE	APSBIDIR
	Determines if the protection shall be revertive or not. In this release only RVRT=Y is supported.	RVRT	Y
	Hold Off Time for automatic protection switching. The value is specified in milliseconds.	HLDFFTTIM	0
	PHB Scheduling Class (PSC) associated to APS packets.	APSPHB	EF
ENT-L2ENCAP-PROF	Medium Access Control Address, it is the MAC Destination Address to be used in case of mapping of MPLS over Ethernet when a switched network is present.	MAC-DA	Entry required

Command	Description	Parameter	Default
	Flag Tagged/Untagged	TAG	Entry required
	This is the VLAN Identifier to be used in case of mapping of MPLS over Ethernet when a switched network is present (802.1Q mapping).	VLAN-ID	None
	Priority value for TAGGED ethernet frame.	PRIORITY	0
ENT-OAMPHB-PROF	This parameter associates a PHB value to FDI OAM type packet.	OAMTYPE1	EF
	This parameter associates a PHB value to an (future release) OAM TYPE2 packet.	OAMTYPE2	EF
	This parameter associates a PHB value to an (future release) OAM TYPE3 packet.	OAMTYPE3	EF
	This parameter associates a PHB value to an (future release) OAM TYPE4 packet.	OAMTYPE4	EF
	This parameter associates a PHB value to an (future release) OAM TYPE5 packet.	OAMTYPE5	EF
	This parameter associates a PHB value to an (future release) OAM TYPE6 packet.	OAMTYPE6	EF
	This parameter associates a PHB value to an (future release) OAM TYPE7 packet.	OAMTYPE7	EF
	This parameter associates a PHB value to an (future release) OAM TYPE8 packet.	OAMTYPE8	EF
ENT-PHB-PROF	This parameter associates a PHB class to the MPLS packets with EXP=0.	EXP0	Entry Required
	This parameter associates a PHB class to the MPLS packets with EXP=1.	EXP1	Entry Required
	This parameter associates a PHB class to the MPLS packets with EXP=2.	EXP2	Entry Required
	This parameter associates a PHB class to the MPLS packets with EXP=3.	EXP3	Entry Required
	This parameter associates a PHB class to the MPLS packets with EXP=4.	EXP4	Entry Required
	This parameter associates a PHB class to the MPLS packets with EXP=5.	EXP5	Entry Required

Command	Description	Parameter	Default
	This parameter associates a PHB class to the MPLS packets with EXP=6.	EXP6	Entry Required
	This parameter associates a PHB class to the MPLS packets with EXP=7.	EXP7	Entry Required
ENT-TMPLS-CRSTUS EG	TUSegment AID identifies the FROM entity of the cross-connection.	FROM	Entry Required
	TUSegment AID identifies the TO entity of the cross-connection.	TO	Entry Required
	Cross-connect Type, identifies the type of cross-connect.	CCT	2WAY
ENT-TMPLS-PWSEG	AID of the port which is a TUSegment.	PORT	Entry Required
	Functional Type: TERMINATION.	TYPE	TERMINATION
	PWSegment Direction: Bidir or Unidir-In or Unidir-Out.	DIR	BIDIR
	PWSegment User name.	USERNAME	None
	Expected Label for incoming segment associated to Sink PWSegment.	INLABEL	None
	Transmitted Label for outgoing segment associated to Source PWSegment.	OUTLABEL	None
	Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.	PHBPROF-AID	PHBPROF-2
	Enabling/disabling capability to insertion/stripping of the Control Word, associated to Termination PWSegment.	CW	DISABLE
ENT-TMPLS-TD	MPLS Committed Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.	CIR	Entry Required
	MPLS Committed Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.	CBS	Entry Required
	MPLS Peak Information Rate. This parameter is valid for Tunnels and PseudoWires and it is a positive value.	PIR	Entry Required
	MPLS Peak Burst Size. This parameter is valid for Tunnels and PseudoWires and it is a positive value.	PBS	Entry Required
ENT-TMPLS-TUSEG	AID of the port which is server of the MPLS TUSegment.	PORT	Entry Required

Command	Description	Parameter	Default
	Functional Type: TERMINATION, SWAP (adaptation).	TYPE	TERMINATION
	TUSegment Direction: Bidir or Unidir-In or Unidir-Out.	DIR	BIDIR
	TUSegment User name.	USERNAME	None
	L2 encapsulation profile AID to be used in case of mapping of MPLS over Ethernet when a switched network is present.	L2ENCAPPROF-AID	L2ENCAPPROF-1
	Expected Label for incoming segment associated to Sink TUSegment.	INLABEL	None
	Transmitted Label for outgoing segment to Source TUSegment.	OUTLABEL	None
	Per-Hop behavior (PHB) Profile, AID of PHB Profile resource.	PHBPROF-AID	PHBPROF-2
	PHB OAM Profile AID for OAM packets.	OAMPHB-AID	OAMPHB-1
	For enabling MEP function (only for termination TUSegment), the direction of MEP is according to the direction of TUSegment. For a MEP sink point, it enables the capability to process the received CV packets and generate the correspondent alarms.	MEP	DISABLE
	MEG, 13 ASCII chars string.	MEG-ID	<empty string>
	Transmitted MEP value, integer associated to Source TUSegment Termination (MEP_ID in T-MPLS CV OAM frame identifying the transmitting MEP). This parameter is unique inside MEG_ID	MEP-ID	None
	Expected MEP values list, integer associated to Sink TUSegment Termination, also called PeerMEP-ID. In case of p2p TUSegment, this is only one integer number. In case of p2mp TUSegment, this parameter represents the list of expected MEP-ID. For example <100&200&300> represents 3 different expected MEP-IDs.	EXPMEP-ID	<empty list>
	Enabling/disabling capability to detect the Loss Of Continuity (LOC) alarm, associated to Sink TUSegment Termination.	CVRX	DISABLE
	Enabling/disabling transmission of CV packets, associated to Source TUSegment Term.	CVTX	DISABLE
	Period (1/Frequency) of CV packet	CVPERIOD	3.3ms

Command	Description	Parameter	Default
	transmission.		
	PHB Scheduling Class (PSC) associated to CV packets, (EF,AF1, AF2, ...).	CVPHB	EF
	The Alarm Severity Assignment Profile (ASAP) name to use with this facility.	ALMPROF	ASAPTUSEG-1
	This parameter enables/disables the Protection Switch feature for Signal Degrade detected on the basis of the optical power monitored by Digital Diagnostic Monitoring (DDM) capable SSF/TSF. Enables/disable DDM-SD alarm contribution, and FDI packet generation due to DDM-SD failure.	PS-DDM-SD	DISABLE
OPR-PROTNSW-TMPLS	Switch Command to be performed.	SWTCHCMD	Entry required
	Destination of the switch action addressed by the command and only applicable if SWTCHCMD is MAN.	DESTINATION	<entry required if allowed>
RLS-PROTNSW-TMPLS	-	-	-
RTRV-ALM-ALL	Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.	NTFCNCDE	<All Values>
	Condition Type, specifies the condition type to be retrieved.	CONDTYPE	<All Applicable Values>
	Service Effect, identifies the effect on service caused by the event.	SRVEFF	<All Values>
	Location, identifies the location where the condition type is monitored.	LOCN	<All Applicable Locations>
	Direction, indicates the direction of the condition relative to the specified AID.	DIRN	<All Values>
RTRV-ALM-TUSEG	Notification Code, identifies the type of alarm generated by the system upon occurrence of the event identified by the CONDTYPE.	NTFCNCDE	<All Values>
	Condition Type, specifies the condition type to be retrieved.	CONDTYPE	<All Applicable Values>
	Service Effect, identifies the effect on service caused by the event.	SRVEFF	<All Values>
	Location, identifies the location where the condition type is monitored.	LOCN	<All Applicable Locations>
	Direction, indicates the direction of the condition relative to the specified AID.	DIRN	<All Applicable Values>
RTRV-COND-FFP	Condition Type, specifies the condition type to be retrieved.	CONDTYPE	<All Applicable Values>

Command	Description	Parameter	Default
RTRV-COND-TUSEG	Condition Type, specifies the condition type to be retrieved.	CONDTYPE	\<All Applicable Values\>
	Location, identifies the location where the condition type is monitored.	LOCN	\<All Applicable Locations\>
	Direction, indicates the direction of the condition relative to the specified AID.	DIRN	\<All Values\>
RTRV-FFP-TMPLS	-	-	-
RTRV-HDR	-	-	-
RTRV-L2ENCAP-PROF	-	-	-
RTRV-MPLSIF	Show modality of output parameters.	SHOW-MODE	DETAIL
RTRV-OAMPHB-PROF	-	-	-
RTRV-PHB-PROF	-	-	-
RTRV-PRMTR-NE	-	-	-
RTRV-TMPLS-CRSTUSEG	-	-	-
RTRV-TMPLS-GLOBAL	-	-	-
RTRV-TMPLS-PWSEG	PWSegment User name. The USERNAME can be not unique in the System then specifying this parameter the OUTPUT response can contain one or more lines.	USERNAME	None
RTRV-TMPLS-PW	Pseudowire Identifier (as Pseudowire name assigned by user in the Control Plane). Pseudowire Identifier is unique in the System.	PW-ID	None
RTRV-TMPLS-TD	-	-	-
RTRV-TMPLS-TUNNEL	Tunnel Identifier (as Tunnel name assigned by user in the Control Plane). Tunnel identifier must be unique in the System.	TUNNEL-ID	None
	Access Control Domain: Local (MP) or Control Plane. It filters output tunnels on the basis on who has created them.	ACD	None
	It filters output parameters. it is possible to retrieve all or only a subset of output parameters.	SHOW-DETAILS	GENERAL
RTRV-TMPLS-TUSEG	TUSegment User name. The USERNAME can be not unique in the System then specifying this parameter the OUTPUT response can contain one or more lines.	USERNAME	None
SET-PRMTR-NE	Type of NE Application	REGION	ETSI
	Type of Equipment and Facility Entities Provisioning supported by the	PROVMODE	AUTOEQ-AUTOFC

Command	Description	Parameter	Default
	NE		
	The beginning USERLABEL value is <NoVal>.	USERLABEL	<Previously-existing value>
SET-SID	Site Identifier, identifies the new SID. The SID value shall follow the same syntax rules as the TID value, as specified in the Core TL1 RRS. That is, the SID value can be either up to 20 noncase-sensitive alphanumeric characters, including the special hyphen (-) character, or up to 20 characters quoted string.	SID	<Entry Required>; Factory Default = "PLEASE-SET-SID-xxxxx"