Nortel Symposium

Desktop TAPI Service Provider 1.5

User's Guide

A Guide for
Installing, Configuring, and Maintaining
the Nortel Symposium Desktop
TAPI Service Provider 1.5

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About this Guide

This User's reference guide describes how to install and maintain the Nortel Symposium Desktop TAPI Service Provider 1.5. Information in this document is intended for use by telephony server administrators and developers who are responsible for installing, configuring, maintaining and using Nortel's TAPI SP. This document is written based upon the assumption that you have some experience working with computers, TAPI, telephony products, and Microsoft Windows. The Nortel Symposium Desktop TAPI Service Provider 1.5 is referred to as Nortel's TAPI SP 1.5 in this guide.

Note: Nortel Symposium Desktop TAPI Service Provider software contains a README.TXT file. This file provides information not available when this document was printed. Always read this information prior to beginning installation.

This guide is divided into the following chapters and appendices:

Chapter 1, "Overview," provides a summary of TAPI and of the Nortel Symposium Desktop TAPI Service Provider 1.5.

Chapter 2, "Installing," describes in detail how to complete the installation of the Nortel Symposium Desktop TAPI Service Provider 1.5.

Chapter 3, "Configuring," provides information on configuring the Nortel Symposium Desktop TAPI Service Provider 1.5.

Chapter 4, "Troubleshooting Tips," provides information for additional installation acceptance testing using the TAPI Test Tool and for running the Logger Tool. In addition, it also describes possible problems and the actions to resolve these problems.

Appendix A provides additional user information. This information includes how to receive technical support, a summary of the online documents, and information on using the Adobe Acrobat Reader to view the online documentation. To view and to print the online documents, the Adobe Acrobat Reader must be installed.

Appendix B identifies the features that the Nortel Symposium TAPI Service Provider supports.

In addition, this guide contains a Glossary that lists telephony services terms and definitions used in this document. A Table of Contents and Index provide assist you in locating the desired information.

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Note: This document **can not** be ordered from Northern Telcom using the Publication number on the inside cover page. This document is only available online with the software or from the Nortel web site, www.nortel.com/bap/sales.htm, and click on the Symposium Desktop TAPI SP.

Document Conventions

The following conventions are used in this document:

1. The individual keys that users are instructed to press appear inside angle brackets.
   For example: <Enter> or <F1>
2. "**Press**," "**Choose,**" or "**Click on**" means to position the cursor over an option, then press and release the left mouse button to activate control and carry out an action.
3. "**Select**" means to position the cursor over an option, then press and release the left mouse button to highlight the selection.
4. "**Double click**" means to position the cursor over an option, then press and release the left mouse button twice.
5. Information that users are instructed to type appears in bold, italic print.
   For example: Type ***User Id*** or Enter ***User Id***
6. Menu commands and options that are displayed on the window appear in bold print, such as the **Exit** option located on the **File** menu on the Menu bar.
7. Window, screen, dialog box, or data entry field names display in italic print, such as, the *Open* field on the *Run* dialog box.
8. "**Button**" refers to a click or push button displayed on the window that is clicked on or pressed to carry out an action. **For example**: Click on the **OK** button or Click on 

9. **"Check box"** refers to a square box displayed on the window that is clicked on to select or to clear an option. **For example**: ☐ -- option not selected or ☒ -- option selected
10. **"Option button"** refers to a circle displayed on the window that is clicked on to select or to clear an option. **For example**: ○ -- option is not selected or ⓿ -- option is selected
11. ***Note:*** Identifies important User information and special instructions.

Note: Notes display in paragraphs separated from other text.

Related Documents

Documents that you may need to reference, but are not necessarily required for configuring or using the TAPI SP include:

- Meridian TelAdaptor TCM Installation Guide - Available from Nortel, Publication # P0741589
- *VISIT Technical Reference Guide* - Available from Nortel, Publication #P0739491
- *MS-Windows User's Guide* - Available from Microsoft Corporation
- *MS-DOS User's Guide* - Available from Microsoft Corporation
- *Nortel Symposium Desktop TAPI Service Provider 1.5 Implementation Planning Guide* - Available from Nortel - Available from the Nortel Web Site (www.nortel.com/bap/sales.htm) with the Nortel Symposium Desktop TAPI SP Developer Tool Kit.
- *Nortel Symposium Desktop TAPI Service Provider 1.5 Programmer's Guide* - Available from the Nortel Web Site (www.nortel.com/bap/sales.htm) with the Nortel Symposium Desktop TAPI SP Developer Tool Kit.
- *Getting Started with Nortel Symposium Communicator* - Available with Nortel Symposium Communicator product.
- *Getting Started with Nortel Symposium Multimedia Conferencing* - Available with the Nortel Symposium Multimedia Conferencing product.
- *Getting started with Nortel Symposium Call Manager* - Available with the Nortel Symposium Call Manager product.

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Chapter 1 Overview

The chapter provides a summary of TAPI and of the Nortel Symposium Desktop TAPI Service Provider 1.5.

Overview of TAPI

The introduction of new computer telephony integration (CTI) standards allows businesses of all sizes to develop new applications integrating computers and telephone systems. Microsoft and Intel created Telephony Application Programming Interface (TAPI). The Telephony technology integrates computers with the telephone network.

Nortel offers TAPI compliant applications as well as Service Providers. Service Providers (SP) are the software files needed to enable TAPI applications to communicate with the physical telephony device. Nortel offers TAPI SPs for Meridian 1, Norstar, MSL-100, DMS Meridian Digital Centrex business systems.

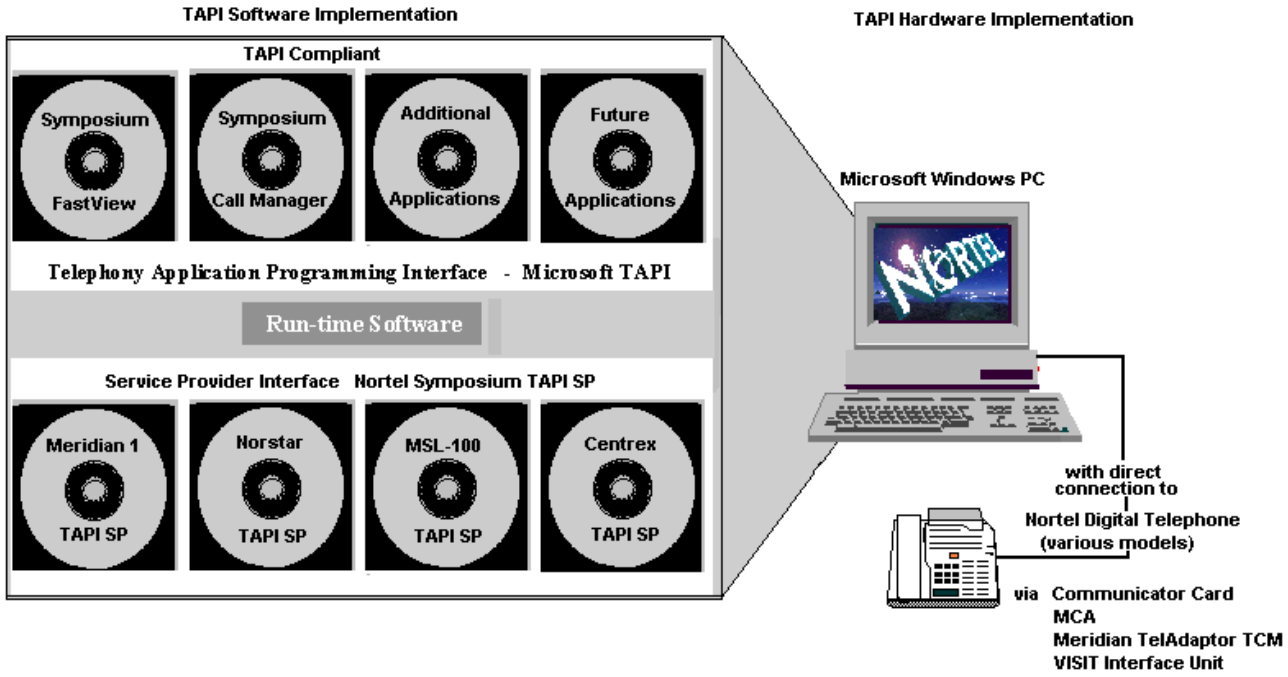


Figure 1 TAPI Overview

The Nortel Symposium Desktop TAPI service providers, available as standalone development kits, are capable of being included in a variety of applications. The Telephony Application Programming Interface (TAPI) gives developers a consistent set of tools for creating the windows-based telephony applications.

In addition, Nortel now offers the Nortel Symposium Desktop TAPI SP software for Meridian 1 that runs on a Windows NT Server and supports a Telephony Application Programming Interface on a Windows client. Refer to the Nortel Symposium Desktop TAPI SP documentation for additional information on this product.

Overview of the Nortel Symposium Desktop TAPI Service Provider 1.5

The Nortel Symposium Desktop Telephony Application Programming Interface (TAPI) Service Provider (SP) release 1.5 is also referred to as Nortel's TAPI SP 1.5 in this document. Along with the standard features included in Version 1.0 of the TAPI Service Provider, Nortel's TAPI SP version 1.5 allows Nortel's TAPI SP 1.5 to function in the Symposium Call Center Server (SCCS) environment on the Meridian 1 with MCA and Nortel Symposium Communicator card interface devices.

In addition, the Nortel Symposium Desktop TAPI Service Provider 1.5 provides the new TAPI Test tool and the TAPI Logger tool to help with troubleshooting. The TAPI Test Tool is provided to assist you in verifying that Nortel's TAPI SP 1.5 is working after it is installed and configured. The Logger tool allows you to create a log file that provides information to assist technical personnel in troubleshooting problems. These tools are detailed in Chapter 4 of the online *Nortel Symposium TAPI Service Provider 1.5 User's Guide*.

TAPI Application Relationships

Figure 2 shows the relationship between Microsoft TAPI, Nortel TAPI SPs, and TAPI applications.

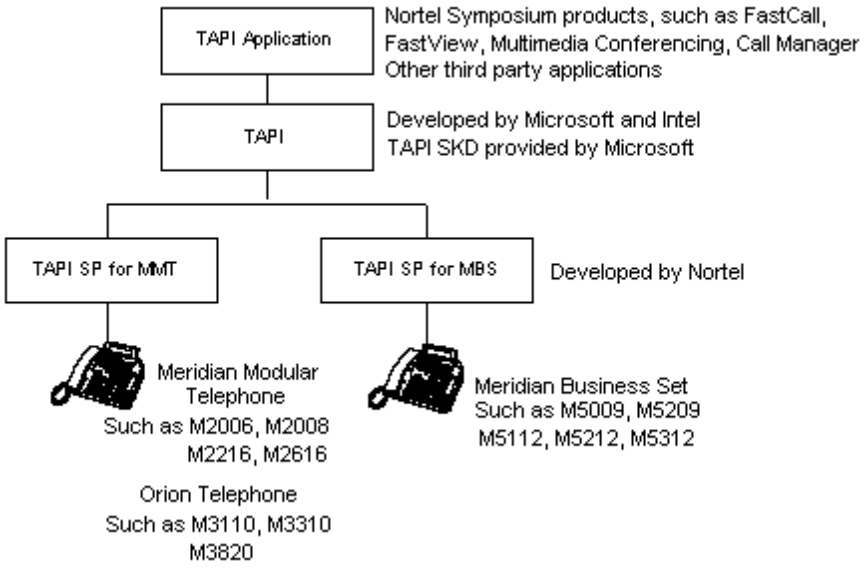


Figure 2 TAPI Application Relationships

Implementation Planning Process

The process of implementation planning starts by determining what you want to do and how your TAPI application will help you do it. You need to determine how the TAPI application can take advantage of the information presented to the set. Keep in mind that most applications that are compatible with Microsoft windows support the output of information to a printer and the input of data through a modem, scanner or mouse. This information exchange is usually handled or controlled by a special driver that typically manipulates the data in some way.

TAPI applications rely on the Nortel Symposium Desktop TAPI Service Provider to manipulate the exchange of information between the personal computer's COMM 1, COMM 2, COMM 3, or COMM 4 port and a telephone using an interface device, such as a Meridian Communications Adapter (MCA), Nortel Symposium Communicator card, or a VISIT Interface Unit (VIU).

Call Presentation

TAPI compliant applications usually support the ability to place calls, answer calls, hold and un-hold calls, transfer and conference calls, as well as other features. However, one of the most important functions of the TAPI Service Provider is to interpret the information that is presented to the telephone set and pass that information on to the TAPI compliant application through an interface device. This is called "Call Presentation."

Many TAPI compliant applications, such as Nortel Symposium FastCall and FastView, Nortel Symposium Multimedia Conferencing, and Nortel Symposium Call Manager, use the information to perform a particular function. This function may include call routing or screen pops. Refer to *the Nortel Symposium Desktop TAPI Service Provider Implementation Planning Guide* for the various kinds of information that the Meridian 1 option 11-81 PBX or MSL-100/DMS-100 telephone systems can deliver to a telephone set. In addition, we recommend that you check with your telephone system administrator to determine which functions are available at your location.

Nortel's TAPI SP 1.5 and Other Software Products

Nortel's TAPI SP 1.5 works with many other software products, such as Nortel Symposium FastCall and FastView, Nortel Symposium Multimedia Conferencing, and Nortel Symposium Call Manager. Refer to the user documentation provided with these products for detailed information.

In addition, Microsoft Outlook 97 Version 8.02.4212 or above works with Nortel's TAPI SP 1.5. Additional information for configuring Microsoft Outlook 97 is provided in the "Microsoft Outlook 97" section located in Chapter 4.

Chapter 2 Installing Nortel's TAPI SP 1.5

This chapter provides instructions and information for installing Nortel's TAPI SP 1.5 and includes the System requirements and hardware configurations.

System Requirements for Installing Nortel's TAPI SP 1.5

Before you install and configure Nortel's TAPI SP 1.5, you should become familiar with the system hardware and software requirements, hardware configuration and connectivity as described in this section.

Installation of the Nortel's TAPI SP 1.5 requires the hardware and software listed in the following sections. Install the required hardware and software before installing the service provider software.

Note: Lower system speeds and lower memory capacities may adversely affect system performance.

Be sure to read the latest release notes and README.TXT files that came in your package before attempting to install any software.

Minimum Hardware Requirements

The minimum hardware requirements for the Nortel's TAPI SP 1.5 include:

- 386/33 MHz
- 3.5" disk drive
- 8 MB of RAM is recommended. Also check the application requirements.
  Memory - the amount of memory needed by Nortel's TAPI SP 1.5 to run depends on the interface device being used, according to the following list:

-TelAdaptor	236 KB
-MCA	196 KB
-MPDA	196 KB
-VIU	175 KB
- Communicator Card	200 KB

  Note: These values increase as the number of DNs and features assigned to the set increases, but are never more than 25%.
- The amount of free disk space that is needed for Nortel's TAPI SP 1.5 depends upon the installation options you select: 3925 Kilobytes of free space is required for the complete installation of TAPI SP 1.5 software, Diagnostic Tools, and online documents; 1875 Kilobytes of free disk space is required for installing the TAPI SP 1.5 software and Diagnostic Tools; and 1757 Kilobytes is required for installing the TAPI SP 1.5 software. Additional free disk space is required for running TAPI applications. Refer to the appropriate TAPI application document for information regarding additional disk space needed for the application
- Mouse (optional, but strongly recommended for installation)
- COMM 1, COMM 2, COMM 3, or COMM 4 available
- VGA or SVGA display

Minimum Software Requirements

The minimum software requirements for Nortel's TAPI SP 1.5 include:

- MS-DOS 5.0 or later
- Microsoft Windows 3.1 or later, Windows for Workgroups, or Windows 95 (Windows NT is not supported with this release)

Interface Devices

- Meridian TelAdaptor TCM (NT5P41TA), Meridian Communications Adapter (MCA - NT2K65XJ), or Meridian Programmable Data Adapter (MPDA) for use on M1 options 11-81 with all cables and power supply (refer to the product's installation guide)
- VISIT Interface Unit (VIU for use on MSL-100 or DMS-100 switches with all cables and power supply), refer to the product's installation guide - NTFX12AA
- Nortel Symposium Communicator card, refer to the documentation provided with the Nortel Symposium Communicator card for detailed information

Cables

- NT5P41AP PC Serial/Modem or VISIT Interface Unit (DB-9/DB-25)
  or
- NT5P41AQ PC Serial Modem (DB-25/DB-25)
  or
- PC Serial DB9 Mini-din 8 CT/D

Configuring the PBX and Switch Equipment

The following sections provide the configuration information needed to install Nortel's TAPI SP 1.5 on the M1 Option 11-81 PBX and on the MSL-100/DMS-100 switch.

Configuring the Meridian 1/SL-1 PBX

This section describes and illustrates the components needed for the installation of Nortel's TAPI SP 1.5 on M1 Option 11-81 PBXs. Included are the necessary software releases, line cards, telephones, and interface devices supported. Required cabling is also listed. A sample M1 Option 11-81 telephone set configuration is provided.

Software Releases

The software release required:

- for Meridian SL-1 -- X11 Release 14 or greater
- for Meridian 1 Option 11 -- X11 Release 16 or greater
- for Meridian 1 Option 21-81 -- X11 Release 15 or greater

Line Cards

One of the following line cards is required.

- NT8D02AB and above Digital line card in an IPE module
- QPC578 Digital line card in a PE module

Telephones Supported

The following Meridian Modular Telephones are supported.

- M2006
- M2008
- M2216ACD-1
- M2216ACD-2
- M2616

The following Orion Telephones are supported.

- M3110
- M3310
- M3820

Interface Devices Supported

The following interface device is supported:

- Meridian TelAdaptor TCM

  Note: This device may not work properly with the RS232 ports on some microchannel-bus PC's such as the IBM PS/2, and other PC's such as the IBM Thinkpad. The Meridian Communications Adapter is the recommended device for microchannel-bus PC's.

- Meridian Communications Adapter (MCA)
- Meridian Programmable Data Adapter (MPDA)

  Note: The MPDA is a discontinued connectivity device, MCA is the current replacement. If you have problems using the MPDA, upgrade to the MCA.

- Nortel Symposium Communicator Card

Cables Required for Interfaces

The cables required for the interfaces include:

- Cables for MCA and MPDA:
  - Cable: PC serial/modem (DB-25/DB-25) Part # NT5P41AQ
  - Cable: PC serial/modem (DB-9/DB-25) Part # NT5P41AP
- Cables for TelAdaptor TCM:
  - Cable: PC serial/TelAdaptor (DB-25/Mini-DIN-8) Part # NT5P41AN
  - Cable: PC serial/TelAdaptor (DB-9/Mini-DIN-8) Part # NT5P41AM
- Cables for Nortel Symposium Communicator card:
  - Cable: RJ11 Line cord Part # A0274382

Figure 3 shows the TAPI SP components on Meridian 1 Option 11-81.

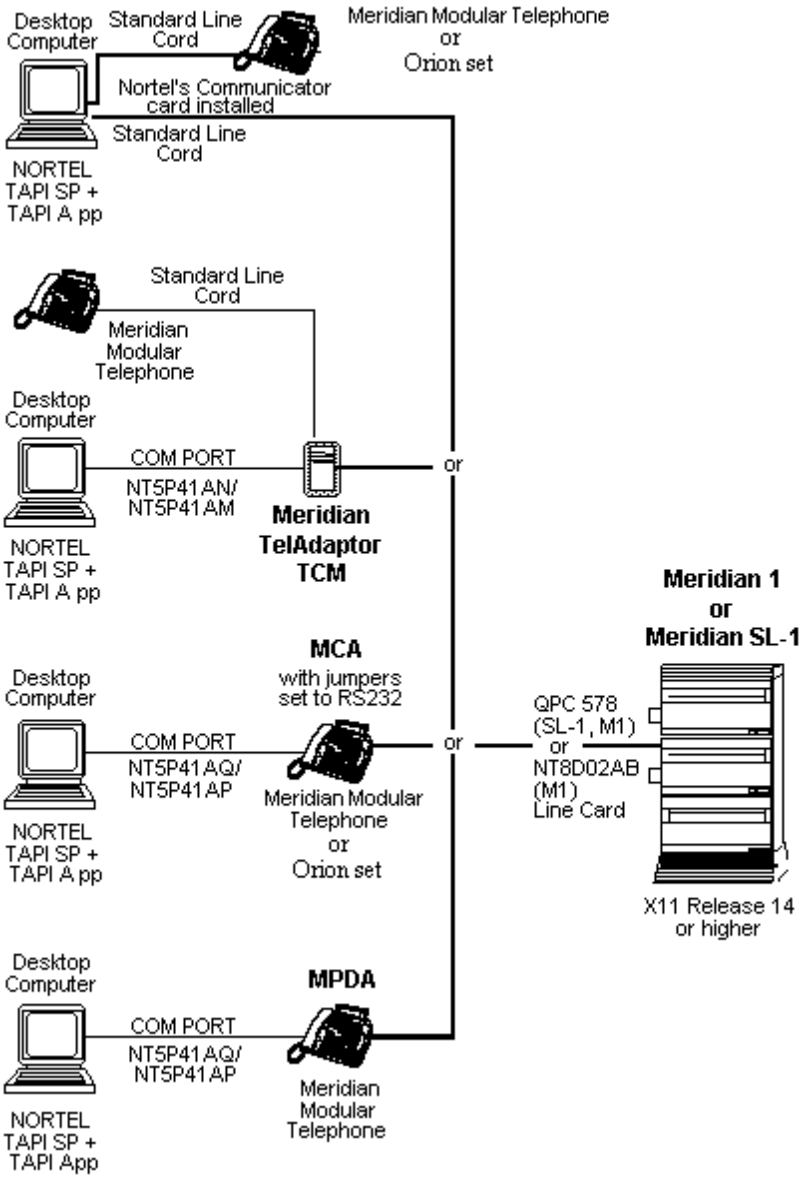


Figure 3 TAPI SP components on Meridian 1 Option 11-81

Sample M1 Option 11-81 Telephone Set Configuration

Table 1 lists telephone set configuration information required for Meridian 1 Option 11-81 PBXs. Use this sample configuration when adding a new M2006, M2008, M2216 ACD or M2616 Meridian Modular Telephone (MMT) or a M3110, M3310, M3820 Orion set.

Table 1 Sample M1 Option 11-81 telephone set configuration

LD 11		
REQ	NEW	
TYPE	2006, 2008, 2216 or 2616	
TN	L S C U	(Terminal number for set)
DES	Designation	
AOM	<cr>	
	<cr>	
	.	
	.	
RNPG	1	(Call Pickup Group #)
CLS	CNDA, DNDA, ADD, **PUA**, MWA	(Call Pickup Allowed)
	<cr>	
	.	
	.	
KEY	0 SCR Voice DN	(for dialing out and receiving calls)
KEY	xx SCR Optional Voice DN	
KEY	xx DSP	(must be configured to support delivery to TAPI application of Calling/Called number on incoming calls to DNs on Keys 1 or higher *before* answering the call)
KEY	xx TRN (Call Transfer)	
KEY	xx AO3 or AO6	(AO3 supports 3 party conference; AO6 supports 6 party conference)
KEY	xx PRK	(Call Park)
KEY	xx RNP	(Call Pickup, Directed Call Pickup)
KEY	xx RGA	(Ring Again)
KEY	xx CFW 4	(Call Forward)

If the telephone set is an ACD Agent set, configure the set as indicated in Table 1 with the exceptions and additions listed in Table 2.

Table 2 ACD Agent set exceptions to Table 1

CLS	CNDA, DNDA, ADD, AGN	
KEY	xx ACD xxxx yyyy	
	where:	
	xx = key number (must be key 0)	(In- Calls Key)
	xxxx = ACD DN	
	yyyy = Agent's position ID	
KEY	xx SCR DN	(For dialing out and receiving calls)
KEY	xx NRD	(Not Ready Key)
KEY	xx MSB	(Make Set Busy)
KEY	xx ACNT Activity Code	
KEY	xx DWC yyyy Displaying Calls	

The following instructions apply to the configuration in Table 2.

1. Use LD 95 to assign a name to the DNs on this set. The names will be presented to the TAPI application if allowed.
2. Use LD 23 to configure ACD Queues and enable Call Forcing for ACD sets (Refer to Meridian 1 ACD documentation for details).
3. Make sure the Meridian 1 PBX is equipped to deliver ANI/CLID and/or DNIS to the telephone set to support Screen Popping on ANI/CLID or DNIS.
4. TAPI applications cannot dial out on an In-Calls key.

Refer to ACD Feature Description NTP 553-2671-110 or X11 features and services NTP 553-3001-305 for additional information about Dialed Number Identification Service (DNIS).

Configuring the MSL-100/DMS-100

This section describes and illustrates the components needed for the installation of TAPI SP on MSL-100/DMS-100 switches. Included are the necessary software releases, line cards, telephones, and interface devices supported. Required cabling is listed. A sample MSL-100/DMS-100 telephone set configuration is provided.

Software Release

The software release required for MSL-100/DMS-100 is BCS34 or higher.

Line Cards

The line card required is an NT8DO2EA IPE card or an NT6X21 Meridian Business Set (MBS) Line Card in an LCM/LCMI or LCME Frame.

Telephones Supported

The following Meridian Modular Sets (MMT) are supported on IPE with MCA:

- M2008
- M2216
- M2616

The following Meridian Business Sets (MBS) are supported with VIU:

- M5009
- M5209
- M5112
- M5212
- M5312

Interface Device Supported

The VISIT Interface Unit (VIU) interface device is supported.

Cables Required for Interface

- The following cables are required for the VIU interface:
  - Cable: PC/serial/modem (DB25/DB-25) Part # NT5P41AQ
  - Cable: PC/serial/modem (DB-9/DB-25) Part # NT5P41AP
- Cables for MCA interface device:
  - Cable: PC serial/modem (DB-25/DB-25) Part # NT5P41AQ
  - Cable: PC serial/modem (DB-9/DB-25) Part # NT5P41AP

Figure 4 shows the necessary software releases and line cards required for the MSL-100 and DMS-100 switch. Refer to the *VISIT Technical Reference Guide* for more information on MSL-100/DMS-100 configuration.

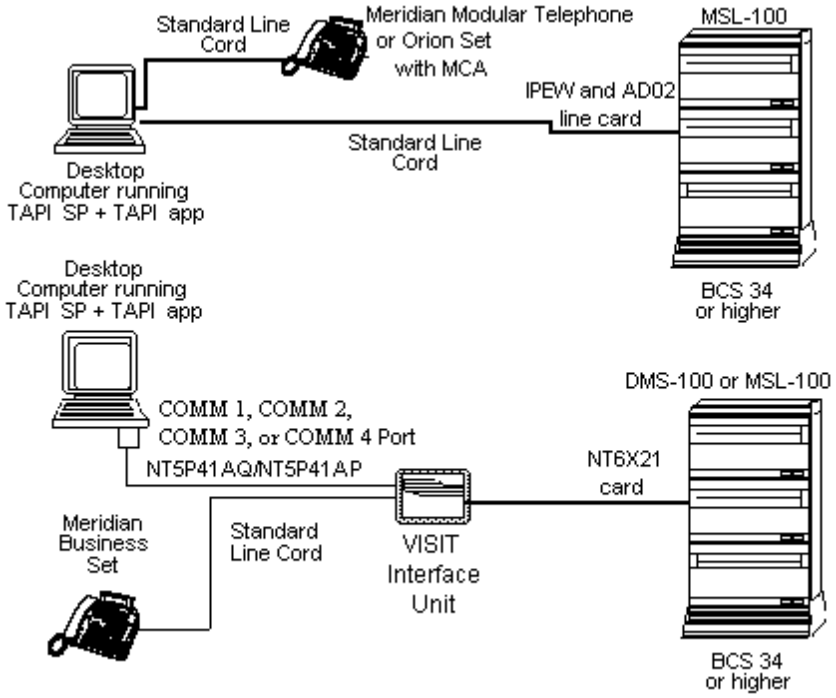


Figure 4 Nortel's TAPI SP 1.5 components on MSL-100/DMS-100

Sample MSL-100/DMS-100 Telephone Set Configuration

Table 3 shows a sample configuration printout of an M5209, M5009, M5112, or M5312 Meridian Business Set (MBS) added to a MSL-100/DMS-100 using Servord.

Table 3 Sample Configuration of MSL-100/DMS-100 telephone set configuration

>qlen 0 0 6 22		
LEN: HOST 00 0 06 22		
TYPE: SINGLE PARTY LINE		
SNPA: 214		
DIRECTORY NUMBER: 2446003		
LINE CLASS CODE: M5312 SET		
CUSTGRP: COMMON SUBGRP: 0 NCOS: 0 RING: Y		
CARDCODE: 6X21AC GND: N PADGRP: NPDGP BNV: NL MNO: Y		
PM NODE NUMBER: 17		
PM TERMINAL NUMBER: 215		
DNGRPS OPTIONS:		
NETNAME: PRIVPBX		
ADDRESS: DDDNNNNNNN		
OPTIONS:		
3WC LNR NAME PRIVPBX BOB		(Transfer and/or 3 party conference)
CFU N 2446001 I 1 INSPECT CNF C06		(CFU=Call Forward Universal; C06=six party conference)
KEY	DN	
1	DN 2446003	
2	DN 2446004	
3	DN 2446005	
KEY	FEATURE	
4	3WC	(Transfer/3 party conference)
5	CFU N 2446001 I 1	(Call Forward Universal)
6	INSPECT	
8	CNF C06	(6 party conference)

The following requirements apply to the configuration shown in Table 3.

1. The Line Class Code must match the supported telephone types on MSL-100 and DMS-100 (see earlier section). If the Line Class Code is M5009, the DISP option must be assigned to Key 0 to make the display operational.
2. Option 3WC must be assigned to support transfer and 3 party conference.
3. An INSPECT key must be assigned if you want TAPI SP to deliver to the TAPI application the Calling number or Called number to lines 2 and above *before* the call is answered (for example, screen pop before answer).
4. A CNF CO6 conference key must be assigned to the set to support 6 party conference.
5. Feature Package NTXE40AB must be present on the MSL-100/DMS-100. This package provides the capability for incoming call information, such as Calling Name and Calling number, to be automatically displayed on the Meridian Business Set *before* the call is answered.

   Feature package NTXE40AB consists of two Feature numbers as follows:
   - AG1549 Auto Display for Meridian Business Sets (AUTODISP must *not* be assigned).
   - AG1403 Business Set Inspect Key (an Inspect Key must be assigned as indicated in Step 3 above).

Sample M5212 ACD MBS added to MSL-100/DMS-100

Table 4 shows a sample configuration printout of an M5212 ACD Meridian Business Set (MBS) added to a MSL-100/DMS-100 using Servord.

Table 4 Sample Configuration of M512 ACD MBS added to MSL-100/DMS-100

```
>qlen 0 0 6 26
LEN:  HOST 00 0 06 26
TYPE:  SINGLE PARTY LINE
SNPA:  214
DIRECTORY NUMBER: 2446010 (NON-UNIQUE)
LINE CLASS CODE:  M5212 SET
CUSTGRP:  COMMON SUBGRP:  0  NCOS:  0  RING:  Y
ACDKEY:  INCALLS  ACDY  1  FORCING  Y  1113
CARDCODE:  6X21AC   GND:  N  PADGRP:  NPDGP  BNV:  NL  MNO:  Y
PM NODE NUMBER:  17
PM TERMINAL NUMBER:  219
DNGRPS OPTIONS:
NETNAME:  PRIVPBX
ADDRESS:  DDDNNNNNNN
OPTIONS:
MSB
3WC ACDNR
CNF C06 INSPECT
KEY             DN
  1             ACD   2446010  INCALLS  ACDY  1 FORCING  Y  1113
  2             DN     2446011
  11            DN     2446014
KEY             FEATURE
  3             ACDNR                                  (Not Ready)
  4             MSB $                                  (Make Set Busy)
  5             CNF C06                                (6 party conference)
  6             3WC                                    (Transfer/3 party conference)
  7             CPU  0 HOST  00 0 06 26 2              (Call Pickup)
  8             INSPECT
  10            CFU N  2446013 I 2                     (Call Forward Universal)
```

The following requirements apply to the configuration shown in Table 4.

1. The Line Class Code above must match the ACD telephone type defined during Nortel's TAPI SP 1.5 setup procedure (see the "Nortel's TAPI SP 1.5 Software Installation" section in this chapter). Normally, M5212 sets are used as ACD sets. If the Line Class Code is M5009, the DISP option must be assigned to Key 0 to make the display operational.
2. The DMS-100 telephone System must be equipped with the Automatic Call Distribution Feature Package NTX407AB. ACD Groups and agents must be configured and operational with an ACD In-Calls key assigned to Key 0 of the Meridian Business Set. TAPI applications cannot dial out on an In-calls key.
3. Option 3WC must be assigned to support Transfer and 3 party conference.
4. An INSPECT key must be assigned if you want TAPI SP to deliver to the TAPI application the Calling number or Called number to lines 2 and above before the call is answered (for example, screen pop before answer).

5. Feature Package NTXE40AB must be present on the MSL-100/DMS-100. This package provides the capability for incoming call information, such as Calling Name and number, to be automatically displayed on the Meridian Business Set before the call is answered.

   Feature package NTXE40AB consists of two Feature numbers as follows:

   - AG1549 - Auto Display for Meridian Business Sets (AUTODISP must not be assigned).
   - AG1403 - Business Set Inspect Key (an Inspect Key is highly recommended).

6. A CNF CO6 conference key must be assigned to the set to support 6 party conference.
7. An In-Calls key must be assigned to Key 0 for ACD sets and the DMS-100 telephone system must be equipped with the In-Calls Key (Feature number F3923). When Configuring Nortel's TAPI SP 1.5 (Telephone Setup), you must define an In-Calls key on Key 0 of all ACD sets.
8. If Call Forcing is assigned to the In-Calls Key 0, Call Forcing must also be enabled in TAPI SP (Telephone Setup area for Key 0; refer to the "Configuring the Telephone" section located in Chapter 3).
9. A NOT READY key (ACDNR) is normally assigned to the ACD set using the TAPI application.
10. A Make Set Busy (MSB) key is normally assigned to the ACD set using the TAPI application.
11. A Secondary DN key must be assigned to the ACD set to support the placing of calls using the TAPI application.
12. To allow the TAPI application to screen pop on the Called/Dialed number (sometimes called DNIS), the MSL-100/DMS-100 must be equipped with the Called Name/Called number Display feature and table ACDGRP must be datafilled with the Option ACDDISP. Have your MSL-100/DMS-100 switch administrator refer to Automatic Call Distribution Translations Guide NTP 297-2041-350 for details.

Sample of an ACD 2616 Set on MSL-100

Table 5 shows a sample configuration printout of an ACD 2616 set on MSL-100. This information is retrieved by way of the qlen command followed by the LEN (Line Equipment Number).

All setups for lines in MSL-100 or DMS-100 are done through the Servord utility.

Table 5 Sample configuration of ACD 2616 set on MSL-100

```
LEN:          02 0 02 02
TYPE: SINGLE PARTY LINE
SNPA: 612
DIRECTORY NUMBER:     9329001
LINE CLASS CODE:  M2616 WITH DISPLAY AND HANDSFREE
CUSTGRP:          NORTEL  SUBGRP: 0  NCOS: 0  RING: Y
ACDKEY: INCALLS     CTI     1     N
CARDCODE:  8D02AB    GND: N  PADGRP: NPDGP  BNV: NL MNO: Y
PM NODE NUMBER     :    24
PM TERMINAL NUMBER :    67
DNGRPS OPTIONS:
NETNAME:PUBLIC
NONUNIQUE
OPTIONS:
MSB
3WC RAG ACDNR
EMK Y CTI 1 LOB CNF C06 CLI INSPECT

 KEY      DN
 ---      --
   1     ACD          9329001    INCALLS    CTI    1    N
   2     DN           9321190
   9     ACD          9321192    CLSUP    CTI    1    MSBOVRD

 KEY     FEATURE
 ---     -------
  1       CLI
  2       CLI
  3       MSB $
  4      ACDNR
  5       CNF C06
  6       3WC
  8       PROGRAM KEY
  9       CLI
 11     INSPECT
 12        RAG
 13        LOB
 14        EMK Y CTI   1
 15        DQT N
 16        HANDSFREE
```

Nortel's TAPI SP 1.5 Software Installation

This section describes the procedures that must be performed to successfully install Nortel's TAPI SP Release 1.5. Prior to installing this software, you must have certain hardware, software, and telecommunication configurations in place. These pre-installation configurations are detailed in the following checklist.

Pre-installation Checklist

Before installing the software, complete the following pre-installation checklist.

1. Verify that VISIT Voice 2.0 and VISIT Video 2.0 are not installed on the PC. Installing TAPI SP will cause these applications to stop working until an upgrade to Nortel Symposium Call Manager 4.0 (or above) or Nortel Symposium Multimedia Conferencing 4.0 (or above) is installed.
2. Uninstall any previous version of Nortel's TAPI Service Provider. It is important to remove the previous version of TAPI software before upgrading to the new software. To remove the previous version, run the ***Uninstall*** program.
3. Verify that your PC meets the minimum hardware and software requirements defined in the "System Requirements for Installing Nortel's TAPI SP 1.5" section in this chapter.

   Note: Nortel's TAPI SP 1.5 is not supported on Microchannel (PS/2) personal computers using TelAdaptors as the interface device. However, Nortel's TAPI SP 1.5 does support Microchannel PCs using Meridian Communications Adapters (MCA), Meridian Programmable Data Adapters (MPDA), or VISIT Interface Units (VIU).
4. Verify that your telephone type is one of the supported telephones listed in the "Nortel's TAPI SP 1.5 System Requirements" section in this chapter.

   If your telephone is an M2006, M2008, M2216 ACD set, M2616 set, or an M3110, M3310, M3820 Orion set, the Meridian 1 Option 11-81 PBX Administrator must configure the telephone set so the set will work with your TAPI application.

   If the telephone is an M2006, M2008, M2216 ACD set, M2616 set , or an M5209, M5009, M5112, M5212 ACD, M5312 set, the MSL-100/DMS-100 telephone system Service Order (Servord) Administrator must configure the telephone set.
5. Verify that your MMT telephone or Meridian Business Set is operational and has at least one DN key to support dialing and answering calls from the TAPI application.

   Determine which telephone features your TAPI application will need to use, then verify that these features are assigned to your set. You can examine the feature keys on your telephone set or use the sample telephone set configuration printouts in this chapter as a reference while working with your telephone system administrator to verify that your phone is set up properly to support your TAPI application.
6. Verify that the telephone system to which your phone is connected is one of the Meridian 1/MSL-1 PBX or MSL-100/DMS-100 configurations listed in the "Nortel's TAPI SP 1.5 System Requirements" section in this chapter.
7. In Table 6, 7, and 8, circle the device type, telephone type, and the COMM port on the PC you will be using.

   Table 6 Device type

Interface Device:	TelAdaptor	MCA	MPDA	Communicator	VIU

Table 7 Phone Type

Telephone Type	TelAdaptor	MCA	MPDA	Communicator	VIU
	Meridian Modular (MMT) M2006 M2008 M2216 M2616 2000 Series M2009 M2018 M2112 M2317	Meridian Modular (MMT) M2006 M2008 M2216 M2616 Orion M3110 M3310 M3820	Meridian Modular (MMT) M2006 M2008 M2216 M2616	Meridian Modular (MMT) M2006 M2008 M2216 M2616 Orion M3110 M3310 M3820	Meridian Business (MBS) M5009 M5112 M5212 M5312 M5209

Table 8 COMM port

PC COMM Port	**COMM 1**	**COMM 2**	**COMM 3**	**COMM 4**

8. Fill in the three parts of Table 9 to record the directory numbers (DNs) that appear on your telephone set, to record the ACD DN and Position ID for the In-Calls Key for ACD sets, and to record whether the ACD set will be using Call Forcing. Record the add-on module DNs along with any names that you want to associate with the DNs.

   You may want to use names that your telephone system has already associated with the DNs. These descriptions will be used when you configure your telephone using the **Telephony** icon in the *Control Panel* window.

   Table 9 Directory Numbers (DNs) on your set

Key	**Telephone DN**	**Name**

Key	ADC DN	Position ID	Name	Call Forcing
0				**Yes or No**

Key	Add-On Module DN	Name		

9. If your telephone is equipped with an MCA, verify the following:
   - The red LED at the rear of the telephone set is flashing.
   - The serial modem cable is installed between your PC COMM port (1, 2, 3, or 4) and the MCA (refer to the "Installing the TAPI SP 1.5" section in this chapter).
   - Enter the following Program key sequences from your set:
     a. Enter 67, select Unlock and press the Program key.
     b. Enter 65 and press the Program key.
     c. Enter 22, enter 2400 for the baud rate and press the Program key.
     d. Enter 20 and press the Program key.
     e. Enter 34 and press the Program key
     f. Enter 67, select Lock and press the Program key.
10. If your telephone is equipped with an MPDA, verify the following:
    - The red LED at the rear of the telephone set is flashing.
    - The serial modem cable is installed between your PC COMM port 1, 2, 3, or 4 and the MPDA (refer to the "Installing the TAPI SP 1.5" section in this chapter).

    Note: The MPDA is a discontinued connectivity device, MCA is the current replacement. If you have problems using the MPDA, upgrade to the MCA.
11. If your telephone is connected through a Meridian TelAdaptor TCM, verify the following:
    - The TelAdaptor is plugged in and the green LED on top of the TelAdaptor is lit.
    - The serial modem cable is installed between your PC COMM port 1, 2, 3, or 4 and the TelAdaptor (refer to the "Installing the TAPI SP 1.5" section in this chapter).
12. If your telephone is equipped with a VISIT Interface Unit (VIU), verify the following:
    - The VIU is plugged in.
    - The serial modem cable is installed between your PC COMM port 1, 2, 3, or 4 and the VIU.
13. If you are using Nortel Symposium Communicator card for an interface device, the card must be installed and configured before loading Nortel's TAPI SP 1.5. For detailed instructions on installing and configuring refer to the documentation provided with Nortel Symposium Communicator card.

Cautions and Preparations

The installation process includes only the installation of Nortel's TAPI SP 1.5. Nortel's TAPI SP 1.5 must be installed first and your phone configured before installing any TAPI applications, as described in the following procedures.

Exceptions to this rule is the Nortel Symposium Call Manager and the Nortel Symposium Multimedia Conferencing 4.0/5.0 installer provides the option to install Nortel's TAPI SP 1.5 at the end of its installation process. Refer to the installation instructions in the product documentation for details.

Note: If you are installing Nortel's TAPI SP 1.5 on a PC that has VISIT Voice 2.0, VISIT Video 2.0, or VISIT FastCall 1.0 installed, these applications will no longer work until you upgrade to Nortel Symposium Call Manager 4.0 (or above), Nortel Symposium Multimedia Conferencing 4.0 (or above), or VISIT FastCall 1.1. Refer to the README.TXT file provided with the Nortel's TAPI SP 1.5 software before continuing.

If you are using Windows 95 and have Microsoft TAPI 2.1, you will have to uninstall the Microsoft TAPI 2.1 and reinstall Microsoft TAPI 1.4. Instructions for this procedure are provided in the "Removing Microsoft TAPI 2.1 Software" section in Chapter 4.

Installing Nortel's TAPI SP 1.5 Software

The Nortel Symposium Desktop TAPI SP 1.5 is available from the Web or when purchasing other applications. Depending upon the application, Nortel's TAPI SP 1.5 may be included on a diskette or on a CD ROM. If applicable, refer to the user documentation provided with your application for special instructions on loading TAPI software in conjunction with the application.

The online documents and the Troubleshooting help file are provided on the Web site and may also be contained in the Docs folder on the application's CD ROM. If you install from a CD ROM, certain applications may automatically install the User's Guide online document and the Troubleshooting help file in the NTTAPISP directory. If the online document and Troubleshooting help file are installed, they are displayed in the *Symposium Desktop TAPI SP program* (Windows 95) and in the *Symposium Desktop TAPI SP program* window (Windows 3.1).

Note: Installing Nortel's TAPI SP 1.5 from Nortel's Web site or from a diskette **does not** install the online documents or the Troubleshooting Help file. You may access the online documents from Nortel's Web site, www.nortel.com/bap/sales.htm, and selecting the Symposium Desktop TAPI.

Prior to installing Nortel's TAPI SP 1.5 software, ensure the Pre-installation checklist (located in the "Pre-installation checklist" section in this chapter) is complete.

Note: If you have a previous version of Nortel's TAPI Service Provider installed, run the Uninstall program for your version before installing Nortel's TAPI SP 1.5 software. If necessary, refer to the "Removing Nortel's TAPI SP 1.5 Software" section located in Chapter 4.

Instructions are provided on installing Nortel's TAPI SP 1.5 from the Web site, from a diskette, and from a CD ROM. Once the installation process has started, instructions are the same for each installation.

Note: Before starting the Nortel's TAPI SP 1.5 software installation, close any TAPI applications that are running.

To Install from the Web Site:

1. From the Web Site, www.nortel.com/bap/sales.htm,, select and download the Symposium Desktop TAPI SP 1.5 version 1.5.0.XX. The Symposium Desktop TAPI SP are downloaded in a self extracting ZIP file. (Make a note of the directory where the file is downloaded.)
2. When the file has finished downloading, go to the directory where the file was downloaded and double-click on the TAP150XX.exe file. The files are unzipped.
3. Double-click on the Setup.exe file.
   The installation process begins. Refer to the "Completing the Installation" section.

   Note: If you are reading this document from the Web Site, you may wish to download it before starting the installation. You will need the Adobe Acrobat Reader installed on your machine to view and to print the document.

To Install from the Diskette or the CD ROM:

1. Insert Nortel's TAPI SP 1.5 installation diskette in the floppy disk drive or insert the CD ROM containing Nortel's TAPI SP 1.5 installation software in the CD ROM drive.
2. Follow the instructions below for installation on Windows 3.1 or Windows 95:

If you are installing on Windows 3.1:

a. Select **File** from the Program Manager Menu bar
The **File** menu displays.

b. Click on **Run**
The *Run* dialog box displays.

c. Type the **path for the floppy disk drive or CD ROM** followed by ***\setup.exe*** in the *Run* dialog box.
For example:
A:setup.exe
E:\Servprov\NTTSP\disk 1\setup.exe

d. Click on the **OK** button.

If You are installing on Windows 95:

a. Click on the **Start** button and Select **Run**.
The *Run* dialog box is displayed.

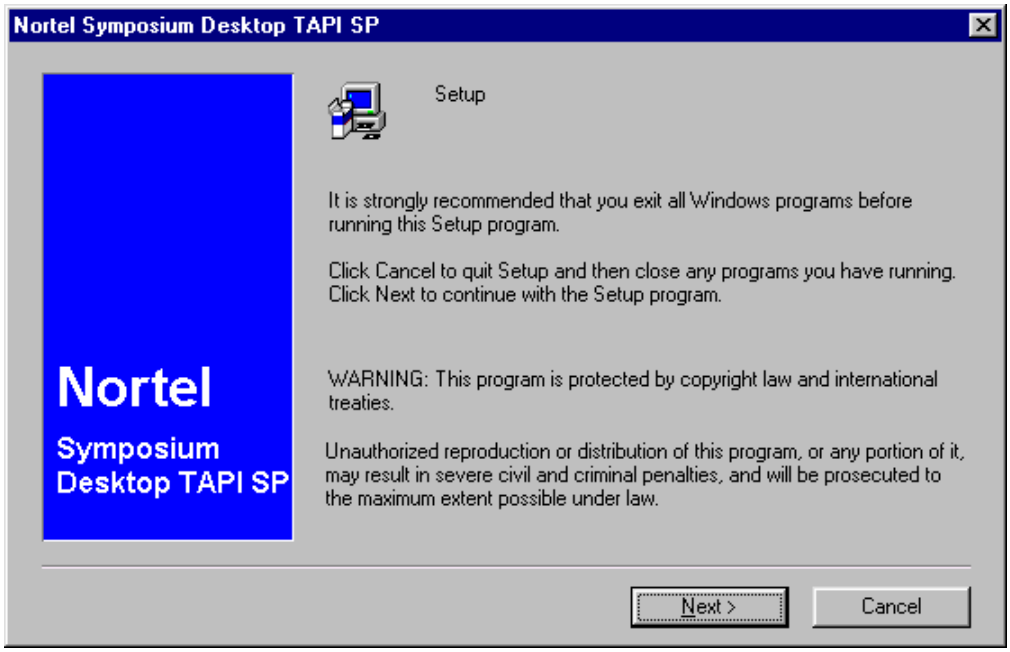
b. Type the **path for the diskette or CD ROM** followed by ***\setup.exe*** in the *Run* dialog box.
For example:
A:setup.exe
E:\Servprov\NTTSP\disk1\setup.exe

c. Click on the **OK** button.

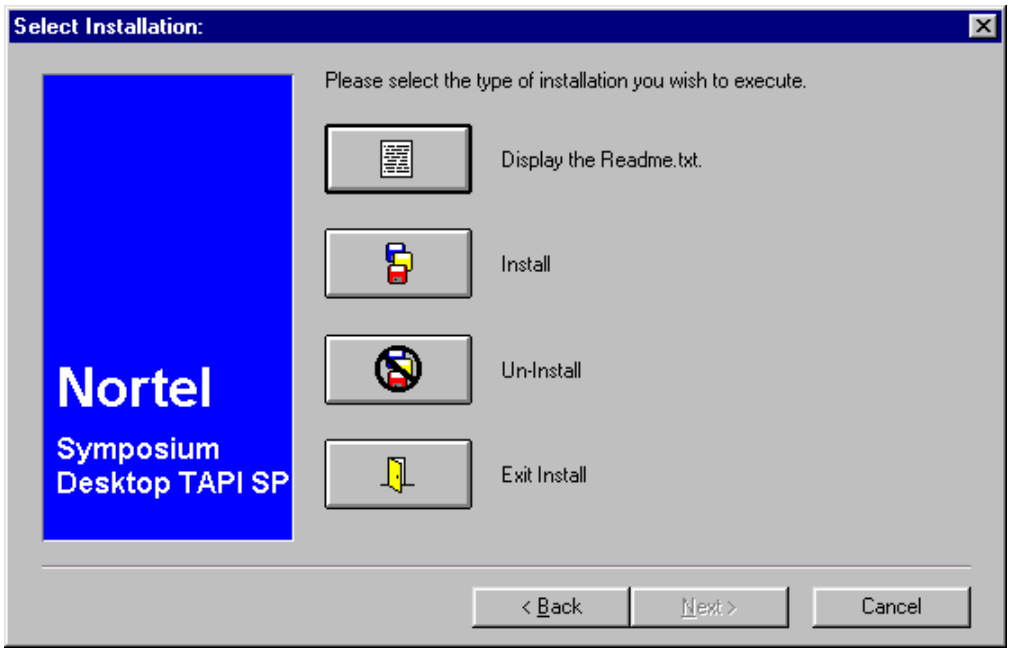
The installation process begins. Refer to the "Completing the Installation" section.

Completing the Installation

To Complete the Installation when the *Setup* dialog box is displayed:

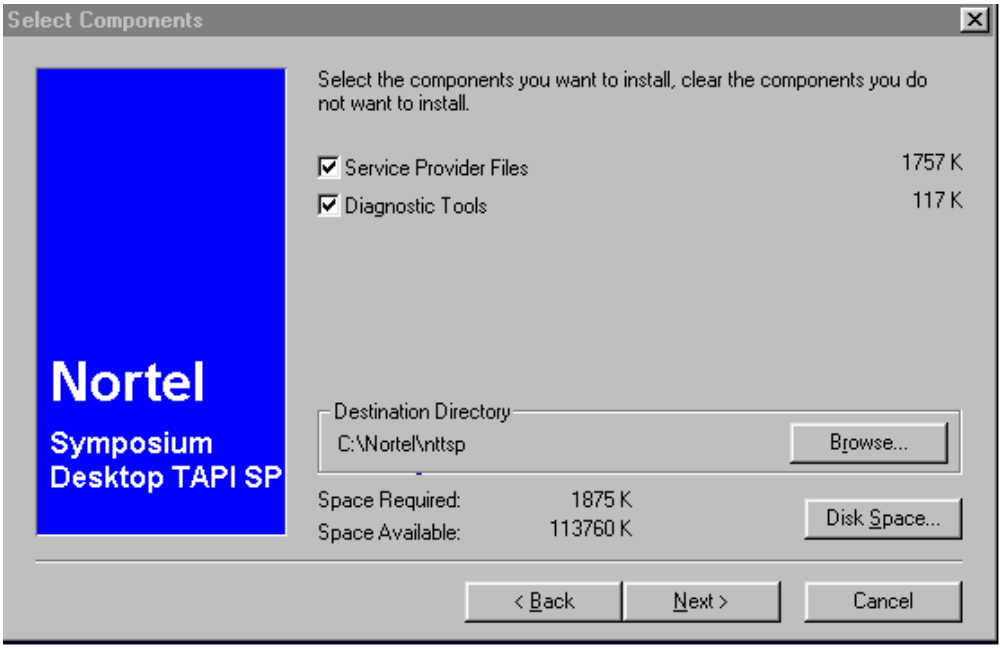


1. Click on the **Next** button to continue the installation.
The *Select Installation:* dialog box is displayed.



Note: We recommend that you read the README.TXT file before installing the software. However, this file is available after installation by selecting **Readme** on the *Symposium Desktop TAPI SP program* group (Windows 95) or by double-clicking on the **Readme** icon located on the *Symposium Desktop TAPI SP* program group window (Windows 3.x).

2. Click on the **Install** button followed by the **Next** button.
The *Select Components* dialog box displays the available components and the default installation directory.



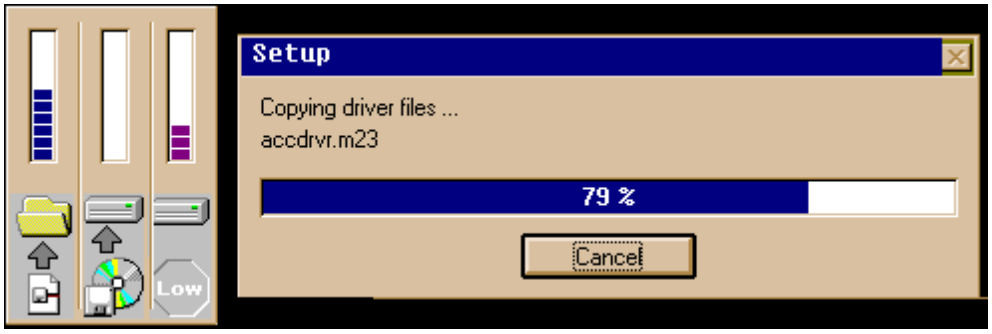
Note: Certain installations from the CD ROM may provide the option to install the online documentation.

3. To clear a component, click on the check box located to the left of the component. A check box with a check mark means the component will be installed.

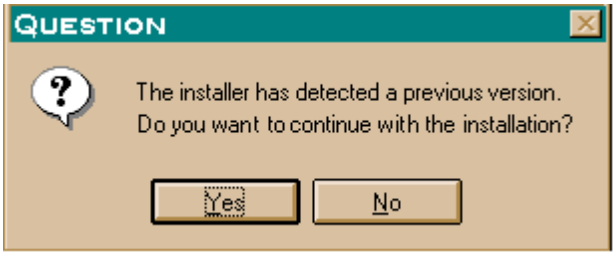
4. Check the disk space to ensure you have enough disk space to install Nortel's TAPI SP 1.5.

5. Click on the **Next >** button to accept the default directory and continue the installation.
   Or
   Enter or select (with the **Browse…** button) a new path name and click **Next >**. The drive in the path name must have Windows 3.1, Windows for Workgroups, or Windows 95 installed.

   The *Setup* dialog box displays the files that are being installed.

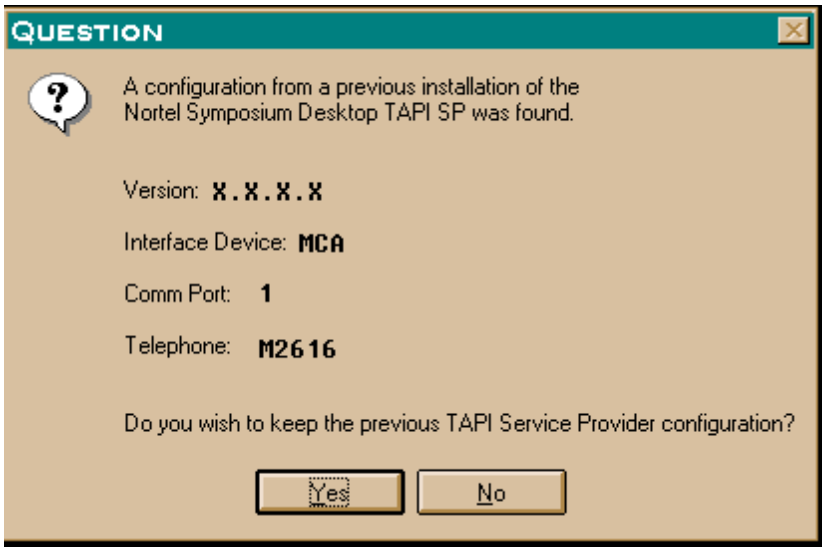


   a. If you have a previous version of Nortel's TAPI Service Provider installed, the install program asks if you wish to continue the installation.



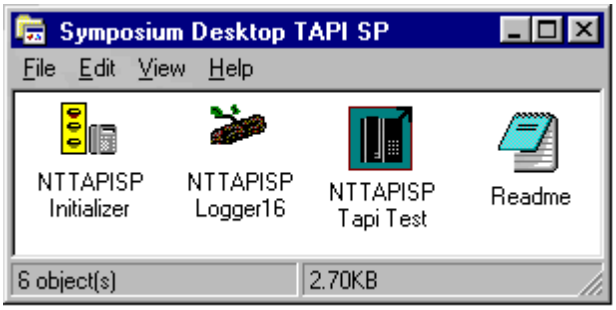
   Click on the **Yes** button to continue the installation.
   Or
   Click on the **No** button to cancel the installation.

   b. If you have a previous TAPI configuration, the following dialog box displays the information.



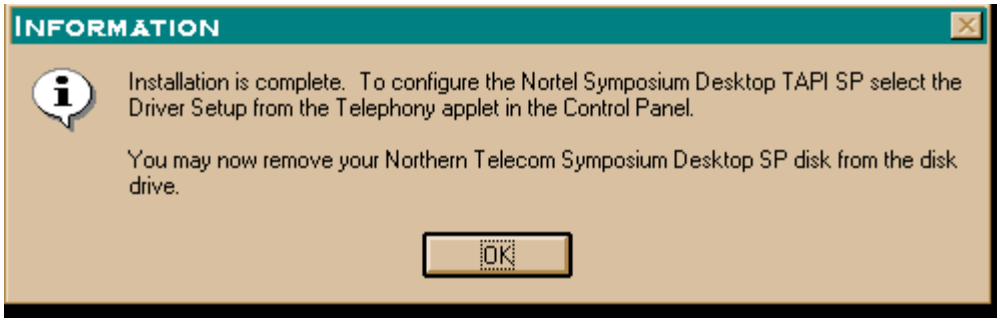
Click on the desired **Yes** or **No** button to continue the installation.

Nortel's TAPI Service Provider Installer creates a Program Group called **Symposium Desktop TAPI SP**.



Note: If your PC does not have Microsoft TAPI installed, Nortel's TAPI SP 1.5 will install a new version of TAPI (Version 1.3).

When the installation is complete, you are notified with the following dialog box.

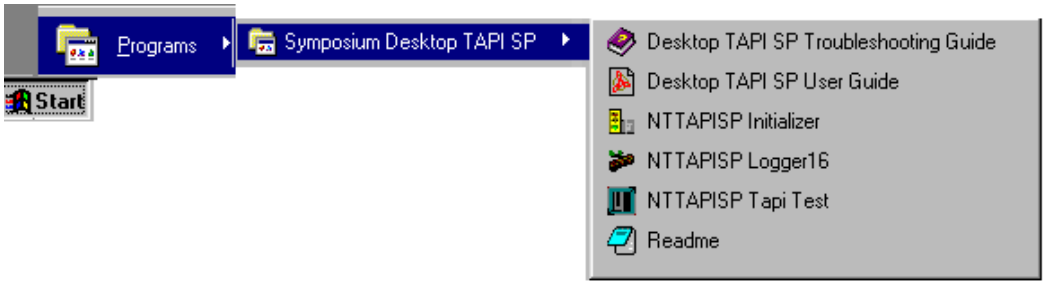


8. If applicable, remove the CD ROM or diskette from the drive and click on the **OK** button.
9. Configure Nortel's TAPI SP 1.5. Refer to Chapter 3 for detailed information.

The *Symposium Desktop TAPI SP program* group contains four icons labeled:

- Nortel TAPI Initializer
- Readme (text file)
- TAPI Test Program
- TAPI Logger

In addition, certain installations from the CD ROM may provide **online documentation**. The additional icons for the available documentation are displayed in the program group (Windows 95),



and the program group window (Windows 3.1).

If you copy or drag the **Nortel TAPI Initializer** icon to the **Startup** Program Group, TAPI is initialized when Windows is started. As a result, TAPI applications will start up quicker. It is recommended that this icon be copied to the **Startup** group only after the TAPI Service Provider has been configured and you have verified that your selected TAPI Application starts up without error.

Refer to Chapter 3 for detailed instructions on configuring Nortel's TAPI Service Provider 1.5. Refer to Chapter 4 for detailed information on using the TAPI Test Program and the TAPI Logger.

Chapter 3 Configuring Nortel's TAPI SP 1.5

This chapter provides information on configuring the Nortel Symposium Desktop TAPI Service Provider 1.5.

Overview of the Configuration Process

Before installing TAPI applications, you must configure the Nortel Symposium Desktop TAPI Service Provider 1.5 (Nortel's TAPI SP 1.5). Nortel's TAPI SP 1.5 enables TAPI compliant applications to communicate calling information and other commands to and from applications. The configuration process consists of accessing the *Nortel TAPI SP Setup* dialog box and configuring the Interface device, the telephone, the SCCS and ACD parameters, if applicable, and the PBX/Switch. Certain configurations require you to restart Windows to enable the changes.

Note: The dialog boxes shown in this section are examples of Windows 95 dialog boxes. If you have Windows 3.1, the dialog boxes you see will vary. However, the information on Windows 95 and Windows 3.1 dialog boxes are the same.

Steps for Configuring Nortel's TAPI SP 1.5

Configuration options are selected from the *Nortel TAPI SP Setup* dialog box.

Configuring Nortel's TAPI Service Provider consists of the following steps:

1. Accessing the *Nortel TAPI SP Setup* dialog box and adding the driver.
2. Configuring the Interface device.
3. Configuring the telephone.
   a. Configuring the SCCS parameters, if applicable.
   b. Configuring the ACD parameters, if applicable.
4. Configuring the PBX/Switch (reason code parameters)
5. Closing the *Nortel TAPI SP Setup* dialog box.

The following sections provide instructions for each step.

Accessing the Nortel TAPI SP Setup Dialog Box

To Access the Nortel TAPI SP Dialog Box:

1. After installing Nortel's TAPI SP 1.5 software and restarting Windows, if necessary, do one of the following:

   In Windows 3.1, click on the **Main** program group in the Program Manager.
   Or
   In Windows 95, click on the **Start** button and select **Settings**.

2. Double-click on the **Control Panel** icon.

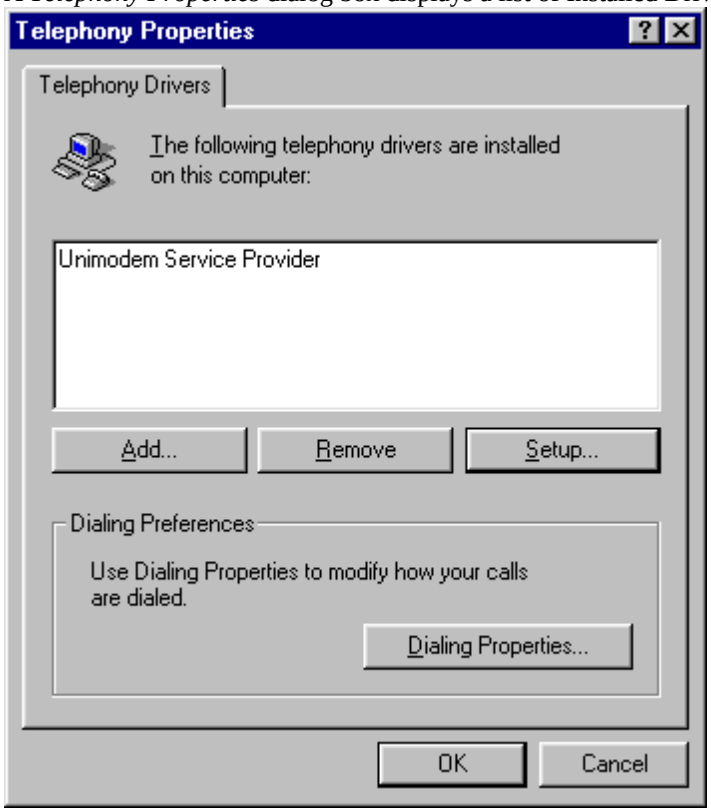
   The *Control Panel* window displays the **Telephony** icon 

.

   Note: If the Telephony icon does not display (in Windows 95) after installing Nortel's TAPI SP 1.5 software, you must install the Windows Telephony Dialer software. This is found on your Windows 95 CD ROM.

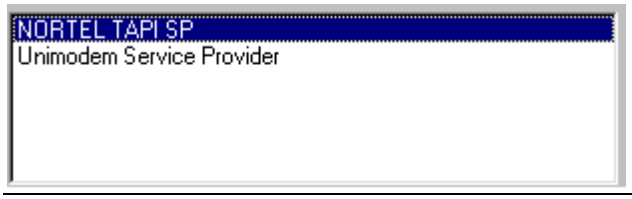
3. Double-click on the **Telephony** icon.
   In Windows 3.1, click on the **Driver Setup.**

   A *Telephony Properties* dialog box displays a list of Installed Drivers on the left side.



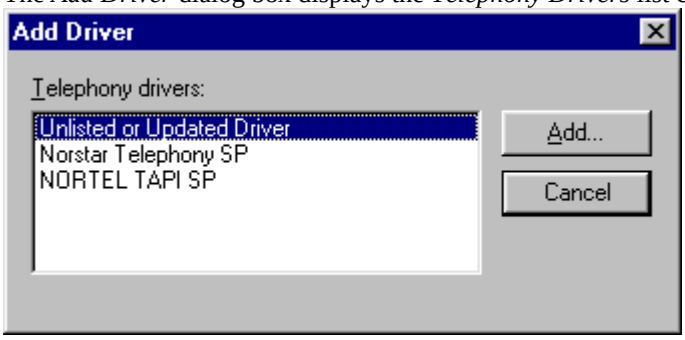
   If this is a first time to install a TAPI Service Provider, Nortel TAPI SP is not on the list.

   Note: The Nortel TAPI SP entry may appear on the list if the "telephone.ini" file in the Windows directory has been previously modified by TAPI SP.

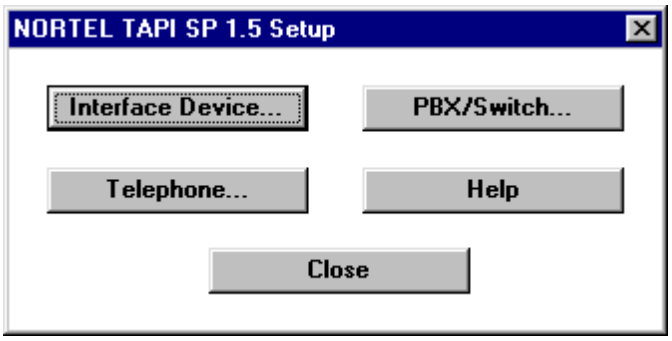


   However, if "Nortel TAPI SP" does display, click on the **Setup** button and proceed to step 8 below.

4. Click on the **Add** button.
   The *Add Driver* dialog box displays the *Telephony Drivers* list containing the Nortel TAPI SP.



5. Click on **Nortel TAPI SP** to highlight it.
6. Click on the **Add** button.
   The *Nortel TAPI SP 1.5 Setup* dialog box displays.

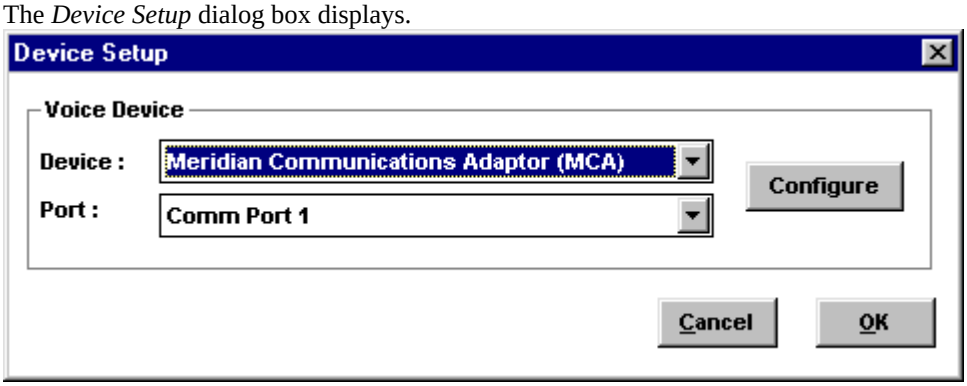


7. Configure the Interface Device, the Telephone, the PBX/Switch, the SCCS, and the ACD as applicable.

Configuring the Interface Device

To Configure the Interface Device from the *Nortel TAPI SP 1.5 Setup* dialog box:

1. Click on the **Interface Device** button.
   The *Device Setup* dialog box displays.



2. Select your Voice Device and the port on your PC that is connected to the Voice Device.

Note: Read the following information before selecting your Voice Device:

- If you select Nortel Symposium Communicator card, there is no need to select a port.

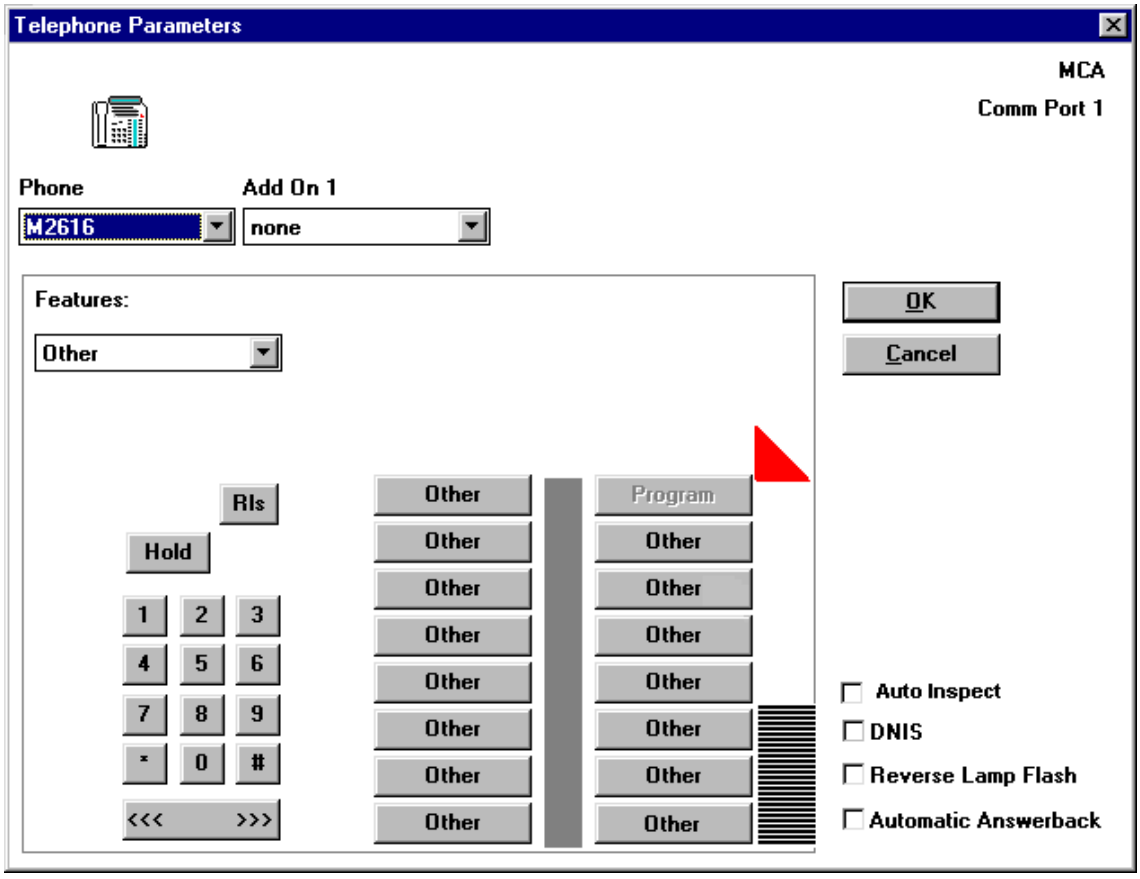
- Only the Meridian TelAdaptor TCM, Meridian Communications Adapter (MCA), Meridian Programmable Data Adapter (MPDA), or Nortel Symposium Communicator card are supported on Meridian 1 Option 11-81 PBXs. The VISIT Interface Unit, MCA and Nortel Symposium Communicator card are the only options supported on MSL-100/DMS-100 telephone systems.
- If you choose TCM TelAdaptor as your interface device, Windows must be restarted when you finish configuring Nortel's TAPI SP 1.5.
- If you select MCA as your interface device and your MCA is connected to an MSL-100/DMS-100, click on the Configure button and select SL1 as the switch type. However, if your MCA is connected to a Meridian 1 Option 11-81, you do not need to change any settings.

3. Click on the **OK** button to save these settings. If this is a re-installation or an upgrade, you still must choose **OK** if the interface device is already selected. Selecting **OK** downloads the correct drivers for that device.

Configuring the Telephone

To Configure the Telephone from the *Nortel TAPI SP 1.5 Setup* dialog box:

1. Click on the **Telephone** button.
   The *Telephone Parameters* dialog box is displayed.



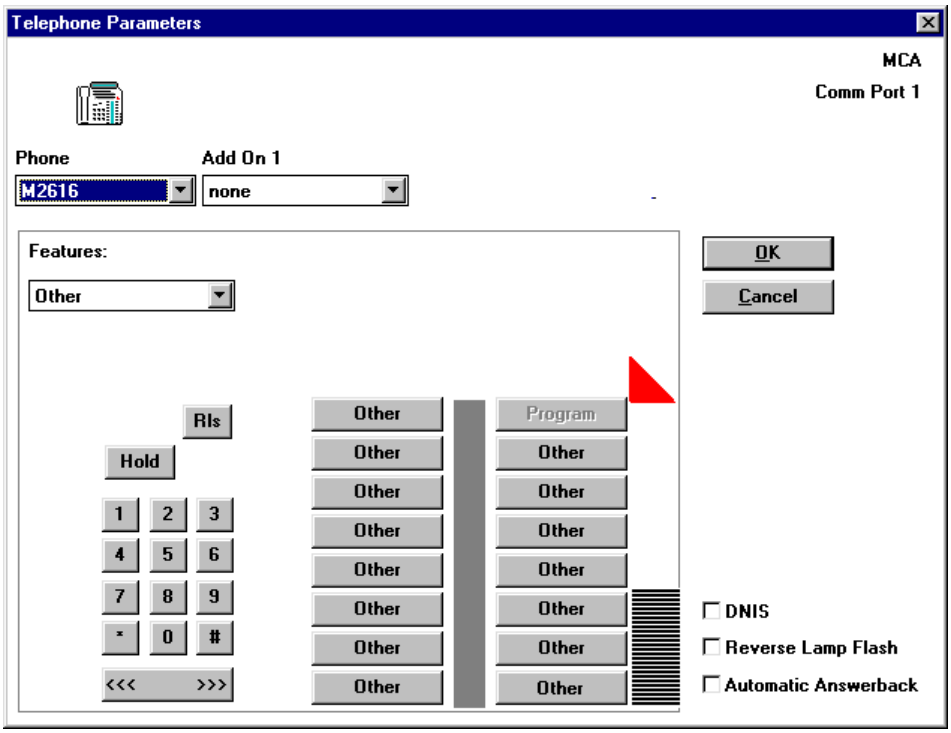
2. Click on the **down arrow** located to the right of the *Phone* listbox and click on appropriate telephone set to select it. It is important to select the phone type before configuring any other phone parameter.

Note: Many different types of telephones may display in the Phone listbox, but only those listed in the "System Requirements" section in Chapter 2 are currently supported by Nortel's TAPI SP 1.5.

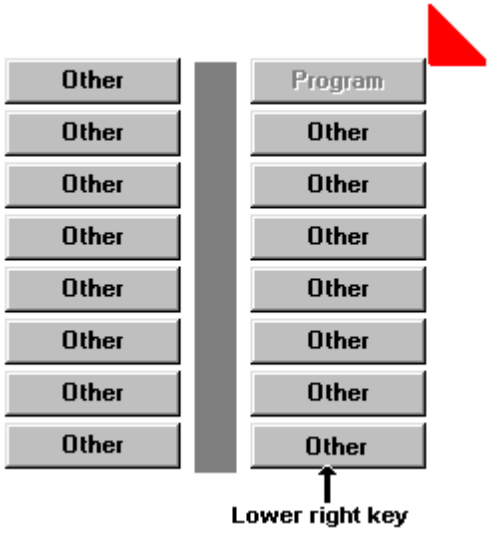
3. Define all of your telephone keys starting with the lower right.

Note: The lower right key is for DN, Incalls, or Private only. The other features apply to the other keys.

a. Click on the Feature key (labeled "Other") The key number is displayed over the *Features* drop-down listbox.



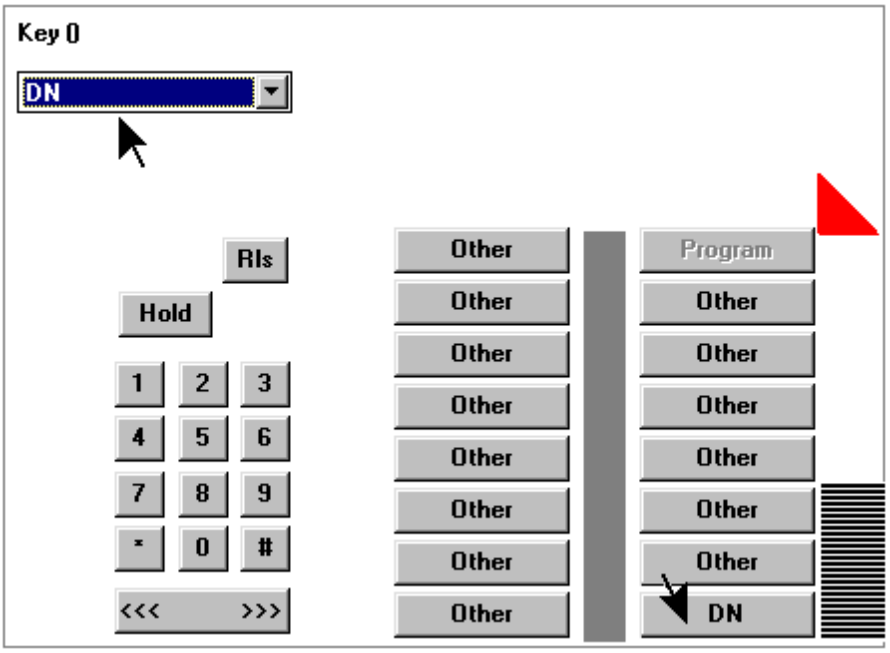
b. Click on the down arrow located to the right of the *Feature* listbox.
If you clicked on the lower right key (Key 0), the only features available are DN, Incalls, or Private.



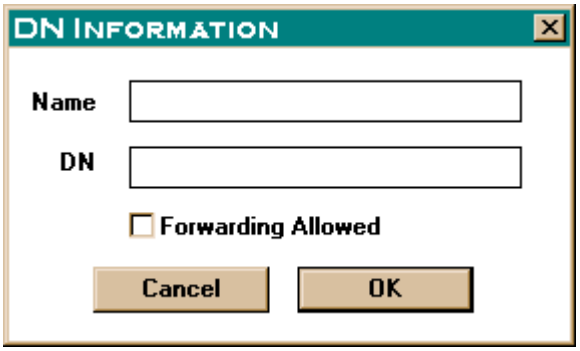
c. Choose the feature from the list that matches the key label on your phone and that has been assigned by your telephone system administrator.

The *Information* dialog box that is displayed, for adding additional information, depends upon the option you selected.

For example, selecting Key 0 and the **DN** option, as shown below,

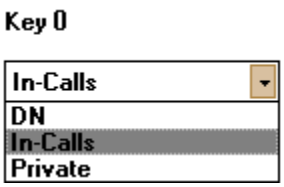


displays the *DN Information* dialog box.

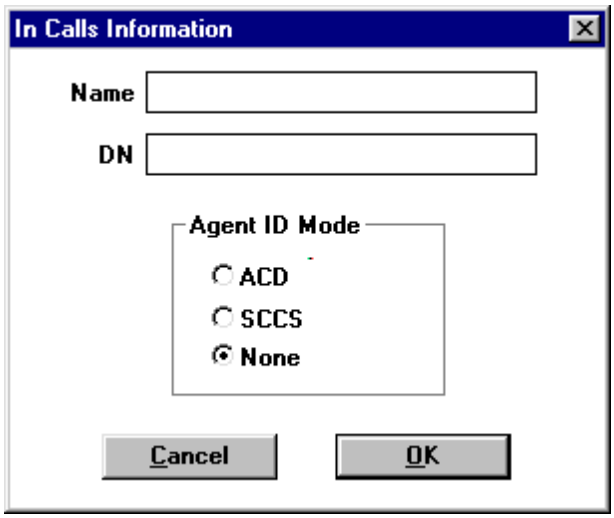


Or

Selecting Key 0 and the **InCalls** feature, as shown,

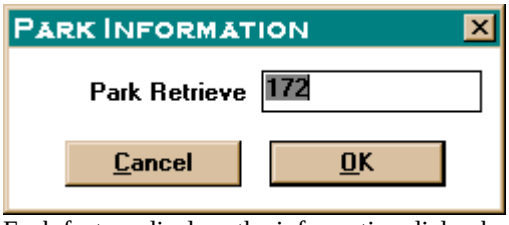


displays the *In Calls Information* dialog box. This dialog box is used to configure ACD or SCCS parameters.



Or

Selecting a key other than Key 0 and the **Park** option displays the *Park Information* dialog box:



Each feature displays the information dialog box associated with the feature.

d. Enter the requested information.

e. Click on the **OK** button to save the changes.

Note: **Read the following information before selecting the Features:**

- If you plan to configure Symposium Call Center Server (SCCS), you must assign an In-Calls key to the lower right key (Key 0). Refer to the "Assigning the In-Calls Key" section for additional information.
- If you are using an ACD set, you must assign an In-Calls key to the lower right key. Refer to the "Assigning the In-Calls Key" section for additional information.
  In addition, enter your ACD Position ID and if Call Forcing is enabled on your set, you must also check the **Call Forcing** check box when defining the In-Calls key on the *In Calls Information* dialog box. If your set automatically answers calls presented to the In-Calls key without you having to press the key manually, Call Forcing has been enabled for your set. This feature is often used by ACD agents with headsets.
- If you selected an M2006, M2008, M2216, M2616 set (for Meridian 1), or an Orion set in Step 2, you only need to define the DN, In-Calls and Call Park keys—including the Park retrieve Code whose default (172) consists of a SPRE Code + the Call Park Retrieve feature Code (72). The remaining keys will be defined automatically when you exit the Control Panel and start the TAPI application. However, if you selected an M2317, M5009, M5209, M5112, M5212 or M5312 set in Step 2, you must define all keys. If a function is assigned to a key on the phone set it must be configured here. If there is not a function assigned to a key, it must be configured with the **Other** function.
- If your telephone is equipped with an Add-On module, click on the **Down arrow** beside *the Add on 1* field, and select **Key Exp**. module. A snapshot of the module should appear, and you can configure the keys on the module by highlighting the key and selecting a feature from the

"Features" drop down list. TAPI SP 1.5 supports only Directory Numbers (DNs) on key expansion modules. You can configure up to 2 Add-on modules per set.

- Click on the Auto Inspect check box to allow the phone system to automatically depress the display key on incoming calls. If the check box is not checked, you will have to depress the display key on incoming calls to view the incoming information.
- If your M2006, M2008, M2216 or M2616 (for Meridian 1) set , or your Orion set will be receiving and displaying Dialed Number Identification Service (DNIS) digits from the telephone company, you must check the **DNIS** check box that appears in the lower right corner of the dialog box; beside the keys of all Meridian 1 sets.
- If your M2006, M2008, M2216 or M2616 (for Meridian 1) or your Orion set's Class of Service has the "Reverse Lamp Flash Allowed" (RLFA) feature enabled, you must check the **Reverse Lamp Flash** check box that appears in the lower right corner of the dialog box; beside the keys of all Meridian 1 sets.
- If your M2006, M2008, M2216 or M2616 (for Meridian 1) set or your Orion set has either a key configured on the set as AAK, or it's Class of Service has the "Automatic Answer Back Allowed" (AAA) feature enabled, you have to check the **Automatic Answerback** check box that appears in the lower right corner of the dialog box; beside the keys of all Meridian 1 sets.

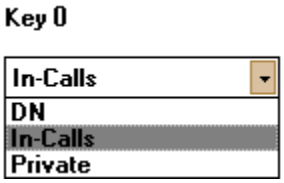
4. After making the change, click on the **OK** button to save the Telephone Parameters.
   The *Nortel TAPI SP 1.5 Setup* dialog box displays.

Assigning the In-Calls Key

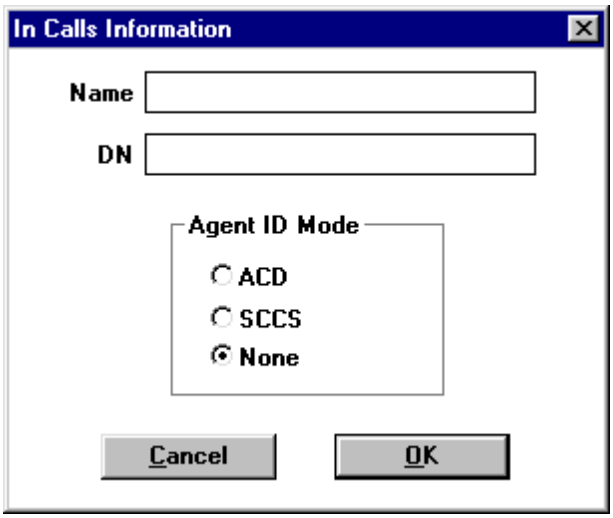
If you plan to configure SCCS or ACD and Agent Queues, you must assign Key 0 as an In-Calls Key. After selecting the In-Calls feature to Key 0, the In Calls Information dialog box is displayed. This dialog box provides three Agent ID Mode options.

To Assign an In-Calls key:

1. Click on the lower right key.
2. Click on the arrow next to the *Feature* listbox.
3. Select the **In-Calls** option.



The *In Calls Information* dialog box is displayed.



4. Enter information as necessary.
5. Select the Agent ID Mode.

   None - Select this option if you log in without having to enter Agent ID.

   ACD - Select this option if you log in using Agent ID or if Multiple Queue assignment is configured on the Meridian 1 switch for your set.

   SCCS - Select this option if Symposium Call Center Server is controlling calls to your set's In-call key.

   Selecting ACD or SCCS radio button displays additional dialog boxes. Refer to the "Configuring the ACD Parameters" or the "Configuring the SCCS Parameters" for additional information.

Or

If you selected the **None** option, click on the **OK** button to save the changes.

Key 0, the lower right key, now displays In-Calls.

Configuring the ACD Parameters

The *ACD Parameters* dialog box allows the user to provide information to the TAPI application regarding some ACD switch parameters.

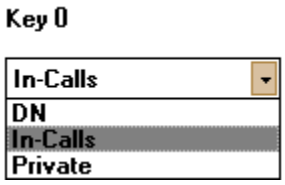
If capable, the TAPI application can reference this information on the ACD queues upper and lower Agent ID's, which would allow the application to restrict certain login attempts.

Also, it can provide the application knowledge whether or not this specific user is an ACD Supervisor or has specific priorities assigned to them through the switch.

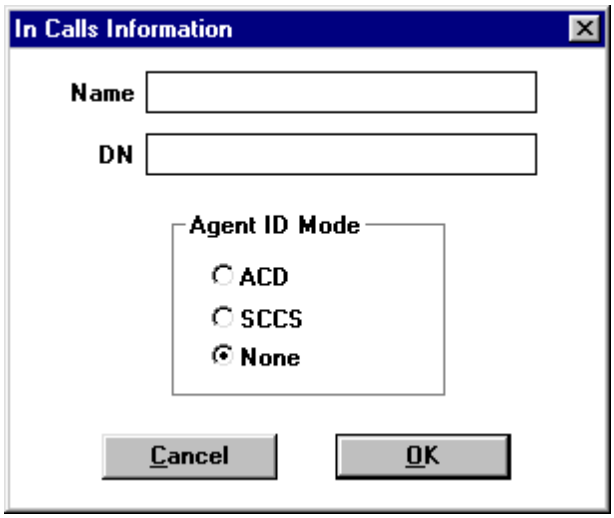
Note: The "ACD" is configurable only if the Switch is Meridian 1 or SL1 and an In-calls key has been assigned in the *Telephony Parameters* dialog box. Refer to the "Assigning the In-Calls Key" section for detailed information.

To Configure the ACD from the *In-Calls Information* dialog box:

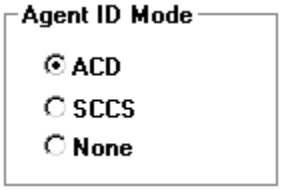
1. Click on the **ACD radio button**.
   Or
   If you did not assign an Incalls key when configuring the telephone, do it now.
   a. From the *Telephone Parameters* dialog box, click on the lower right key (Key 0).
   b. Click on the arrow next to the *Feature* listbox.
   c. Select the **In-Calls** option.



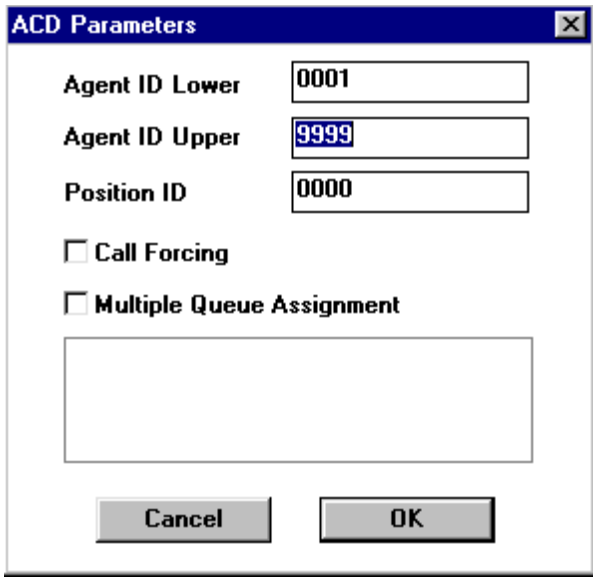
   The *In Calls Information* dialog box is displayed.



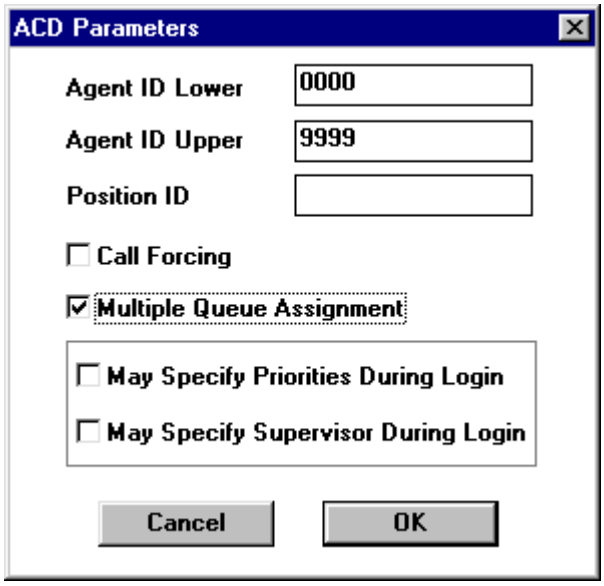
   d. Click on the **ACD** radio button to select it.



2. Click on the **OK** button.
   The *ACD Parameters* dialog box is displayed.



3. Set the parameters, as applicable.
4. Click on the Multiple Queue Assignment check box, if applicable. Clicking on this option displays the following options.



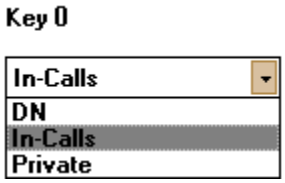
5. Click on the **OK** button to save the changes.

Configuring the Symposium Call Center Server (SCCS)

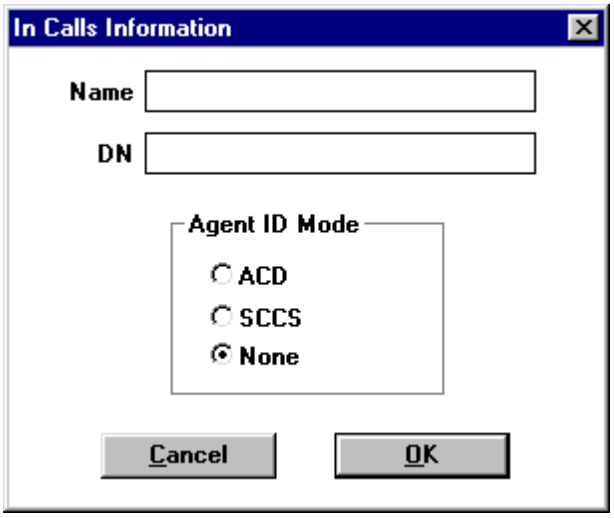
Before configuring the SCCS Call Presentation parser for an agent, the server must be set up with the SCCS Call Presentation. When the setup is the same on both sides, the call presentation can be properly displayed.

To Configure the SCCS from the *In Calls Information* dialog box:

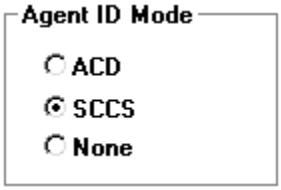
1. Click on the **SCCS** radio button.
   Or
   If you did not assign an Incalls key when configuring the telephone, do it now.
   a. From the *Telephone Parameters* dialog box, click on the lower right key (Key 0).on the lower right key on the keypad.
   b. Click on the arrow next to the *Feature* listbox.
   c. Select the **In-Calls** option.



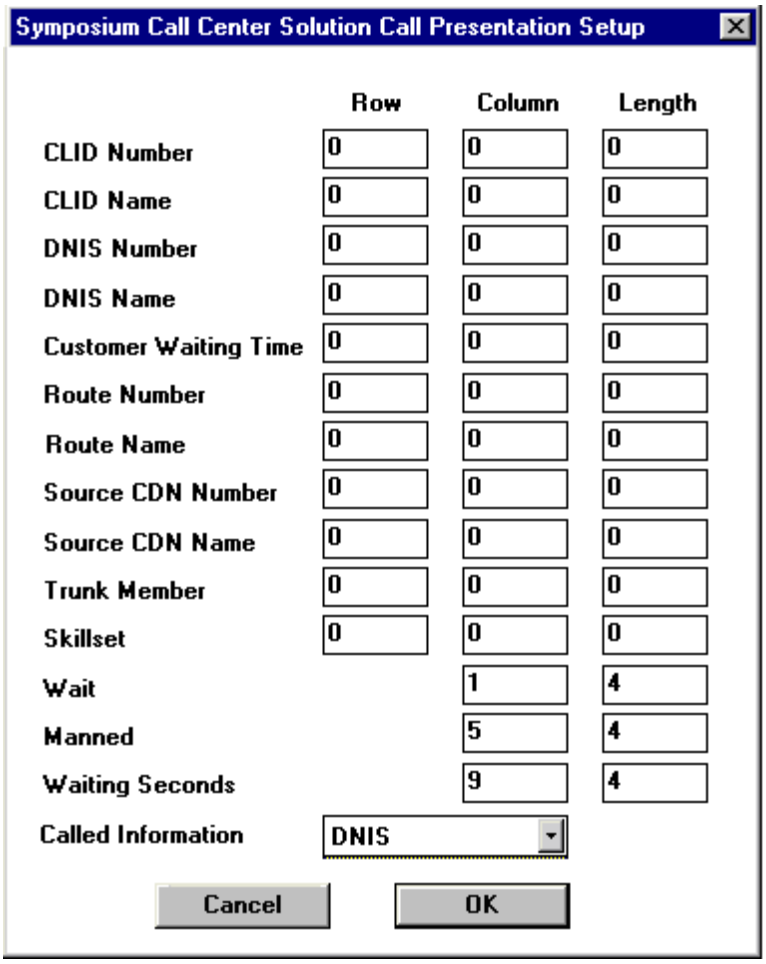
   The *In Calls Information* dialog box is displayed.



   d. Click on the **SCCS** radio button to select it and click on the **OK** button.



   The *SCCS Call Presentation Setup* dialog box is displayed.



2. For each **SCCS** call presentation field:
set the row number (where the field will be displayed), the column number (where the field will be started), and the length (which is the size of the field).

3. For the following DWC fields:
Wait, Manned, and Waiting Seconds
a default row number will be used.

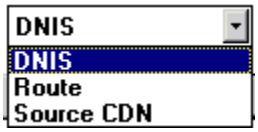
   The following information is displayed on an agent's phone set:
   AAA-BBB-CCC
   where:

   AAA = number of calls currently waiting in all the active skillset queues defined for that agent
   BBB = number of agent positions manned (logged in) for the active skillset queues that are associated with the agent
   CCC = the waiting time in seconds of the oldest all in the agent's active skill queues

   DWC Key Set Display TYPE and Field Width

Display Type	AAA	BBB	CCC
1 by 12	3 digits	3 digits	3 digits
1 by 16	4 digits	4 digits	4 digits
1 by 40	4 digits	4 digits	4 digits
2 by 24	4 digits	4 digits	4 digits

When setting up the Symposium Call Center Server, (SCCS), you must decide what information you would like to have displayed in the *Called Party Field* of the application you are working with. Each selection in the *Called Information* field includes the Name and Number to be displayed.



After deciding what information is to be displayed by the server, you must have the correct fields configured in the Call Presentation Setup to work properly.

4. Click on the **OK** button to save the changes.

Configuring the PBX/Switch

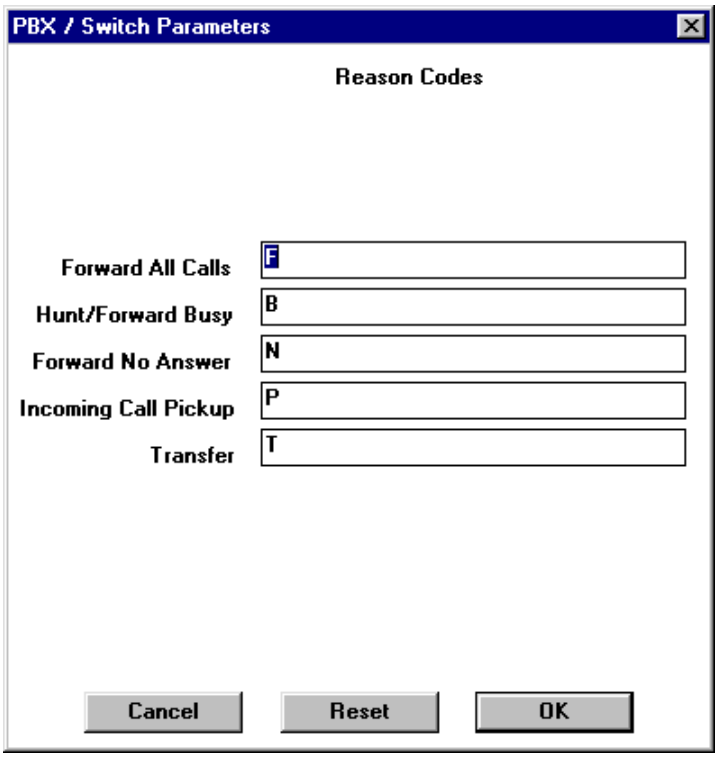
The Reason codes that display when selecting the **PBX/Switch** button depend upon your PBX/Switch type. When configuring the PBX/Switch, check to be sure the Reason Code values are the same as the ones configured on your switch.

Note: Reason codes will appear on your telephone set's display embedded within quotation marks such as "B" or "T." These appear whenever calls are redirected within the telephone system such as hunting up your keylamp strip on busy DNs or another telephone has been forwarded or transferred to your phone. Pay particular attention to whether there are blank spaces within the quotation marks. If there are spaces, you may need to include spaces when defining Reason Code Mnemonics under Telephone Setup.

Configuring the Meridian 1

To Configure the PBX/Switch button from the *Nortel TAPI SP 1.5 Setup Dialog* box:

1. Click on the **PBX/Switch** button. If your switch is the Meridian 1, the following *PBS/Switch Parameters* dialog box is displayed.



2. Check to be sure that the Reason Code values are the same as the ones configured on your switch. If the mnemonics do not match the telephone systems configuration, your TAPI application may not display the correct Calling/Called numbers when a Reason Code is displayed on the set.

   Ask your Meridian 1 telephone system administrator to print the CPND data block in LD 95. The printout shows the information in Table 10. The default PBX mnemonics are F, N, B, P, T. If the printout shows the mnemonics are different from those shown on the PBX/Switch Parameters dialog, you must change the mnemonics to match the mnemonics set up on the Meridian 1 Telephone System.

   Table 10 CPND data block information

REQ PRT	
TYPE CPND	
CUST 0	
TYPE CPND	
CUST 0	
CNFG ALON	
MXLN 27	
STAL YES	
DFLN 13	
DES YES	
RESN YES	
CFWD F	(Mnemonic for Call forward all calls display)
CFNA N	(Mnemonic for Call forward No Answer display)
HUNT B	(Mnemonic for Hunt/Call Forward Busy display)
PKUP P	(Mnemonic for Call Pickup display)
XFER T	(Mnemonic for Call Transfer display in Network Call Redirection)
AAA A	

   For Example:

   - If the CFWD mnemonic on the PBX is CFWD, you must change the Telephone Setup mnemonic "Forward No Answer" to CFWD, then click **OK**.

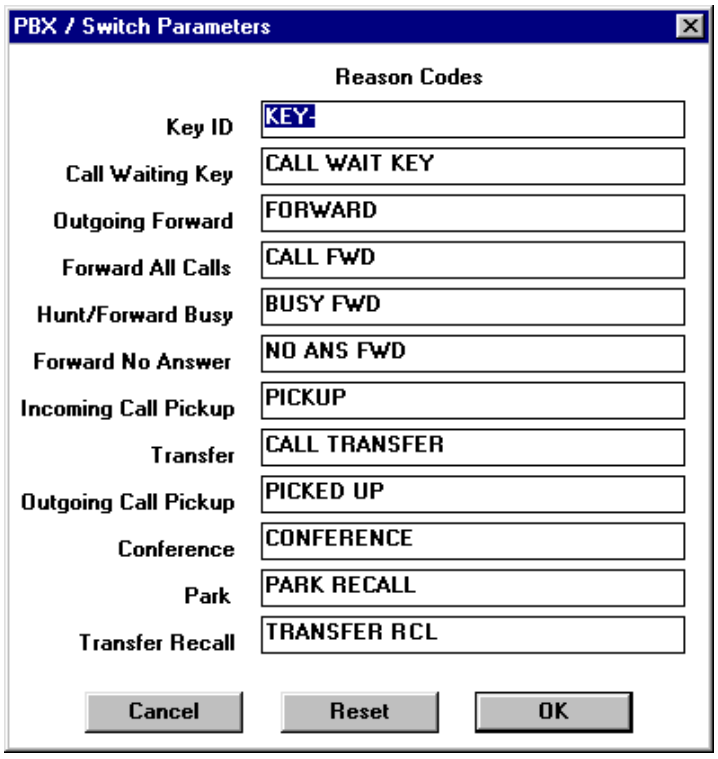
- If the HUNT mnemonic on the PBX is B and the telephone shows "B " (B with two spaces after), you must change the Telephone Setup mnemonic "Hunt/Forward Busy" to B followed by two spaces, then click **OK**.
- The default XFER mnemonic on the PBX is T that shows up on the set as "T" indicating no spaces need to be entered in the Reason Code mnemonic field. Therefore, you would need to change the Telephone Setup mnemonic "Transfer" to T followed by no spaces, then click **OK**.

3. Click on the **OK** button to save changes to the PBX/Switch Parameters dialog box. The *Nortel TAPI SP Setup 1.5* dialog box displays.

Configuring the MSL-100/DMS-100

To Configure the PBX/Switch button from the *Nortel TAPI SP 1.5 Setup Dialog* box:

1. Click on the **PBX/Switch** button. If your switch is the MSL-100/DMS-100, the following *PBS/Switch Parameters* dialog box is displayed.



2. Check to be sure that the Reason Code values are the same as the ones configured on your switch. If the mnemonics do not match the telephone systems configuration, your TAPI application may not display the correct Calling/Called numbers when a Reason Code is displayed on the set.

   Ask your MSL-100/DMS-100 to print out Table "REASONS" to get a list of the reason code mnemonics then change your default mnemonics to match the MSL-100/DMS-100 configuration as necessary.

   Table 11 provides an example of a partial print out of the Table “REASONS” for the MSL-100. The ones that appear in the TAPI control panel are the important ones for you.

Note: The _ in each entry is actually a space on the display of the phone. The message on the right is what shows on the phone, for example, "Call Transfer" when a call is transferred to the phone.

Table 11 Table Reasons printout

```
TABLE: REASONS
TOP
      REASNSET          REASONID          MESSAGE
-------------------------------------------------------
    DEFAULTSET        UNKNOWNMSG      NO_CALL_INFO
    DEFAULTSET       EXTERNALMSG     OUTSIDE_CALL
    DEFAULTSET          CONFMSG       CONFERENCE
    DEFAULTSET        BARGEINMSG        BARGE_IN
    DEFAULTSET        TERMCFUMSG         CALL_FWD
    DEFAULTSET        TERMCFDMSG       NO_ANS_FWD
    DEFAULTSET        TERMCFBMSG         BUSY_FWD
    DEFAULTSET        ORIGFWDMSG          FORWARD
    DEFAULTSET        TERMCPUMSG           PICKUP
    DEFAULTSET          CPKRMSG      PARK_RECALL
    DEFAULTSET          CXRRMSG     TRANSFER_RCL
    DEFAULTSET        ORIGCPUMSG        PICKED_UP
    DEFAULTSET          CXRMSG     CALL_TRANSFER
    DEFAULTSET       INSPACTGRP      ACTIVE_GROUP
    DEFAULTSET          INSPAUD    AUTOMATIC_DIAL
    DEFAULTSET          INSPAUL    AUTOMATIC_LINE
    DEFAULTSET          INSPCFW      CALL_FORWARD
    DEFAULTSET      INSPCALLMWT   NN_MSGS_WAITING
    DEFAULTSET          INSPCPK        CALL_PARK
    DEFAULTSET          INSPCPU      CALL_PICKUP
    DEFAULTSET          INSPCWT     CALL_WAIT_KEY
    DEFAULTSET         INSPCNF6          CONF-6
      .
      .
      .
BOTTOM
```

3. Click on the **OK** button to save changes to the PBX/Switch Parameters dialog box. The *Nortel TAPI SP Setup 1.5* dialog box displays.

Closing the Nortel TAPI SP Setup Dialog Box

To Close the *Nortel TAPI SP* Setup Dialog Box:

1. Click on the **Close** button to exit the *Nortel TAPI SP* Setup dialog box.
2. Click on the **Close** button to exit the Telephony Drivers dialog box.
3. Click on the **Close** button to exit the Telephony dialog box.
4. Exit the **Control Panel**.

Note: Remember to restart Windows if you selected the TCM TelAdaptor as your Interface device and you have not already restarted Windows.

Configuration of *Nortel's TAPI SP 1.5* is complete. You are now ready to install and setup your TAPI application.

Chapter 4 Troubleshooting Tips

This chapter provides information for additional installation acceptance testing using the TAPI Test Tool and for running the Logger Tool. In addition, it also describes possible problems and the actions to resolve these problems.

Verifying Nortel's TAPI SP 1.5 is Installed and Configured Properly

The TAPI Test tool (Tapitest.exe) is provided to assist you in verifying that Nortel's TAPI SP 1.5 is properly installed and configured. Alternately, Microsoft "Dialer" application provided with Windows 95, can also be used to dial a call and verify that Nortel Symposium Desktop TAPI Service Provider 1.5 is up and running.

Note: If you are having problems, you may be instructed to run the TAPI Logger program while using the TAPI Test tool. The "Logger Troubleshooting Tool" section provides information on running the TAPI Logger program. However, do not run the TAPI Logger program unless instructed to by Nortel's TAPI Support Personnel.

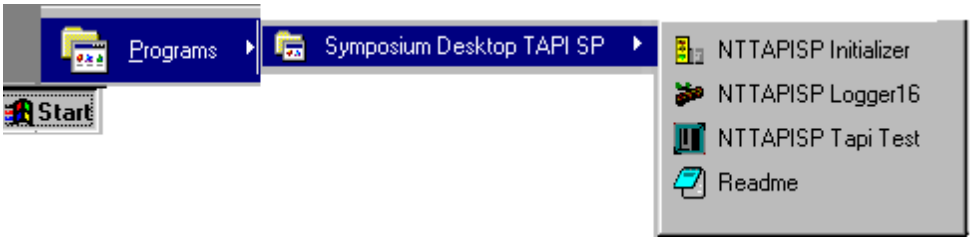
Using the TAPI Test Tool

The TAPI Test Tool (Tapitest.exe) is a utility program provided by Northern Telecom to help test the installation of Nortel Symposium Desktop TAPI Service Provider 1.5.

Successful installation of Nortel Symposium Desktop TAPI SP 1.5 displays a program group named *Nortel Symposium Desktop TAPI SP* (Windows 95) and *Symposium Desktop TAPI SP* program group window (Window 3.x) on your computer that contains the **TAPI Test Tool** icon. Launching the TAPI Test program displays the *TAPI Test* window. This window provides you with the capability to answer, make, and drop calls, to place calls on hold and take them off hold, and to transfer calls. The call information is displayed in the fields on the Call Information area. The Log Information area displays the log information. Successful completion of these tasks ensures the Nortel TAPI SP 1.5 is installed and configured properly.

Launching the TAPI Test Tool:

If the operating system on your computer is Window 95, you launch Tapitest.exe by clicking on the **Start** button, selecting **Programs**, then selecting the **Symposium Desktop TAPI SP program**, and choosing **NTTAPISP TAPI Test**.

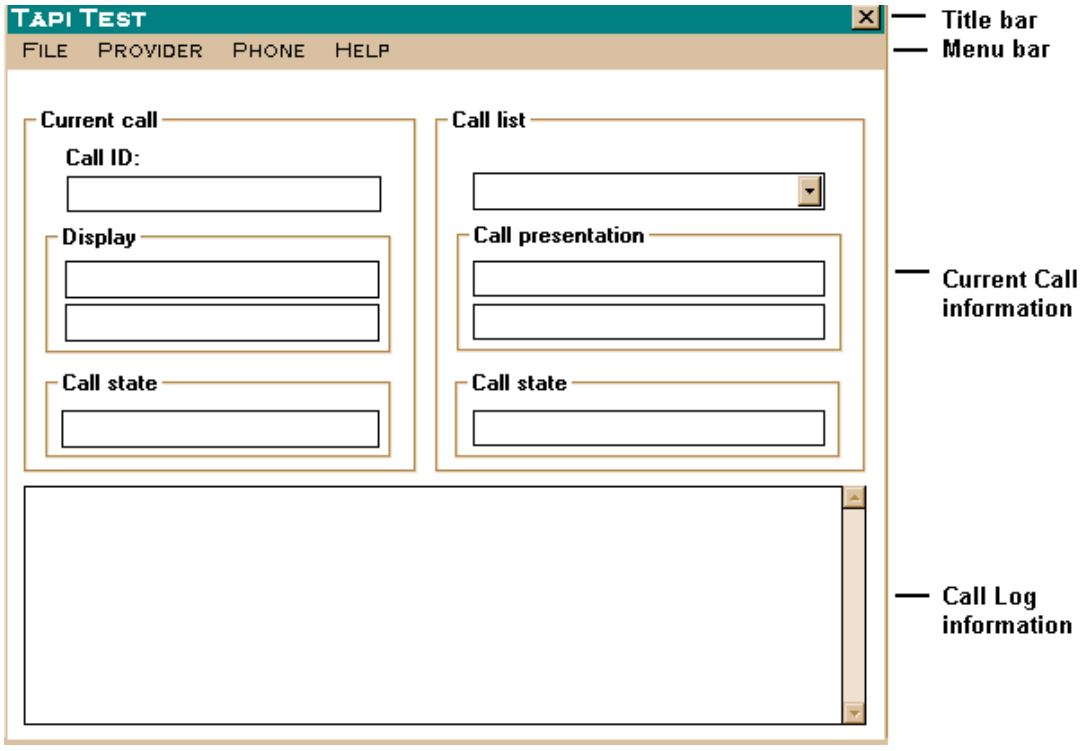


If the operating system is Window 3.x, open *Symposium Desktop TAPI SP* program group window and double-click on the **NTTAPISP TAPI Test** icon.

Launching the TAPI Test program opens the *TAPI Test* window.

TAPI Test Window

The TAPI Test Tool provides a windows-based user interface that allows you to launch Nortel's TAPI SP 1.5 and perform simple testing. The *TAPI Test* window contains the following window elements:



The following table describes the window elements contained on the *TAPI Tool* window.

Table 12 TAPI Test window elements and descriptions

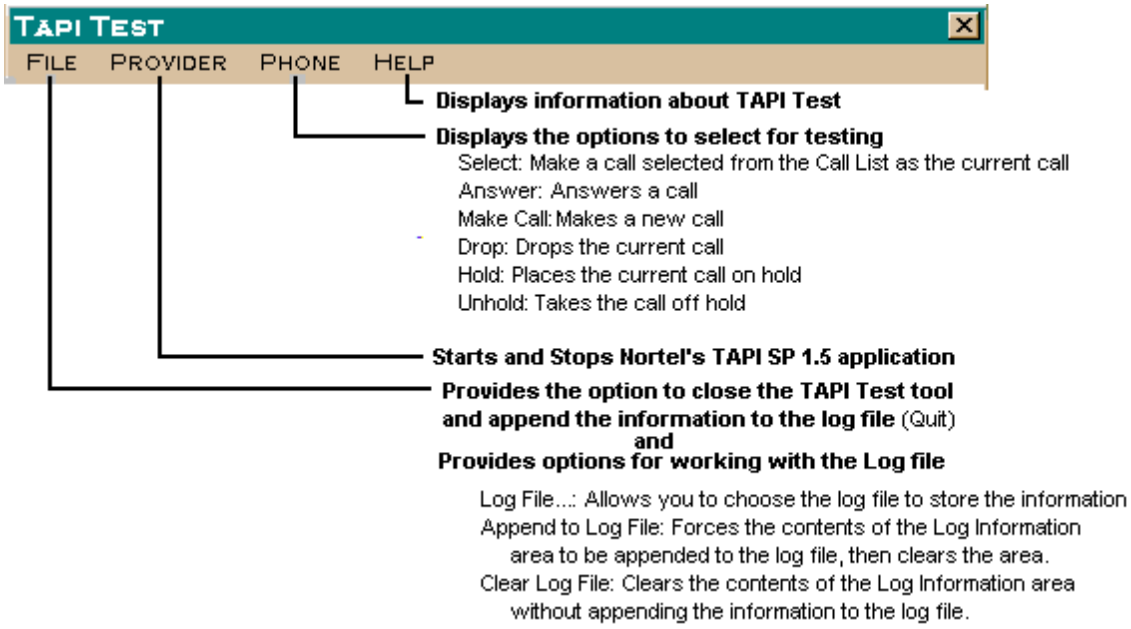
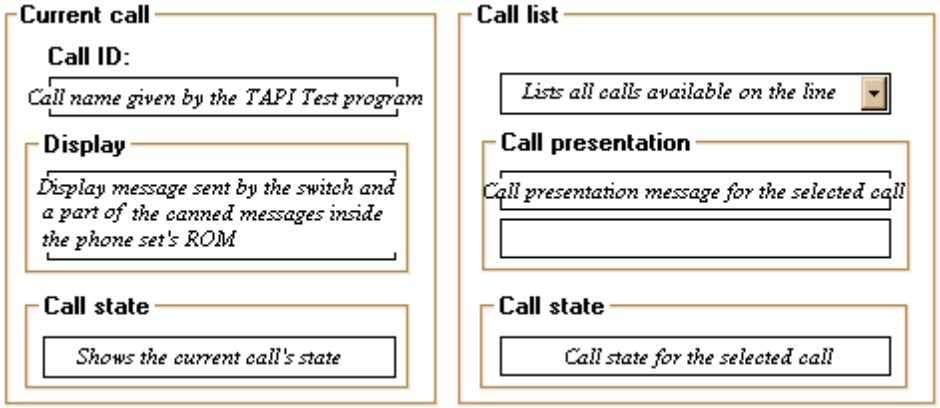
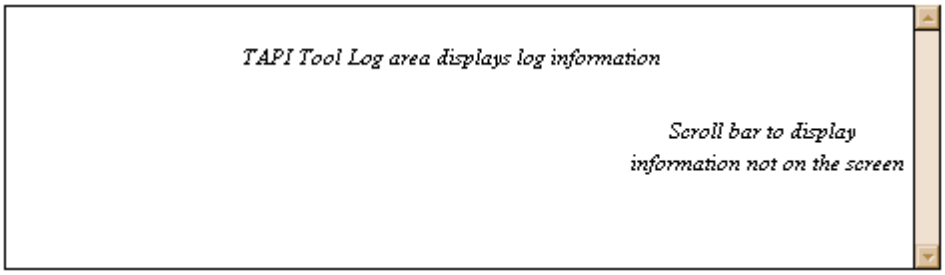
Elements and their Description
Title bar: Contains the name of the window and the means to minimize, maximize, move, and close the window using the window icons or the Control menu box. 
Menu bar: Contains the menu option for the Logger application. Clicking on a menu provides the list of options for that menu. 
Call Information area: Displays the current call's information. Any new call becomes the current call. 

Table 12, cont.

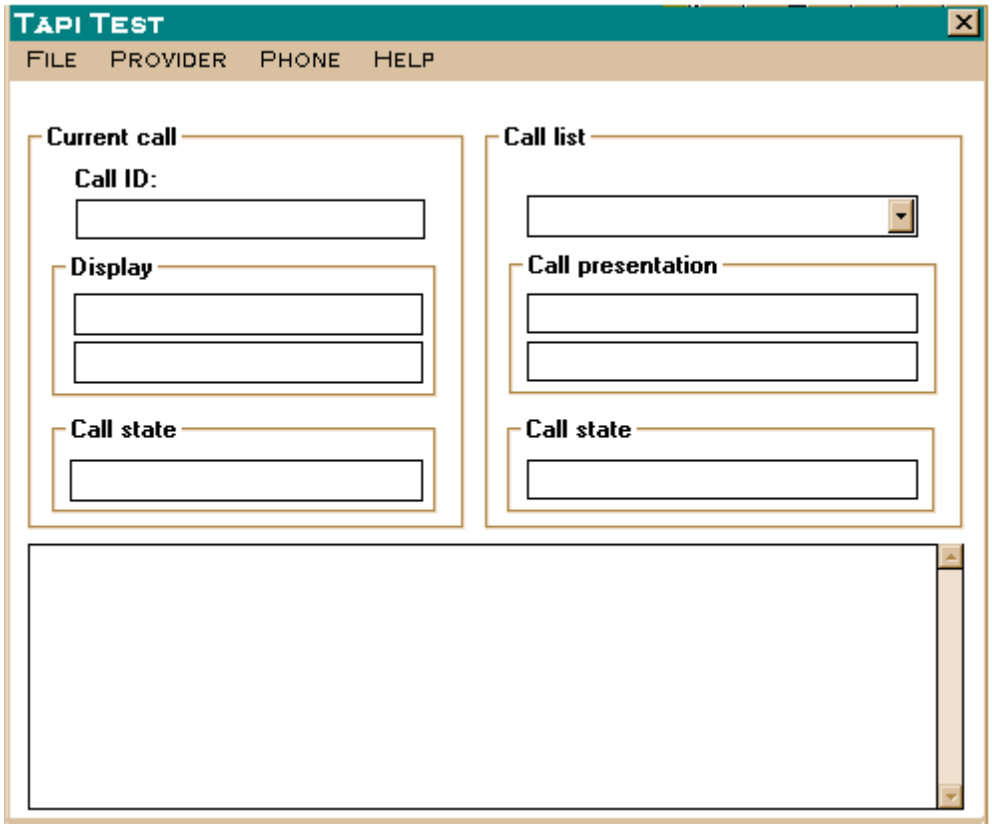
Elements and their Description
Log Information area: Displays the log information. 

Working with the TAPI Test Tool

To Use the Test Tool:

1. Launch the TAPI Test Tool program by double-clicking on the **TAPI Test Tool** icon located in the *Symposium Desktop TAPI SP program* group (Windows 95) or in the *Symposium Desktop TAPI SP* program group window (Windows 3.x).

   The *TAPI Test* dialog box is displayed.



2. Choose a log file name to store the log information
   Select the **Log…** option on the **File** menu to display the list of log files.

The information in the *Log Information* area is saved in the default log file "logfile.txt" unless you specify a different name.

3. Launch Nortel's TAPI SP 1.5 by selecting the **Start** option on the **Provider** menu.
   The launch information is displayed in the *Log Information* area.

   Note: When the contents, in the Log Information area, exceed 10 kilobyte, then this information is appended to the log file automatically.

4. Perform call activities to ensure Nortel's TAPI SP 1.5 is working properly. For example, select the **Make call** option on the **Phone** menu and enter the number to call on the *Input Number* dialog box.
   The current call information is displayed in the *Call Information* area. Any new call, inbound or outbound, becomes the current call.
   The Log Information area displays information regarding the activity.

   The Phone menu provides options to select a call from the Call List as the current call (**Select**), answer a call (**Answer**), make a call (**Make** Call), drop the current call (**Drop**), place the current call on hold (**Hold**), and take the current call when on hold off hold (**Unhold**).

5. If Nortel's TAPI SP 1.5 is working properly, close the TAPI Test Tool by selecting the **Exit** option on the **File** menu.
   Or
   If there is a problem with performing any of the call activities, then recheck the installation (Chapter 2) and configuration (Chapter 3) information. If you are still having difficulties, refer to the additional information in Chapter 4 "Trouble Shooting Tips" or contact the Support Personnel for Nortel Symposium Desktop TAPI SP 1.5. Refer to the "Technical Support for the Nortel Symposium Desktop TAPI SP 1.5" section located in Appendix A.

Using Other Applications

The Nortel Symposium Desktop TAPI Service Provider works with many applications. Some of these applications include the Nortel Symposium products of Call Manager, Multimedia Conferencing, FastCall, FastView, and Communicator. In addition, Nortel's TAPI SP works with Microsoft Outlook 97 and the Microsoft Window Dialer. Brief information is provided in this section for using Microsoft Outlook 97 and the Window Dialer. For information on the Nortel Symposium products, refer to the user documentation provided with the application.

Using Microsoft Outlook 97

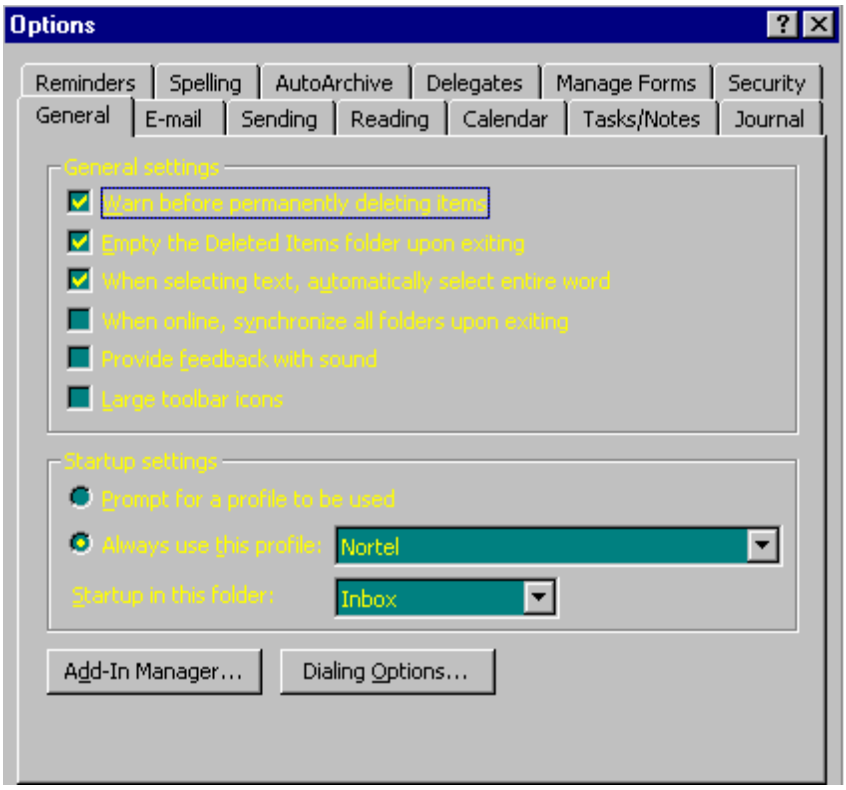
If you have Microsoft Outlook 97 version 8.02.4212 or above loaded on your machine, you can use it with the Symposium Desktop TAPI SP. However, Symposium Desktop TAPI SP does not support Microsoft Outlook 97, so problems must be addressed with Microsoft. In addition, Symposium Desktop TAPI SP does not provide the Microsoft Outlook 97 software. This software is located on Microsoft's Web site.

The information presented here is for general purposes only and intended only as a guide in using Microsoft Outlook 97 with the Symposium Desktop TAPI SP. For specific Microsoft Outlook 97 information, refer to Microsoft Outlook 97 user documentation.

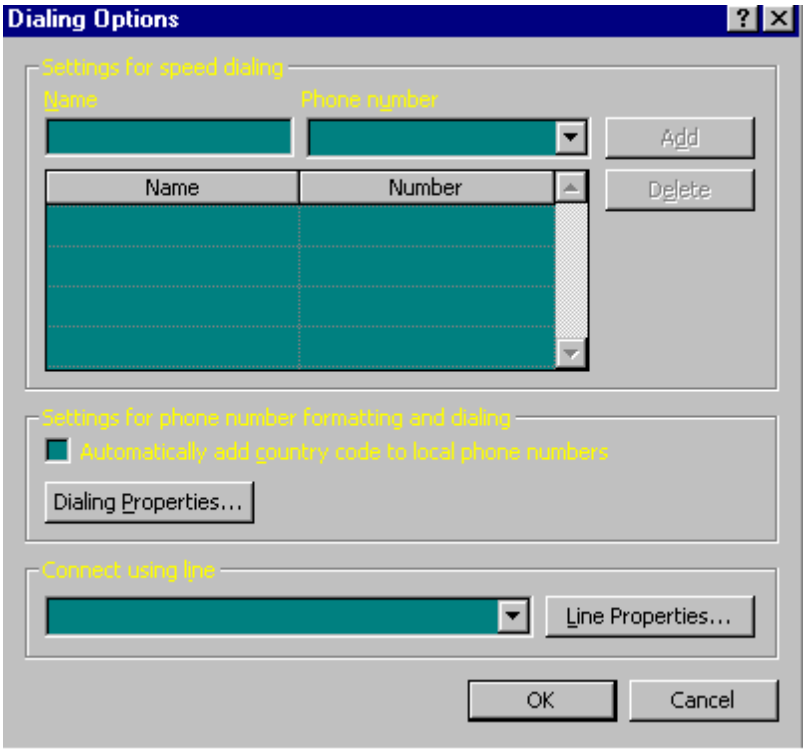
To Configure Microsoft Outlook 97:

1. Ensure the Symposium Desktop TAPI SP software in installed, configured, and working (refer to the "Verifying Nortel's TAPI SP 1.5 is Installed and Configured Properly" section located in Chapter 4) and that Microsoft Outlook 97 is loaded on your machine.

2. From the Contact folder, go to the **Tools** menu and select **Option**.
   The *Options* dialog box is displayed.



3. Click on the **Dialing Option…** button.
   The *Dialing Options* dialog box is displayed.



4. Click on the arrow located to the right of the Connect using line drop down listbox to display the options.
5. Select your line instead of the modem.
6. Make any additional changes to the Dialing Properties as desired.
7. Click on the **OK** button to save the changes and close the *Dialing Options* dialog box.

Note: Use the Contact Manager in Microsoft Outlook 97, not the Contact Manager in Scheduler.

Using the Windows Dialer

The Dialer application is provided in the Windows directory.

To Use the Dialer:

1. Double-click on the **Dialer.exe** program located in the Windows directory.
2. Select a line number to control from the drop-down list.
   The keypad is displayed.
3. Dial a know working number that can be answered. A completed call verifies that the Nortel's TAPI SP 1.5 is working correctly.

Logger Troubleshooting Tool

During installation or while running an application, problems might occur that can not easily be found through normal running of the application. The Logger troubleshooting tool provides run time information from the service provider in great detail. **When requested to by technical personnel**, creating a log file provides information that assists in troubleshooting problems.

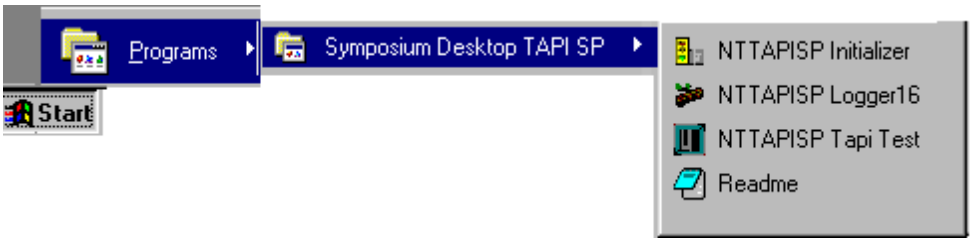
The Logger troubleshooting tool presents information in the *Logger* window that can be stored in the overflow file for review by technical personnel. When a troubleshooting session is started you should always clear the overflow file. This will ensure that no old information from a previous session is being saved.

When the troubleshooting session is completed you should append the information to the overflow file. This ensures all information from the current session is saved.

Launching the Logger Troubleshooting Tool

Note: Run this application only when requested to by Nortel's TAPI SP 1.5 technical personnel.

If the operating system on your computer is Window 95, you launch Logger.exe by clicking on the **Start** button, selecting Programs, then selecting *Symposium Desktop TAPI SP program*, and choosing NTTAPISP Logger 16.

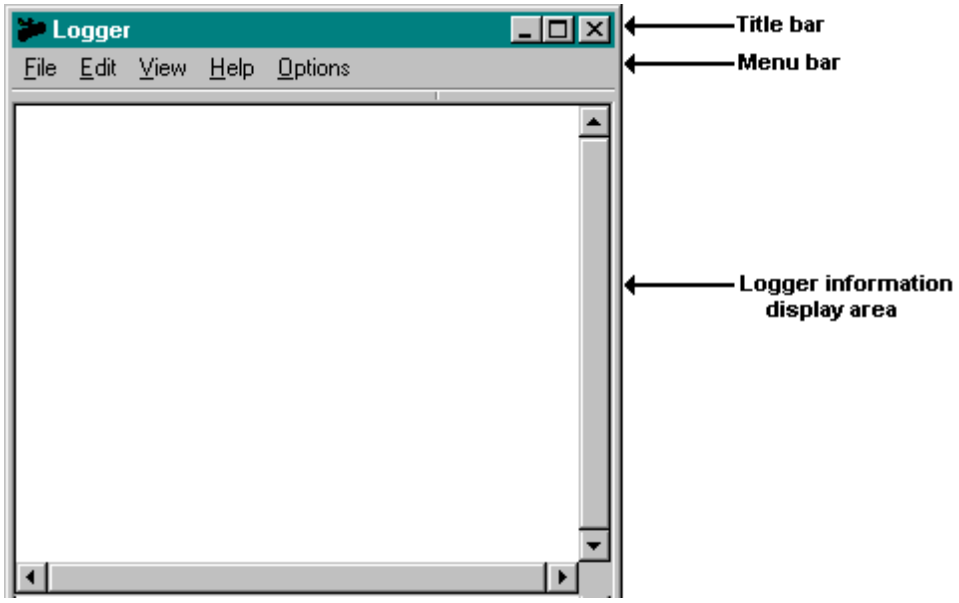


If the operating system is Window 3.x, open *Symposium Desktop TAPI SP* program group window and double-click on the **NTTAPISP Logger 16** icon.

Launching the Logger Troubleshooting Tool opens the *Logger* window. After launching the Logger, starting a TAPI application, such as the TAPI Test Tool, displays information in the *Logger* window.

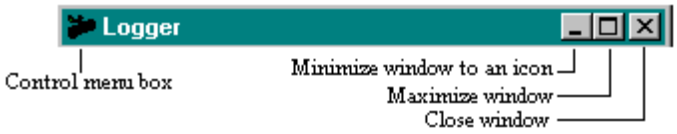
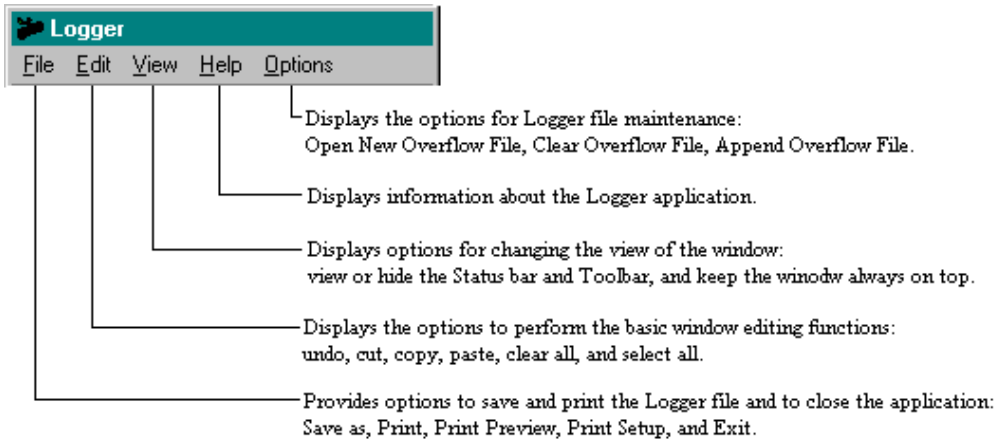
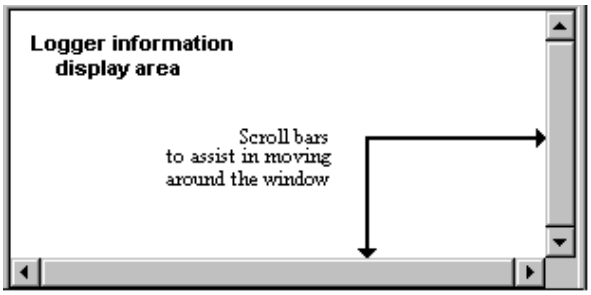
Logger Window

The Logger Troubleshooting tool provides a window-based user interface that allows you to view, edit, and print the text displayed in the Logger information display area. The *Logger* window provides menu options for using the Logger application. The window toolbar provides access to certain options without accessing the menus and selecting the option. The *Logger* window contains the following window elements.



The following table provides a description of the window elements contained on the *Logger* window.

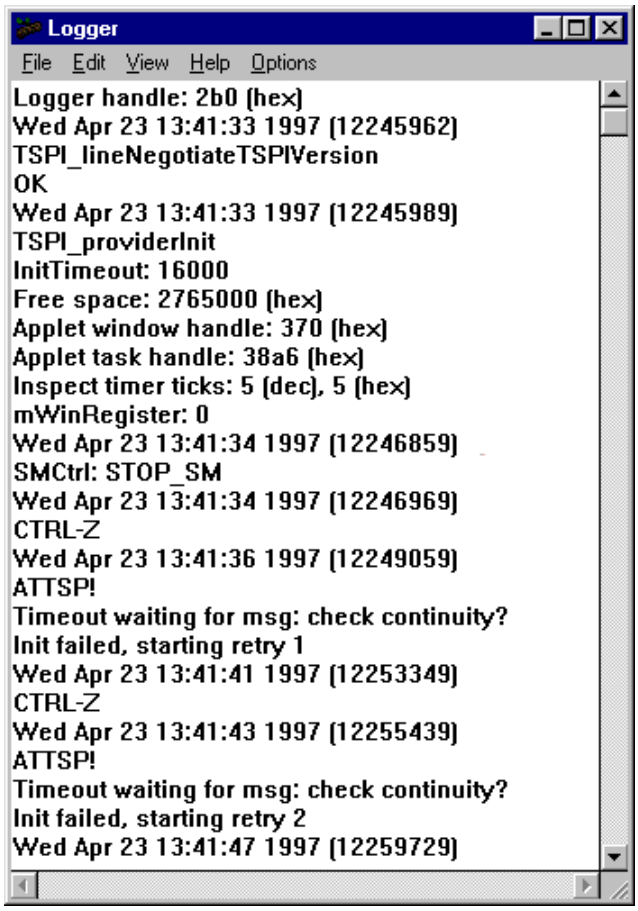
Table 13 Logger window elements

Window Elements and their Description
Title bar: Contains the name of the window and the means to minimize, maximize, move, and close the window using the window icons or the Control menu box. 
Menu bar: Contains the menu option for the Logger application. Clicking on a menu provides the list of options for that menu. 
Display area: Presents information that assists in troubleshooting problems. This information can be saved to a file. 

Using the Logger Troubleshooting Tool

To Display the Logged Information in the *Logger* Window:

1. Run the Logger Trouble tool. Refer to the "Launching the Logger Troubleshooting Tool" section. The *Logger* window opens.
2. Clear the Overflow file. The overflow.log file is located in the **c:\NORTEL\NTTSP\Drivers** directory if you accepted the default directory destination during installation or in the **Drivers** folder located in the directory you selected during installation.
   a. Click on **Options** located on the Menu bar of the *Logger* window.
      The **Options** menu is displayed.
   b. Click on the **Clear Overflow File** option.
3. Start the TAPI application.
   The Event and Error messages are displayed on the *Logger* window.



To save the specific information during the troubleshooting session, you must save it to a .log file.

To Save the Information to a File:

When the troubleshooting session is over, append the information to the Overflow file.

> ***Note:*** The *Logger* window has a limited capacity for holding information. The information in the *Logger* window may not be saved when the TAPI application is terminated. Append the information to the Overflow file to avoid losing the information.

1. Click on **Options** located on the Menu bar of the *Logger* window.
   The Options menu is displayed.
2. Click on the **Append Overflow File** option.

Or

Use the **Save As** option to save the information to a file.

1. Select the **Save As** option on the **File** menu.
   Or
   Click on the **Save** icon located on the Toolbar.
   The *Save As* dialog box is displayed.
2. Enter the file name and directory path.
3. Click on the **OK** button or press <Enter> save the file and close the *Save As* dialog box.

The Troubleshooting log is saved to the file.

To Print the Information on the Window:

To print the complete window text:

Select the **Print** option on the **File** menu.
Or
Click on the **Print** icon located on the Toolbar.

The complete window text is printed.

To print only selected window text:

1. Select the text that is to be printed.
   The selected text is highlighted.
2. Select the **Print** option on the **File** menu.
   Or
   Click on the **Print** icon located on the Toolbar.

The selected text is printed.

Nortel's TAPI Compatibility

The following figure shows TAPI Compatibility

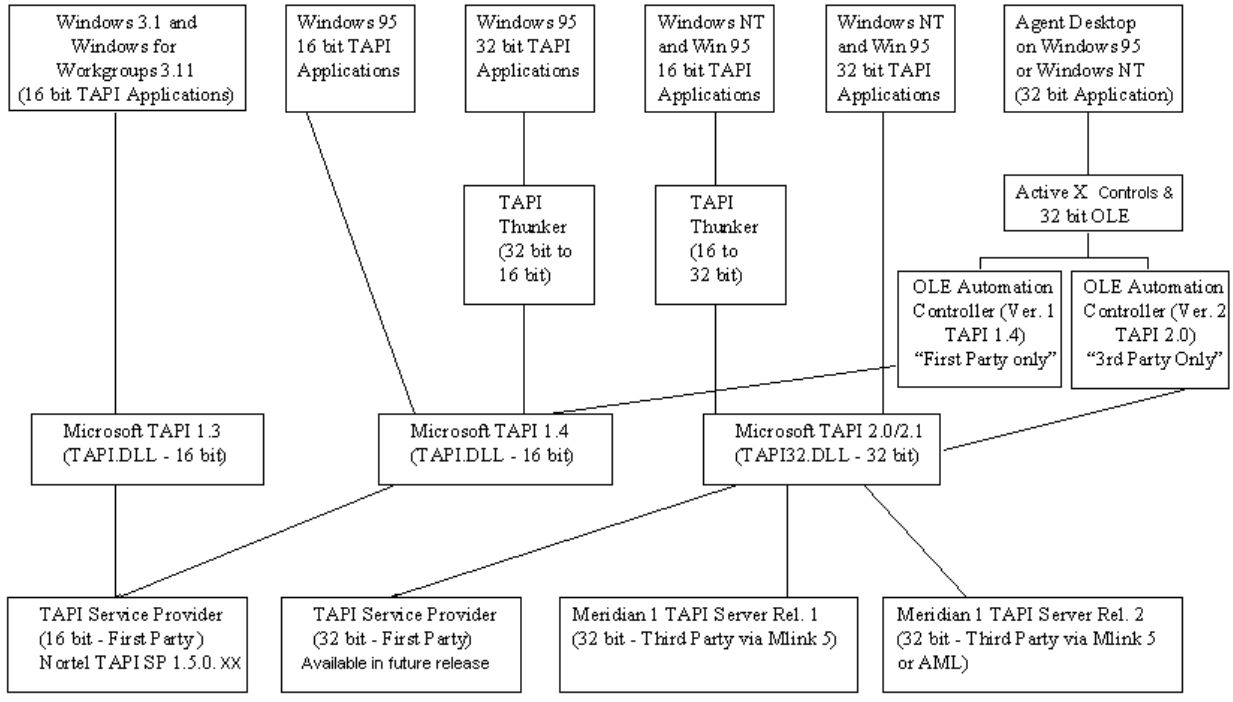


Figure 5 TAPI Compatibility

Nortel's TAPI SP 1.5 Process Flow for Install and Setup

The following process flow for install and setup provides information on how the Nortel Symposium Desktop TAPI 1.5 sets up and works. This information assists in troubleshooting Nortel's TAPI SP 1.5.

1) After completing the installation of Nortel Symposium Desktop TAPI SP, the following files have been installed:

C:\Nortel\Nttsp\	Help.txt Readme.txt
C:\Nortel\Nttsp\Drivers\	Accdrvr.ipe, Accdrvr.m23, Accdrvr,tm, Accdrvr.viu, Init.exe, Logger16.exe, Nttd.386, Tapiconv.dll, Tapitest.exe, Waccsrv.dll, Xlatesig.tm, Xlatesig.viu
C:\Windows\	Nttapisp.ini, Visit.ini
C:\Windows\System\	Drvrflex.dll, Phstp.dll, Linkdriv.dll, Linkttas.dll, Waccsrv.dll, Accevlog.dll, Cfgmgr.dll, Xlatesig.dll, Vaccwin.exe, Vaccess.tsp, Visitdrv.exe

Nttapisp.ini should look like this:

[Service Provider]

Directory=C:\WINDOWS\SYSTEM\
DriversDir=C:\Nortel\nttsp\
Version=1.5.0.XX

2) After completing the installation of Nortel Symposium Desktop TAPI SP, the following files have been installed if there were no Microsoft TAPI files on the machine. (Win 3.1 or Win 3.11)

C:\Windows\System\Telephon.cpl, Tapi.ddl, Tapiaddr.dll, Tapiexe.exe, Telephon.ini

3) After completion of Install, going into the Telephony Control Panel uses the Telephon.cpl file to setup the TAPI SP.

4) Adding the Nortel TAPI SP modifies the Telephon.ini file by adding Vaccess.tsp to the list of Service Providers.

After first installing the NT TAPI SP on a system running Win95 the beginning portion of the Telephon.ini file will appear as follows:

[Providers]

NumProviders=2
NextProviderID=3
ProviderID0=1
ProviderFilename0=unimdm.tsp
ProviderID1=2
ProviderFilename1=VACCESS.TSP

[Provider1]

NumLines=1
NumPhones=0

[Provider2]

NumLines=1
NumPhones=0

Note: If the customer needs to retain use of the unimdm.tsp service provider for use of Hyper Term, Dial-Up Network, Phone Dialer, etc. change the preceding lines to appear as follows:

[Providers]

NumProviders=2

NextProviderID=3

ProviderID0=1

ProviderFilename0= VACCESS.TSP

ProviderID1=2

ProviderFilename1=unimdm.tsp

[Provider1]

NumLines=1

NumPhones=0

[Provider2]

NumLines=0

NumPhones=0

5) Selecting Interface device uses Drvrflex.dll and Cfgmgr.dll and exiting and saving saves to Nttapisp.ini and Visit.ini.

   a) Selecting MCA or MPDA or Communicator Card, or TelAdapt with SL1 copies Accdrvr.tm to Windows/System/ as Accdrvr.dll and saves to Nttapisp.ini and Visit.ini.

   b) Selecting MCA or MPDA or Communicator Card, or TelAdapt with SL100 copies Accdrvr.ipe to Windows/System/ as Accdrvr.dll and saves to Nttapisp.ini and Visit.ini.

   c) Selecting VIU copies Accdrvr.viu to Windows/System/ as Accdrvr.dll and saves to Nttapisp.ini and Visit.ini.

6) Selecting Telephone Parameters button uses Phstp.dll and Cfgmgr.dll to copy to Nttapisp.ini the phone set buttons configured.

7) Selecting M2317 phone set copies Accdrvr.m23 to Windows/System/ as Accdrvr.dll and saves to Nttapisp.ini and Visit.ini.

8) Setting ACD, SCCS, or PBX/Switch… parameters uses Phstp.dll and Cfgmgr.dll to copy to Nttapisp.ini for Reason Codes, ACD information, and SCCS information.

9) Using the TAPITEST program creates a logfile called Logfile.txt in the C:\Nortel\Nttsp\Drivers directory.

10) Using the Logger program creates a logfile called Overflow.log in the C:\Nortel\Nttsp\Drivers directory.

11) Initialization of the TAPI SP on Meridian 1 will update and change the Nttapisp.ini file with any differences it sees in the download of keys from the switch.

The following is an example of this file after initialization:

[Service Provider]

Directory=C:\WINDOWS\SYSTEM\
DriversDir=C:\Nortel\nttsp\
Version=1.5.0.XX

[Voice Device]

VoiceDevice=MCA
VoiceDevicePort=1
VoiceDeviceSwitch=SL1
BaudRate=2400
Parity=None
StopBits=1
DataBits=8

[Telephone]

SetType=MDT
NumReasons=5
SetDN=LDN8078-1
SetName=Jon Hansen
Language=English
SetModel=M2616
DNIS=0
RFLA=0
AAA=0
TransferRetries=5
CallForcing=0
AutoHandsFree=0
AutoInspect=1
PrimeDN=0
DisplayRows=2
DisplayCols=24
SoftkeyRows=0
SoftkeyCols=0
NumKeys=16
AddOn1=none

[Reason1]

ReasonCode=4
ReasonName=F

[Reason2]

ReasonCode=5
ReasonName=B

[Reason3]

ReasonCode=6
ReasonName=N

[Reason4]

ReasonCode=7
ReasonName=P

[Reason5]

ReasonCode=9
ReasonName=T

[Codes]

ParkRetrieve=172

[Key1]

KeyType=DN
KeyTypeName=singleCallRinging
KeyTypeCode=78
DNName=Jon Hansen
DNNumber=LDN8078-1
DNPriority=1
DNForwardAllowed=1

[Key2]

KeyType=DN
KeyTypeName=singleCallRinging
KeyTypeCode=78
DNName=Line 2
DNNumber=5079
DNPriority=1
DNForwardAllowed=0

[Key3]

KeyType=Auto Dial
KeyTypeName=autoDial
KeyTypeCode=10

[Key4]

KeyType=Spd Call
KeyTypeName=speedCallUser
KeyTypeCode=80

[Key5]

KeyType=Call Fwd
KeyTypeName=forward
KeyTypeCode=33

[Key6]

KeyType=Transfer
KeyTypeName=transfer
KeyTypeCode=85
DNName=Transfer
DNNumber=XFER_DN
DNPriority=7
DNForwardAllowed=0

[Key7]

KeyType=Make Busy
KeyTypeName=makeSetBusy
KeyTypeCode=47

[Key8]

KeyType=Other
KeyTypeName=unknown
KeyTypeCode=0

[Key9]

KeyType=Conf 6
KeyTypeName=conference6
KeyTypeCode=21
DNName=Conference 6
DNNumber=CONF6_DN
DNPriority=9
DNForwardAllowed=0

[Key10]

KeyType=Call Park
KeyTypeName=park
KeyTypeCode=66

[Key11]

KeyType=Display
KeyTypeName=inspect
KeyTypeCode=41

[Key12]

KeyType=Auto Dial
KeyTypeName=autoDial
KeyTypeCode=10

[Key13]

KeyType=Auto Dial
KeyTypeName=autoDial
KeyTypeCode=10

[Key14]

KeyType=Auto Dial
KeyTypeName=autoDial
KeyTypeCode=10

[Key15]

KeyType=DN
KeyTypeName=singleCallRinging
KeyTypeCode=78
DNName=Line 3
DNNumber=8804
DNPriority=1
DNForwardAllowed=0

[Key16]

KeyType=Other
KeyTypeName=unknown
KeyTypeCode=0

Note: On MSL-100 or DMS-100, no switch download is performed. The only method of setting all keys to correct feature is via the control panel telephone setup.

12) If any of this fails to occur please contact your customer support group.

Nortel's TAPI SP 1.5 Application Error Recovery

The following error messages could occur when you start your Nortel's TAPI SP 1.5 applications.

- The TAPI Line Initialize Call failed.
  Error Code = 80000048
- Failed to get device capabilities.
- Line cannot be initialized.

Note: On Meridian 1, if the switch is data filled as 2008 and you are using a 2616 with a TelAdaptor, the TAPI SP will not initialize.

If you get an 'Initialization error, refer to the "Line Initialization Error" section.

If you receive any of the above messages, try the following error recovery procedures.

- Make sure your phone is working and is not deactivated.
- Be sure the light is on and flashing on the MCA or on the MPDA.
- Check the interface device connections to the PC.
- Verify that you have selected the correct interface device, COMM ports, Switch type, and telephone type and that the keys were assigned properly during TAPI SP Setup (see Chapter 3).
- Restart Windows and try again.
- Uninstall and then re-install Nortel's TAPI SP 1.5.

Problems

TAPI Fails to Initialize

Problem:

After installing Nortel's TAPI SP 1.5 and TAPI fails to initialize, the Microsoft TAPI system files may be missing or may not be the latest version. If this is the case, they need to be installed and the TAPI Service Provider must be installed into TAPI. However, this process can vary greatly from one Windows version to another.

First and foremost, be sure to do version checking when installing all files.

Second, use a setup application rather than relying on an .INF file to install Microsoft TAPI. While the ATSP sample uses an .INF file to install, there are several major problems with using an .INF file:

- TAPI needs to already be installed (which is not guaranteed under Windows 3.1 or Windows for Workgroups).
- You can not do operating system version checking if you use an .INF file.
- You can not do file version checking with an .INF file.
- Bugs that won't be fixed in Windows NT 4.0 prevent an .INF file installation.

Third, once all the Microsoft TAPI files are installed, the Nortel's TAPI SP 1.5 must now be installed into TAPI. Refer to the "Installing Nortel's TAPI SP 1.5 Software" section for information on installing Nortel's TAPI SP 1.5.

Files Necessary for Windows 3.1 or Windows for Workgroups

When a TAPI Service Provider is installed under Windows 3.1 or Windows for Workgroups, all the necessary system files must be present. Some of these files are optional and some are not. Here is a list of files and where they should be placed:

Mandatory TAPI files:

- TELEPHON.CPL [system]
- TAPI.DLL [system]
- TAPIADDR.DLL [system]
- TAPIEXE.EXE [system]
- TELEPHON.HLP [system]

Optional TAPI files:

- ATSPEXE.EXE [system]
- ATSP.TSP [system]
- ATSP.HLP [system]
- DIALER.EXE [windows]
- DIALER.HLP [windows]

Files Necessary for Windows 95 and Windows NT 4.0

The Microsoft TAPI 1.3 redistributable files are only for use on Windows 3.1 and Windows for Workgroups. These files must not be installed to any other operating systems. Other Windows operating systems either do not support Microsoft TAPI (Windows NT 3.51 and earlier) or come with Microsoft TAPI (1.4) already installed (Windows 95, Windows NT 4.0 and later versions of both platforms).

One complication for Windows 95 is the TELEPHON.CPL file. This file is installed to the system directory by default along with all the rest of the Windows 95 TAPI files. However, because this file is not needed by most people using Windows 95, it is installed in the system directory as TELEPHON.CP$ to reduce control panel clutter. First look in the system directory for TELEPHON.CPL; if that is not found, locate TELEPHON.CP$ (also looking in the system directory), and rename it to TELEPHON.CPL.

Line Initialization Error

Problem:

If running a TAPI Application causes a "Line Initialization error" or the functions of the TAPI Application do not seem to be working, re-check your interface device cable connections and the TAPI Service Provider configuration. However, you may also need to remove other TAPI Service Providers as indicated in the workaround below.

Workaround:

Remove all other Telephony Drivers, for example, TAPI Service Providers. Double-click on the Control Panel's Telephony icon, click on the unwanted Driver, and click on the Remove button. Restart Windows.

The Installed Drivers list must include the Nortel TAPI SP entry only.

Telephone.ini Workaround:

After first installing the NT TAPI SP on a system running Windows 95 the beginning portion of the Telephon.ini file will appear as follows:

[Providers]
NumProviders=2
NextProviderID=3
ProviderID0=1
ProviderFilename0=unimdm.tsp
ProviderID1=2
ProviderFilename1=VACCESS.TSP

[Provider1]
NumLines=2
NumPhones=0

[Provider]
NumLines=1
NumPhones=0

If you need to retain use of the unimdm.tsp service provider for using the Hyper Term, Dial-Up Network, Phone Dialer, or others, change the preceding lines to appear as follows:

[Providers]
NumProviders=2
NextProviderID=3
ProviderID0=1
ProviderFilename0= VACCESS.TSP
ProviderID1=2
ProviderFilename1=unimdm.tsp

[Provider1]
NumLines=1
NumPhones=0

[Provider2]
NumLines=0
NumPhones=0

This tip is applicable to any Nortel Symposium product that utilizes Nortel's TAPI Service Provider to provide an interface to an Nortel phone (for example, Nortel Symposium Call Manager, Multimedia Conferencing, FastCall).

Operation Failed Error

Problem:

Receiving an OPERATION_FAILED error indicates an attempt to perform a function that the switch does not allow. For example, the switch does not complete a conference while one party is ringing. It is up to the application how handle this. The TAPI returns the result code as OPERATION_FAILED if the function AddToConference is called before the pending conference is answered.

Workaround:

In the example, make sure the call is answered and then add to the conference. Generally, try the function again.

Using Meridian TelAdaptor TCM with Non-compatible IBM PC

Problem:

Nortel's Meridian 1 TAPI Service Provider 1.5 is not compatible with IBM Microchannel PC (PS/2) using the Meridian TelAdaptor TCM as the interface device.

Workaround:

Microchannel PCs will work with Meridian Communication Adapters (MCA), Meridian Programmable Data Adapters (MPDA) and VISIT Interface Units (VIU).

Install and configure one of the above devices as your interface device instead of the TelAdaptor.

Problems with MCA Connectivity

Problem:

If you have problems with the MCA connectivity device, the following Logger file contains information when the MCA cable is not plugged in or when the MCA power supply is not plugged in or has gone bad:

```
1 : vaccmain :  149:Diagnostic DLL' Loaded Tick: 109895
1 : vacclin2 : 1628:TSPI_lineNegotiateTSPIVersion : Tick 109909
1 : vacclin2 : 1647:OK : Tick 109911
1 : vaccprov :  656:TSPI_providerEnumDevices : Tick 109913
1 : vaccprov :  660:OK : Tick 109914
2 : vaccprov :  738:InitTimeoutSeconds is 60000 ms
1 : vaccprov :  747:TSPI_providerInit : Tick 109938
1 : vaccprov :  749:InitTimeOut: 60000
1 : vaccprov :  750:Free space 0x1bc9000
0 : vaccwin  :  350:7334
1 : vaccprov :  835:Applet window handle 0x1cc
1 : vaccprov :  838:Applet task handle 0x258e
2 : vaccwin  :  254:WM_VACC_START Tick 109995
2 : drvstart :  133:Inspect timer ticks: 5 0x5
0 : accutils :  566:MCA not connected or powered
2 : accints  : 1355:Bad status from OpenCommPort 64
0 : accmain  :  256:InitDriver failed
0 : accmain  :  340:AccInstall failed
0 : ntapi    :  104:InitialiseDriver failed
1 : vaccwin  :  103:mWinRegister: 9
0 : vaccprov :  224:WM_VACC_START result: 0x3e6 Aborting Provider initialization
1 : vaccprov :  869:OPERATIONFAILED : Tick 110775
0 : vaccmain :  558:At the very end of the wep for vaccess Tick: 110778
```

Workaround:

Check that the MCA cable is plugged in and the power supply is turned on and connected to the MCA.

Problems with MPDA Connectivity

Problem:

The MPDA connectivity device is no longer available from Northern Telecom and you may experience problems when using it.

The following logger file contains information on an MPDA that is not compatible and will not initialize:

```
1 : vaccmain :  149:Diagnostic DLL' Loaded Tick: 1914634
1 : vacclin2 : 1628:TSPI_lineNegotiateTSPIVersion : Tick 1914648
1 : vacclin2 : 1647:OK : Tick 1914652
1 : vaccprov :  656:TSPI_providerEnumDevices : Tick 1914655
1 : vaccprov :  660:OK : Tick 1914664
2 : vaccprov :  738:InitTimeoutSeconds is 60000 ms
1 : vaccprov :  747:TSPI_providerInit : Tick 1914701
1 : vaccprov :  749:InitTimeOut: 60000
1 : vaccprov :  750:Free space 0x17b2000
1 : vaccprov :  835:Applet window handle 0x20c
1 : vaccprov :  838:Applet task handle 0x2226
2 : vaccwin  :  254:WM_VACC_START Tick 1914719
2 : drvstart :  133:Inspect timer ticks: 5 0x5
0 : accutils :  563:MCA powered DCD high
1 : vaccwin  :  103:mWinRegister: 0
1 : aries    : 3318:SMCtrl: STOP_SM and bCmdInProgress == FALSE
1 : vaccmain :  227:Tue Sep 30 10:11:13 1997 (1915632)
1 : accevlog : 1527:CTRL-Z
1 : vaccmain :  227:Tue Sep 30 10:11:15 1997 (1917667)
1 : accevlog : 1527:ATI1
1 : vaccmain :  227:Tue Sep 30 10:11:15 1997 (1917755)
1 : accevlog : 1527:ATI1
0 : aries    : 1069:Unknown device attached ERROR
1 : vaccmain :  227:Tue Sep 30 10:11:15 1997 (1918276)
1 : accevlog : 1527:ERROR
1 : aries    : 4505:Timeout waiting for msg: check continuity ?
0 : accutils :  563:MCA powered DCD high
1 : aries    : 4558:Init failed, starting retry 1 of 5
```

Workaround:

If you experience problems, we recommend that you upgrade to the MCA connectivity device.

TAPI Applications Do Not Display Correct Information

Problem:

If your TAPI Application does not display the correct calling number or calling party's name, the name assigned to the line in the switch may need to be changed. The TAPI Service Provider may not deliver the correct Calling number or name to the TAPI Application if the name is configured as indicated below or the first letters in the name conflict with the Reason Codes defined under PBX/Switch Parameters:
Name Format: Name + a space + a number
Example: John Smith 2

Workaround:

From a M1 PBX Administration Terminal use LD 95 to change the name so that a space and number do not follow the name.

Also, verify that the Reason Codes defined under PBX/Switch Parameters match the parameters defined in LD 95 on the Meridian 1 PBX and do not conflict with the Name displayed for the calling party.

Problem:

In high traffic environments, when multiple calls are arriving at the same set at the same time you are trying to dial out, some digits of the dial out string get lost. For example, if you are dialing 932-1450, your set may display 21450.

Workaround:

Add the following variables to the nttapisp.ini file under [Telephone]:

MaxCalls= defaults to 10, must be between 8 and 64
TxQueueSize= defaults to 100, raising may eliminate signals being dropped
RxQueueSize= defaults to 500, raising may eliminate signals being dropped
MaxEvents= defaults to 80, must be between 64 and 128

Problem:

In high traffic environments, when more calls are coming in faster than the system can handle, such as when calls are coming in faster than one call every two seconds, the driver may report incorrect name and number information to the TAPI application.

Workaround:

This is a limitation of the Symposium Desktop TAPI SP.

Problem:

Parked calls that return to the phone set may report incorrect calling name and number. This occurs when the calls are parked on a switch other than the switch where the call originates.

Workaround:

After unparking the call, hold and unhold the call and the display reports the correct information.

Problem with Multiple Appearance DN

Problem:

You encounter a problem putting a Multiple Appearance DN (Multiple Call Ringing DN) of a Meridian Business set on a DMS-100/MSL-100 on Hold (using a TAPI application) after establishing a conference.

Workaround:

After establishing the conference, pressing the **Hold** button on the set will work and the TAPI application should still run fine.

Problem with Transfers

Problem:

You encounter a problem after putting Line 1 on hold and completing a blind transfer on another line, attempts to answer a Multiple Appearance DN or Multiple Call Ringing DN fail from the TAPI Application.

Workaround:

Pressing the DN key on the set will work and the application should still run fine.

Problem:

Using a MBS 5209 set and attempting to do a blind transfer to a busy DN on a DMS switch, you are unable to return to the original caller. To clear, the controller must be restarted.

Workaround:

Use the supervised transfer.

Problems with Conference Calls

Problem:

You encounter problems establishing a conference call on the Active line 1 while line 2 is ringing.

Workaround:

Answer Line 2 and put it on hold before trying to establish a conference on line 1.

Problem:

The TAPI Service Provider limits the number of active conference calls. You can toggle between lines 1 and 2 if they each have an active call on them or if either of the two have an active conference on them. However, TAPI SP does not allow both lines to have a conference on them.

Workaround:

Do not establish a second conference call with the TAPI Application.

Problem:

Including a parked call into a conference may cause incorrect reporting when one leg of the conference drops off.

Workaround:

To get the original call information, hold and unhold the call.

Problem:

When conducting a three-party conference and one party drops out of the conference, the TAPI Service Provider is unable to detect the dropped party until the three-party call is converted to a two-party call. At this point, the remaining call is ACTIVE.

In rare cases, the switch may not report the correct ACTIVE call. This can happen if a returned parked call is subsequently used in creating a conference. Parked calls that return to the phone set may report incorrect calling name and number. This occurs when the calls are parked on a switch other than the switch where the call originates.

Workaround:

Before conferencing a returned parked call, HOLD and UNHOLD the returned parked call. This allows the switch to report the correct information and the problem is avoided.

In all cases, once all active calls are idle on a phone, the TAPI SP 1.5 reports correctly.

Problem:

Using your phone set and the application to complete a conference call may cause synchronization problems.

Workaround:

We recommend that you use either the phone set **or** the application to complete conference calls.

Problems with Parked Calls

Problem:

Parked calls that return to the phone set may report incorrect calling name and number. This occurs when the calls are parked on a switch other than the switch where the call originates.

Workaround:

After unparking the call, hold and unhold the call and the display reports the correct information.

Problem:

The Unpark feature does not work.

Workaround:

The Unpark feature is not supported in 16-bit. Microsoft TAPI does not support the Line Unpark feature in 16-bit version.

Problems Using the VISIT Interface Units

Problem:

If you are on an MSL-100/DMS Switch and are using MBS sets with the VISIT Interface Unit, you may encounter problems if you also have a Light Span Concentrator on the line or if you are using SLC-96.

Workaround:

There is no workaround for this problem at this time.

Problem with Closing Files

Problem:

If you are using Microsoft Windows 95 as your operating system with a Meridian TelAdaptor TCM interface device, some files may not "gracefully" close when performing a shutdown on your PC.

Workaround:

You may need to manually turn off your computer after selecting shutdown in Microsoft Windows 95.

Nortel's TAPI SP 1.5 files

When installing Nortel's TAPI SP 1.5, the files are copied to the directories listed in Table 14 and 15 during installation. The directory listings assume that the default path **C:\NTTSP** was chosen during installation.

Table 14 Listing of C:\Nortel\NTTSP and C:\Nortel\NTTSP\DRIVERS directories

Directory of C:\Nortel\NTTSP	
README.TXT	
Directory of C:\Nortel\NTTSP\DRIVERS	
ACCDRVR.IPE	Copied to C:\WINDOWS\SYSTEM as ACCDRVR.DLL when 5317 TDX is selected as the Interface device during TAPI SP Setup.
ACCDRVR.M23	(Hayes Modem Driver—not currently supported) Copied to C:\WINDOWS\SYSTEM as ACCDRVR.DLL when Hayes Compatible Modem is selected as the Interface device during TAPI SP Setup.
ACCDRVR.TM	(Meridian Modular Telephone Driver) Copied to C:\WINDOWS\SYSTEM as ACCDRVR.DLL when the TCM TelAdaptor, the MCA, or the MPDA is selected as the Interface device during TAPI SP Setup.
ACCDRVR.VIU	(VISIT Interface Unit Driver) Copied to C:\WINDOWS\SYSTEM as ACCDRVR.DLL when the VISIT Interface Unit is selected as the Interface device during TAPI SP Setup.
ACCEVLOG.DLL	(Logs Driver Events) Copied to C:\WINDOWS\SYSTEM when you click on the Troubleshooting button and choose a Debug mode of File or Windows during TAPI SP Setup.
NTTD.386	(TelAdaptor support file)
WACCSRV.DLL	(Common portion of all drivers ACCDRVR.XXX) Always copied to C:\WINDOWS\SYSTEM
XLATESIG.TM	(Signaling Translator for MMT sets) Copied to C:\WINDOWS\SYSTEM as XLATESIG.DLL when you click on the Troubleshooting button and choose a Debug mode of File or Windows during TAPI SP Setup
XLATESIG.VIU	(Signaling Translator for MBS sets) Copied to C:\WINDOWS\SYSTEM as XLATESIG.DLL when you click on the Troubleshooting button and choose a Debug mode of File or Windows during TAPI SP Setup.

Table 15 Listing of C:\WINDOWS and C:\WINDOWS\SYSTEM directories

Directory of C:\WINDOWS	
NTTAPISP.INI	(Contains Northern Telecom Specific Information such as): - Connectivity information (Interface device PC COMM Port) - Telephone Parameters (Key assignments) - Switch/PBX information - ACD Parameters Most of this information is solicited from the user during the installation and configuration process, but the file contains other information as well.
TELEPHON.INI	(Only installed if NOT present in C:\WINDOWS prior to installation of the TAPI SP)
VISIT.INI	
Directory of C:\WINDOWS\SYSTEM	
ACCDRVR.DLL	(Will only exist after TAPI SP Setup)
ACCEVLOG.DLL	(Debugging file, may exist after TAPI SP Setup)
CFGMGR.DLL	(Used during TAPI SP Setup to read and write configuration information to NTTAPISP.INI)
DRVRFLEX.DLL	(Used during TAPI SP Setup when defining an Interface Device)
LINKDRIV.DLL	(TelAdaptor Support File)—See Note 2
LINKTTAS.DLL	(TelAdaptor Support File)—See Note 2
PHSETUP.DLL	(Used during TAPI SP Setup when defining Telephone, PBX/Switch, ACD and Troubleshooting parameters)
TAPI.DLL	(TAPI File)—See Note 1
TAPIADDR.DLL	(TAPI File)—See Note 1
TAPIEXE.EXE	(TAPI File)—See Note 1
TELEPHON.CPL	(TAPI File)—See Note 1
VACCESS.TSP	(Main Nortel TAPI SP file)
VACCWIN.EXE	(Nortel TAPI SP Support File)
VISITDRV.EXE	(TelAdaptor support file)—See Note 2
WACCSRV.DLL	(Driver Support File)
XLATESIG.DLL	(Debugging file, may exist after TAPI SP Setup)

Note 1: The files should not be deleted because they are TAPI. The *Nortel TAPI SP 1.5* installer simply makes sure these files are available in case the PC does not currently have TAPI installed.

Note 2: These files are all copied and run only if the TelAdaptor is configured as the interface device. If the TelAdaptor is selected as the interface device, these files can not be deleted because they are loaded in memory. You must exit Windows to delete these files.

Removing Microsoft TAPI 2.1 Software

If you are using Windows 95 with Microsoft TAPI 2.1 and want to install and use the Nortel Symposium Desktop TAPI SP 1.5, you must uninstall the TAPI 2.1 software and reinstall your system's original TAPI system files. This will install Microsoft TAPI 1.4.

To Uninstall TAPI 2.1 Software:

1. Locate the file REMTAPI.INF for Windows 95, or REMTAPIN.INF for Windows NT.
2. Right-click on the file, then click on "Install".

This will reinstall your original TAPI system files.

3. Place the TAPI.dll for Microsoft TAPI 1.4 in your Windows\System directory.

Note: When you take Microsoft TAPI from 2.1 to 1.4, you must have a copy of the TAPI.dll for the 2.1 version. This DLL can be obtained from a Windows 95 CD or from a machine that is already using the Nortel Symposium Desktop TAPI SP 1.5.

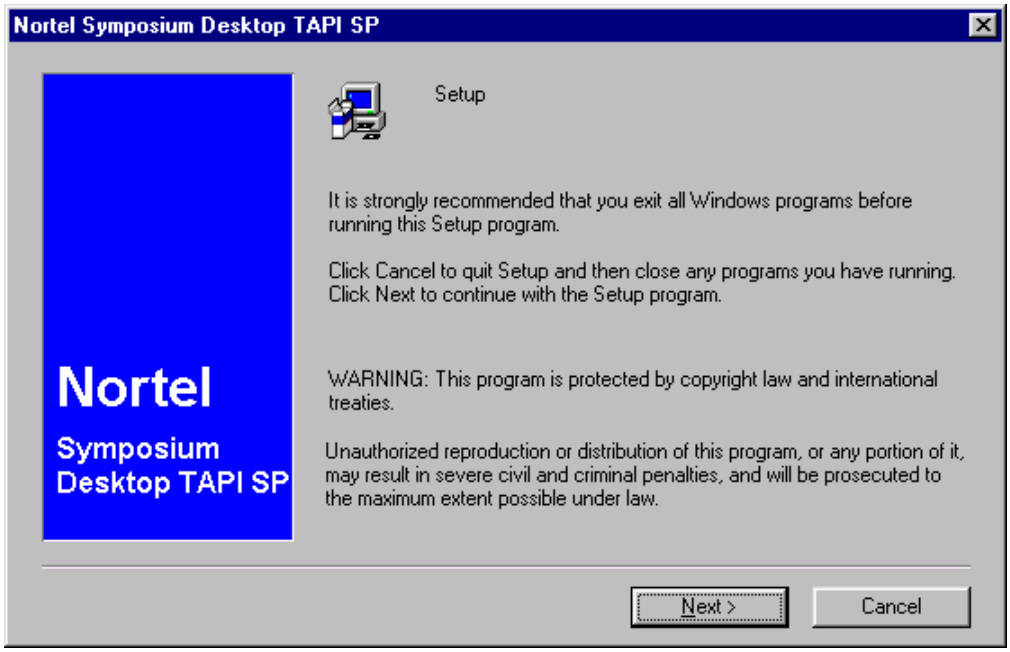
This procedure will not work on a WIN NT machine. This version of the Nortel Symposium Desktop TAPI SP 1.5 is not compatible with WIN NT.

Removing Nortel's TAPI SP 1.5 Software

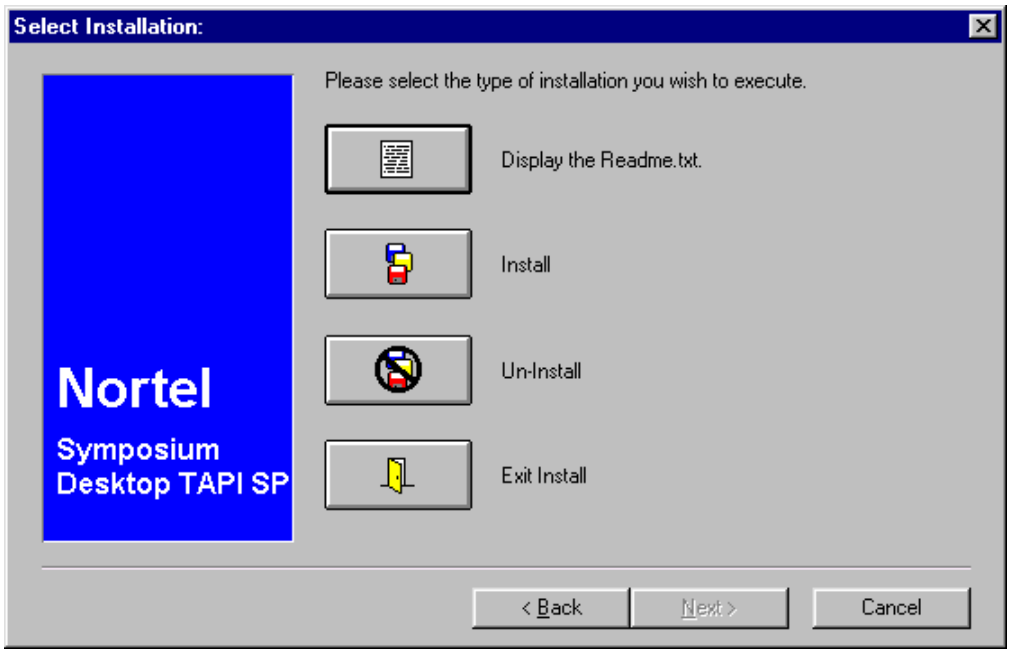
If it becomes necessary to remove Nortel's TAPI SP 1.5 software, an ***Uninstall*** program is provided. Running the ***Un-Install*** program deletes the database files.

To Remove Nortel's TAPI SP 1.5 Software:

1. If you loaded Nortel's TAPI SP 1.5 software from the Web site, go to the directory where the file was downloaded and double-click on the setup.exe file.
   The *Setup* dialog box is displayed.



2. Click on the **Next** button to continue removing the files.
   The *Select Installation:* dialog box is displayed.



3. Click on the **Un-install** button followed by the **Next** button.

   Nortel's TAPI SP 1.5 software files are removed.

Appendix A Additional User Information

Appendix A provides additional user information. This information includes how to receive technical support, a summary of the online documents, and information on using the Adobe Acrobat Reader to view the online documentation.

Technical Support for the Nortel's TAPI SP 1.5

If you have difficulty when using the Nortel Symposium Desktop TAPI SP for Meridian 1 Release 1, help is available in different formats. This document provides troubleshooting tips in Chapter 4. For telephone support in the United States and Canada, contact your Nortel support personnel.

Technical Assistance (800) 527-0797
Product Information (800) 4-Nortel
Developer Support (800) NT4CTI0

Outside the United States and Canada, contact your Nortel Support or Sales representative.

Note: If your copy of Nortel's TAPI SP 1.5 was included as part of another application, we recommend that you contact the application's technical support as indicated in application's documentation.

To resolve a Nortel's TAPI SP 1.5 problem properly, Nortel field support personnel may require the following information:

1. A description of the problem, sufficiently detailed to help Nortel reproduce the problem. For example, if the problem involves screen pops, the description should include not only what appears on the PC monitor (TAPI application), but also what appears on the phone's display, with as much accuracy as possible—including numbers, dashes, and names that appear on the top and bottom lines of the display.
2. A printout of the nttapisp.ini file, VISIT.ini, telephon.ini, and the autoexec.bat.
3. Printouts of certain switch datafill. On Meridian 1, use LD 20 to print the TNB of the set, and on DMS-100 or MSL-100, print the QLEN of the set. Ask your switch administrator for these.
4. The switch software release number. For the Meridian 1, indicate the X11 Rel. 19, 20, and so forth. For the DMS-100 or MSL-100, indicate BCS 34, 35, and so forth.
5. Run the Logger troubleshooting tool to create and save a log file of the problem.

Overview of the Online Documentation

The User documents for Nortel's TAPI SP 1.5 are provided electronically as online documents. However, your version of the Nortel Symposium TAPI SP 1.5 may or may not contain all of the available documents. The following chart provides the name of the document, the file name and a description:

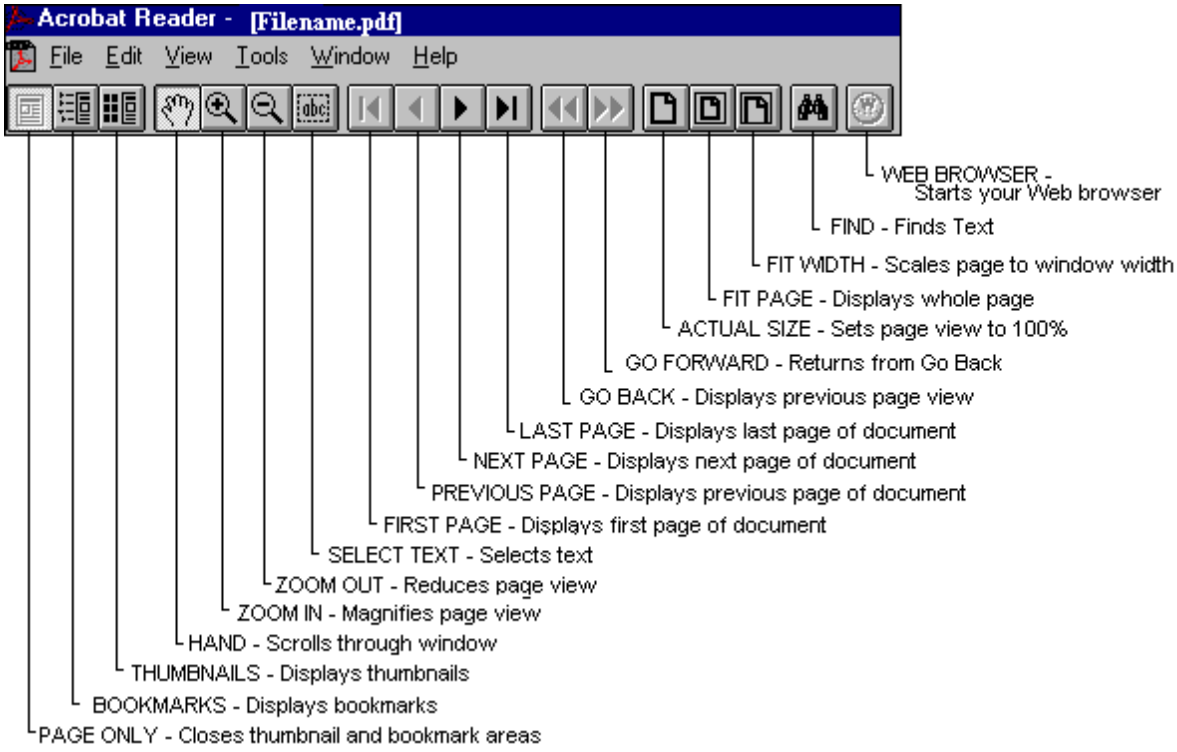
Document Name	File Name	Description
Nortel Symposium Desktop TAPI Service Provider 1.5 User's Guide	Usrguide.pdf	This user's guide provides information on installing, configuring, and using *Nortel's TAPI SP 1.5*.
Nortel Symposium Desktop TAPI Service Provider 1.5 Programmer's Guide	Progvol1.pdf	This document contains information that is helpful to developers who are writing applications that may use *Nortel's TAPI SP 1.5*.
Nortel Symposium Desktop TAPI Service Provider 1.5 Planning Guide	implem.pdf	This document contains the requirements for implementing Windows TAPI compliant applications.

The Adobe Acrobat Reader must be installed to access the online documentation. After installing the Adobe Acrobat Reader, double-clicking on the .PDF file opens the online document in the *Acrobat Reader* window.

Overview of the Adobe Acrobat Reader

The Acrobat Reader Window

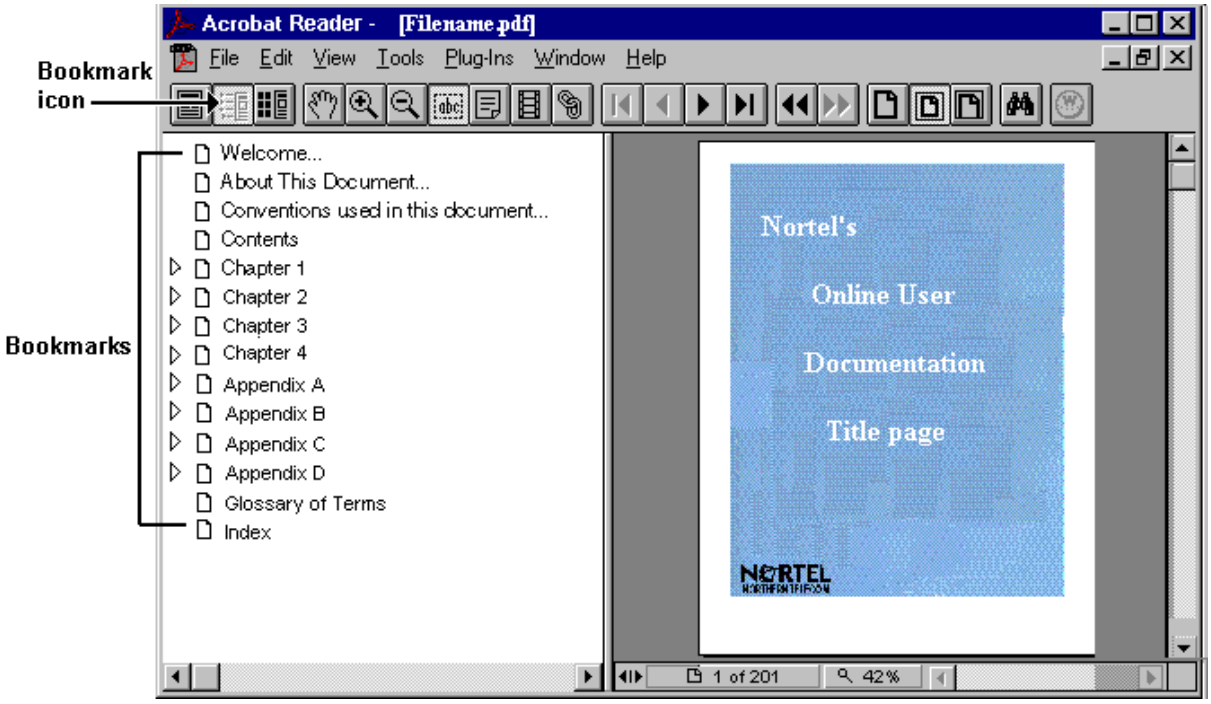
The *Acrobat Reader* window contains menus, tools, and buttons. The Menu bar of the *Acrobat Reader* window displays the **Help** menu. The **Help** menu contains important information on how to view and print the document. The Toolbar on the *Acrobat Reader* window provides tools for working with the documents. Select a tool by clicking the icon.



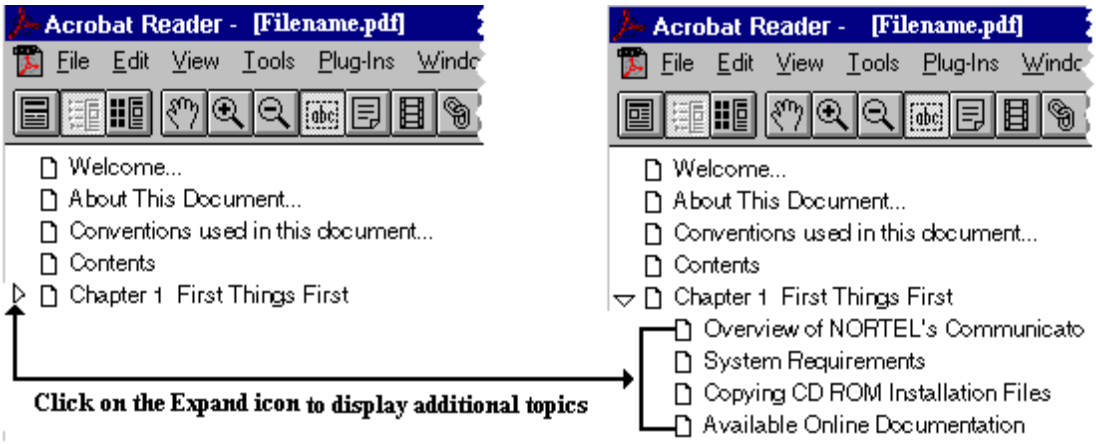
Using Bookmarks on the Acrobat Reader Window

The online documents contain bookmarks to assist you in finding information. Selecting the Bookmark button  provides an automated table of contents.

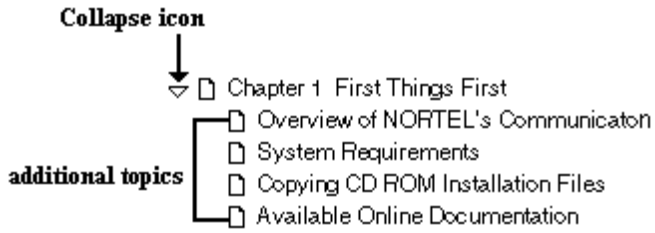
The Bookmarks are displayed on the left of the window.



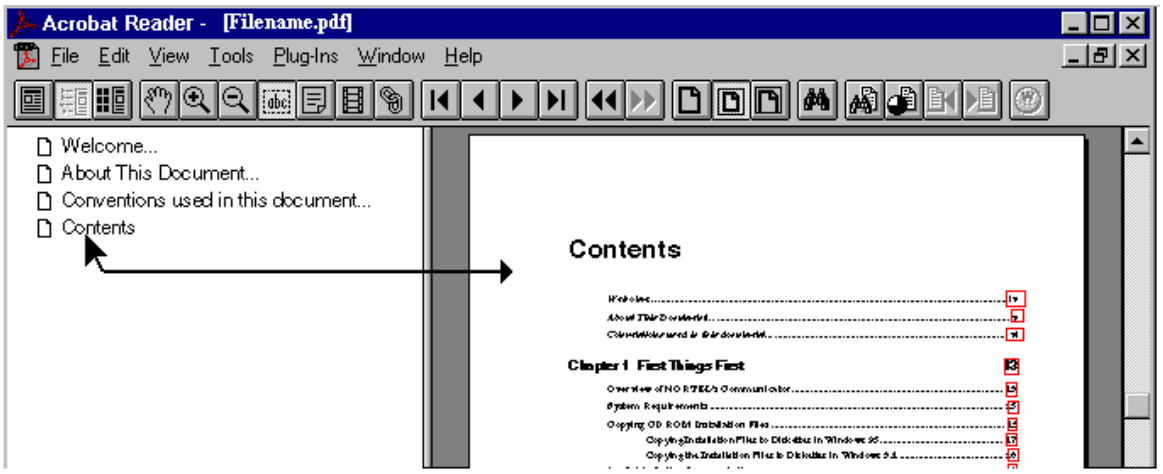
Clicking on the **Expand** icon ▷ located to the left of the bookmark displays additional topics in a tree-view.



When the additional topics are displayed, the **Expand** icon changes to the **Collapse** icon.

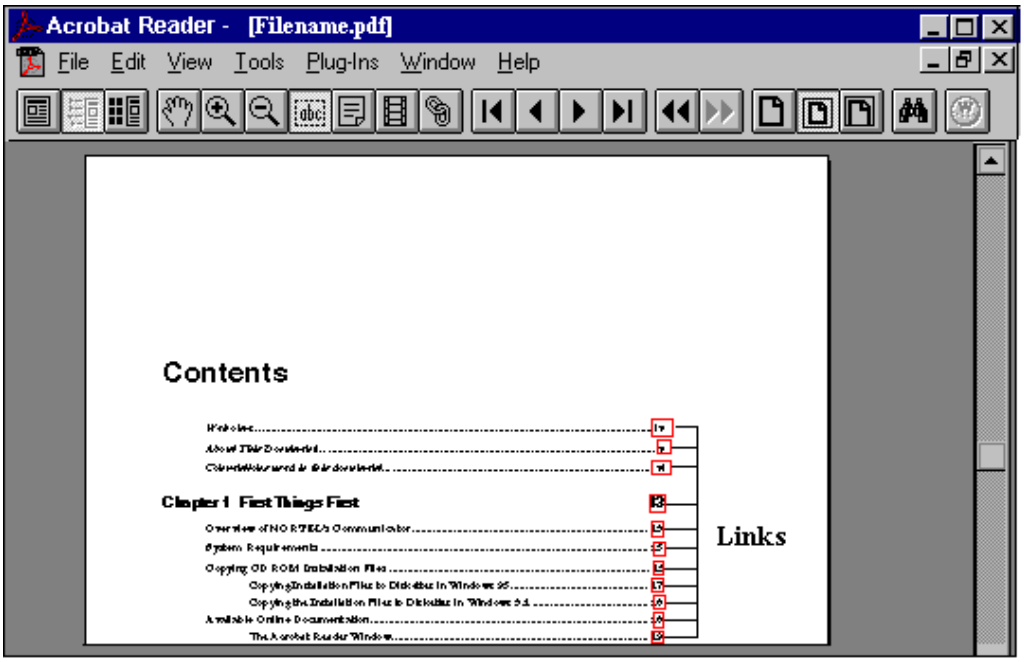


Clicking on the **Collapse** icon ▽ removes the additional topics.
Clicking on a Bookmark takes you directly to the page containing the information.



Using Links on the Adobe Acrobat Window

The Table of Contents, Index, and certain words or phrases provide direct links to the page associated with the entries. Links are **red** boxes that enclose a page number or word. Clicking on the red box displays the page that contains the information.



In addition, certain pages reference additional information. When these references are enclosed in a **red** box, clicking in the box displays the referenced page or document.

Clicking on the **Back** button displays the previous page.

Appendix B Supported Features

Appendix B identifies the features that the Nortel Symposium TAPI Service Provider supports.

Nortel's TAPI SP 1.5 Feature Support

TAPI applications can do screen pops (database queries of a Calling or Called number) by using information delivered by Nortel's TAPI SP 1.5. Nortel's TAPI SP 1.5 receives the information from the M1 Option 11-81 PBX via the following configuration.

1. Receipt of IANI digits (Calling numbers) only from Telco over IANI enabled DID or Tie trunks that auto-terminate at an ACD DN (Agents set).
2. Receipt of CLID digits (CLID-Calling number) only from Telco or private network over ISDN PRI trunks that have CLID enabled.
3. Receipt of DNIS digits (Called number) only from Telco over DID or Tie trunks that auto-terminate at an ACD DN Agents set or are routed via the Incoming Digit Conversion (IDC) feature to specified ACD DNs base on the dialed number.
4. The combination of configurations 2 and 3 above allows screen popping on Calling number (via ISDN PRI/CLID) and Called number (via DNIS) simultaneously.

Nortel's TAPI SP 1.5 delivers Calling Party Name Display and Network Calling Party Name Display information if provided over ISDN PRI trunks to TAPI applications.

Nortel's TAPI SP 1.5 also supports ACD Call overflow and interflow.

Nortel's TAPI SP 1.5 also supports Message Waiting Indication, if configured on the set.

Note: When an ACD agent transfers a call that has already received the Calling/Called number, the party that is receiving the transferred call will also receive the Calling/Called number (because M1 passes along the CLID and DNIS digits); giving the appearance of an Agent-to-Agent screen transfer. TAPI applications that do screen popping find this useful.

Nortel's TAPI SP 1.5 currently supports the features listed in the "Features Supported on the Meridian 1/SL-1" and "Features Supported on the MSL-100/DMS-100" sections.

Features Supported on the Meridian 1/SL-1

Features	Nortel's TAPI SP 1.0	Nortel's TAPI SP 1.5
Make Call	Yes	Yes
Answer Call	Yes	Yes
Hold and Un-hold call	Yes	Yes
Blind Transfer	Yes	Yes
Supervised Transfer	Yes	Yes
Conference Call (3 party & 6 party)	Yes	Yes
Consult Call	Yes	Yes
Ring Again (Activate & Cancel)	Yes	Yes
Call Pickup	Yes	Yes
Call Park (Park & Retrieve Park)	Yes	Yes
Call Forcing *	Yes	Yes

* Meridian 1 PBX only

Features Supported on the MSL-100/DMS-100

Features	Nortel's TAPI SP 1.0	Nortel's TAPI SP 1.5
Make Call	Yes	Yes
Answer Call	Yes	Yes
Hold and Un-hold call	Yes	Yes
Blind Transfer	Yes	Yes
Supervised Transfer	Yes	Yes
Conference Call (6 party)	Yes	Yes
Consult Call	Yes	Yes
Ring Again (Activate & Cancel)	Yes	Yes
Call Pickup	Yes	Yes
Call Park (Park & Retrieve Park)	Yes	Yes

Glossary of Terms

ACD

Automatic Call Distribution. This is a telephone system feature that automatically routes calls to agents.

ANI

Automatic Number Identification. This is another name for call ID (CLID). ANI is typically a 10-digit number that is delivered by the network to identify the incoming caller.

CLID

Caller identification. This is another name for ANI.

CTI

Computer Telephony Integration.

DNIS

Dialed Number Identification Service.

DNs

Directory Numbers.

IDC

Incoming Digit Conversion.

MBS

Meridian Business Set.

MCA

Meridian Communications Adapter.

MMT

Meridian Modular Telephone.

MPDA

Meridian Programmable Data Adapter.

Nortel Developer Support Hotline

For additional information or help, call (800) NT-4CTI-0.

SCCS

Symposium Call Center Server

Service Providers

Software files needed to enable TAPI applications to communicate with the physical telephony device.

SP

Service Providers.

TAPI

Telephony Application Programming Interface.

VISIT FastCall

A windows-based Computer Telephony Integration (CTI) program for small call centers that makes handling calls in telephone-intensive environment faster and more reliable.

VIU

VISIT Interface Unit.

Index

Nortel Symposium Desktop TAPI Service Provider 1.5 User's Guide

A Guide for Installing, Configuring, and Maintaining
the Nortel Symposium Desktop TAPI Service Provider 1.5

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