

Prepared (Subject resp) ESCHATT Attila Schmidt A		No. 18/109 48-AVA 901 29/9-3 Uen		
Approved (Document resp) BICPAAID [Mikael Forsberg]	Checked	Date 2016-10-06	Rev B	Reference

Virtualized MTAS Network Impact Report from 1.2.1 to 1.4

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1 Introduction

This document, the Network Impact Report (NIR), describes how the release of the vMTAS 1.4 with new and changed features affect the previous release of the MTASv 1.2.1 and the operator's overall network, including all affected products and functions.

1.1 Purpose

The purpose of this document is to provide sufficient information at an early stage to help plan vMTAS upgrades in the operator's network.

1.2 Scope

This document describes the characteristics and interface changes between MTASv 1.2.1 and vMTAS 1.4.

1.3 Revision history

Date	Rev	Description	Author
2016-09-07	A	PRT 1.4 approved	eeimshn
2016-10-06	B	Approved for 1.4 PRA	eschatt

2 Overview

Changes compared to the base are listed below. For complete list of features see [10].

- T-CSI Suppression
- SRVCC (pre)Alerting leftovers and Media re-negotiation strategy
- SDP change - with new codecs - during announcement on CAT interface
- Configuration of ReleaseIfDurationExceeded
- Configurable non-"200 OK" final response
- Dialog Event subscription and notification handling, generic solution
- Call-by-Call Deactivation of CW Mode 4 and 5
- Online Charging enhancements for STOD service
- Charging support for change of access

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- Call Pull phase2
- Precondition IWF in MTAS
- Priority services enhancements for VoLTE Deployment-Drop1
- PANI caching updates
- MTASv 1.4 baseline, new CBA components
- CMCC VoLTE MTAS class A/B PM counter Drop 1
- Reporting Private Subscription Identities in MTA charging output – phase 1
- Mid-call SRVCC
- Mapping of PANI to CAP
- Corrections

3 Licenses

There are no vMTAS software feature licenses in 1.4.

4 Interoperable Network Elements

4.1 General

The table below describes the lowest interoperable releases for vMTAS 1.4.

Table 1 – Lowest Interoperable Releases

Network Element	Supported Version
MRS	14A
CSCF	14A
HSS	14A
OSS-RC	14A.1 (see 4.5)
EMA	7.0 CP2

4.2 Media Resource System (MRS)

vMTAS 1.4 is compatible with the following MRS releases: 14A, 14B, 15A, 15B, 16A, 16B and 17A.

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4.3 Call Session Control Function (CSCF)

vMTAS 1.4 is compatible with the following CSCF releases: 14A, 14B, 15A, 15B, 16A, 16B and 17A.

4.4 Home Subscriber Server/Subscription Locator Function (HSS/SLF)

vMTAS 1.4 is compatible with the following HSS/SLF releases: 14A, 14B, 15A, 15B, 16A, 16B and 17A. If using MTAS as ST-AS, use release 14A FD2 as a minimum.

4.5 OSS-RC

vMTAS 1.4 is compatible with the following OSS-RC releases: 14A.1, 14B, 15A, 15B, 16A, 16B and 17A.

Note: verification is still pending for vMTAS compatibility with OSS-RC 14x releases

Note: If the MTAS SW level is upgraded, it does not mean always that the OSS-RC must also be upgraded (for example, it is dependent on the new parameters and counters used). The support level of different OSS-RC releases is as follows:

- OSS-RC O17A: vMTAS 1.2 features supported
- OSS-RC O17A: vMTAS 1.4 features supported

For OSS-RC impacts, see each feature impact chapter for the possible impacts because of new parameters and counters.

4.6 Ericsson Multi Activation (EMA)

vMTAS 1.4 is compatible with the following EMA releases: 7.0 CP2, 15, 16, 17.

5 Interfaces

This section lists changes to interfaces between nodes, configuration parameters, alarms, and measurements in vMTAS 1.4 compared to MTASv1.2.1.

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5.1 Inter-Node Interfaces

This section lists changes to interfaces between nodes. Changes to data that is carried transparently by the underlying interface are listed in the services section, and not the interface section.

5.1.1 Changed Interfaces

This section lists all changed MTAS interfaces to other nodes in vMTAS 1.4 compared to MTASv 1.2.1.

Table 2 shows the impacts, the description of the changes, and the required actions. The impact 'No Impact' means that the new MTAS version can be installed without affecting other nodes using this interface. 'Minor impact' means that the interface is changed but with additional configuration, the previous behavior can be kept. 'Major impact' means that the interface is changed and is not compatible with previous release.

Table 2 – Changed Interfaces

Interface	Protocol	Impact	Description of Changes
CAI3G	CAI3G	Minor	Added support of Dialog Event Notifier service.
Sh	Diameter	Minor	Added support of Dialog Event Notifier service.
Rf	Diameter	Minor	Access-Network-Information AVP will be reported via ACR interim, if MTAS receives a re-INVITE message which contains an updated SDP offer and an updated P-Access-Network-Info(PANI) header from served user.
Sh	Diameter	No impact	New element<block-device-group-usage> added to dialog-event notifier operator configuration.
CAI3G	HTTP	Minor	New element<block-device-group-usage> added to dialog-event notifier operator configuration.
Ro	Diameter	Major	In case of GETS (Government Emergency Telecommunication Service) Priority Service Call, report below new values in existing AVPs 1) Supplementary-Service-Identity AVP group in Ericsson-Service-Information AVP group, <EnumValue value="5000" comment="GETS_FC_PRIORITY_SERVICE"/> <EnumValue value="5001" comment="GETS_AN_PRIORITY_SERVICE"/> <EnumValue value="5002" comment="GETS_NT_PRIORITY_SERVICE"/> <EnumValue value="5003" comment="GETS_FC_GETS_AN_PRIORITY_SERVICE"/> <EnumValue value="5004" comment="GETS_FC_GETS_NT_PRIORITY_SERVICE"/>

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			<p>2) Supplementary-Service-Action AVP – Use of Service</p> <p>3) No Access-Network-Information AVP reporting when GETS Call type is GETS-NT.</p> <p>4) No Called party Address AVP reporting when GETS Call type is GETS-NT .</p>
Rf	Diameter	Minor	<p>In case of GETS (Government Emergency Telecommunication Service) Priority Service Call, report below new values in existing AVPs,</p> <p>1) Supplementary-Service-Identity AVP group in Ericsson-Service-Information AVP group,</p> <pre><EnumValue value="5000" comment="GETS_FC_PRIORITY_SERVICE"/> <EnumValue value="5001" comment=" GETS_AN_PRIORITY_SERVICE "/> <EnumValue value="5002" comment="GETS_NT_PRIORITY_SERVICE"/> <EnumValue value="5003" comment=" GETS_FC_GETS_AN_PRIORITY_SERVICE "/> <EnumValue value="5004" comment=" GETS_FC_GETS_NT_PRIORITY_SERVICE "/></pre> <p>2) Supplementary-Service-Action AVP – Use of Service</p> <p>3) No Access-Network-Information AVP reporting when GETS Call type is GETS-NT.</p> <p>4) No Called party Address AVP reporting when GETS Call type is GETS-NT.</p>
Rf	Diameter	Minor	In all MMTel handled sessions the Subscription-Id AVP of ACR (Start, Event, Stop, Interim) message contains the IMSI if it is provisioned in User Common Data document.
CAI3G	CAI3G	Minor	<p>New XML elements added to User Common Data:</p> <pre><mc:subscription>, <mc:id> and <mc:imsi></pre>
Sh	Diameter	Minor	Provisioning and retrieval of new subscription group with id and imsi in User Common Data transparent data.
Mp	H248	Minor	<p>In case of SCN(Subscriber Credit Notification Service) call, MTAS is updated to request MRFP to provide a codec answer to the new offer received from served user. This Mp request is achieved by specifying choose (i.e. character \$ in the local descriptor).</p> <p>System constant ID 12 is introduced to allow re-enabling of the legacy behavior on H248 in case any issue is experienced by customers.</p>
ICS	SIP	Minor	Previously when a total codec list change happened

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			while listening to a CAT signal, MTAS was unable to handle it. Now, we are initiating a negotiation with the CAT server to handle this scenario.
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5.1.2 New Interfaces

This section lists the new interfaces in vMTAS 1.4 compared to MTASv 1.2.1.

Table 3 – New Interfaces

Interface	Protocol	Impact	Description
ISC, Ma	SIP	Minor	New IFC to be configured to trigger NWAS.

5.1.3 Removed Interfaces

This section lists the removed interfaces in vMTAS 1.4 compared to MTASv 1.2.1.

Table 4 – Removed Interfaces

Interface	Protocol	Impact	Description

5.1.4 Changed User Services

This section lists changes to existing user services in vMTAS 1.4 compared to MTASv 1.2.1.

The impact column indicates if the change impacts the behavior of the existing user service. 'Minor' means that the new MTAS version can be installed without impact to the existing service. The new service feature must be explicitly activated prior to usage. 'Major' means that the existing service behavior will be impacted and that specific actions are required to ensure desired behavior of the service.

Table 5 – Changed Services

Interface	Service Name	Impact	Description of Changes
ISC	SRVCC	Minor	A call is in terminating alerting state and SRVCC alerting transfer is supported. When terminating SCC AS receives 500 or 503 response on the source access leg, SCC AS starts a cancel delay timer to delay the release of the dialog to the remote UE in order to allow the SRVCC Access Transfer INVITE to be received from MSC afterwards.

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Interface	Service Name	Impact	Description of Changes
CAP	Northbound Call Control	Minor	When CM mtasSsfSuppressTerminatingServiceInHplmn is enabled, terminating MTAS as SSF suppresses T-CSI invocation if the served user is located in HPLMN
CAP	Northbound Call Control	Major	Support the release of calls after prepaid subscriber runs out of credit. The ReleaseIfDurationExceeded IE is present in the ACH Operation when the subscriber is on their last slice of credit. MTAS act and release the call if the duration has exceeded without playing tone.
ISC	SRVCC	Major	When SRVCC functionality is enabled on SCC AS, the SCC AS protects from malicious SIP INFO requests from remote during SRVCC by not including the Accept header field containing the application/vnd.3gpp.state-and-event-info+xml MIME type and not including the Recv-Info header field containing the g.3gpp.state-and-event-info package name in the SIP INVITE request, SIP re-INVITE request and SIP UPDATE request and related responses sent towards the remote UE.
ISC	SRVCC	Major	The SCC AS rejects SIP INFO with malicious call state information from the remote side, whose Content Type header contains application/vnd.3gpp.state-and-event-info+xml as media type.
ISC	SRVCC	Major	If the SCC AS supports SRVCC for calls in Alerting state, the SCC AS rejects malicious SIP REFER requests with the below listed properties from remote with a SIP 403. <ul style="list-style-type: none"> has Refer-Sub header field containing "false" value, has Supported header field containing "norefersub" value, has Refer-To header field containing a SIP URI with the Target-Dialog URI header field, and has a MIME body of application/vnd.3gpp.state-and-event-info+xml MIME type

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Interface	Service Name	Impact	Description of Changes
ISC	SRVCC	Major	When sending a SIP 2xx response to AT INVITE, the SCC AS includes the P-Asserted-Identity header field with the identity of the remote user along with the Privacy header field if available, which was previously saved during initial PS session anchoring.
ISC	SRVCC	Minor	Based on mtasSrvccMediaCheck related CM settings, SCC AS is able to optimize the media re-negotiation procedure with remote side at SRVCC access transfer of call in active or (pre-)alerting state by using a selective media comparison procedure so that redundant media updates can be avoided towards the remote side.
ICS	SIP	Minor	Previously when a total codec list change happened while listening to a CAT signal, MTAS was unable to handle it. Now, we are initiating a negotiation with the CAT server to handle this scenario.
CAP	Northbound Call Control	Minor	The ReleaseSelfDurationExceeded IE is present in the ACH Operation when the subscriber is on their last slice of credit. If mtasSsfSupportReleaseSelfDurationExceeded is true, MTAS act and release the call if the duration has exceeded without playing tone. If the CM is false, the IE will be ignored.
ISC	CW	Minor	Call-by-Call Deactivation can be used with Communication Waiting Mode 4 and Mode 5
ISC	STOD Call Push service	Minor	When the mtasStodClearTimer is set to "0" the STOD Call Push triggering is suppressed for all users provisioned with STOD service, that is, only STOD Call Pull service will be available for users with STOD service active.
ISC	DEN service	Minor	Depending on the value of the binary parameter Device_Switch_Allowed a request from a fixed device to subscribe for dialog event notifications may be rejected.

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Interface	Service Name	Impact	Description of Changes
Ro	User Locatoin Servcie	Minor	When CM attribute mtasSubsDataCachePani is set to 2 = enabled for registration only, P-Access- Network -Info (PANI) in CCR-I message for originating session contains the PANI used in INVITE (if available) otherwise the PANI used in registration. For terminating session CCR-I message will contain PANI from registration. CCR-U message contains PANI received in 180/183/200OK.
Rf	Charging	Minor	Subscription-Id AVP can contain an IMSI.
ISC	SRVCC	Minor	For originating side calls, if SRVCC mid-call transfer is supported, SCC AS removes "g.3gpp.mid-call" media feature tag from the Contact when receiving the initial INVITE, and adds a) "g.3gpp.mid-call" feature tag to the feature-Caps, b) Recv-Info containing the g.3gpp.state- and-event package name, and c) "Supported: tdialog,replaces" to SIP 1xx,2xx to SC UE.
ISC	SRVCC	Minor	For terminating side calls, if SRVCC mid- call transfer is supported, SCC AS adds a) g.3gpp.mid-call feature tag in Feature- Caps, b) Accept header field containing the MIME type application/vnd.3gpp.state-and-event- info+xml, c) Recv-Info containing the g.3gpp.state- and-event package name, and d) "Supported: tdialog,replaces" in the initial INVITE, and removes "g.3gpp.mid-call" media feature tag from the Contact in SIP 1xx, 2xx response.
ISC	SRVCC	Minor	When SRVCC mid-call transfer is supported, SCC AS is able to transfer the following scenarios: 1. Single held call, 2. Active + additional held call, 3. Active/Held + additional incoming alerting call, 4. Held + additional outgoing (pre-)alerting call.

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Interface	Service Name	Impact	Description of Changes
ISC	FCD	Minor	FCD shall wait for the SIP transaction towards A to finish before sending (reINVITE) ACK to B. This new behavior is controlled by the new mtasFcdVersion CM attribute.
Mp	Subscriber Credit Notification	Major	When requesting the announcement, ADD messages in Megaco will be different with the legacy behavior (media in local descriptor of Mp ADD for SCN TCs will be changed to \$). System constant ID 12 is introduced to allow re-enabling of the legacy behavior on H248 in case any issue is experienced by customers.

5.1.5 New User Services

This section lists new user services in vMTAS 1.4 compared to MTASv 1.2.1.

The impact column indicates if an activation of the new service has any impact ('None' or 'Major') to other existing user services. 'Major' means that the new service impacts another existing service in a way that specific consideration is required.

All MTAS nodes must be upgraded prior to taking a new service in operation.

Table 6 – New Services

Interface	Service Name	Impact	Description
ISC	Dialog Event Notifier	None	Dialog Event Notifier service (the service has big memory and capacity impact, when turned on)
ISC, Ma	Precondition Interworking (priw)	None	Provides communication SIP signaling interworking for the UEs lacking precondition capability
ISC	Priority Service	None	GETS- FC, GETS- AN, GETS- NT, GETS- FC+GETS- AN, GETS-FC+GETS- NT. Priority Service Call Type identification in Originating MMTel AS
ISC	Priority Service	None	Allow the combination of GETS-FC (*272) + SSC Prefix + ND in Originating MMTel AS
ISC	Priority Service	None	Block the combination of SSC Prefix + GETS-FC (*272) + ND in Originating MMTel AS
ISC	Priority Service	None	Handling of INVITE with valid RPH but unidentified GETS priority service call type
ISC	Priority Service	None	Handling of INVITE with no RPH but valid GETS number

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Interface	Service Name	Impact	Description
ISC	Priority Service	None	In OCT, Refer-To Call Leg GETS Priority Service Call Handling same as GETS Priority Service Call Handling of A to OT Call leg
ISC	Priority Service	None	Call Diversion to GETS-AN and GETS-NT numbers
ISC	Priority Service	None	Prevent Call Diversion to provisioned Forward-To DN GETS-FC, GETS-FC+GETS-AN and GETS-FC+GETS-NT numbers
ISC	Priority Service	None	Charging profile configuration based on GETS Call Type in MMTel AS

5.2 Operation and Maintenance Interface

This section describes changes to configuration parameters, alarms and measurements in vMTAS 1.4 Configuration, compared to MTASv 1.2.1.

5.2.1 Configuration

This section lists added, changed, and deleted configuration parameters.

5.2.1.1 Added Configuration Parameters

The following is an alphabetical list of configuration parameters which have been added in vMTAS 1.4 compared to MTASv 1.2.1:

Table 7 – Additional Configuration Parameters

Configuration parameter name
MtasAdditionalAnn (not yet supported)
mtasAdditionalAnnConfig (not yet supported)
mtasAdditionalAnnGaName (not yet supported)
mtasAdditionalAnnLocationKey (not yet supported)
mtasAdditionalAnnRule (not yet supported)
mtasAnnouncementParameterAdditional (not yet supported)
mtasChargingAniWithoutTrigger
mtasChargingProfilePreserveChargSessAtCallPull
mtasChargingProfileSupressOrigChargingInGetsAN
mtasChargingProfileSupressOrigChargingInGetsFC
mtasChargingProfileSupressOrigChargingInGetsNT
mtasChargingProfileSupressTermChargingInGetsCall
mtasConfAnsConfirmDeclineDigitMap
mtasConfAnsConfirmNoMatchAnnouncement

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mtasConfDisplayName
MtasComCcmCcc
mtasComCcmCccSpecifiedMcc
MtasComCcmMcc
mtasComCcmMccUnifiedMcc
MtasComServ
mtasConfAnsConfirmDeclineDigitMap
mtasConfAnsConfirmNoMatchAnnouncement
mtasConfDisplayName
mtasDenAdminState
mtasDenDefaultTimer
mtasDenMaxTimer
mtasDenMediaAttributesReported
mtasDenMinTimer
mtasDenSAExclusiveElementReported
mtasFcdAlertingMode
mtasFcdCallerPrefReqFilterFixed
mtasFcdEmergencyDistribution
mtasFcdToPrimaryUserSubscription
mtasFcdVersion
mtasFunctionMaxNumberOfSubscriptionSessions
mtasGaAnnAdditionalForSegmented (NOTE! Not fully supported, must be set to empty string value "", when creating new MtasGaAnn MOC)
mtasNaEnableNm
mtasNaNm
mtasNaNmCauseTextToPhrase
mtasNaNmDefaultCauseText
mtasNaNmLangaugesNmCauseText
mtasNaNmLanguage
mtasNaNmSuppressNetworkAnnouncement
mtasNpSubscriptionDefaultBehavior
MtasNw
mtasNwAdministrativeState
mtasNwAsName
MtasPriorityCallGetsService
mtasPriorityCallGetsServiceAdministrativeState
mtasPriorityCallGetsServiceAnNumbers
mtasPriorityCallGetsServiceNtNumbers
mtasPriorityCallGetsServiceWithNoRPH

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mtasPriorityCallGetsServiceWithUnknwonGETSCallType
mtasPriorityCallGetsServiceWps
MtasPrlw
mtasPrlwAdministrativeState
mtasPrlwBnumRangeWithoutPrecond
mtasSipAsGenericPort
mtasSipRemoveRefresherParameterInEarlyUpdate
mtasSipSdpStrictMatching
MtasSipOc (not supported yet)
mtasSipOcAbatement (not supported yet)
mtasSipOcAdministrativeState (not supported yet)
mtasSipOcDefDecrStep (not supported yet)
mtasSipOcDefIncrStep (not supported yet)
mtasSipOcOnset (not supported yet)
mtasSipOcRegulationInterval (not supported yet)
mtasSipOcResource (not supported yet)
mtasSipOcValidity (not supported yet)
mtasSrvccMediaCheckAttributes
mtasSrvccMediaCheckBandwidth
mtasSrvccMidCall
MtasSscPriorityCall
mtasSscPriorityCallComSyntInv
mtasSsfSupportReleaseIfDurationExceeded
mtasSsfSuppressTerminatingServiceInHplmn
mtasVoiceMailRetrievalDisplayName
vtasConfAnsConfirmDeclineDigitMap
vtasConfAnsConfirmNoMatchAnnouncement
vtasConfDisplayName
vtasDenAdminState
vtasDenMaxTimer
vtasDenMediaAttributesReported
vtasDenMinTimer
vtasDenSAExclusiveElementReported
vtasFcdAlertingMode
vtasFcdCallerPrefReqFilterFixed
vtasFcdEmergencyDistribution
vtasFcdToPrimaryUserSubscription
vtasFcdVersion
vtasGaAnnAdditionalForSegmented (NOTE! Not fully supported, must be set to empty string value "", when creating new VtasGaAnn MOC)

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vtasNaEnableNm
vtasNaNm
vtasNaNmCauseTextToPhrase
vtasNaNmDefaultCauseText
vtasNaNmLangaugesNmCauseText
vtasNaNmLanguage
vtasNaNmSuppressNetworkAnnouncement
VtasPriorityCallGetsService
vtasPriorityCallGetsServiceAdministrativeState
vtasPriorityCallGetsServiceAnNumbers
vtasPriorityCallGetsServiceNtNumbers
vtasPriorityCallGetsServiceWithNoRPH
vtasPriorityCallGetsServiceWithUnknwonGETSCallType
vtasPriorityCallGetsServiceWps
vtasVoiceMailRetrievalDisplayName

For more information, see [2] reference.

5.2.1.2 Changed Configuration Parameters

The following configuration parameters have been changed in vMTAS 1.4 compared to MTASv 1.2.1:

Table 8 - Changed Configuration Parameters

Parameter	Description of Changes
mtasSrvccMediaCheck	The CM attribute mtasSrvccMediaCheck is extended with an option "selective media comparison"(2). For maiden installation, the default value for mtasSrvccMediaCheck is changed from 0 to 2.
mtasCwOperateMode	New name for value 5 is MOBILE_CW_ALTERNATE_MODE_1
vtasCwOperateMode	New name for value 5 is MOBILE_CW_ALTERNATE_MODE_1

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MtasSip MOC	<p>NOTE! Before upgrading to vMTAS 1.4, please check the configuration of the MtasSip MOC. It should fulfill the dependencies documented in MTAS Parameter Description [2] or Managed Object Model. New dependency rules have been introduced. If they are not fulfilled in legacy configuration it may cause migration/upgrade error or changed behaviour after upgrade.</p> <table> <tr> <th>Attribute</th><th>Dependency</th></tr> <tr> <td>mtasSipInvite2FinalResponseTimer</td><td>Should be 10 secs longer than configured value in mtasStNoReplyTimer, mtasMmtNoReplyTimer and mtasMmtOrigNoReplyTimer mtasSipTimerB</td></tr> <tr> <td>mtasSipInvite2FinalResponseTimer</td><td>If Vtp instances are defined mtasSipInvite2FinalResponseTimer should be 10 secs longer than configured value vtasMmtNoReplyTimer ,vtasMmtOrigNoReplyTimer</td></tr> <tr> <td>mtasSipInvite2FinalResponseTimer</td><td>mtasMrfOperationTimer, mtasMrfcOperationTimer value shall not be greater than mtasSipInvite2FinalResponseTimer</td></tr> </table>	Attribute	Dependency	mtasSipInvite2FinalResponseTimer	Should be 10 secs longer than configured value in mtasStNoReplyTimer, mtasMmtNoReplyTimer and mtasMmtOrigNoReplyTimer mtasSipTimerB	mtasSipInvite2FinalResponseTimer	If Vtp instances are defined mtasSipInvite2FinalResponseTimer should be 10 secs longer than configured value vtasMmtNoReplyTimer ,vtasMmtOrigNoReplyTimer	mtasSipInvite2FinalResponseTimer	mtasMrfOperationTimer, mtasMrfcOperationTimer value shall not be greater than mtasSipInvite2FinalResponseTimer
Attribute	Dependency								
mtasSipInvite2FinalResponseTimer	Should be 10 secs longer than configured value in mtasStNoReplyTimer, mtasMmtNoReplyTimer and mtasMmtOrigNoReplyTimer mtasSipTimerB								
mtasSipInvite2FinalResponseTimer	If Vtp instances are defined mtasSipInvite2FinalResponseTimer should be 10 secs longer than configured value vtasMmtNoReplyTimer ,vtasMmtOrigNoReplyTimer								
mtasSipInvite2FinalResponseTimer	mtasMrfOperationTimer, mtasMrfcOperationTimer value shall not be greater than mtasSipInvite2FinalResponseTimer								
mtasStodHoldClearTimer	Value range changed from 1-20 to 0-20 where 0 means no timer and not possible to trigger STOD Call Push on node level.								
vtasStodHoldClearTimer	Value range changed from 1-20 to 0-20 where 0 means no timer and not possible to trigger STOD Call Push on node level.								
mtasSubsDataCachePani	New parameter value introduced. 2 = Store PANI in the local cache from Registration only								
vmtasSubsDataCachePani	New parameter value introduced. 2 = Store PANI in the local cache from Registration only								
MtasCcm	<p>Deprecated and replaced with MtasComCcm under MtasComServ.</p> <p>MtasComCcm is populated when MtasCcm is configured.</p> <p>Migration of data from MtasCcm to MtasComCcm at Upgrade</p>								
mtasSdsImrnPrefix	Range extended from 6 to 10 digits.								
mtasTadsCsrnPrefix	Range extended from 6 to 10 digits.								

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mtasAslwSessionProgress Mapping	New types of 183 Session In Progress mapping introduced.
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For more information, see reference [2].

5.2.1.3 Deprecated Configuration Parameters

The following configuration parameters have been deprecated in vMTAS 1.4 compared to MTASv 1.2.1:

Table 9 - Deprecated Configuration Parameters

Parameter	Description of changes
MtasCcmMcc	See MtasCcm in Changed Configuration Parameters
MtasCcm	See MtasCcm in Changed Configuration Parameters
MtasCcmCcc	See MtasCcm in Changed Configuration Parameters
vtasIdPresDbIpVersion	

5.2.1.4 Deleted Configuration Parameters

The following configuration parameters have been deleted in vMTAS 1.4 compared to MTASv 1.2.1:

Table 10 - Deleted Configuration Parameters

Configuration Parameter Name
mtasSipGlsPort

5.2.2 Fault Management

This section describes added, changed, and deleted alarms. Each alarm references the supporting document.

5.2.2.1 Changed Alarms

The following alarms have been changed in vMTAS 1.4 compared to MTASv 1.2.1:

Table 11 - Changed Alarms

Alarm	Change

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5.2.2.2 Deleted Alarms

The following alarms have been deleted from vMTAS 1.4 compared to MTASv 1.2.1:

Table 12 – Deleted Alarms

Alarm

5.2.2.3 New Alarms

The following alarms have been added in vMTAS 1.4 compared to MTASv 1.2.1:

Table 13 - New Alarms

Alarm	Description

5.2.3 Measurements

This section describes measurements that have been added, changed and deleted. Measurements include PM counters and gauges.

5.2.3.1 Changed Measurements

The following measurements have been changed in vMTAS 1.4 compared to MTASv 1.2.1.

Table 14 - Changed Measurements

Measurement	Description of Changes
MtasShPullNOkE	extended with additional key with error code string (e.g. 5001, 5004, 5005) or "timeout" string in case timeout of waiting UDA.
MtasShUpdateNOkE	extended with additional key with error code string (e.g. 5001, 5004, 5005) or "timeout" string in case timeout of waiting PUA
MtasShSubsNotifNOkE	extended with additional key with error code string (e.g. 5001, 5004, 5005) or "timeout" string in case timeout of waiting SNA
MtasShNotifNOkE	extended with additional key with error code string (e.g. 5001, 5004, 5005)

For more information, see references [4].

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5.2.3.2 Deleted Measurements

The following measurements have been deleted (deprecated) in vMTAS 1.4 compared to MTASv 1.2.1:

Table 15 Deleted Measurements

Deleted Measurement

5.2.3.3 Added but not yet supported Measurements

The following is an alphabetical list of the measurements which have been added in vMTAS 1.4 compared to MTASv 1.2.1, but not yet supported:

Table 16 New but not supported Measurements

New Measurement
MtasPriorityCallGetsServiceAttempt
MtasPriorityCallGetsServiceNOk
MtasPriorityCallGetsServiceOk
MtasSipOcOvlPeriods
MtasSipOcOvlDuration
MtasSipOcOvlPeak
MtasSipOcOvlAvg

5.2.3.4 New Measurements

The following is an alphabetical list of the measurements which have been added in vMTAS 1.4 compared to MTASv 1.2.1:

Table 17 New Measurements

New Measurement
MtasChargingAcrStopOk
MtasDenSubsSessNOkE
MtasDenSubsSessNOkI
MtasDenSubsSessOk
MtasFuncOngoingMmtSess
MtasFuncOngoingMmtSessAvg
MtasFuncOngoingMmtSessMax
MtasFuncOngoingMmtSessMin
MtasFuncOngoingMobileSessAvg
MtasFuncOngoingMobileSessMax
MtasFuncOngoingMobileSessMin
MtasFuncOngoingSubsSess
MtasMmtOrigCommDurationInit
MtasMmtOrigServiceDuration

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MtasMmtOrigSessCancel
MtasMmtOrigSessEarlyCancel
MtasMmtOrigUnregCommDurationInit
MtasMmtOrigUnregServiceDuration
MtasMmtOrigUnregSessCancel
MtasMmtOrigUnregSessEarlyCancel
MtasMmtSubsSessAttempt
MtasMmtSubsSessNOkE
MtasMmtSubsSessNOkI
MtasMmtSubsSessOk
MtasMmtTermCommDurationInit
MtasMmtTermServiceDuration
MtasMmtTermSessCancel
MtasMmtTermSessEarlyCancel
MtasMmtTermUnregCommDurationInit
MtasMmtTermUnregServiceDuration
MtasMmtTermUnregSessCancel
MtasMmtTermUnregSessEarlyCancel
MtasPrlwOrigAttempt
MtasPrlwOrigEarlyAttempt
MtasPrlwOrigNOkE
MtasPrlwOrigRenegotiationAttempt
MtasPrlwOrigSuccess
MtasSrvccActiveAttempt
MtasSrvccActiveTransferNOkNet
MtasSrvccActiveTransferNOkUser
MtasSrvccActiveTransferOk
MtasSrvccAlertingAttempt
MtasSrvccAlertingTransferNOkNet
MtasSrvccAlertingTransferNOkUser
MtasSrvccAlertingTransferOk
MtasSrvccMidcallAttempt
MtasSrvccMidcallTransferNOkNet
MtasSrvccMidcallTransferNOkUser
MtasSrvccMidcallTransferOk
MtasSrvccPreAlertingAttempt
MtasSrvccPreAlertingTransferNOkNet
MtasSrvccPreAlertingTransferNOkUser
MtasSrvccPreAlertingTransferOk

For more information, see reference [4].

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5.2.3.5 Deprecated Measurements

The following measurements have been deprecated in vMTAS 1.4 compared to MTASv 1.2.1:

Table 18 Deprecated Measurements

Deprecated Measurement

For more information, see reference [4].

5.3 Operation and Maintenance Interface for Common Components

The configuration parameters, alarms and performance measurements in Common Components, see references [5], [6], [7], [8] and [9]. For the new Common Component versions see PRI [12].

5.3.1 Configuration for Common Components

This section lists added, changed, and deleted configuration parameters.

5.3.1.1 Added Common Components Configuration Parameters

The following is an alphabetical list of the configuration parameters that have been added to Common Components in vMTAS 1.4 compared to MTASv 1.2.1:

Table 19 - Added Common Components Configuration Parameters

Configuration parameter name in Common Component

5.3.1.2 Changed Common Components Configuration Parameters

The following is an alphabetical list of the configuration parameters that are changed in Common Components in vMTAS 1.4 compared to MTASv 1.2.1:

Table 20 - Changed Common Components Configuration Parameter

MOC/Parameters	Change

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5.3.1.3 Deleted Common Components Configuration Parameters

The following is an alphabetical list of the configuration parameters that have been deleted from Common Components in vMTAS 1.4 compared to MTASv 1.2.1:

Table 21 - Deleted Common Components Configuration Parameters

Configuration Parameter Name in Common Component

5.4 IFC Triggers in HSS

This section lists added, changed, and deleted IFC triggers required in HSS.

5.4.1 Added IFC Triggers

The following IFCs have been added in vMTAS 1.4 compared to MTASv 1.2.1:

Table 22 - Added IFCs

Reason	IFC
To trigger Network AS on generic port based on Route header, so that a generic AS triggering mechanism applies.	ServiceProfileId:VoLTE Trigger2ApplicationServers: 101: Route:192.168.1.1:5160;lr;as=iwf -PSU.sescase=orig -PSU.regstate=registered
Subscription to Dialog Event Notifier service in MMTEL AS	See MTAS External Network Configuration for details.

5.4.2 Changed IFC Triggers

The following IFCs have been changed in vMTAS 1.4 compared to MTASv 1.2.1

Table 23 - Changed IFCs

Reason	IFC

5.4.3 Deleted IFC Triggers

No IFCs have been deleted from vMTAS 1.4 compared to MTASv 1.2.1

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6 Capacity and Performance

This section provides some key figures regarding changes or differences of characteristics between MTASv1.2.1 and vMTAS 1.4, in case such differences exist.

The vMTAS is recommended to be dimensioned for a maximum CPU load of 50%.

6.1 Subscriber Capacity

The number of half call establishments and releases per second determines the need of processing resources. Processing capacity is the limiting factor for MMTel, SCC, Conf and SIP Trunking AS. For more information regarding figures and the assumptions and generalizations made in the dimensioning model see reference [1].

6.2 Network Performance

The in-service performance is estimated to remain the same both in MTASv1.2.1 and in vMTAS 1.4.

6.3 Traffic Capacity Handling

Since vMTAS 1.2 release, vMTAS 1.4 has improvement in stability and traffic capacity.

For details see reference [1].

6.4 Dialog Event Notifier service impact

If the Dialog Event Notifier service is activated, the memory and DBN memory usage is significantly increased.

7 Other impact

For changed CBA component list please check PRI [12].

8 Glossary

See reference [11]

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9 References

- [1] Virtualized MTAS 1.4 Characteristics Spec 3/155 02-AVA 901 29/9
- [2] Virtualized MTAS 1.4 Master Parameter Value List 1/190 73-AVA 901 29/9
- [3] Virtualized MTAS 1.4 Managed Object Model 155 54-LZN 765 0163/9-V1
- [4] Virtualized MTAS 1.4 Managed Object Model 190 89-LZN 765 0163/9-V1
- [5] CBA CMCO IMS Framework R7C (v17A), 109 21-CXP 902 3164/1-39
- [6] CBA CMCO AAA Framework R7A (v17A), 109 21-CXP 902 3222/1-24
- [7] CBA CMCO Utilities R7A (v17A), 109 21-CXP 902 0686/1-26
- [8] CBA CMCO Template Library R7A (v17A), 109 21-CXA 110 5679/1-23
- [9] CBA CMCO Regular Expression R6A (v16B), 109 21-CXA 110 5678/1-17
- [10] Lighthouse, <https://lighthouse.lmera.ericsson.se/>
- [11] Glossary of Terms and Acronyms 1/0033-AVA 901 29/9
- [12] Virtualized MTAS from 1.2.1 to 1.4, 18/10921-AVA 901 29/9-3