engage™

Contact Center Suite

662-00001-01R16

TelStrat Application Line Card Installation and Administration Guide

Product Release 1.5.1

Standard 3.7

June 2012

TELSTRAT®

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Preface

About This Document

Purpose of This Guide

The *TelStrat Application Line Card Installation and Administration Guide* (662-00001-01) is for telecom and data network managers and administrators who plan, install, and manage corporate telecommunications and data networks. This guide contains the following information:

- A detailed description of the TelStrat Application Line Card (TALC)
- Procedures necessary to properly install, configure, and manage the TALC in a Nortel Meridian 1, Communication Server 1000 (CS 1000), or Communication Server 2100 (CS 2100) PBX
- Necessary configuration for the Nortel Meridian 1, CS 1000, or CS 2100 PBX
- Troubleshooting procedures for addressing possible problems

This guide assumes that you are familiar with the following:

- Basic telecommunications terminology
- Basic networking terminology
- PC terminology and operation (specifically, Microsoft Windows 2008, 2003, XP Professional Server Edition)
- Nortel Meridian 1, CS 1000, or CS 2100 PBX terminology, functionality, and administration

How to Use This Guide

This guide provides step by step procedures for installing, configuring, and managing the TALC as a part of product release 3.6 of the Engage Contact Center Suite system. Review this guide before beginning TALC installation and configuration.

When you are ready to begin, follow the steps for planning, installing, and configuring your hardware in the order that they appear in this guide. This can help you achieve a successful, trouble-free installation.

Skills You Need

Knowledge of, or experience with, the following PC concepts as appropriate to your Engage Contact Center Suite system is helpful when administering the TALC:

- Microsoft Windows
- Software installation
- Network configuration

Nortel Product Knowledge

You should be familiar with the following Nortel products to assist you with using the TALC:

- Contact Center Manager (CCM), formerly known as Symposium, Portfolio
- Automatic Call Distribution (ACD)
- Basic administration of a Nortel Meridian 1, CS 1000, or CS 2100 PBX (telephone set and XDLC configuration)
- Characteristics and principles of XDLC operation
- PBX data calls

Telecommunications Knowledge

You should be familiar with the following aspects of telecommunications:

- PBX configuration
- PBX maintenance (SDI operation)
- Knowledge of RS-232 signaling

Data Networking Knowledge

You should be familiar with the following aspects of data networking:

- Data link (Layer 2 of the OSI model)
  - — Ethernet switches
- Network (Layer 3 of the OSI model)
  - — TCP/IP protocol
  - — Routing
  - — Addressing
  - — Traffic analysis and provisioning
  - — Configuration
- Voice over IP

Conventions Used in This Guide

This section describes the symbols and text conventions used in this guide.

Instructions for Selecting Menu Options

To simplify the instructions for selecting menu options, this guide abbreviates the selection path. For example, if you must choose Telnet from the Logon Unit menu, under the Connect menu, this guide uses the following style:

From the Menu Bar, choose Connect → Logon Unit → Telnet.

PBX Terminology

Throughout this guide, the term “host PBX” refers to any of the following Nortel PBX platforms:

- Meridian 1 PBX
- CS 1000
- CS 2100

Related Product Information

This section lists sources for additional information related to the Engage Contact Center Suite system.

Engage Record CD-ROM

The Engage Record CD-ROM contains the following:

- Documentation in Portable Document Format (PDF)

  Note: Readers can view PDF files with Acrobat Exchange, Acrobat Reader, or any other application that supports PDF files.
- TALC firmware
- TALC Configuration Manager software
- Engage Record software

How to Obtain the Engage Record CD-ROM and Publications

You can order the CD from your TelStrat distributor.

You can also download the publications in PDF format from the TelStrat website at:

www.telstrat.com

For more information, refer to the *Engage Contact Center Suite Release Notes* (663-00001-01).

Contents

Chapter 1

Description

Product Introduction

The TelStrat Application Line Card (TALC) is an IPE line card that provides connectivity between telephones and the Engage Record server to allow for call recording. Install the TALC in the host PBX to provide service for up to 32 telephones.

Physical Features

The single-wide, 16-channel version of the TALC (740-01060-01) provides service for up to 16 telephones.

The double-wide, 32-channel version of the TALC (740-01060-02 or 740-01060-03) provides service for up to 32 telephones. Both versions emulate a standard digital line card (XDLC).

PBX Hardware Compatibility

The following sections list the TALC's PBX requirements.

Meridian 1 PBX

The TALC is compatible with the following Meridian 1 PBXs:

- Meridian 1 PBX 11, 11C – Cabinet, 11C – Chassis, 11E, 51C, 61C, 71C, and 81C
  The TALC is compatible with the 11(C)-mini with the following limitations:
  - — The 16-port TALC is supported in slots 1—3 in the main chassis.
  - — The 16-port TALC is supported in slots 7—10 in the expander chassis.
  - — The 32-port TALC is supported in slots 1 or 2 in the main chassis, with a maximum of one TALC.
  - — The 32-port TALC is supported in slots 7, 8, or 9 in the expander chassis, with a maximum of two TALCs.

Note: Since the 32-port TALC requires two backplane connections, it cannot be assigned to slot 10, because this slot provides only one backplane connection.

- Older Meridian 1 PBXs that are upgraded with IPE modules

Note: NT8D37AA IPE cabinets use split-slot wiring. If you have one of these cabinets, your TALCs can only reside in slots 0, 4, 8, or 12 unless you re-wire the slot. To use any other slot, rewire part of the IPE backplane using Nortel cable NT8D81AA (A0359946).

CS 1000

To obtain the TALC requirements for Communication Server 1000 (CS 1000) PBXs, contact your TelStrat distributor.

CS 2100

The TALC's required packages for Communication Server 2100 (CS 2100) PBXs are as follows:

- X11 packages 0 and 121 contain all the four required Classes of Service.
  - — Package Number 0 (Basic Call Processing Package) includes FLXA, VCE, and WTA.
  - — Package Number 121 (Station Camp-on) includes CPTA.
- The following four feature sets of release 25.30 include both packages:
  - — NTSK11CQ: Meridian 1 PBX 11C General Business Feature Set
  - — NTSK11DQ: Meridian 1 PBX 11C Enhanced Business Feature Set
  - — NTSK11EQ: Meridian 1 PBX 11C Enterprise Business Feature Set
  - — NTSK11FQ: Meridian 1 PBX 11C nas/vns Feature Set

For new CS 2100 PBX installations of the TALC card, the CS 2100 PBX does not accept a TelStrat Product Number (PEC code) longer than eight characters. Therefore, you must map the IPEPEC table of the TALC PEC codes to the XDLC before provisioning the TALC channels. Use the following TALC PEC codes to accomplish the mapping:

- T0106001 (TALC 16-channel)
- T0106002 (TALC 32-channel - Meridian 1 PBX 11)
- T0106003 (TALC 32-channel - IPE)

The following is an example entry:

```
WRITE ACCESS ENABLED FOR RESTRICTED DATA
>add T0106001        NT8D02     BASIC     DFAULT  LINES_16
TUPLE TO BE ADDED:
T0106001        NT8D02     BASIC     DFAULT  LINES_16
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
*** DIAGNOSTIC AND TYPE DATA BOUND IN SUCCESSFULLY. ***
TUPLE ADDED
WRITTEN TO JOURNAL FILE AS JF NUMBER 55

>list 6
IPEPEC CRDCODE HARDWARE DIAGNSTC LINES
--------------------------------------
DR70AA NT8D02 BASIC DFAULT LINES_32
8D09BA NT8D09 BASIC DFAULT LINES_16
5D11AE NT5D11 BASIC DFAULT LINES_16
T0106001 NT8D02 BASIC DFAULT LINES_16 <-16-channel TALC card example
T0106003 NT8D02 BASIC DFAULT LINES_32 <-32-channel TALC card example
BOTTOM
```

IPE vs. Meridian 1 PBX 11

The double-wide TALCs for IPE shelves and Meridian 1 PBX 11 cabinets differ slightly to accommodate differing card slot dimensions. Each variation has its own order code, as outlined in the following table:

Location	Order code
Meridian 1 PBX 11 - Cabinet	740-01060-02
IPE shelf	740-01060-03

Regardless of order code, the motherboard of the 32-channel TALC is the same circuit pack that is used for the 16-channel TALC. This circuit pack conforms to the Common Features Specification for IPE line cards. It is shown in the illustration on page 5. The faceplates for both the 16-channel and 32-channel versions are shown in the illustration on page 6.

PBX Software Compatibility

The TALC is compatible with Meridian 1 PBX software release 17 through 22 when using TALC firmware release 1_02_00cb6. In addition, the TALC is compatible with Meridian 1 PBX software release 23 or higher, CS 1000 PBX software release 2 or higher, and CS 2100 PBX software release MSL12 or higher.

Note: You can use the TALC with Release 15 or higher, but the data port configuration is slightly different. Refer to the following table for further details.

Configure the ports on the TALC as a Meridian Communication Adapter (MCA) or an Analog Telephone Adapter (ATA) with the first line able to make and receive data calls. To configure data ports as MCA or ATA, make the following settings in LD 11:

Meridian 1 PBX software release	Setting
15 - 17	CLS prompt = DTA
18 and higher	DTA0 prompt = ATA / MCA

For further details, refer to the section on LD s11 in the *Meridian 1 PBX X11 I/O Guide* (NTP 553-3001-400).

Tandem Digit Display

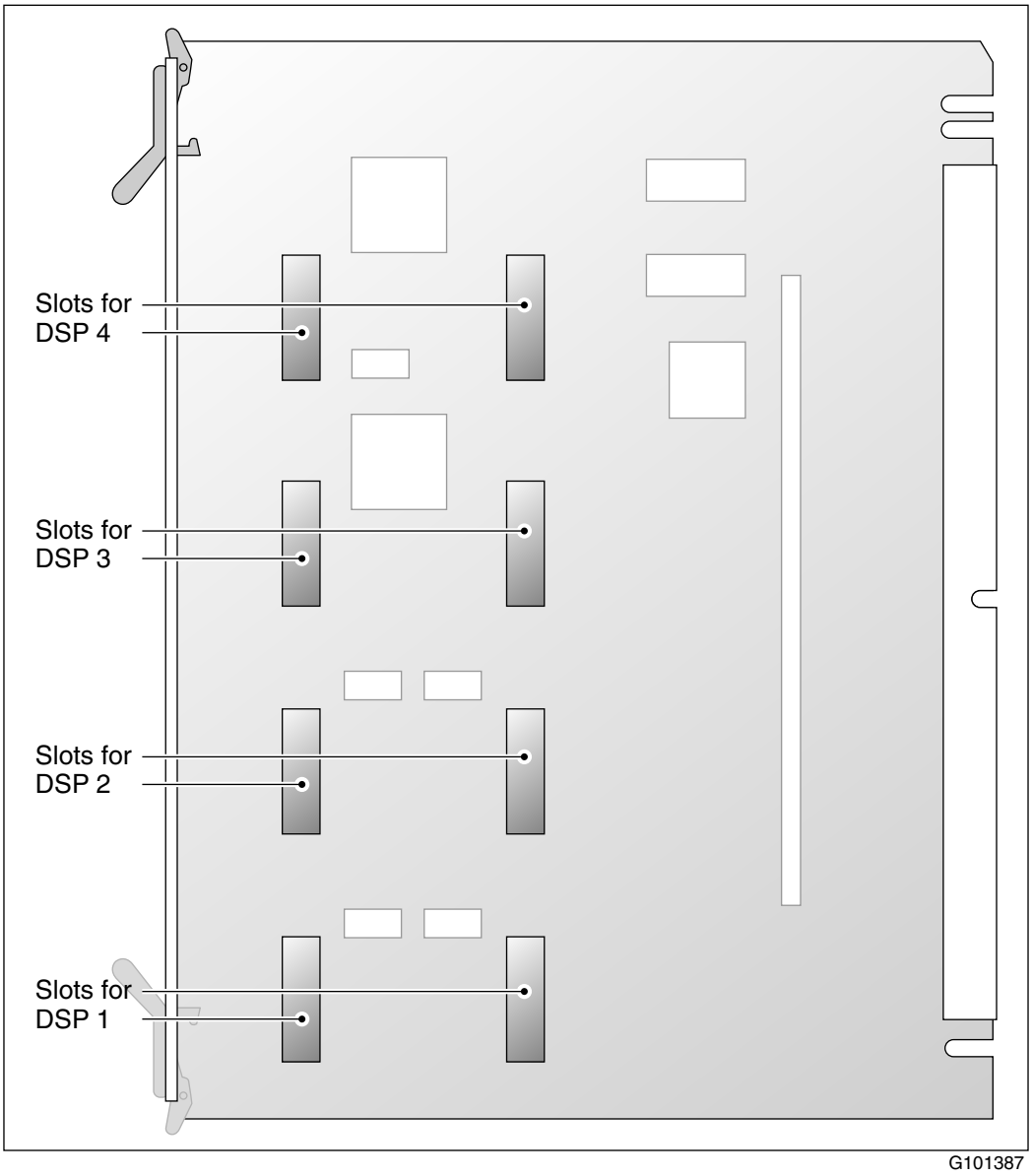
To perform DN Discovery on a feature key other than feature key 0 of any TALC-connected telephone, the Meridian 1 PBX housing the TALC must run software Release 23 or later.

Meridian 1 PBX software Release 23 introduced Tandem Digit Display (TDD) class of service. From a TALC perspective, TDD enables administrators to configure DN Discovery such that the *TALC Extension to Dial* can be a feature key other than feature key 0. For detailed information on DN Discovery and the TALC Extension to Dial field, refer to “TALC System Configuration” on page 55.

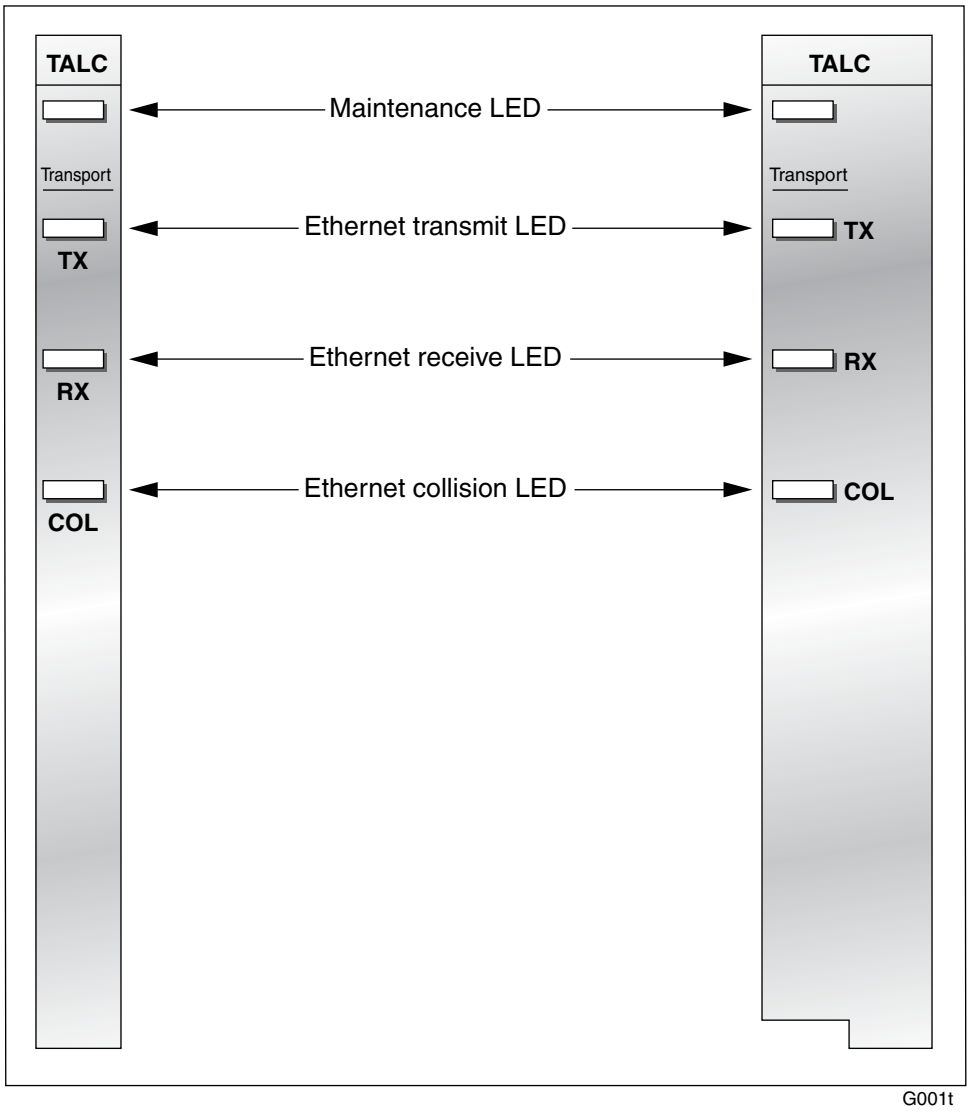
Configure each port on the TALC from the host PBX database as if it were a standard digital line card (XDLC). An integrated Voice over Internet Protocol (VoIP), 10BaseT Ethernet interface sends the voice and signaling traffic to the Engage Record server as packets.

Upload TALC firmware through a customer-provided Trivial File Transfer Protocol (TFTP) server installed on the administration PC, through a 10BaseT Ethernet connection.

TALC motherboard



TALC faceplates: 16-channel and 32-channel



Note: Although TelStrat discontinued the double-wide, 32-channel TALC in May 2008, existing deployments of the 32-channel TALC continue to receive TelStrat's full support.

LED Indicators

The red Maintenance LED on the faceplate indicates the basic health of the TALC, just as with all other IPE line cards. Under normal conditions, the Maintenance LED lights under firmware control at power up, blinks three times after a successful self-test, remains lit until the host PBX enables the TALC, then goes out. If the host PBX disables the TALC, the Maintenance LED comes on and stays on.

- If, after the TALC passes its self-test, the Maintenance LED comes back on, ensure that the card is enabled (refer to host PBX documentation for the correct procedure). If the TALC is enabled and the LED remains on, there is a problem at the host PBX.
- If the LED blinks repeatedly at one-second intervals, reseat the TALC by lifting the ejector tabs outward and pulling the card toward yourself. This action breaks the connection between the TALC and the host PBX backplane.

  After breaking this connection, reinsert the card completely into its slot and push the ejector tabs back to the faceplate, locking the card in place. If the TALC still does not complete a successful self-test, it must be replaced.

Three other faceplate LEDs monitor transmit and receive activity and collisions over the TALC's Ethernet interface. The 16- and 32-channel TALC faceplates are shown on page 6 with the function of each LED labeled.

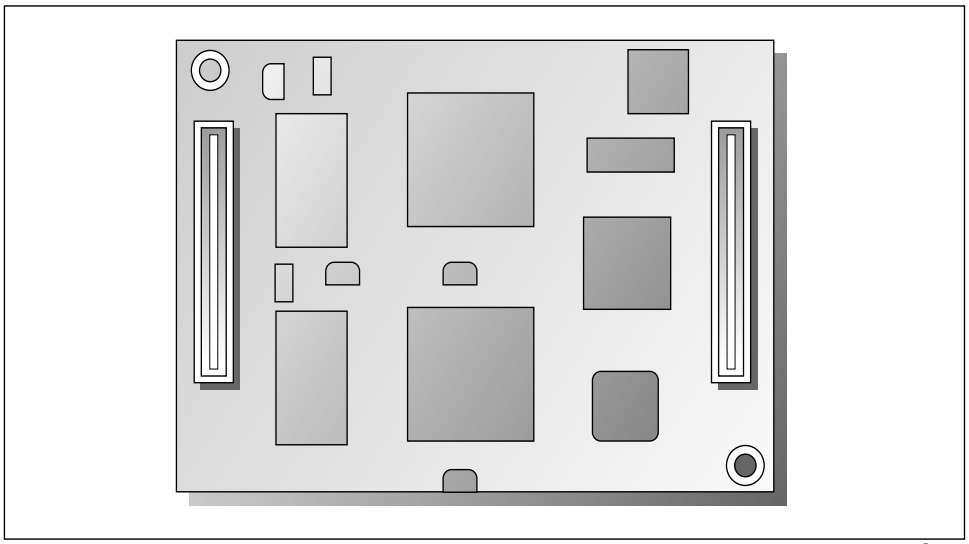
TelStrat DSP 8 Modules

Add up to four TelStrat DSP 8 modules (740-01062-01) to the TALC to extend your system's voice processing capacity.

Each TelStrat DSP 8 module provides an additional eight channels of packet voice recording. The illustration on page 5 shows the locations of digital signal processor (DSP) expansion slot pairings on the TALC. For help in determining the number of TelStrat DSP 8 modules you need to increase your system's call-processing capabilities to the desired level, refer to "Installing TelStrat DSP 8 Modules" on page 15.

The following illustration shows a TelStrat DSP 8 module that holds two DSP devices. You can add up to three TelStrat DSP 8 modules to your TALC to increase the line card's call processing capability by up to 32 channels. For the complete installation procedure, refer to "Installing TelStrat DSP 8 Modules" on page 15.

TelStrat DSP 8 module (740-01062-01)



G002

TALC Multi-I/O Cable-Enhanced

The TALC Multi-I/O Cable–Enhanced (800-00072-03) gives you access to the TALC's call processing capabilities.

This cable provides the following connections:

- 10BaseT for VoIP access to the corporate Ethernet
- RS-232 for Engage Record administration and maintenance through the serial port
- 10BaseT for maintenance of the host PBX over the host PBX's internal Ethernet
- TCM for linking to each workstation telephone

ATTENTION

The TALC supports only half-duplex 10BaseT Ethernet

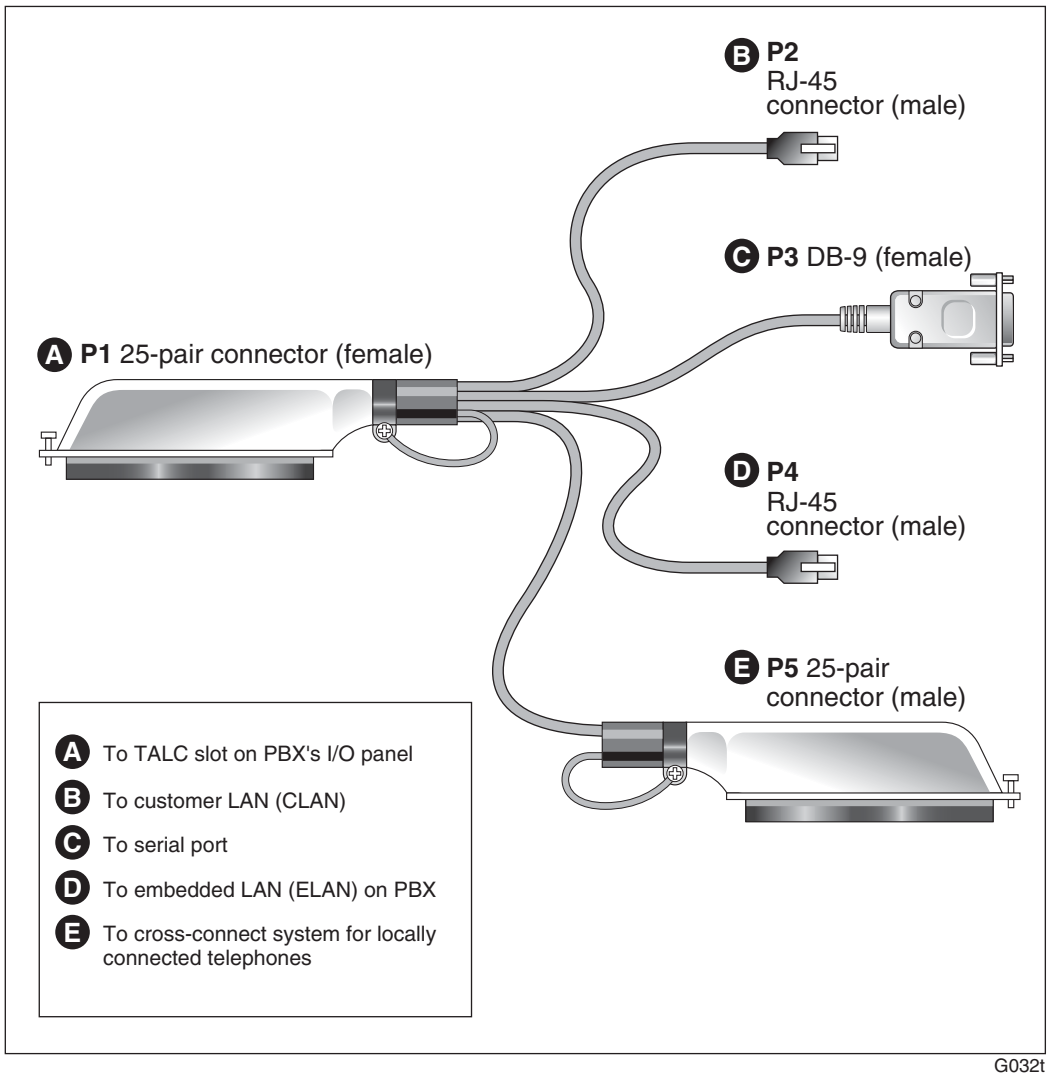
The following table describes the TALC Multi-I/O Cable–Enhanced.

The connector labeled	is a	that transmits	and connects to the
P1	female 25-pair connector	all signals	I/O panel.
Note: If you are using a double-wide, 32-channel TALC, insert P1 into the socket for the first of the two card slots occupied by the TALC.			
P2	male RJ-45 connector	10BaseT signaling	CLAN Ethernet (customer LAN on the network).
P3	female DB-9 connector	RS-232 signaling	serial port connection for administration and maintenance.

The connector labeled	is a	that transmits	and connects to the
P4	male RJ-45 connector	10BaseT signaling	ELAN Ethernet (PBX's embedded LAN).
P5	male 25-pair connector	TCM signaling	cross-connect to local telephones.

The length of this cable, from the termination end of P1 to the termination end of any of the other plugs, is 2 feet (0.6 meters).

TALC Multi-I/O Cable–Enhanced (800-00072-03)



Meridian Digital Telephone Hardware Compatibility

The TALC is compatible with the following Meridian digital telephone equipment:

Models		Modules
■ M2006[i]	■ M3310	■ add-on modules[v]
■ M2008D	■ M3820	■ key-expansion modules
■ M2008HFD	■ M3901[i]	
■ M2216D	■ M3902[iii]	
■ M2616D	■ M3903[iv]	
■ M2616CT[ii]	■ M3904	
■ M3110	■ M3905	

i. M2006 and M3901 digital telephone sets are not capable of displaying local recording messages. There may be a loss of call record information as these telephone sets do

ii. Nortel has discontinued the M2616CT cordless telephone.

iii. Engage Record feature keys are functional on the M3902 Phase I digital telephone set. However, the labels on the telephone are blank after configuring the feature keys. You must manually label the feature key on the M3902. Refer to "Configuring a TALC Port" on page 70 for details on configuring Engage Record feature keys.

iv. The M3903 Phase I digital telephone set's Message Waiting key fails once TALC has registered the port as a Phase II digital telephone set. This can occur when mixing Phase I and Phase II digital telephones sets.

v. Add-on modules include key based add-on modules (KBAs) and display-based add-on modules (DBAs) for M39xx sets.

Console Telephone Hardware Compatibility

The TALC is compatible with the M2250 Console telephone. However, the M2250 Console telephone does not display the following Engage Record feature toggles:

- Call Captured and Call Capture Stopped = ECS toggle
- Recording and Recording Stopped = EREC toggle
- Recording Disabled and Recording Enabled = RDIS toggle

The M2250 Console telephone requires two Terminal Numbers (TNs) for voice and signaling connection and up to three TNs to supply additional power to the telephone set for the add on modules. Configure these additional TNs as PWR type on the PBX. For Engage Record, TALC only supports the two main TNs for the M2250 configuration. TelStrat does not currently support M2250 Console telephone Auxiliary Power on the 16- or 32-channel TALC. You must configure additional TNs on an XDLC located in the same PBX. Proper wiring has to be established from the TALC and the XDLC. This configuration also preserves TALC ports for recording purposes.

TelStrat recommends that you assign a maximum of three M2250 Console telephones to a single TALC. However, if you deploy multiple M2250s across multiple TALCs, TelStrat recommends that you distribute them evenly across the TALCs to avoid the possibility of a single point of failure.

Operational Characteristics

The TALC provides a number of unique features that distinguish Engage Record from other voice recording products.

These features include:

- port sharing
- packet voice processing
- transparent operation
- Meridian digital telephone equipment compatibility

Packet Voice

All connections to the TALC support G.711 and G.723.1 (6.4 kbps) voice compression standards. You can assign different voice compression algorithms to individual ports (refer to “TALC Port Configuration” on page 68.) This feature allows you to configure different voice quality for different users.

Transparent Operation

The host PBX interacts with the TALC as though it were a standard digital line card (XDLC). Aside from enhanced functionality, there is no difference in the operation of a telephone connected to a TALC and the operation of a telephone connected to an XDLC. Additionally, the TALC can operate in XDLC-only mode, if no Engage Record server is present.

Environmental Requirements

The TALC withstands the following environmental conditions without any performance degradation or damage.

Note: In this section, the phrase *short term* equates to 72 consecutive hours with a maximum of 15 days per year. The temperature ratings are for the environment of the circuit and not the total system.

Specification	Minimum	Maximum
Operating temperature		
Normal (Ambient)	0°C (32°F)	60°C (140°F)
Operating humidity		
Normal	5% (noncondensing)	95% (noncondensing)
Storage		
Recommended temperature	-40°C (-40°F)	70°C (158°F)
Relative humidity	5% RH (noncondensing)	95% RH (noncondensing)

Chapter 2

Installation

General Safety

This section describes general safety guidelines recommended by TelStrat and tools needed for line card installation. Follow these safety guidelines whenever you perform installation or maintenance tasks on the TALC.

CAUTION!

CAUTION

Risk of data loss or equipment damage

Electrostatic discharge (ESD) affects the performance of system components, such as TelStrat DSP 8 modules and TALCs. It can seriously damage such components and decrease their useful life. Be certain you are properly grounded before handling them.

Required Tools

Installation of the TALC and installation or replacement of TelStrat DSP 8 modules requires the specific items listed under Hardware Installation. First-time installation or maintenance upgrade require those items listed under Software Installation or Upgrade.

Hardware Installation

- Antistatic ESD wrist strap (recommended)
- Phillips-head screwdriver
- Slot-head screwdriver
- Pen or pencil for noting cable lengths and labeling cables
- Cable tie wraps
- Cable identification labels
- Tape measure

Software Installation or Upgrade

- The Engage Record CD-ROM

Installation Overview

To assist you with a successful installation, complete the installation in the following order:

1. Install the TALCs into the IPE or Meridian 1 PBX 11 cabinet. Refer to “Installing a TALC” on page 16 for further details.
2. Connect a TALC Multi-I/O Cable-Enhanced to each slot of the cabinet containing a TALC. Refer to “Connecting the TALC Multi-I/O Cable–Enhanced” on page 17 for further details.
3. Initially, install the TALC Configuration Manager software on a laptop computer. Refer to “Configuration Manager Software Installation” on page 18 for further details.

   Note: Installing the TALC Configuration Manager software on a laptop computer allows you to initially configure the TALC(s) without relocating the Engage Record server to perform the configuration. TelStrat recommends that you also install the TALC Configuration Manager software on the Engage Record server for future configuration changes.
4. Connect a serial cable from the serial port of the laptop to the TALC Multi-I/O cable.
5. Open and logon to the TALC Configuration Manager application.
6. Log onto the TALC using the Serial Connection.
7. Configure the TALC.
8. Reset the TALC.
9. Connect the TALC Multi-I/O Cable-Enhanced RJ-45 plug labeled “external” to the data switch using a CAT 5 cable.
10. Repeat steps 1-9 for each TALC.

Installing TelStrat DSP 8 Modules

Install TelStrat DSP 8 Modules, shown in the illustration on page 8, in the expansion slots on your TALC, shown in the illustration on page 5. Adding TelStrat DSP 8 Modules to your TALC increases the number of telephone calls that you can record. To add TelStrat DSP 8 Modules to your TALC, you must:

- Determine the number of channels that you want to record.
- Install TelStrat DSP 8 Modules using the procedure on page 16.

Determining How Many TelStrat DSP 8 Modules to Add

You must allow one DSP channel on the TALC for each telephone call that you want to record. The TALC comes with sufficient on-board DSP resources to record up to eight simultaneous telephone calls. In addition, DSP expansion slots enable you to add as many as three TelStrat DSP 8 Modules (740-01062-01) to your TALC.

Each TelStrat DSP 8 module increases the voice processing capabilities of your system by eight channels. This means that an Engage Record system can simultaneously record up to 16 simultaneous conversations with just one TelStrat DSP 8 module added to the TALC, or up to 32 conversations with three TelStrat DSP 8 modules added to a 32-channel TALC.

Once you have ordered and received the TelStrat DSP 8 modules from TelStrat Int'l, install them according to the procedure found in "Installing TelStrat DSP 8 Modules" on page 16.

Handling TelStrat DSP 8 Modules

Before beginning the installation and configuration process, review "General Safety" on page 13. Follow these safety precautions and warnings to protect your investment in your telecommunications network.

CAUTION!

CAUTION

Risk of data loss or equipment damage

Electrostatic discharge (ESD) affects the performance of system components, such as TelStrat DSP 8 Modules and TALCs. It can seriously damage such components and decrease their useful life. Be certain you are properly grounded before handling them.

Installing TelStrat DSP 8 Modules

To install TelStrat DSP 8 Modules:

1. Ground yourself with an approved wrist or heel strap (contact your TelStrat distributor for details) before handling TelStrat DSP 8 Modules or TALCs.
2. Clear a flat, static-free work area with sufficient space to hold your TALC and TelStrat DSP 8 modules.
3. With the TelStrat DSP 8 modules still in their antistatic bags, place them in the work area.
4. Remove the TALC from the host PBX and place it in the work area.
5. Remove a TelStrat DSP 8 module from its antistatic bag, holding it by its edges, with the insertion tabs facing down.
6. Insert the tabs into a pair of expansion slots on the TALC. (Refer to the illustration on page 5 for the locations of expansion slots.) The tabs should snap into place when fully inserted. Visually inspect each tab to make sure that there is no gap between the module and the top of the expansion slot, thus ensuring that the module is fully inserted.

Installing a TALC

Whether your system consists of one or multiple TALCs, the installation process is the same for each one, as follows:

1. Insert the TALC into its card slot.

   Ensure that the lower tips of the ejector tabs are positioned properly inside the front edges of the shelf.
2. Lock the TALC into position by pushing the handles toward one another until they touch the faceplate.

   If you meet with inappropriate resistance, stop and reposition the card.

   Refer to “LED Indicators” on page 7 for the sequence of LED activity that signifies a successful TALC installation.
3. Verify that the host PBX recognizes the presence of the TALC. (Refer to the documentation specific to your host PBX for exact procedures to verify the presence of an XDLC.)

Connecting the TALC Multi-I/O Cable–Enhanced

To connect the TALC Multi-I/O Cable–Enhanced:

Note: Refer to the illustration on page 9 for help identifying the plugs of the TALC Multi-I/O Cable–Enhanced (800-00072-03).

1. Plug **P1** of the TALC Multi-I/O Cable–Enhanced, the 25-pair connector, into the 25-pair shelf connector associated with the slot occupied by the TALC.

   Note: If you are connecting a cable to a double-wide, 32-channel TALC, plug **P1** into the shelf connector associated with the first of the two slots occupied by the TALC.

2. Plug **P2**, the male RJ-45 connector (the first male RJ-45 connector) into your Ethernet hub or switch.

   Note: The TALC supports only half-duplex 10BaseT Ethernet connections.

3. Plug **P3**, the female DB-9 connector, into the Engage Record administration PC.

4. Plug **P4**, the second male RJ-45 connector into the I/O panel connector corresponding with the switch's Input/Output Port (IOP) card.

   Note: The TALC supports only half-duplex 10BaseT Ethernet connections.

5. Plug **P5**, the second 25-pair connector, into the cross-connect device serving the local telephones that you want to attach to TALC ports.

Verifying the Installation

Once you have finished the installation and cable connection of your TALC, use the information below to verify that you have completed these procedures properly.

Indications of Proper Installation

When a TALC is placed in its slot, it automatically performs a self-test. A successful self-test indicates proper installation. The following behaviors by the Maintenance LED confirm a successful self-test:

- blinking three times
- turning off
- remaining off (if enabled by the switch)

Note: Refer to "LED Indicators" on page 7 for a further explanation of LED behavior at startup.

Indications of Proper Cable Connection

The ability to successfully log on to the TALC through TALC Configuration Manager software indicates proper cable connection to the TALC. To perform this task, install the software first (refer to page 18). Once this task is complete, refer to “Starting TALC Configuration Manager” on page 19.

Unsuccessful Configuration Manager Logon

If you are unable to connect to the TALC Configuration Manager, confirm the TALC Multi-I/O Cable–Enhanced connections before attempting the troubleshooting procedures.

Note: If the TALC Multi-I/O Cable–Enhanced has proper connections and still does not allow you to log on, refer to Chapter 6, “Troubleshooting”.

Configuration Manager Software Installation

Use TALC Configuration Manager software to configure and administer the TALC. This software arrives on the Engage Record CD-ROM provided in the package. You must install this application on the administration PC to configure and administer the TALC.

To install the TALC Configuration Manager software:

1. Insert the Engage Record CD-ROM in the appropriate drive.
2. Double-click on the Talc → GUIMgmt → Installable → setup.exe.

   Result: The InstallShield prepares for installation and then the Welcome screen displays.
3. Click on the **Next** button and follow the screen prompts.

After you install the software on the administration PC, start TALC Configuration Manager and choose Configuration Wizard from the Menu Bar. The Configuration Wizard allows you to perform initial configuration quickly and easily.

Using the Configuration Wizard to Perform Initial Configuration

The Configuration Wizard option in TALC Configuration Manager allows you to configure the minimum information needed for establishing communications between the TALC and the Engage Record server. The Configuration Wizard provides only a subset of the full configuration settings available in Configuration Manager. However, by using the Configuration Wizard, the TALC can be up and running within ten minutes.

You can use the Configuration Wizard in offline mode or while connected and logged on to the TALC (online mode).

To perform the initial configuration using Configuration Wizard, you must establish a serial connection (online mode). Refer to "Logging on to a TALC Using the Serial Port" on page 48. After initial configuration is complete, you can log on to the TALC using a Telnet connection. Refer to "Logging on to a TALC Using Telnet" on page 46.

What You Can Configure with the Configuration Wizard

The Configuration Wizard allows you to configure the following elements:

- The TALC's IP address, subnet mask, and default gateway
  This information must be valid for proper functioning with your IP network and to successfully establish a Telnet session with the TALC.
- The IP address of the Engage Record server to which the TALC connects

Ensure you have this information ready before you begin.

Note: If, after completing configuration with the Configuration Wizard, you want to modify any settings, you must use TALC Configuration Manager.

Starting TALC Configuration Manager

To start TALC Configuration Manager:

1 Click on Start → Programs → TelStrat Engage → TALC Configuration Manager.

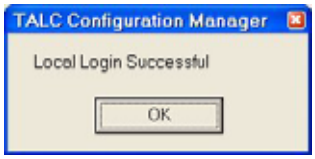
Result: Configuration Manager opens and displays the Local User Authentication dialog box, similar to the following, prompting you for the login name and password:

2 Enter **admin** in the Login Name field.

3 Enter **root** in the Password field.

4 Click on the **OK** button.

Result: The TALC Configuration Manager dialog box displays informing you of a successful log on.



5 Click on the **OK** button.

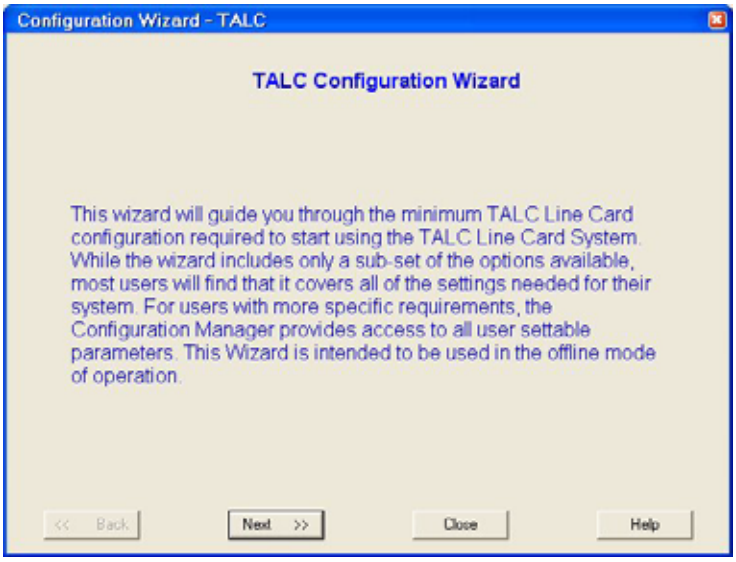
Result: The login status dialog box disappears.

Performing Minimum Configuration with the Configuration Wizard

To perform minimum configuration with the Configuration Wizard (offline or online mode):

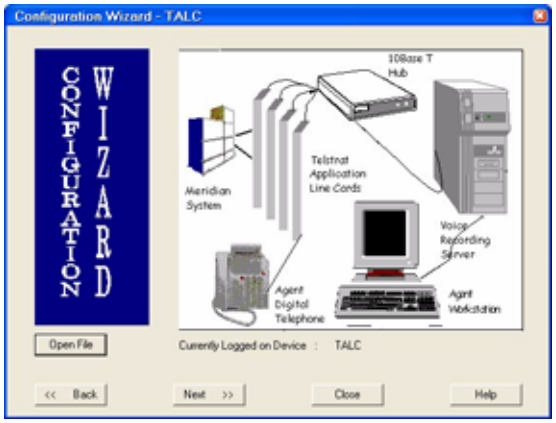
1 Choose Configuration Wizard from the Menu Bar.

Result: The Configuration Wizard introductory screen displays, similar to the following:

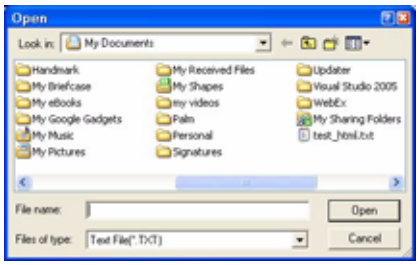


2 After reviewing the message, click on the **Next** button.

Result: The Configuration Wizard screen displays, similar to the following:

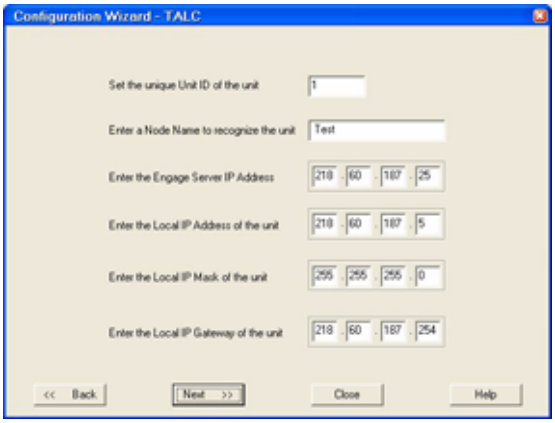


3 Choose your next action from the following table:

IF you want to	THEN do the following:
load an existing configuration file into the TALC's Flash memory,	1. Click on the **Open File** button. **Result:** The Open dialog displays, similar to the following:  2. Navigate to the location of the configuration file that you want to load into the TALC's Flash memory. 3. Select the file. **Result:** The name of the selected file displays in the file name field. It must be a text (.TXT) file. 4. Click on the **Open** button. **Result:** The TALC loads the selected configuration file to its Flash memory. 5. Click on the **Next** button and proceed to step 4.
review the information on the previous screen,	1. Click on the **Back** button. 2. Go back to step 2.

IF you want to	THEN do the following:
create a new configuration file for a TALC,	1. Click on the **Next** button. **Result:** The IP Address screen displays, similar to the following completed example. 2. Proceed to step 4.
stop the TALC Configuration Wizard,	Click on the **Close** button. Proceed to page 27 after the table.
view information about the fields on the current screen,	Click on the **Help** button.

The following is a completed example:



IP information allows you to administer the TALC from any PC on the network where a copy of the TALC Configuration Manager software resides.

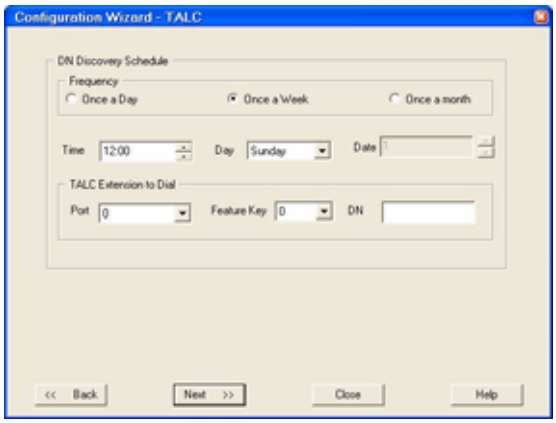
4 Complete the fields on this screen as described in the following table:

Field	Description
Set the unique Unit ID of the unit	Assign a number between 1 and 254 to the TALC you are configuring. **Note:** The unit ID assigned to the TALC must be unique from the unit IDs assigned to other TALCs that communicate with the same Engage Record server. This allows a single Engage Record server to record calls from multiple host PBXs simultaneously.
Enter a node name to recognize the unit	Enter a name that describes the TALC you are configuring.
Enter the Engage Record Server IP Address	Enter the IP address assigned to the Engage Record server. **Note:** The Engage Record server's IP address must be statically configured. The Engage Record server cannot be configured to obtain an IP address using Dynamic Host Control Protocol (DHCP).

Field	Description
Enter the Local IP Address of the unit	Enter the IP address assigned to the TALC you are configuring. **Note:** If you do not have a valid IP address, enter the sample IP address: **5.6.7.8**.
Enter the Local IP Mask of the unit	Enter the subnet mask of the TALC you are configuring. **Note:** If you do not have a valid subnet mask, enter the sample subnet mask: **255.255.0.0**.
Enter the Local IP Gateway of the unit	Enter the IP address of the gateway between the TALC you are configuring and the network. **Note:** If there is no router between the TALC and the network, then the administration PC acts as the gateway. Enter **1.2.3.5**.

5 Click on the **Next** button.

Result: The Configuration Wizard DN Discovery information window displays, similar to the following completed example:



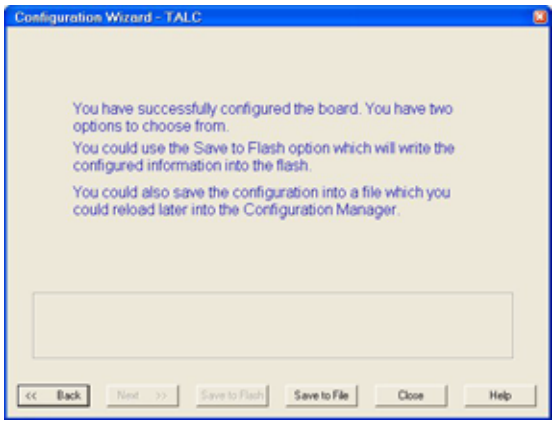
6 Complete the fields on the Configuration Wizard DN Discovery screen as described in the following table:

Field	Description
Frequency	Select how often you want the TALC to automatically detect the host PBX-configured name and number assigned to each of its ports. ▪ Choose “Once a Day” if you want the TALC to perform DN Discovery daily. ▪ Choose “Once a Week” if you want the TALC to perform DN Discovery weekly. ▪ Choose “Once a Month” if you want the TALC to perform DN Discovery monthly.

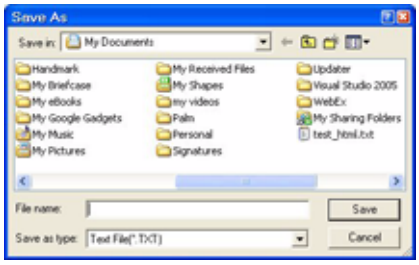
Field	Description
Time	Set the time of day when you want the TALC to perform DN Discovery in the time scroll box. Do **one** of the following: ■ Highlight the hour displayed in the Time selection box. Enter the hour that you want the TALC to perform DN Discovery. Highlight the minute displayed in the Time selection box. Enter the minute that you want the TALC to perform DN Discovery. ■ Highlight the hour displayed in the Time selection box. Using the arrows at the right side of the Time field, select the hour that you want the TALC to perform DN Discovery. Highlight the minute displayed in the Time selection box. Using the arrows at the right side of the Time field, select the minute that you want the TALC to perform DN Discovery.
Day	If you select Once a week, you must also choose the day of the week when you want the TALC to perform DN Discovery. In the Day list box, choose the correct day of the week.
Date	If you select Once a month, you must also select the date when you want the TALC to perform DN Discovery each month. In the Date scroll box, choose the correct date.
Port	Choose the TALC port occupied by the DN in the DN field that follows. Engage Record uses this port as a baseline in deriving DN Discovery information.
Feature Key	Choose the feature key assigned to the TALC port and DN shown in the adjacent fields.
DN	Enter the directory number of the TALC port where calls are to be placed for DN Discovery.

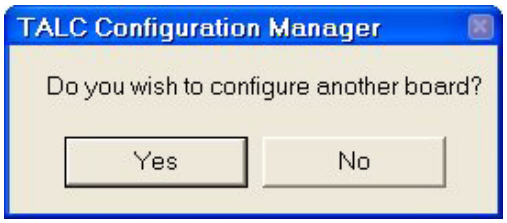
7 Click on the **Next** button.

Result: A screen similar to the following displays:



8 Do one of the following:

IF you are performing an	THEN
offline configuration,	1. Click on the **Save to File** button **Result:** The Save As dialog box displays, similar to the following:  2. Specify the directory path and file name for this configuration. **Note:** The file name is automatically defaulted with the name you entered as the node name. 3. Ensure the Save as type box shows Text File (*.TXT). 4. Click on the **Save** button. **Result:** The previous Configuration Wizard screen re-displays.

IF you are performing an	THEN
offline configuration, (continued)	5. Click on the **Close** button to accept the configuration file you just created. **Result:** A dialog box similar to the following displays:  Do the following: **IF you want to:** / **THEN:** configure more TALCs, → 1. Click on the **Yes** button. 2. Proceed to step 3. stop configuring TALCs, → Click on the **No** button. **Result:** TALC Configuration Manager closes. **Note:** You can open the information in this file in Configuration Manager, then send and save the file in the TALC's Flash memory at another time.
online configuration,	1. Click on the **Save to Flash** button. **Result:** Configuration Manager writes the information entered to the Flash memory of the TALC you are configuring. If successful, the following message displays: Data Sent Successfully **Note:** TelStrat recommends that you also save the configuration to a file. For instructions on how to do this, refer to "offline configuration," on page 25. 2. Restart the TALC.

Now that you have configured the minimum information required for network connectivity, you can do the following tasks:

- Test the network connections. For instructions, refer to "Testing the Connections" below.
- Perform additional configuration, if needed. For instructions, refer to Chapter 4, “Configuration”.

Testing the Connections

Test the connections to the TALC using the following methods:

1. Check your system’s host-site connections to ensure basic IP Network connectivity.
2. Perform a ping test. To do this test, the TALC must be physically connected to the IP network.

Check Ethernet Connections

Check the following points in your Ethernet connection:

1 Confirm that the DB15–RJ45 adapter at Plug 2 of the TALC Multi-I/O Cable–Enhanced is properly and securely joined to Plug 2.

2 Confirm that the RJ45 plug of a CAT5 data cable leading to your Ethernet hub is properly and securely seated in the RJ45 socket of the DB15–RJ45 adapter discussed in the previous step.

3 Confirm that the other end of the CAT5 data cable discussed in the previous step is properly and securely seated in the appropriate Ethernet hub socket.

4 Confirm that the CAT5 data cable leading to your Ethernet network’s data router is properly and securely seated in the appropriate Ethernet hub socket.

5 Confirm that the CAT5 data cable leading from your Ethernet hub is properly and securely seated in the data router’s socket.

ATTENTION

The TALC supports only half-duplex 10BaseT Ethernet

Performing a TALC Configuration Manager PING

To perform a TALC Configuration Manager PING:

1 From the menu, choose Tests › Ping.

Result: The PING Test dialog box displays, similar to the following:

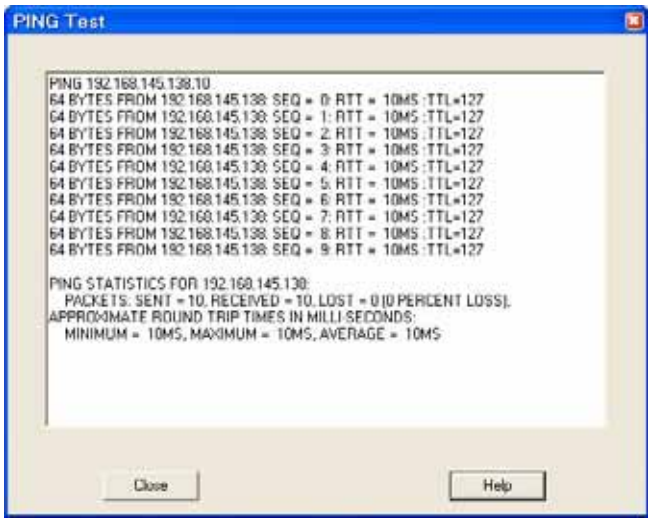
2 Enter the IP Address of the unit you want to ping.

3 In the Number of Cycles box, enter the number of times you want to ping the unit.

The number must be in the range of 1 to 100.

4 Click on the **OK** button.

Result: The PING test results screen appears showing the ping results. The following is an example of a successful ping.



5 Click on the **Close** button.

Result: The PING test screen closes.

Unsuccessful Ping

If the ping was unsuccessful:

1 Ensure you have entered the IP address, subnet mask, and default gateway correctly.

2 PING the gateway to see if it responds.

3 Contact your data network administrator if the ping still does not work.

What's Next?

Once you have confirmed that the TALC can be recognized on the network, you can begin to configure it. TelStrat recommends that you also change the passwords for logging on to the TALC Configuration Manager and the TALC.

For a description of Configuration Manager, refer to "What is Configuration Manager?" on page 31. To change passwords, refer to "Changing the Administration Password" on page 75.

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Chapter 3

Using Configuration Manager

What is Configuration Manager?

Configuration Manager is a Windows-based software application that you install on your PC. Configuration Manager allows you to configure, administer, and upgrade the TALC. These tasks can be performed over either of the following connection types:

- 10BaseT Ethernet
- RS-232 serial

The Engage Record CD-ROM includes TALC Configuration Manager software.

Windows PC Requirements

To use Configuration Manager, the administration PC must:

- be an IBM-compatible PC
- use a Windows 2008, 2003, or XP Professional Server Edition operating system with the Microsoft TCP/IP networking component installed
- be equipped with a CD-ROM drive
- be equipped with a 10BaseT Ethernet interface card
- have an available COM port if you wish to use the RS-232 serial port to establish a direct serial connection
- be equipped with a pointing device, such as a mouse
- use Microsoft's IP stack
- have 64 Mbytes of RAM for Microsoft Windows 2008, 2003, and XP Professional Server Edition
- have 64 Mbytes of available storage for Microsoft Windows 2008, 2003, and XP Professional Server Edition

Note: Configuration Manager does not support any of the Win32 Server versions of Microsoft Windows.

Installing Configuration Manager

To install the Configuration Manager software on your administration PC, refer to "Configuration Manager Software Installation" on page 18.

Updating Configuration Manager

Update Configuration Manager at the following website:

www.telstrat.com

Save the software to the local hard drive on your administration PC.

Starting and Viewing Configuration Manager

The Configuration Manager software application is best viewed when your monitor settings are configured as 1024 by 768 pixels using Small Fonts at 96 dpi. If you use larger fonts, some fields and buttons might be hidden. You must use the horizontal and vertical scroll bars to view the hidden fields or buttons. For instructions on changing your display settings, refer to the Windows online help on your PC.

To start and log on to a Configuration Manager session:

1 From the Menu Bar, choose Start → Programs → TALC Configuration Manager → TALC Configuration Manager.

Result: Configuration Manager opens and prompts you for the login name and password, similar to the following:

2 Enter **admin** in the Login Name box.

3 Enter **root** in the Password box.

Note: This is the default password. You can change the password after installation, though TelStrat recommends that you do not change the password until your Engage Record system is up and running.

4 Click on the **OK** button.

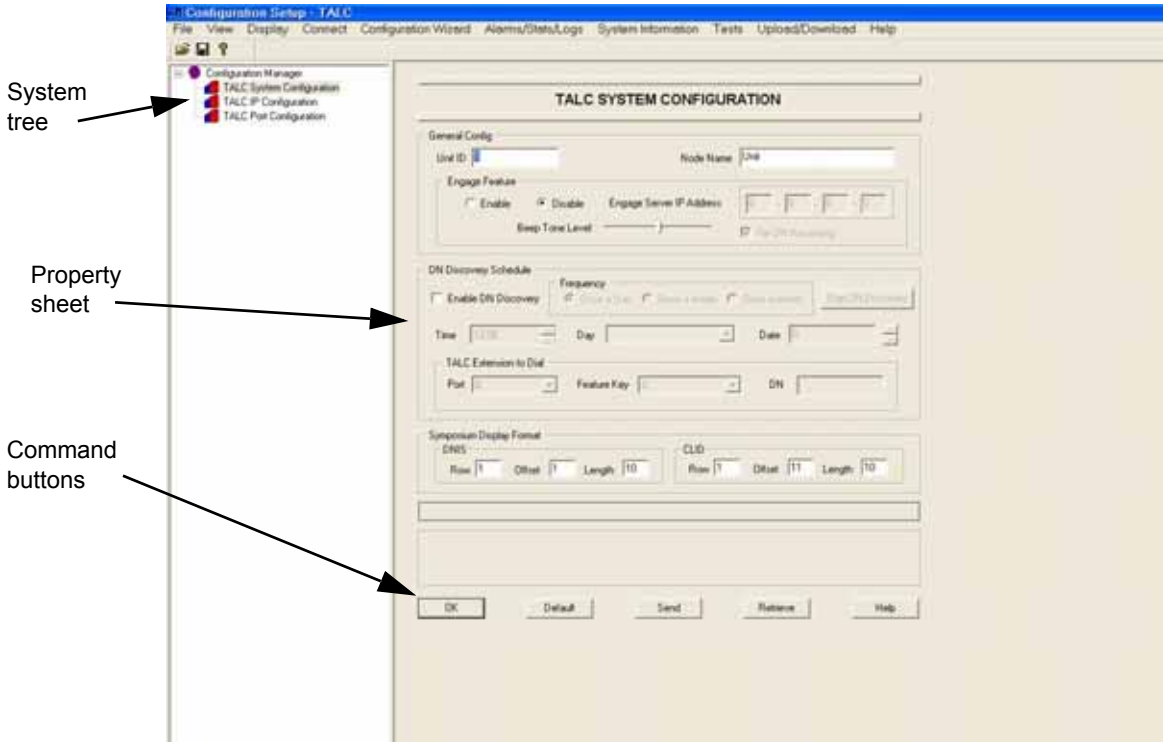
Result: The system informs you of a successful logon. In the event of an unsuccessful logon, the system informs you of the need to re-enter the information.

5 Click on the **OK** button.

Result: The logon status dialog box disappears.

System Tree

The left pane of Configuration Manager lists the property sheets you can access. To expand the list of all the TALC property sheets, click on the plus **(+)** sign. (To hide the list, click on the minus **(-)** sign.) With the System Tree expanded, click on a configuration to display the associated property sheet in the right pane, similar to the following:



To hide the system tree, choose View → System Tree from the Menu Bar. The screen redraws itself showing only the right pane and displaying the selected property sheet. To display the system tree again, choose View → System Tree.

Property Sheets

When you click an item in the system tree, the associated property sheet appears in the right pane.

Command Buttons

The following buttons appear on every property sheet listed in the first level of the TALC Configuration Manager system tree (left pane):

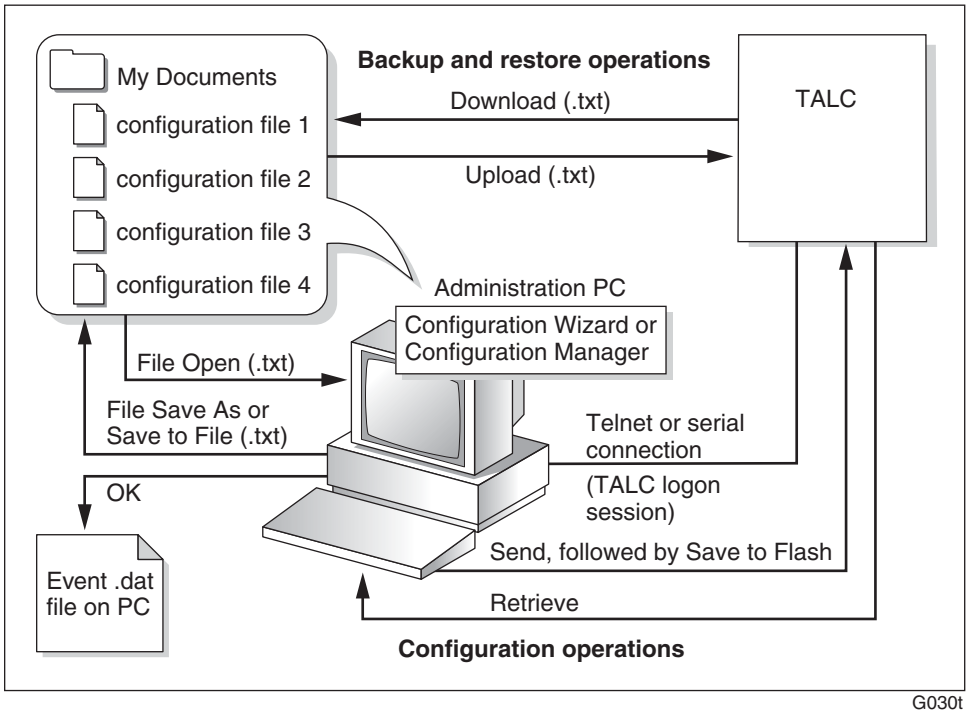
- *OK*
  Click on this button to accept any changes you have made to the displayed property sheet. This command stores these values in a temporary file on your PC until you are ready to update the TALC's Flash memory. For more details, refer to "OK" on page 37.
- *Default*
  Click on this button to insert default values into every field in the displayed property sheet.
- *Send*
  Click on this button to update the buffer of the logged on TALC with the values currently on the displayed property sheet. For more details, refer to "Send" on page 38.
- *Retrieve*
  Click on this button to display the saved configuration value for every field on the displayed property sheet from the TALC's local buffer. The TALC's local buffer contains the last sent data. For more details, refer to "Retrieve" on page 38.
- *Help*
  Click on this button to view online Help for the displayed property sheet.

Configuration Files Description

This section describes configuration files and the ways that you can work with them.

Configuration Manager: File Operations Diagram

The following diagram shows how configuration information is stored. Refer to "Types of Files" on page 36 for a detailed description of each file type and operation.



The diagram on page 35 shows the default location to which Configuration Manager saves TALC configuration files on the Administration PC—the *My Documents* folder. You can, however, choose a different folder for storage of configuration files in the dialog box. The default location for configuration file storage is always the location of the last saved configuration file.

Types of Files

You can work with three types of files in Configuration Manager. Each file is identified by one of the file name extensions described in the following table.

File name	File type	When it is created and used
■ event.dat	Log file	The log (event.dat) file records all activities (and messages associated with those activities) that you perform while running Configuration Manager, such as: ■ logging on to Configuration Manager ■ logging on to a TALC (by serial or Telnet connection) ■ logging off of a TALC ■ performing configuration changes ■ performing firmware upgrades This file can be very useful when troubleshooting system problems. Technical support personnel may ask for this file.
■ *.txt	Text	The text (.txt) file is created when you do one of the following: ■ click on the **Save to File** button while running the Configuration Wizard. ■ click on File → Save As while working in Configuration Manager. ■ choose Upload/Download → Download Configuration to save a TALC's configuration in a text file on the administration PC.
■ *.upg	Upgrade	Use the upgrade (.upg) file when performing firmware upgrades. For more details, refer to "Performing Firmware Upgrades" on page 92.

Configuration Manager: File Operations Description

The following table describes each operation shown in the "Configuration Manager: File Operations Diagram" on page 35.

Operation	Description
OK	When you click on the OK button, the following occurs: ▪ Configuration Manager checks any changes you made for errors that, if found, produce an error dialog box. Make the necessary changes, and then click on the **OK** button again. **Note:** You must click on the OK button after making changes to a property sheet. For Configuration Manager to be able to save your information, you must first click on the OK button to accept the changes. After clicking on the OK button**,** you can send the changes to the logged on TALC's buffer using a Send or Send All command. You can now update the Flash memory of the logged on TALC by performing an Upload/Download → Save to Flash operation from the Menu Bar. For more details, refer to "Send" on page 38. **Note:** If you do not click on the OK button on a property sheet before displaying another property sheet, you lose all of the changes made on the first property sheet. To regain lost changes, you must re-enter them.
File → Open	When you choose File → Open from the Menu Bar, you can open a previously saved configuration file. This is useful for preparing and storing configuration files in a central location before they are deployed to a TALC in the Engage Record system. **Note:** To open a file, the file type must be text (.txt).
File → Save As	When you choose File → Save As from the Menu Bar, Configuration Manager saves the TALC's configuration to a file on your PC. You must specify the file name and directory location. After saving the file, you can open and modify it at a later time. **Notes:** ▪ Configuration Manager saves the file as a text (.txt) file. ▪ If you close Configuration Manager without choosing File → Save As, you lose all of the changes you made.

Operation	Description
Send	When you click on the Send button, Configuration Manager sends any changes made on the displayed property sheet to the buffer of the logged-on TALC. If the send is successful, the following message displays: `Data Sent Successfully` (TelStrat recommends that you click on the OK button before clicking on the Send button.) **Note:** You must choose Upload/Download → Save to Flash from the Menu Bar to save the changes to the TALC's Flash memory. For more details, refer to "Save to Flash" on page 39.
Send All	When you choose Upload/Download → Send All on any property sheet, changes for *all* property sheets pertaining to the logged-on TALC are sent to the buffer on the TALC you are connected to. If the send is successful, the following message displays: `Data Sent Successfully` **Note:** You must choose Upload/Download → Save to Flash from the Menu Bar to save the changes to the TALC's Flash memory. For more details, refer to "Save to Flash" on page 39.
Retrieve	When you click Retrieve on a property sheet, the configuration stored in the buffer of the logged-on TALC (the latest configuration information) displays in Configuration Manager. If the retrieval is successful, the following message displays: `Data Received Successfully`

Operation	Description
Save to Flash	When you choose Upload/Download → Save to Flash from the Menu Bar, the information stored in the logged-on TALC's buffer is saved to Flash memory. This prevents the configuration from being lost if the TALC loses power. While in progress, the following message displays in the status bar at the bottom of the screen: `Save to Flash` When the Save to Flash is completed, the Data Stored to Flash dialog box displays. Some changes require a restart of the TALC after saving the changes. If a restart is necessary, Configuration Manager prompts you to do so. **Notes:** ■ You must click on the Send button or choose Upload/Download → Send All from the Menu Bar *before* you choose Upload/Download → Save to Flash. You should perform a Save to Flash as often as you think it is necessary to keep your configuration information safe. ■ Do not ignore error messages in the Save to Flash process. If Save to Flash fails, retry uploading and saving to Flash. If the problem persists, check the file being uploaded and report the problem to TelStrat.

Operation	Description
Upload Configuration	When you choose Upload/Download → Upload Configuration from the Menu Bar, Configuration Manager uploads the configuration file you specify and writes the file to the buffer on the logged-on TALC. Use this option if you need to restore or replace an entire configuration. You must choose Upload/Download → Save to Flash from the Menu Bar to save the changes in the TALC's Flash memory. If you do not perform the Save to Flash and a power loss occurs, you lose changes to TALC configuration. While in progress, the following message displays in the status bar at the bottom of the screen. `Save to Flash in Progress` When the Save to Flash is complete, the Data Stored to Flash dialog box displays. **Notes:** ■ To upload a configuration file, the file type must be text (.txt). ■ To perform a configuration upload over the IP network, a TFTP server application must be running on your PC. TelStrat does not support uploads over the serial port. ■ Restart the TALC after the Save to Flash operation. For instructions on how to restart the TALC, refer to "Performing a System Restart or Shutdown" on page 51. ■ If the upload fails or aborts, confirm that you are uploading the correct file. If the problem persists, contact TelStrat Customer Services for assistance.
Download Configuration	When you choose Upload/Download → Download Configuration from the Menu Bar, Configuration Manager saves the configuration stored on the logged-on TALC to a file on the PC. Use this option if you want to create a backup of the TALC's configuration. **Notes:** ■ The downloaded file is saved as a text file (.txt). ■ If you make changes and do not save them, you lose those changes.

Working with Configuration Files

This section explains how to:

- create a configuration file
- open a configuration file in Configuration Manager
- perform a configuration upload
- perform a configuration download

Creating a Configuration File on the PC

To create a configuration file on the PC:

1. Start Configuration Manager.
2. Make the required changes on each property sheet.
3. From the Menu Bar, choose File → Save As.

   Result: The Save As dialog box displays.
4. Enter a descriptive name for the file.

   The file name should identify the type of configuration it contains.

   Example 1: If the file contains a basic configuration that is to be used for TALC, you can enter **template** as the file name.

   Example 2: If the file contains a configuration that is unique to a specific TALC, you can enter the TALC's **name or number** as the file name.
5. Ensure that the Save as type drop down box shows text file (*.txt)
6. Specify the folder where you want to save the file.
7. Click on the **OK** button.

   Result: The file is saved.

ATTENTION

TelStrat **strongly** recommends that you do not manually edit .TXT configuration files. Instead, use the procedures referenced in the following sections for viewing and

Opening a Configuration File

To open a configuration file:

1. Start Configuration Manager.
2. Log on to the TALC.
3. From the Menu Bar, choose File → Open.

   Result: The Open dialog box displays.
4. Ensure the Files of type drop down box shows text files (*.txt).
5. Navigate to the folder containing the file you need.
6. Select the file, and then click on the **Open** button.

   Result: The contents of the configuration file are loaded into Configuration Manager.
7. View the configuration details by clicking each item in the system tree to display the associated property sheet.
8. Make changes as necessary, then do the following:
   a. Save the file by choosing File → Save from the Menu Bar. If you want to change the file name, choose File → Save As from the Menu Bar.
   b. Click on the **Send** button to update the TALC, then choose Upload/Download → Save to Flash from the Menu Bar.

Uploading a Configuration to a TALC

For complete instructions on uploading a configuration to a TALC, refer to “Restoring the Configuration” on page 80.

Downloading a Configuration from a TALC

For complete instructions on downloading a configuration from a TALC, refer to “Creating a Backup Configuration File” on page 78.

Logging on to a TALC

If you want to update the Flash memory on the TALC as you make configuration changes, or view statistics and logs, you must log on to the TALC. Each TALC has its own administration ID and password in addition to the Configuration Manager logon ID and password.

You can log on to a specific TALC by using either of the following connection methods:

- Telnet (over the IP network)
- Serial

Connection Types

If the TALC is connected to the administration PC by an RS-232 cable, you can establish a connection through the serial port. Similarly, you can establish a modem connection if the TALC or Remote Gateway 9150 unit is connected to a modem.

If Ethernet connectivity has been established between the administration PC and the TALC, you can establish an IP connection with Telnet.

Default Logon ID and Password

The default logon ID is **guest**. You cannot change the logon ID.

The default password is **guest123**. You can change the password and, therefore, it may be different if this is not a first time installation. TelStrat recommends that you do not change the password until your Engage Record system is up and running smoothly.

Connection History

Configuration Manager maintains a record of past TALC connections. You can select, and then connect to a TALC from the history list that displays in the Connect menu.

Note: Upgrading the Configuration Manager software deletes the connection history list.

Auto Logoff

If the connection remains open with no activity for 15 minutes, then Configuration Manager automatically logs off the connection and the Session Timed Out message displays. This helps to secure the configuration in the event that you walk away from the administration PC while logged on to a TALC.

Logging on to a TALC Using the Connection History

To log on to a TALC using the connection history:

1 From the Menu Bar, choose Connect → XXX.XXX.XXX.XXX (the IP address of the TALC that you want to log on to).

Result: If no one else logged on to the TALC before you, the User Authentication for Telnet Mode dialog box displays. It is similar to the following:

2 Enter your logon name in the Login Name field. If you have not yet customized this setting, refer to “Default Logon ID and Password” on page 43 for the default logon ID.

3 Enter your password in the Password field. If you have not yet customized this setting, refer to “Default Logon ID and Password” on page 43 for the default password.

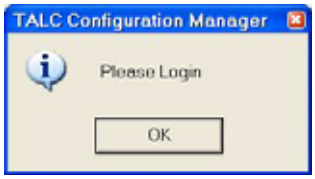
4 Click on the **OK** button.

Result: Configuration Manager initiates a connection attempt. A message similar to the following displays in the User Authentication for Telnet Mode dialog box:

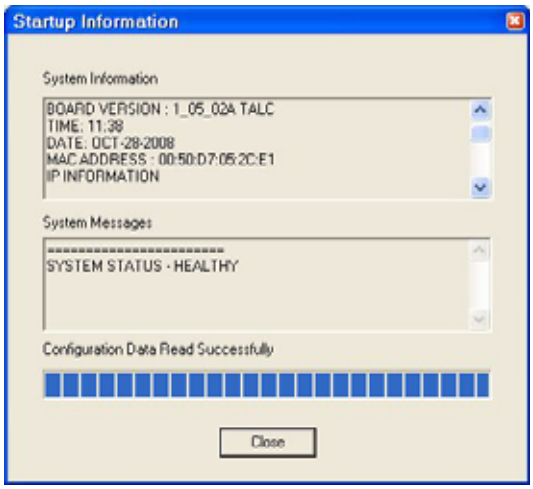
```
Trying to Connect to XXX.XXX.XXX.XXX
```

Note: The connection speed can be too fast for this message to be seen in a successful logon attempt.

If you do not enter any logon information, after two minutes Configuration Manager displays a reminder dialog box similar to the following:



Click on the **OK** button to return to step 2.

IF the logon attempt	THEN
fails,	a message box similar to the following displays:  Complete the following actions: 1. Click on the **OK** button. 2. Go back to Step 1 on page 44 to try again.
is successful,	the User Logged In dialog box displays. Click on the **OK** button. **Result:** The Startup Information dialog box displays. It is similar to the following: 

IF the logon attempt	THEN
is successful, (continued)	Messages appear above the progress bar at the bottom of the dialog box, similar to the following: ▪ `Reading Hardware Information` ▪ `Reading DSP Load Data` ▪ `Reading Configuration Data` These messages mean that Configuration Manager is obtaining the TALC's configuration information from Flash memory. When initialization is complete, the `Configuration Data Read Successfully` message appears above the progress bar. Click on the **Close** button.

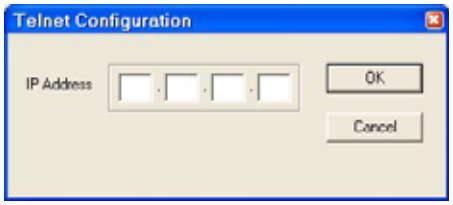
Logging on to a TALC Using Telnet

To log on to a TALC using Telnet:

Note: If someone else logged on to the TALC before you, you cannot log on. You can only log on to a TALC using a Telnet connection after you perform the initial configuration (refer to "Using the Configuration Wizard to Perform Initial Configuration" on page 19) through a serial connection.

1 From the Menu Bar, choose Connect → Logon Unit → Telnet.

Result: The Telnet Configuration dialog box displays, similar to the following:



2 Enter the IP Address of the TALC that you want to connect to, then click on the **OK** button.

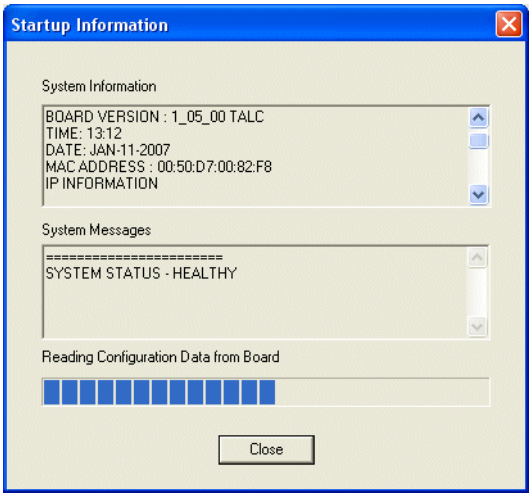
Result: The User Authentication for Telnet Mode dialog box displays, similar to the following:

3 Enter your logon name in the Login Name field. Refer to "Default Logon ID and Password" on page 43 for the default logon ID if you have not yet customized this setting.

4 Enter your password in the Password field. Refer to "Default Logon ID and Password" on page 43 for the default password if you have not yet customized this setting.

5 Click on the **OK** button.

Result: The connection attempt is initiated. The message *Trying to Connect to <IP address>* message might appear.

IF the logon attempt	THEN
fails,	the following message displays: *10060 TELNET CONNECTION FAILED* Go back to step 1.
is successful,	the User Logged In dialog box displays. Click on the **OK** button. **Result:** A Startup Information dialog box displays, similar to the following:  Messages appear above the progress bar at the bottom of the dialog box, similar to the following: ▪ Reading Hardware Information ▪ Reading DSP Load Data ▪ Reading Configuration Data

IF the logon attempt	THEN
is successful, (continued)	These messages mean that Configuration Manager is obtaining the TALC's configuration information from Flash memory. When initialization is complete, the `Configuration Data Read Successfully` message appears above the progress bar. Click on the **Close** button.

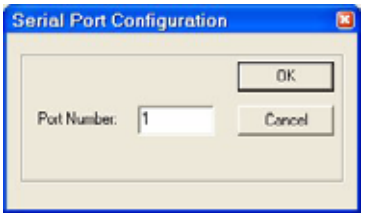
Logging on to a TALC Using the Serial Port

To log on to a TALC using the serial port:

Note: You can use the serial connection to perform the initial configuration (refer to "Using the Configuration Wizard to Perform Initial Configuration" on page 19).

1 From the Menu Bar, choose Connect → Logon Unit → Serial.

Result: The Serial Port Configuration dialog box displays, similar to the following:

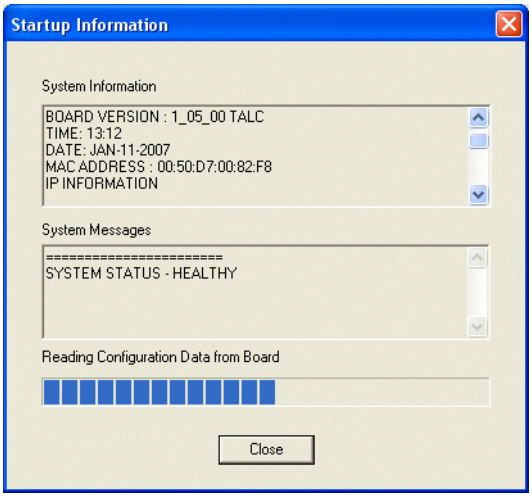


2 Enter the COM port number that the TALC is connected to, then click on the **OK** button.

Result: The User Authentication for Serial Mode dialog box displays, similar to the following:

3 Enter your logon name and password, then click on the **OK** button.

Result: The connection attempt is initiated. The message *Trying to Connect via Serial Port <port number>* might appear.

IF the logon attempt	THEN
fails,	the following message displays: `SERIAL CONNECTION FAILED` Check the serial port connection and ensure it is good. Then, go back to step 1.
is successful,	the User Logged In dialog box displays. Click on the **OK** button. **Result:** The Startup Information dialog box displays, similar to the following:  Messages appear above the progress bar at the bottom of the dialog box, similar to the following: ▪ `Reading Hardware Information` ▪ `Reading DSP Load Data` ▪ `Reading Configuration Data` These messages mean that Configuration Manager is obtaining the TALC's configuration information from Flash memory. When initialization is complete, the `Configuration Data Read Successfully` message appears above the progress bar. Click on the **Close** button.

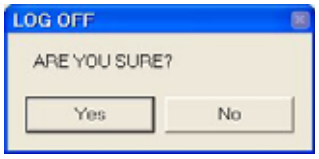
Logging off of a TALC

When you are finished using Configuration Manager to make configuration changes, or to view logs and statistics, log off from the TALC. Logging off secures the TALC's configuration.

To log off of the TALC:

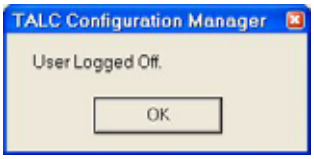
1 From the Menu Bar, choose Connect → Logoff Unit.

Result: The LOG OFF dialog box displays, similar to the following:



2 Click on the **Yes** button.

Result: The TALC Configuration Manager: User Logged Off dialog box displays, similar to the following:



3 Click on the **OK** button.

Performing a System Restart or Shutdown

Configuration Manager allows you to perform a controlled system restart or shutdown.

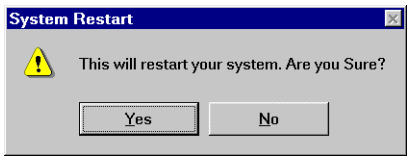
You must perform a system restart each time you change the configuration or upgrade the firmware. You can perform a shutdown when you need to power-down the system for any reason.

Performing a System Restart

To perform a system restart:

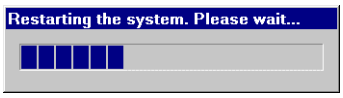
1 From the Menu Bar, choose Connect → System Reset → Restart.

Result: The System Restart dialog box displays, similar to the following:



2 Click on the **Yes** button.

Result: A progress bar displays, similar to the following:



The following message also displays in the status bar at the bottom of the screen:

```
Restarting the System
```

The status continues to show Online. When the system restart is complete, a dialog box displays informing you that the system restart was successful, and that you are logged off.

3 Click on the **OK** button.

Result: Configuration Manager prompts you to log back on using the previous connection method (Serial or Telnet).

Performing a System Shutdown

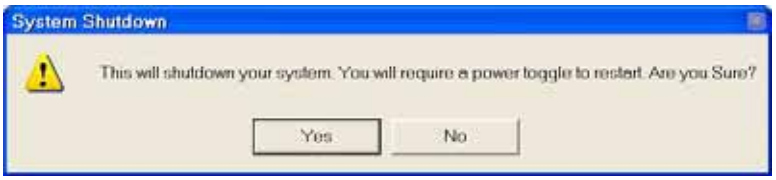
ATTENTION

Do not perform this procedure if you do not have physical access to the TALC. To recover from the system shutdown, you must power off the TALC, then turn it

To perform a system shutdown:

1 Choose Connect → System Reset → Shutdown from the Menu Bar.

Result: The System Shutdown dialog box displays, similar to the following:



2 Click on the **Yes** button.

Result: Configuration Manager disconnects your logon session and the following message displays in the status bar at the bottom of the screen:

```
Shutting Down the System
```

The status shows Offline.

3 Turn the power on the TALC off.

Note: You must turn the power off before you can power the TALC back up.

Closing Configuration Manager

When you have completed all of the configuration modifications you want to make, or are done viewing display logs and statistics, log off and close the Configuration Manager application. This secures the configuration, preventing others from accessing it if you walk away from the administration PC while logged on to a TALC. To close Configuration Manager:

CAUTION

Risk of configuration loss

If you close Configuration Manager without saving the changes you made to a file on your PC, or without updating the Flash memory of the TALC you were working on, all changes are lost. You must reenter any changes you made.

1. Ensure that you have saved all configuration changes by doing one or more of the following:
   - From the Menu Bar, choose File → Save As, and then specify the name for the configuration file. Configuration Manager saves the file on the administration PC hard disk.
   - Update the Flash memory of the logged on TALC, by doing one of the following:
     - Click on the **Send** button on any property sheet, then choose Upload/Download → Save to Flash from the Menu Bar.
     - Choose Upload/Download → Save to Flash from the Menu Bar.
     - If you have saved the changes to a file, choose Upload/Download → Upload Configuration → Save to Flash from the Menu Bar. For instructions, refer to "Restoring the Configuration" on page 80.
2. Log off by choosing Connect → Logoff Unit from the Menu Bar.
3. Choose File → Exit from the Menu Bar.

   Result: Configuration Manager closes.

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Chapter 4

Configuration

Configuring a TALC Slot in the Host PBX

For the host PBX to communicate properly with the TALC, it must recognize each TALC as an extended digital line card (XDLC). This requires that each card slot occupied by a TALC be configured at the host PBX as an XDLC slot.

Note: You can configure a TALC's slot either before or after inserting the card.

To configure a TALC slot, access the host PBX through your host PBX administration terminal. At the host PBX administration terminal, instruct the host PBX to recognize any slot that a TALC resides in as an XDLC slot. Refer to your host PBX's documentation for the specific steps necessary to complete this procedure.

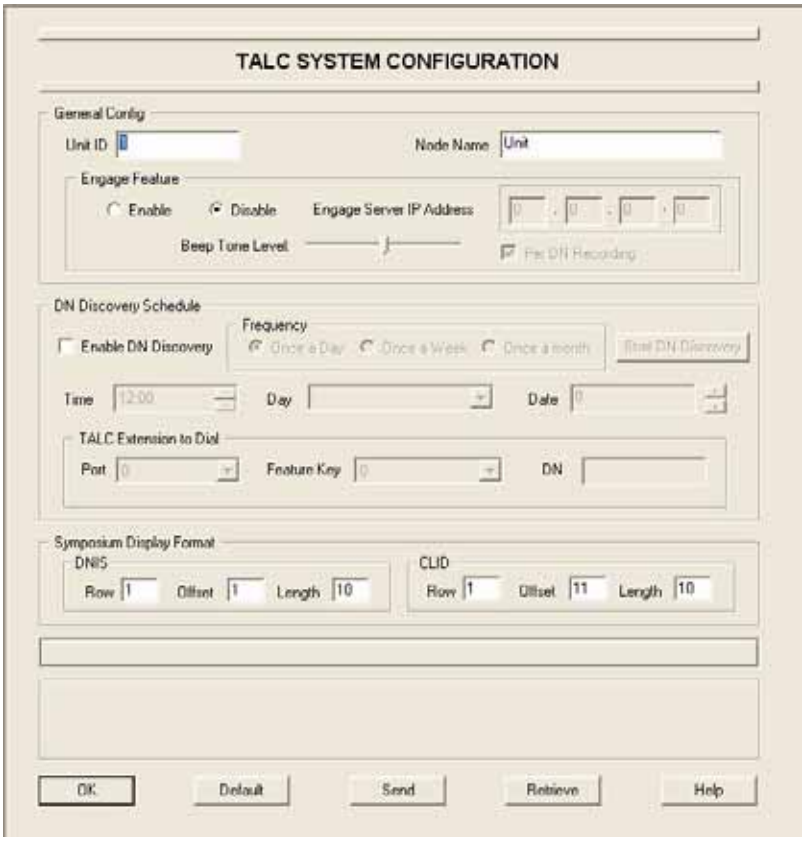
TALC System Configuration

Use the TALC System Configuration property sheet to set system-wide parameters on the TALC. Configure these settings to determine the following information:

- The identity of the TALC within your voice recording network
- Whether the Engage Record server can record calls on this TALC
- The location of the Engage Record server on the IP network
- The times when the TALC automatically determines the directory number (DN) of the first line key associated with each TALC port
- The CCM telephone display format for the DNIS and CLID

For an explanation of each field on the TALC System Configuration property sheet, refer to "TALC System Configuration Field Descriptions" on page 61.

TALC System Configuration property sheet



DN Discovery Schedule

The DN Discovery Schedule section of this property sheet contains fields for entering information that the TALC needs to determine the directory numbers (DNs) configured on the host PBX for each of its ports. When enabled, DN Discovery periodically gathers this information for each feature key on the TALC without your having to enter it manually every time DN assignments change.

How DN Discovery Works

To perform DN Discovery, each TALC requires one single-appearance DN on a telephone connected to that TALC. The TALC disables the ringer on the designated appearance but not on that telephone's other appearances.

At the appointed time on the selected day or date, each feature key configured as a line key on the digital telephone places a call to the TALC DN identified in the "TALC Extension to Dial" area of the TALC Configuration Manager's "TALC System Configuration property sheet," as shown on page 56.

For each call, the host PBX produces CLID information that identifies the DN of the originating feature key. Placing one call from every feature key on every TALC allows every TALC to send DN and associated DNIS information to the Engage Record server for each call involving a telephone connected to that TALC. In this way, the Engage Record server collects DN and associated DNIS information for every telephone on every TALC that routes traffic through that server.

Note: DN Discovery does not function on telephone sets that contain add-on modules. This causes Engage Record call records to not contain DN and DNIS information.

DN Discovery in ACD Environments

By default, DN Discovery uses port 0 and feature key 0. This is not acceptable in an ACD environment that uses feature key 0 as the in-calls key. DN Discovery accepts another feature key with a single-appearance DN assigned, but you must also enable the TDD class-of-service on the host PBX. Configuring TDD class-of-service allows caller ID information to be returned on all keys.

PBX Class-of-Service

Enable the TDD class-of-service on the host PBX to allow acquisition of DN and DNIS information in all scenarios (such as, ACD environments, multiple DNs assigned to a single phone, and so on).

Contact Center Manager Display Format

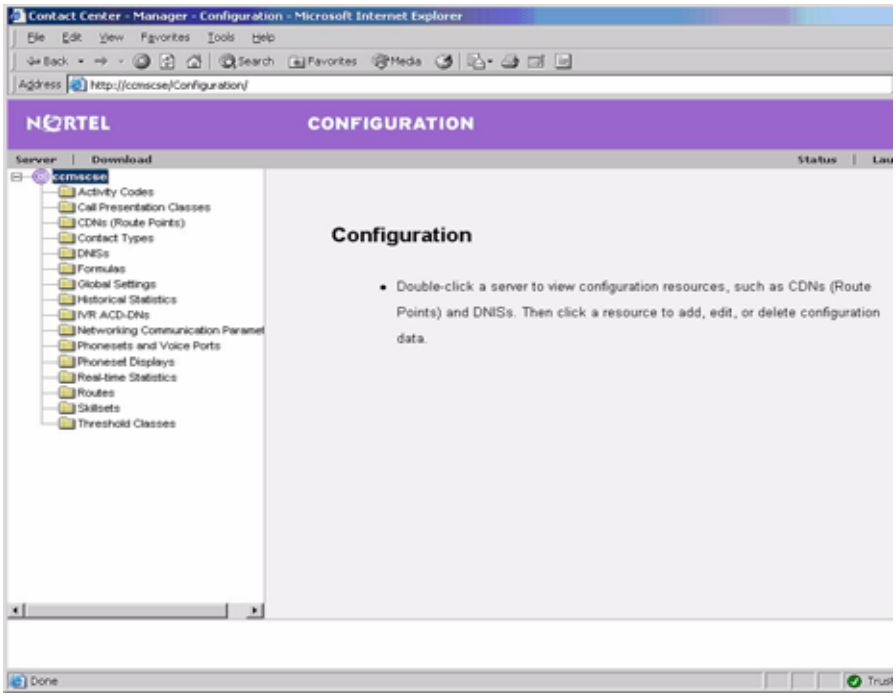
If you want Engage Record call records to contain DNIS and ANI information in Contact Center Manager (CCM), formerly known as Symposium, ACD environments, then you must configure CCM to display DNIS and ANI information on the telephone. This is required because the Engage Record server obtains all call record information (for example, DNIS, ANI, Agent ID, and so on) from the TALC. The TALC only receives this type of information when it is sent to the TALC by the host PBX to be displayed on the telephone.

ATTENTION

You must configure CCM to use the English language in

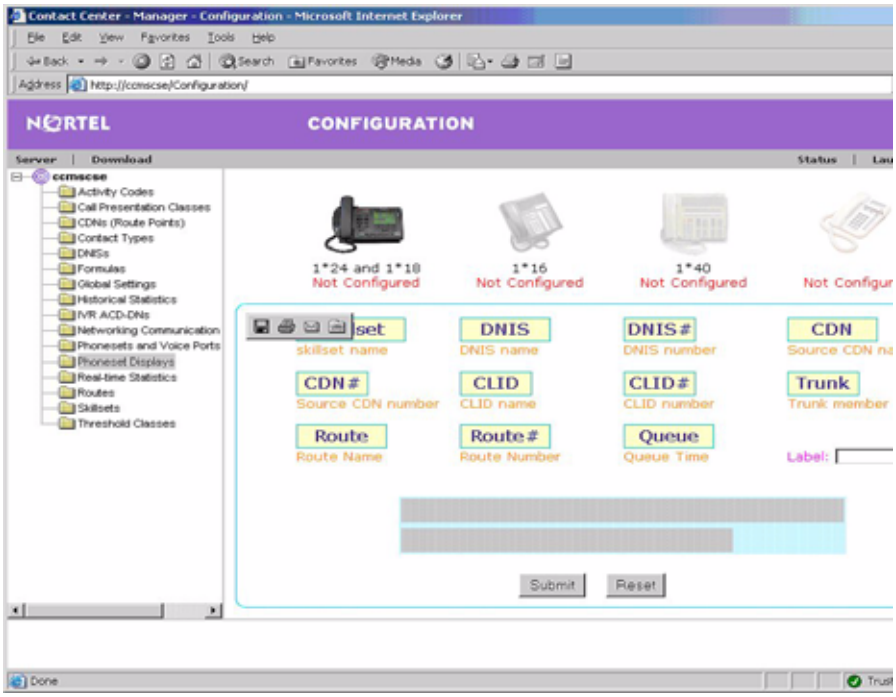
Use the following steps to configure CCM to display DNIS and ANI information on the telephone:

1 Access the Contact Center Manager Server (CCMS) or CCM Express using the CCM Web application, similar to the following:



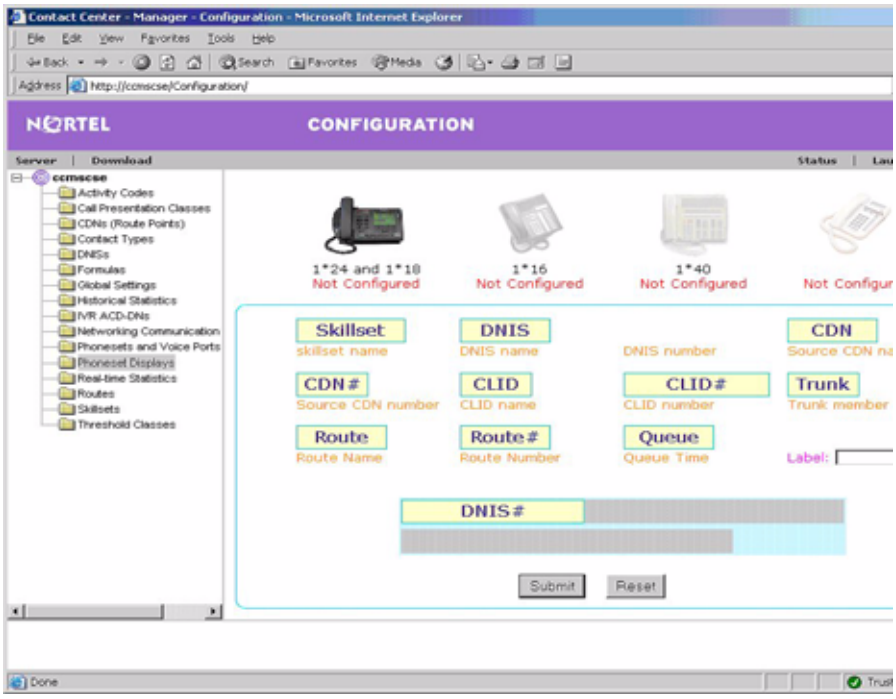
2 Click on **ccmsc** → **Phoneset Displays** in the left pane to display all supported ACD telephones (for example, M2216, M2616, M3904, and M3905.)

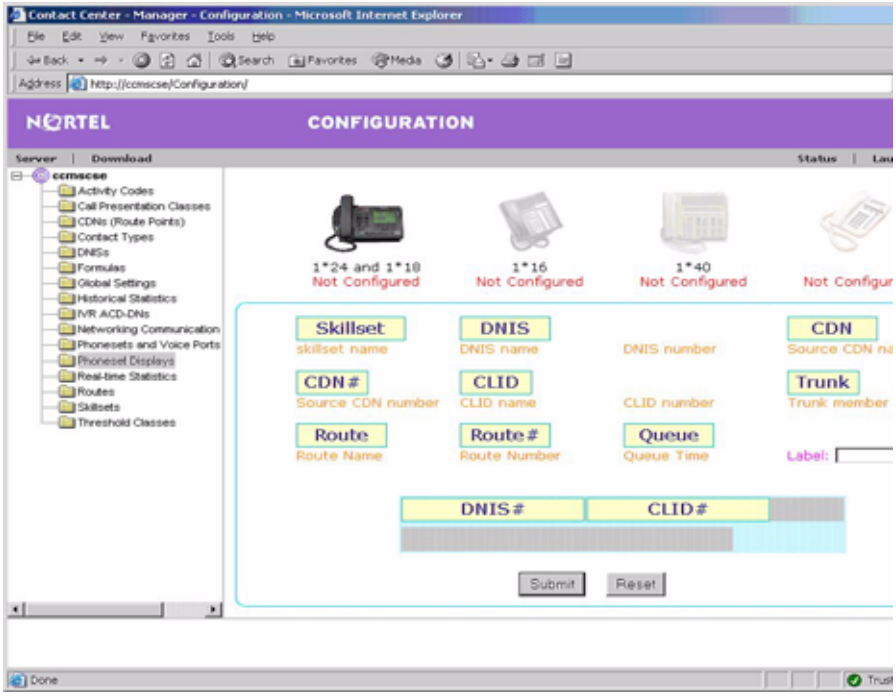
3 Double-click on **1 x 24 and 1 x 18** Telephone Set Type, to configure the telephone display, similar to the following:



Attention: The 1 x 24 and 1 x 18 display contains two rows. However, Engage Record only requires configuration of the first 2 fields of the first row. The first row can contain 24 characters and the second row can contain 18 characters. You can configure the CLID number (ANI) or DNIS on either row.

4 Drag the item(s) that you choose, such as the DNIS or CLID number (ANI), to the first row of the display, drop them in the order that you choose, and drag the side of the item to the appropriate width, similar to the following figures:





5 Click on the **OK** button.

6 Configure the TALC using the TALC System Configuration property sheet. Refer to "TALC System Configuration Field Descriptions" on page 61 for complete details.

TALC System Configuration Field Descriptions

Field	Description
Unit ID	Enter a number from 1 through 254 that distinguishes the TALC you are configuring from all other TALCs connected to the same Engage Record server. One Engage Record server can simultaneously record calls from multiple TALCs spanning multiple host PBXs.
Node Name	Enter a descriptive name for this TALC.
Engage Record Feature	■ Click on the **Enable** option button if you want to enable the Engage Record server to record telephone calls made to ports on the TALC you are configuring. ■ Click on the **Disable** option button if you do not want to enable the Engage Record server to record telephone calls made to ports on the TALC you are configuring.
Engage Record Server IP Address	Enter the IP address of the Engage Record server that records telephone calls from this TALC.
Beep Tone Level	Use the slider bar to adjust the audio level (volume) of the beep tone relative to the voice path. There are five audio levels, each step representing approximately 3db. The default is halfway between minimum and maximum. **Note:** The beep tone level can only be adjusted when you enable Engage Record using the TALC Port Configuration property sheet. Refer to "TALC Port Configuration" on page 68 for further details.
Per DN Recording	Confirm that the Per DN Recording check box is checked if you want to record multiple DNs connected to the same TN (phone). If you do not want to record multiple DNs connected to the same TN, click on the **Per DN Recording** check box to disable this feature. The default is checked (Enable).
Enable DN Discovery	■ Click in the **Enable DN Discovery** check box to enable the TALC you are configuring to automatically detect the host PBX-configured name and number assigned to every line key on each TALC port, that is, to enable the TALC to perform DN Discovery. ■ Do not click in the Enable DN Discovery check box, or click again in the check box to clear it, if you do not want the TALC to perform DN Discovery. **Note:** If you have enabled Recording, DN Discovery is required

Field	Description
Frequency	Click on the option button that identifies how often you want the TALC to perform DN discovery: ■ once a day ■ once a week ■ once a month
Start DN Discovery	Click on the **Start DN Discovery** button to initiate an unscheduled DN Discovery. **Note:** Start DN Discovery is available (not grayed-out) only if the configuration in the TALC's Flash memory is the same as the configuration at the local site, and if the Enable DN Discovery check box is selected.
Time	Choose the time when you want the TALC to perform DN discovery.
Day	Choose the day when you want the TALC to perform DN discovery (if you selected Once a week in the Frequency field).
Date	Choose the date when you want the TALC to perform DN discovery (if you selected Once a month in the Frequency field).

Field	Description
TALC Extension to Dial	These fields allow you to specify one TALC port for DN discovery. At the configured time, each port on the TALC places a call, one at a time, to the DN in the TALC extension to dial field. For each call, the TALC assigns the incoming CLID name and number to the calling port. ■ Port: Choose the TALC port that you want the other ports on this TALC to call for DN Discovery. ■ Feature Key: Choose the Feature Key that corresponds with the port chosen for DN Discovery in the Port list box. **Notes:** ■ If the feature key is not key 0, such as in ACD environments, you must configure the following classes of service on the associated host PBX port: CLS = TDD. CLS is the prompt from the host PBX to define the class-of-service. Enter TDD to enable the Tandem Digit Display feature. ■ Engage Record feature keys are not supported on DBAs. ■ DN: Enter the directory number associated with the port chosen for DN Discovery in the Port list box.
Symposium Display Format — DNIS Row	Enter the row number for displaying the DNIS on the telephone display. Valid options are 1 and 2 where 1 is the top row and 2 is the bottom row. The default is 1.
Symposium Display Format — DNIS Offset	Enter the offset number (number of columns counting from left to right) for displaying the DNIS on the telephone display. Valid options are 1 through 24 for the first row of the telephone display. Valid options are 1 through 18 for the second row of the telephone display. The default is 1.
Symposium Display Format — DNIS Length	Enter the length of the DNIS to display on the telephone display. Valid options are 0 through 24 for the first row of the telephone display. Valid options are 0 through 18 for the second row of the telephone display. The default is 10.
Symposium Display Format — CLID Row	Enter the row number for displaying the CLID on the telephone display. Valid options are 1 and 2 where 1 is the top row and 2 is the bottom row. The default is 1.

Field	Description
Symposium Display Format — CLID Offset	Enter the offset number (number of columns counting from left to right) for displaying the CLID on the telephone display. Valid options are 1 through 24 for the first row of the telephone display. Valid options are 1 through 18 for the second row of the telephone display. The default is 11.
Symposium Display Format — CLID Length	Enter the length of the CLID to display on the telephone display. Valid options are 0 through 24 for the first row of the telephone display. Valid options are 0 through 18 for the second row of the telephone display. The default is 10.

Note: *Symposium Display Format* section refers to the format of the CCM Display.

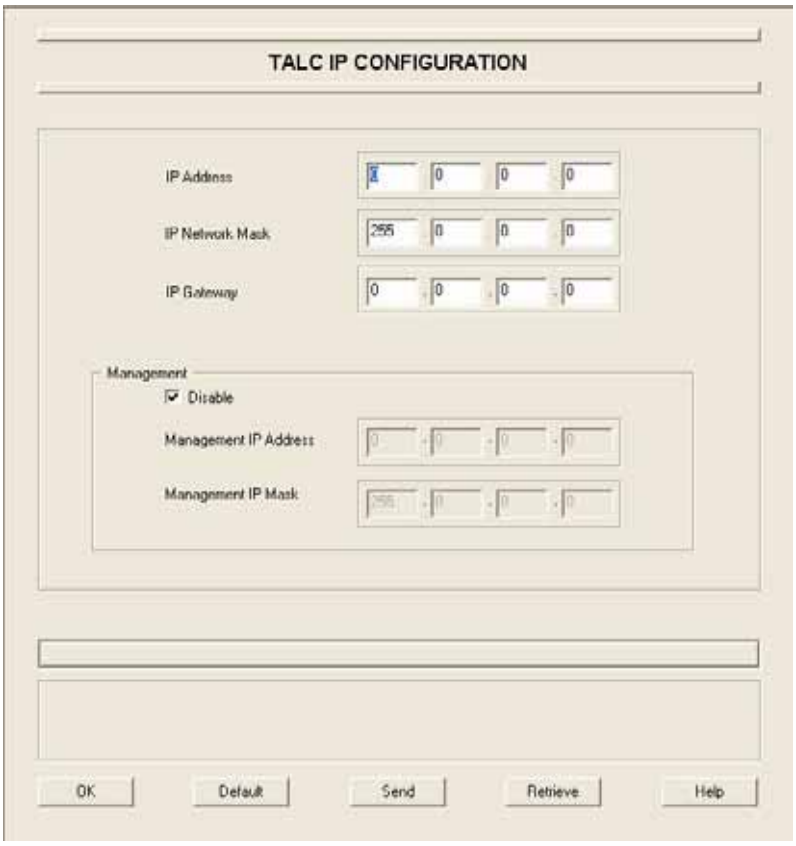
TALC IP Configuration

Use the TALC IP Configuration property sheet to configure information that gives you the ability to configure a TALC over an IP connection. This includes the TALC's

- IP address
- Subnet mask
- Default gateway

For an explanation of each field on the TALC IP Configuration property sheet, refer to "TALC IP Configuration Field Descriptions" on page 66.

TALC IP Configuration property sheet



Management

In addition to the IP address, subnet mask, and default gateway mentioned above, the TALC also allows you to assign a static IP address and IP mask to the management port on the TALC. Once you have assigned this information, you can use the host PBX administration PC to log on to and administer the TALC through the host PBXs internal network.

TALC IP Configuration Field Descriptions

Field	Description
IP Address	Enter the IP address of the TALC.
IP Network Mask	Enter the network mask of the TALC.
IP Gateway	Enter the IP gateway of the TALC.
Management: Disable	Click in the **Disable** check box if you do not want to be able to complete the host PBX administration from the TALC.
Management: Management IP Address	Enter the management IP address of the host PBX.
Management: Management IP Mask	Enter the management IP mask of the host PBX.

Entering the IP information

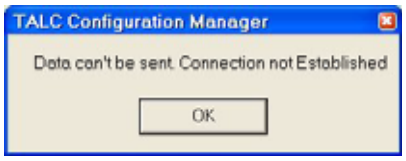
To enter the IP information:

1 Enter the IP address, mask, and gateway of the TALC into the appropriate fields in the first three rows of the TALC IP Configuration property sheet.

IF you want to	THEN do the following:
use your host PBX's management IP connection to complete TALC administration,	1. Clear the Disable check box. 2. Enter the IP address and mask of the TALC's second Ethernet port into the appropriate boxes in the Management section of the TALC IP Configuration property sheet.
not use to your host PBX's management IP connection to complete TALC administration,	Proceed to step 2.

2 Click on the **OK** button.

3 To update the TALC with the new information, click on the **Send** button.

IF you are	THEN
logged on to the TALC,	the changes are written to a temporary file on the administration PC. **Note:** To save changes to the TALC's Flash memory, choose Upload → Save to Flash.
not logged on to the TALC,	a dialog box displays, similar to the following:  Log on to the TALC, then on the click **Send** button again. **Result:** The revised IP information is written to the TALC's Flash memory.

Note: If you change the TALC IP Address field on the TALC IP Configuration property sheet, calls do not record when you initialize a recording through the Engage Record client. This is do to the fact that the Engage Record server does not update the board list when the same board ID is used with the new TALC IP address. The Engage Record server adds the board ID entry. However, when you initialize a recording, the Engage Record server references the previous TALC IP address. Therefore, the Engage Record server never receives a CallEnd from the expected TALC IP address and therefore does not save the call. The Engage Record client generates a warning message in its Message Center pane and the system generates a log indicating that duplicate board IDs exist. To resolve this issue, you must restart the TALC card after changing a TALC IP address.

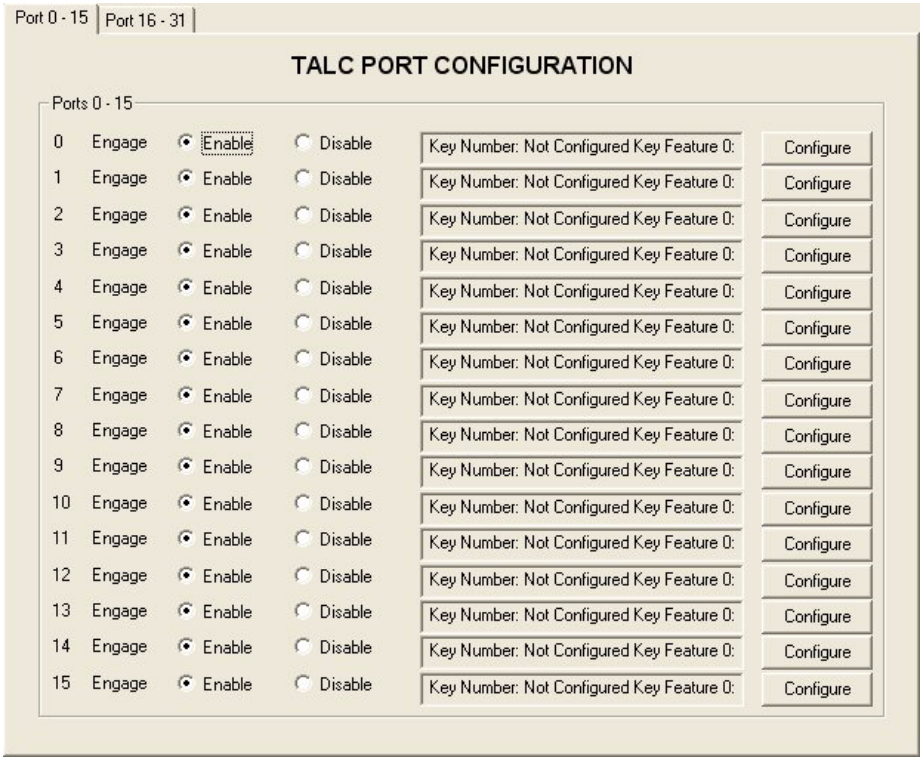
TALC Port Configuration

Use the TALC Port Configuration property sheet to configure the following characteristics of the telephones connected to ports on the TALC:

- Whether the Engage Record server can record calls through the ports
- The feature keys that are to have Engage Record functionality
- The compression rate that you want the port to use
- Whether you want the port to react with a Telephone Application Programming Interface (TAPI) server
- Whether you want the port to be connected to an M2250 Console telephone

  Note: The TALC sends CLID information (up to 18 characters) to the Engage Record server for calls handled on the M2250 Console telephone Loop Pickup Keys (LPKs) and the Engage Record server determines if the call is to be saved. The Engage Record server populates the ANI field in the Engage Record client with available Caller ID information to and from the M2250 Console telephone set.
- Whether you have fixed-seating ACD configured on your PBX
- Whether you want all parties on a telephone call to hear a beep tone to let them know that the telephone call is being recorded.
- Whether you want telephone users, not attached to a TALC, to conference in to an unattended DN on the TALC.

TALC Port Configuration property sheet



TALC Port Configuration Field Descriptions

Configure the settings in the TALC Port Configuration property sheet according to the following table:

Field	Description
Enable	Click on the **Enable** option button if you want the Engage Record server to be able to record conversations on the associated port.
Disable	Click on the **Disable** option button if you do not want the Engage Record server to be able to record conversations on the associated port.
Configure	Click on the **Configure** button if you want to configure the Engage Record feature keys, the compression rate, TAPI support, and M2250 support for the associated port.

Fixed Seating

If your ACD agents can log on to their telephone sets using their Make Set Busy keys, your PBX is configured for fixed seating. For Engage Record call records to contain ACD Agent ID information in this mode of operation, you must access the TALC Port Configuration property sheet. From the TALC Port Configuration property sheet, click on the **Configure** button. Click on the **Configure Agent ID** check box. Enter the ACD agent's Agent ID in the Enter Agent ID field.

Note: This also allows you to create recording criteria using the ACD Agent ID.

Free Seating

If your ACD agents must log on to their telephone sets by entering their Agent ID, your PBX is configured for free seating. Your Engage Record system's call records can contain ANI and DNIS information. You must configure CCM to provide DNIS information in the first field of the first line of the telephone display. You must configure CCM to provide ANI information in the second field of the first line. Refer to "Contact Center Manager Display Format" on page 57 for additional information.

Note: This also allows you to create recording criteria using DNIS and ANI information.

ATTENTION

Choosing *fixed seating* or *free seating* is a PBX configuration. If your agents must log in with an Agent ID, they work in a *free seating* environment. This is true even if they use the same telephone set every shift or if they sit in the same seat every shift. Contact your IT administrator for further information about this PBX

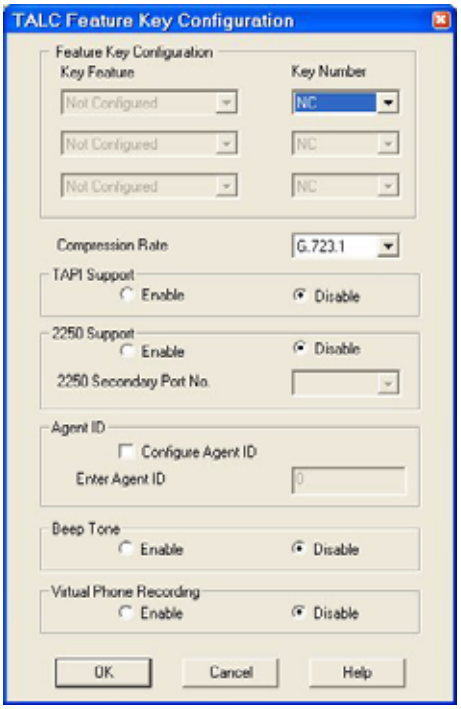
Configuring a TALC Port

To configure a TALC port:

1. Click on the appropriate tab for the port you are configuring, as in 0-15 for a single-wide TALC, 0-15 or 32-47 for a double-wide TALC.
2. Click on the appropriate option button associated with the port you are configuring according to whether you want to *Enable* or *Disable* recording.

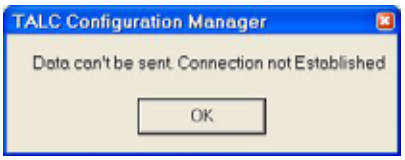
   Note: *Enable* is the default setting. If you do not want to enable recording on a specific port, you must select *Disable.*
3. Click on the **Configure** button associated with the port you are configuring to set the Engage-related feature keys (Conversation Save, Record, Delete Recording) and compression rate for any telephone connected to that port.

   Result: The TALC Feature Key Configuration dialog box displays, similar to the following:



4 Configure the settings in the TALC Port Configuration options dialog box. Refer to "TALC Key Feature Configuration Dialog Box Field Descriptions" on page 71 for further details.

5 Click on the **Send** button to update the TALC with the new information.

IF you are	THEN
logged in to the TALC,	the changes are written into the TALC's buffer. To save the pages in the TALC's Flash memory, complete an Upload/ Download → Save to Flash.
not logged on to the TALC,	the following dialog box displays:  Do one of the following: ■ Log on to the TALC, then click on the **Send** button again. ■ Save the changes to a file on your administration PC.

TALC Key Feature Configuration Dialog Box Field Descriptions

Field	Description
Key Feature	Select the Key Feature that you want to assign. Valid options are Conversation Save Key, Record Key, Delete Recording Key, and Not Configured.
Key Number	Select the feature key that you want to assign the Key Feature chosen in the list box to the left. The feature key must be un-configured on the host PBX. Valid options are NC (not configured) and 0 through 75, depending on the Meridian digital telephone model.
Compression Rate	Choose the compression rate that you want to be applied to recordings made through the associated port. Valid options are G.711 and G.723.1 (6.4K). The default is G.723.1. Refer to the *Engage Contact Center Suite System Administration Guide* (662-00012-01) for further information.

Field	Description
TAPI Support	When you enable Telephone Application Programming Interface (TAPI) support, telephones using the selected port can react to a TAPI server message stimuli such as Meridian Communicator. ■ Click on the **Enable** option button if you want this port to react to a TAPI server. ■ Click on the **Disable** option button if you want to prevent this port from reacting to a TAPI server. The default is Disable. When configured for TAPI support, the TALC allocates DSP and bandwidth resources whenever a line key indicator goes active and stays active for Multiple Appearance DNs. To prevent the over-allocation of these resources during midnight routines, either disable LD 35, or configure the TALC as Offline during this period. **Note:** You must configure CS 2100 ATA sets and CS 2100 AAB sets for TAPI support for them to function properly.
2250 Support	When you enable 2250 support, the selected port can interact properly with an M2250 console telephone. ■ Click on the **Enable** option button if you want this port to interact properly with an M2250 console telephone. ■ Click on the **Disable** option button if you want to prevent this port from interacting properly with an M2250 console telephone. ■ The default is Disable.
2250 Support: 2250 Secondary Port No.	If you enable 2250 support, select the M2250's secondary port from the drop down list. Valid options are NC (Not Configured) and 0 through 63. The default is NC.
Agent ID: Configure Agent ID	Click on the **Configure Agent ID** check box if you have fixed-seating ACD configured on your host PBX. **Note:** Do not configure Agent IDs in free seating environments. For further information, refer to page 69.
Enter Agent ID	If you click on the Configure Agent ID check box, you must enter the Agent ID in this field. This must be the same number configured as the User ID on the Engage system and as Position ID on the host PBX.

Field	Description
Beep Tone	When you enable the Beep Tone feature, all parties on a telephone call hear a beep tone to let them know that the telephone call is being recorded. The beep tone is on for 425 milliseconds (ms), +/-75 ms, and then off for the remainder of 15 seconds, repeating this cycle until the call is terminated. ■ Click on the **Enable** option button if you want to enable the beep tone. ■ Click on the **Disable** option button if you do not want to enable the beep tone. The default is Disable. **Note:** If the telephone user presses the Delete Recording feature key, the beep tone is removed and no longer heard by all parties on the call. The Conversation Save and Record feature keys become inactive while the Delete Recording key feature is active. If the telephone user presses the Delete Recording feature key a second time to deactivate the feature, the beep tone is added back and all parties on the telephone call hear the beep tone again. This allows the telephone user to delete a portion of the conversation that did not have the beep tone supplied to all parties.
Virtual Phone Recording	When you enable the Virtual Phone Recording feature, all telephone users that are not attached to a TALC, conference to an unattended DN on the TALC. The unattended DNs are mapped to feature key 0 on an M3904 digital telephone set programmed on the PBX. The TALC assumes this PBX configuration on the port and acts as if the M3904 digital telephone set is actually attached to the TALC. This allows telephone calls presented to the M3904 digital telephone sets to be recorded through the Engage system. The TALC auto-answers all telephone calls presented to these unattended M3904 digital telephone sets. ■ Click on the Enable option button if you want to enable virtual phone recording. ■ Click on the Disable option button if you do not want to enable virtual phone recording. The default is Disable. **Note:** Virtual Phone recording ports do not offer disconnect supervision prompting calls to disconnect after a certain amount of time. If an outside un-supervised trunk call is connected to the Virtual Phone recording port, then that call remains active until the Central Office (CO) tells the host PBX that the call has been terminated.

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Chapter 5

Administration

Changing the Administration Password

Two layers of password security protect the TALC's configuration. If you want to secure the TALC's configuration so that only those with passwords unique to your TALC can make configuration changes, alter the following items:

- Configuration Manager password

  This password prevents unauthorized users from performing offline configuration changes.
- TALC password

  This password prevents unauthorized users from performing online changes of the configuration in the TALC's Flash memory.

Note: Ensure that you record the password and store it in a safe and secure place. If you forget or lose the password, you must re-enter all configuration information. Contact TelStrat Customer Services for assistance.

Changing the Configuration Manager Password

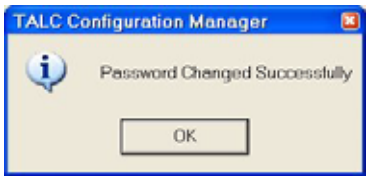
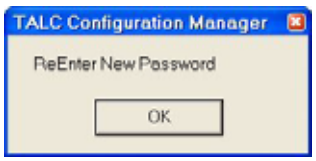
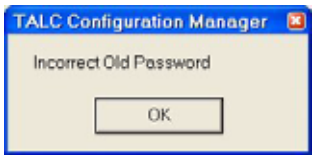
To change the Configuration Manager (local) password:

1 Choose Connect → Change Password → Local from the Menu Bar.

Result: The *Change Password - Local* dialog box displays, similar to the following:

2 Complete the fields as described in “Password Dialog Box Field Descriptions” on page 77.

3 Click on the **OK** button.

IF the password change	THEN
was successful,	a message displays, similar to the following:  Click on the **OK** button.
was not successful,	one of the following messages display:   Click on the **OK** button, then return to step 2.

Changing the TALC’s Password

To change the TALC’s (node) password:

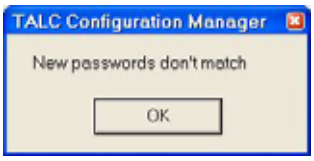
1 Choose Connect → Change Password → Node from the Menu Bar.

Result: The Change Password dialog box displays, similar to the following:

2 Complete the fields as described in “Password Dialog Box Field Descriptions” on page 77.

3 Click on the **OK** button.

Result: `Please wait. Updating the password...` displays in the Change Password - Node dialog box.

IF the password change	THEN
was successful,	a message displays, similar to the following:  **Note:** This means the password has been written to the TALC's Flash memory. Click on the **OK** button.
was not successful,	one of the following messages display:   Click on the **OK** button, then return to step 1.

4 Choose Upload/Download → Save to Flash from the Menu Bar.

Result: Configuration Manager updates the TALC's memory with the new password.

5 Restart the TALC.

Password Dialog Box Field Descriptions

Field	Description
Old Password	Enter the existing password.
New Password	Enter the new password.
Retype New Password	Enter the new password again.

Creating a Backup Configuration File

Create a backup copy of the TALC's configuration by downloading the TALC's configuration from Flash memory to a text file on your administration PC. TelStrat recommends that you create a backup of your configuration file whenever you make configuration changes or after you perform a firmware upgrade.

Storing Backup Configuration Files

The TALC is an extension of the telecommunications and data network. It is extremely important that you keep a backup copy of the TALC's configuration. If the TALC's Flash memory or configuration becomes corrupted or is lost, you can easily restore it.

Store the configuration file in a safe, secure location, such as on backup tape or other media that is stored offsite.

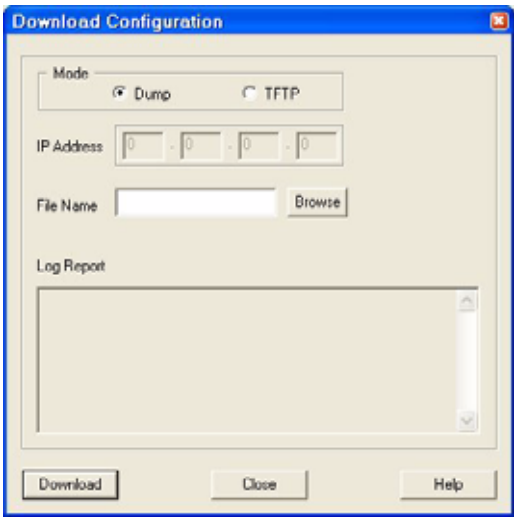
TelStrat recommends that you keep the backup files indefinitely.

Creating the Backup File

To create the backup file:

1 Choose Upload/Download → Download Configuration from the Menu Bar.

Result: The Download Configuration dialog box displays, similar to the following:



2 Choose the mode you want to use for the file transfer according to the following table:

IF you wish to save the configuration file to	THEN do the following:
the administration PC,	Click on the **Dump** option button.
a different location on the IP network,	1. Click on the **TFTP** option button. **Result:** This enables the IP Address fields. 2. Enter the IP address of the PC that you want to save the configuration file on.

3 Click on the **Browse** button and navigate to the folder where you want to keep the configuration text file.

4 Enter a name for the file in the File name field.

Note: This configuration file becomes your backup file, so ensure the file name is meaningful. The file name's extension must be .TXT.

5 Select the configuration file, and then click on the **Open** button.

Result: The chosen file displays in the *File Name* field.

6 Click on the **Download** button.

Result: The following message displays in the Log Report window:

```
Downloading Configuration from board. Please wait....
```

When the download is complete, the following message displays in the Log Report window:

```
Configuration Data download complete
```

7 Click on the **Close** button.

Restoring the Configuration

Restore the configuration to the TALC's Flash memory by uploading a configuration text file from a PC on the same network as the TALC. To do this, perform the upload over the IP network using the TFTP protocol.

You must have a TFTP server application, such as PumpKIN, running on your administration PC. The TFTP server's base directory must point to the directory that contains the configuration file you want to upload.

Before You Begin

Before you can upload the configuration file to the TALC, you must complete the following steps:

1 Start the TFTP server application (e.g. PumpKIN).

2 Ensure that the TFTP base directory points to the location of the configuration file.

Uploading a Configuration File Over the IP Network

To upload a configuration file over the IP network:

1 Choose Upload/Download → Upload Configuration from the Menu Bar.

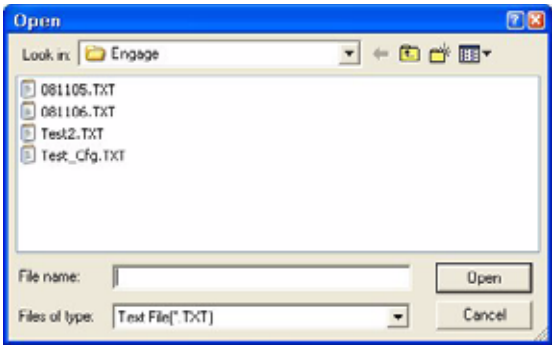
Result: The Upload Configuration dialog box displays, similar to the following:

2 Enter the IP address of the TFTP server in the IP Address fields.

Note: Since the TFTP server application is running on your administration PC, this is the IP address of the administration PC.

3 Click on the **Open** button.

Result: The Open dialog box displays, similar to the following:



4 Ensure the Files of type drop down box shows Text File (*.TXT), navigate to the folder containing the configuration file, select the configuration file, and click on the **Open** button.

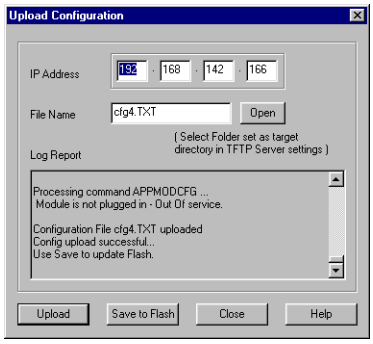
Result: The Upload Configuration dialog box displays with the file you selected in the *File Name* field.

5 Click on the **Upload** button.

Result: If the file opens successfully, then the upload proceeds. The following message displays in the status bar at the bottom of the screen:

```
Uploading Config to Board
```

The Log Report window displays status messages relating to the upload, similar to the following.



CAUTION!

CAUTION

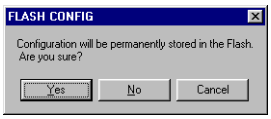
Risk of incorrect operation due to partial configuration.
Do not interrupt the configuration upload. If you interrupt the configuration upload, this results in an incomplete configuration in the TALC's database.

If the configuration upload is interrupted, repeat this procedure immediately.

IF the upload was	THEN
successful,	The following message displays: *CONFIG UPLOAD SUCCESSFUL... USE SAVECFG TO UPDATE FLASH.* Proceed to step step 6.
not successful,	the following message displays in the middle of the Upload Configuration dialog box: *CONFIG UPLOAD FAILED* For further instructions, refer to Chapter 6, "Troubleshooting".

6 On the Upload Configuration dialog box, click on the **Save to Flash** button.

Result: The FLASH CONFIG dialog box displays, similar to the following:



7 Click on the **Yes** button.

Result: The following message displays in the status bar at the bottom of the screen:

`Saving to Flash in Progress`

When the save is complete, the following message displays in the middle of the Upload Configuration dialog box:

CONFIGURATION IS UPDATED INTO FLASH...

8 Click on the **Close** button.

9 Restart the TALC.

Note: For instructions, refer to "Display Logs" on page 83.

Display Logs

The TALC system keeps track of its performance through statistical logs that technical support personnel can use to locate and fix problems. Each line, or display log, represents a separate action completed by the TALC. Configuration Manager gives you several ways of working with these logs to provide the information technical support needs to keep your voice recording system operating at its peak.

Logs are technical support tools. If you request technical support, you may be asked to provide a copy of the logs.

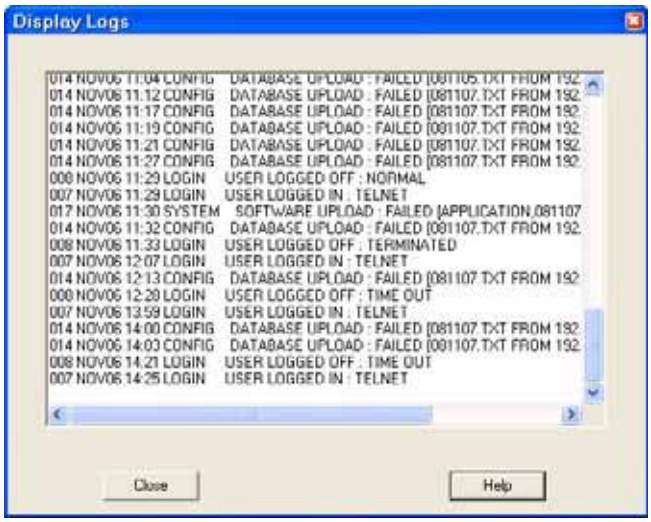
Access these logs through the Alarms/Stats/Logs menu. To view the definitions of the logs provided by the Engage system, choose Help → Help Topics → Display Logs → Display Log Definitions from the Menu Bar.

Viewing Display Logs

To view the display logs:

1 Choose Alarms/Stats/Logs → Display Logs from the Menu Bar.

Result: The Logs dialog box displays, similar to the following:



2 Use the scroll bar to browse through the logs to find the information that you are interested in.

3 When you finish viewing the log, click on the **Close** button.

Saving the Log to a File

If you request technical support, the technician often asks for a copy of the logs. To save the log to a file on your administration PC, follow this procedure:

1 Select the text you want to copy and then press **Ctrl-C**.

2 Open WordPad or Notepad.

3 Press **Ctrl-V** to paste the text.

4 Save and close the text file.

Resizing Logs

Use the Resize logs command to increase (to as many as 1000) or decrease (to as few as one) the number of display logs stored in the TALC's log queue. When the number of display logs in the queue reaches the number of lines configured in this field, new display logs overwrite existing display logs on a first in, first out basis.

Note: Because logs are located on the TALC, they do not occupy disk space on the administration PC.

Changing the Size of the Display Logs

To change the number of the Display Logs in the queue:

1 Choose Alarms/Stats/Logs → Resize Logs from the Menu Bar.

Result: Configuration Manager displays the current size of the log queue and gives you the option of changing the size of the queue.

Note: The queue size, in this case, is the number of display logs in the queue. The default capacity of the queue is 1000 display logs.

2 Enter the maximum number of logs you want the TALC to keep in the queue at any one time.

3 Click on the **OK** button.

Clearing Logs

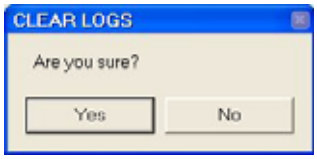
Use the Clear Logs command to discard logs that are no longer useful.

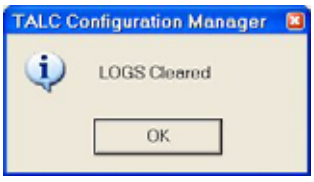
Clearing the Display Logs

To clear the display logs:

1 Choose Alarms/Stats/Logs → Clear Logs from the Menu Bar.

Result: The CLEAR LOGS dialog box displays, similar to the following:



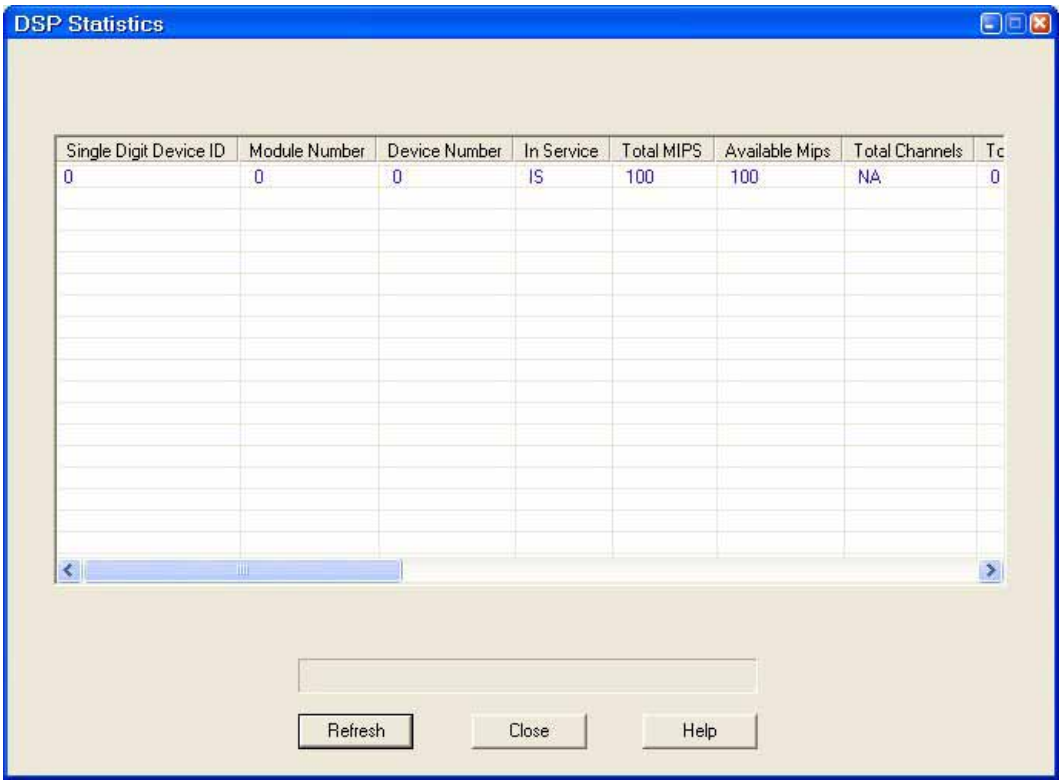
IF you select	THEN
No,	the CLEAR LOGS dialog box closes and the logs remain as they are.
Yes,	▪ the TALC deletes its stored display logs. ▪ the LOGS Cleared dialog box displays, similar to the following:  Click on the **OK** button.

Statistics Screens

All statistics screens provided by the Alarms/Stats/Logs menu, function primarily to help you obtain information to provide to technical support personnel, upon request.

Digital Signal Processor (DSP) Statistics Screen

Digital Signal Processor (DSP) Statistics provide information about the TelStrat DSP 8 modules installed on the logged-on TALC. Use this screen to determine the module positions that are populated, what type of DSP each populated position contains, and the functionality provided by each module. The DSP Statistics screen is similar to the following:



To display the DSP Statistics screen, refer to “Displaying DSP Statistics” on page 87. To obtain the definitions for the statistics presented on the DSP Statistics screen, refer to “DSP Statistics Field Descriptions” on page 87.

Displaying DSP Statistics

Choose Alarms/Stats/Logs → DSP Statistics from the Menu Bar to display the DSP Statistics screen.

Result: Configuration Manager gathers statistics from the TALC and displays the DSP Statistics screen, similar to the following:

IF you want to	THEN click
update the statistics with the latest information,	on the **Refresh** button.
close the DSP Statistics screen,	on the **Close** button.
obtain descriptions of the statistics in the DSP Statistics screen,	on the **Help** button.

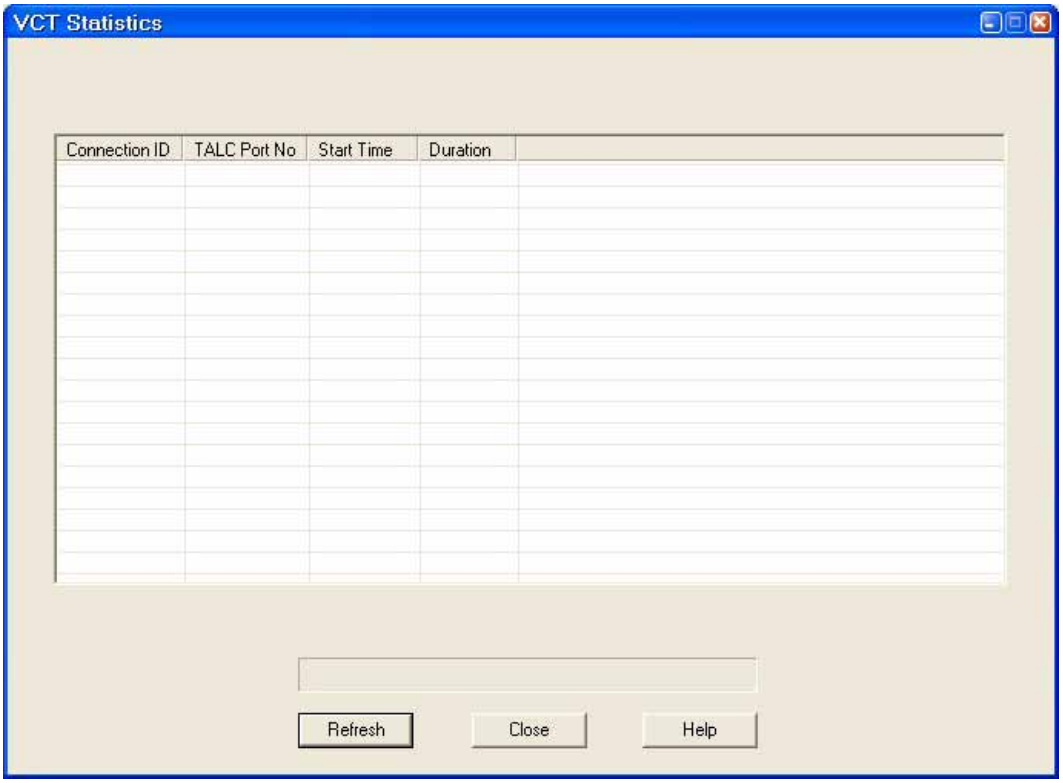
DSP Statistics Field Descriptions

Statistic	Description
Single Digit Device ID	Identifies internal sequence number for indexing DSP devices.
Module Number	Identifies the module position of the DSP. Valid values are 0, 1, 2, 3, and 4.
Device Number	Identifies the DSP device that processed the call.
In Service	Identifies the number of voice channels operating on this DSP device.
Total MIPS	Identifies the total number of MIPS on the DSP device.
Available Mips	Identifies the MIPS currently available on the DSP device.
Total Channels	Identifies the DSP device's channel capacity.
Total Voice Channels	Identifies the total number of voice channels on the DSP device.
Available Voice Channels	Identifies the number of voice channels currently available on the DSP device.
Total Modem Channels	Identifies the total number of channels on the DSP device that can transmit modem calls.
Available Modem Channels	Identifies the number of channels on the DSP device currently available to transmit modem calls.

Statistic	Description
Total Flex Channels	Identifies the total number of channels on the DSP device that can provide multiple functionalities.
Available Flex Channels	Identifies the number of channels on the DSP device currently available to provide multiple functionalities.
Total Tones Channels	Identifies the total number of channels on the DSP device that can transmit tones.
Total Reserved Channels	Identifies the total number of special purpose channels on the DSP device reserved for internal use.
Name	Identifies the name of DSP load running on this DSP device.

Voice Connection Table (VCT) Statistics Screen

Voice Connection Table (VCT) Statistics provide information concerning certain properties of the voice connections that are active at the time that you request the statistics. Technical support personnel use these statistics for troubleshooting purposes.The VCT Statistics screen is similar to the following:



To display the VCT Statistics screen, refer to “Displaying VCT Statistics” on page 89. To obtain the definitions for the statistics presented on the VCT Statistics screen, refer to “VCT Statistics Field Descriptions” on page 89.

Displaying VCT Statistics

Choose Alarms/Stats/Logs → VCT from the Menu Bar to display the VCT Statistics screen.

Result: Configuration Manager gathers statistics from the RLC and displays the VCT Statistics screen.

IF you want to	THEN click
update the statistics with the latest information,	on the **Refresh** button.
close the VCT Statistics screen,	on the **Close** button.
obtain descriptions of the statistics in the VCT Statistics screen,	on the **Help** button.

VCT Statistics Field Descriptions

Statistic	Description
Connection ID	Identifies the serial number of this call through the lifetime of the logged on TALC.
TALC Port No	Identifies the port the call was processed through at the host site.
Start Time	Identifies the time and date when the call started.
Duration	Identifies how long the call lasted.

Verifying the Firmware and Software Version

This section describes how to determine the version of firmware and software currently installed on your TALC.

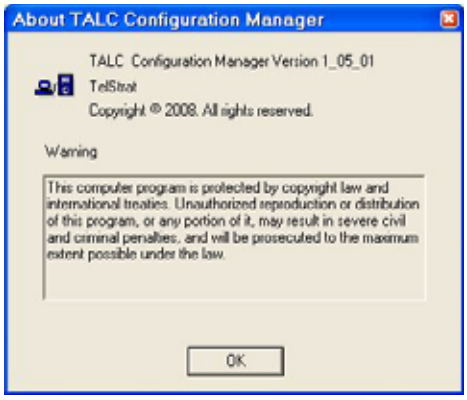
Before you perform a firmware or software upgrade, determine what version is currently installed. This ensures that you do not replace the installed firmware or software with an older version.

Verifying the Software Version

To verify your TALC Configuration Manager software version:

1 Choose Help → About Configuration Manager from the Menu Bar.

Result: The About TALC Configuration Manager dialog box displays, similar to the following:



2 Review the About Configuration Manager dialog box. This identifies the version of TALC Configuration Manager software installed in your system.

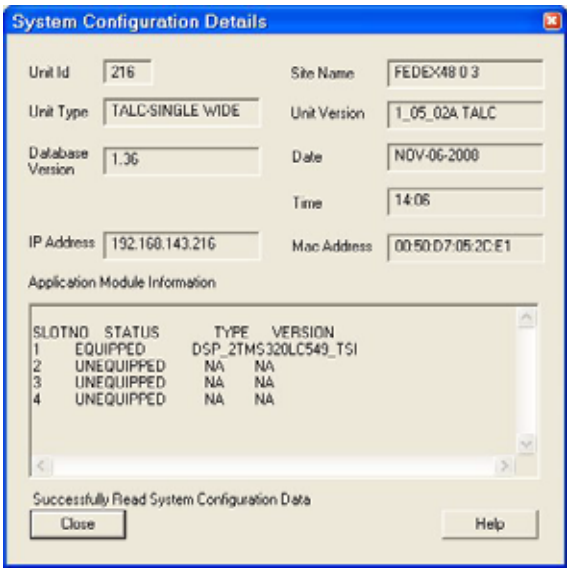
3 Click on the **OK** button.

Verifying the Firmware Version

To verify the firmware version on your TALC:

1 Choose System Information → System Data from the Menu Bar.

2 The System Configuration Details dialog box displays, similar to the following:



3 Review the Unit Version box. This identifies the version of firmware installed on the TALC.

4 Click on the **Close** button.

Determining the Current Firmware and Software Versions

To determine what the current firmware and software versions are, refer to the *Engage Contact Center Suite Release Notes* (663-00001-01).

Performing Firmware Upgrades

This section describes how to perform a firmware upgrade on your TALC. You perform the upgrade over the IP network using the TFTP protocol.

You must have a TFTP server application running on the administration PC. Ensure that the TFTP server's base directory points to the directory that contains the upgrade files.

When to Perform a Firmware Upgrade

Perform a firmware upgrade when you determine that you are using out-of-date firmware. For instructions on determining if you need to perform an upgrade, refer to "Verifying the Firmware and Software Version" on page 90.

About Firmware Upgrades and Configuration Files

Each time you perform a firmware upgrade, the configuration database is also converted (if necessary) to a format that is compatible with the new firmware. Configuration settings are not affected by the conversion.

TelStrat recommends that each time you perform a firmware upgrade, your first step should be to create a backup copy of the converted configuration file, and store it in a safe secure location.

Before You Begin

It is important to complete the following steps before performing a firmware upgrade:

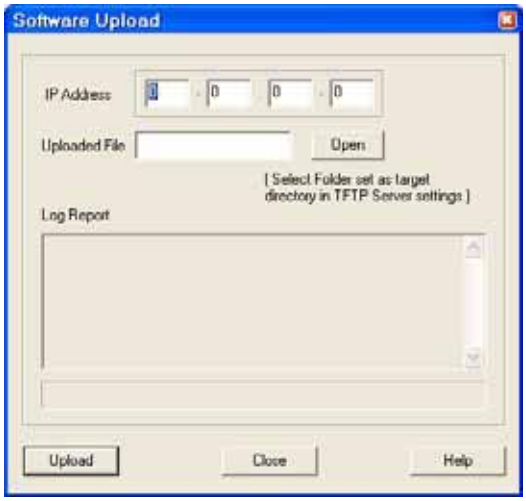
1. Contact TelStrat or your TelStrat distributor to obtain the firmware upgrade.
2. Extract the upgrade files from the file you received from TelStrat.
3. Start the TFTP server application.
4. Ensure the TFTP base directory reflects the directory where the firmware upgrade file you want to use resides.

Upgrading TALC Firmware

To upgrade the TALC firmware:

1 Choose Upload/Download → Upload S/W from the Menu Bar.

Result: The Software Upload dialog box displays, similar to the following:

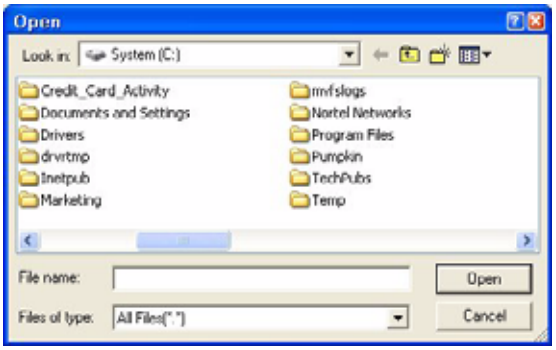


2 Enter the IP address of the TFTP server in the IP Address fields.

Note: Since the TFTP server application is running on your administration PC, this is the IP address of the PC.

3 Click on the **Browse** button.

Result: The Open dialog box displays, similar to the following:



4 Ensure that the Files of type drop down box shows Upgrade Files (*.UPG).

5 Navigate to the folder where the firmware file is located.

6 Select the file, and then click on the **Open** button.

Example: Select talc-100.upg, and then click on the **Open** button.

Result: The Software Upload dialog box reappears. The file you selected appears in the Uploaded File field.

7 Click on the **Upload** button.

Wait until the file uploads completely before entering any other commands. The Log Report window displays a confirmation message when the upgrade completes.

8 Restart the TALC.

Performing Software Upgrades

Perform a software upgrade if you determine that you are using out-of-date software. For instructions on determining if you need to perform an upgrade, refer to “Verifying the Firmware and Software Version” on page 90.

Upgrading Configuration Manager Software

To upgrade Configuration Manager software:

1 Navigate to the directory that contains the upgrade files you extracted.

2 Double-click on the **setup.exe** file.

3 Follow the prompts on screen.

Result: The InstallShield installs the software, overwriting the previous version.

Chapter 6

Troubleshooting

Before You Begin

The questions listed in this section can help you determine the proper course of action for addressing your problem.

Identifying Why a Problem Occurred

Before you begin, ask yourself the questions listed in the following table:

Question	IF you answered:	THEN do the following:
Is this a new installation?	yes	Perform the troubleshooting in the sequence presented in this chapter.
	no	Answer the next question.
Did the TALC work, then suddenly stop working?	yes	Answer the next question.
	no	Perform troubleshooting in the sequence presented in this chapter.
Did you modify the configuration or change any hardware components?	yes	Verify that changes were made correctly. Check the hardware components to ensure that they are working correctly. Perform troubleshooting for the specific component where the problem occurred.
	no	Contact your telecom or data network administrator. There may be a problem with the network.

TelStrat Application Line Card LEDs

The primary purpose of TALC LEDs is to give you an indication of the line card's general health. When you reset your TALC, watch the faceplate. The LEDs should behave as follows:

- The Maintenance LED should flash three times, then go off after the switch enables the TALC. (In normal operation of the TALC, the Maintenance LED should remain off.)
- The remaining LEDs flash whenever there is network activity.

What to do if the LEDs do not Display Correctly

The following table describes what to do if the LEDs do not display correctly:

Symptom	What to do
The Maintenance LED did not flash three times during the power-up cycle.	**1** Reset the TALC. Watch the Maintenance LED again. About 60 seconds pass before it flashes. **2** If the Maintenance LED still does not flash, contact your distributor. There may be a hardware problem.
The Maintenance LED is lit after a successful self-test.	**1** Confirm that the slot is enabled on the host PBX. **2** If other LEDs are not lit or flashing, did the Maintenance LED *ever* light? If not, contact your distributor. There may be a hardware problem. **3** Ensure that the TALC is properly seated in its slot and is properly inserted into the backplane. **4** If the TALC is improperly or incompletely seated, reseat it. **5** If the Maintenance LED remains lit, contact your distributor. There may be a hardware problem.
The Maintenance LED is flashing.	The power-up self-test failed. Contact your distributor. There may be a hardware problem.
No LEDs are lit on the TALC.	Ensure that the TALC is properly seated in its slot. If the TALC is properly seated in its slot and no LEDs light, contact your distributor. There may be a hardware problem.

Symptom	What to do
The Ethernet COLL LED is lit solid.	Network collisions are bound to occur and are normal. However, if this LED is lit solid, do the following: ■ Check the physical network connection. ■ Verify that you can ping the TALC. (Refer to “Using Configuration Manager PING”, on page 104.) ■ Check the network configuration (such as routing, traffic load, and so on). Adjust the network configuration, if required. ■ There should be no broadcast or multicast activity on the telephony LAN (TLAN). Interconnect a hub and a network analyzer to the TLAN and monitor for such activity. Identify the source(s) and isolate them from the TLAN.

Network Connectivity

This section describes problems that can occur on the network and steps you can take to resolve those problems.

Symptom Descriptions

If you are not able to establish or maintain data network connectivity, perform troubleshooting as described in the following table:

Symptom	What to do
You cannot establish a connection from your administration PC to the TALC.	**1** Ensure that you entered the IP address correctly when trying to establish the connection. **2** Ensure that you entered the logon ID and password correctly when trying to establish the connection. **3** Ensure that the TALC's IP address, network mask, and default gateway are correctly configured in the TALC. **4** Ping the TALC. **5** Ping the gateway. **6** If the ping still does not work, contact your data network administrator.

Symptom	What to do
10060 TELNET CONNECTION FAILED displays when attempting to connect to the TALC.	**1** Ensure that you entered the logon ID and password correctly when trying to establish the connection. **2** Ensure that you entered the IP address correctly when trying to establish the connection. **3** Ensure that someone is not already logged on to the TALC. **4** Verify that the Ethernet cable is connected at both ends (TALC and network hub). **5** Check the Ethernet cable and ensure that it is good. **6** Ensure that the TALC is properly seated in its slot. **7** Verify that the IP address, subnet mask and gateway are all correct on the TALC. **8** Ping the TALC. (Refer to “Using Configuration Manager PING” on page 104.) **9** If the TALC does not respond, ping the TALC’s gateway to see if it responds. **10** If the gateway does not respond, ping a known good device on the TALC’s network. **11** If steps 9 and 10 work, but step 8 did not, there may be a gateway configuration error. Check the TALC’s IP Configuration property sheet. **12** Contact your distributor. There may be a hardware problem.

Symptom	What to do
SERIAL CONNECTION FAILED displays when attempting to connect to the TALC.	**1** Ensure that you entered the logon ID and password correctly when trying to establish the connection. **2** Ensure that someone is not already logged on to the TALC. **3** Ensure the TALC is properly seated in its slot. **4** Reseat the TALC. **5** Ensure that you specified the correct COM port when attempting the connection. **6** Verify that no other applications on the administration PC are using the COM port. **7** Ensure that the serial cable connection is good. **8** Use a breakout box to verify that the COM port is active. **9** Contact your distributor. There might be a hardware problem.
The TALC does not send or receive Ethernet traffic.	**1** Ensure that the TALC is seated in its slot properly and connected to the backplane. **2** Ensure that the Ethernet cable between the TALC and the network is good. **3** Ensure that the Ethernet cable is connected. **4** If the TALC still does not send or receive traffic, contact your data network administrator. **5** Data network administrator: Ensure other network devices are configured to allow traffic to and from the TALC.
An attempt to log off from the TALC does not work.	It is possible that communication has been lost between the administration PC and the TALC. Close and restart Configuration Manager.

Symptom	What to do
There are many collisions on the Ethernet network, as indicated by the solid Ethernet COLL LED.	Network collisions are normal. However, if this LED is lit solid, do the following: ■ Check the physical network connection. ■ Verify that you can ping the Engage server. (Refer to "Using Configuration Manager PING" on page 104.) ■ Check the network configuration (such as routing, traffic load, and so on). Adjust the network configuration, if required. ■ There should be no broadcast or multicast activity on the TLAN. Interconnect a hub and a network analyzer to the TLAN and monitor for such activity. Identify the source(s) and isolate them from the TLAN.
The TALC cannot establish a connection with the Engage server.	**1** Verify security authentication configuration and ensure that it matches at both ends. (For example, if security identifier is used, ensure that the inbound and outbound security identifiers are correctly configured at each end.) **2** Ensure that the unit IDs have been correctly configured at each end. An incorrect unit ID causes security authentication to fail. **3** Ensure that the TALC's IP address is correctly configured on the Engage server. **4** Verify that the IP network is operational (up and running) as appropriate. **5** Ensure that the TALC is enabled on the host PBX. **6** Use the Ping option in Configuration Manager to ping the Engage server. For instructions, Refer to "Performing a Configuration Manager PING", on page 104. **7** If the Engage server does not respond, check the network configuration (such as routing, traffic load, and so on). Adjust the network configuration, if required.

Software Problems

This section identifies some problems that can occur with the Configuration Manager software, and describes what to do to resolve them.

Symptom Descriptions

If you are not able to complete a task with Configuration Manager, perform troubleshooting as described in the following table:

Symptom	What to do
The Configuration Manager software installation fails.	Ensure that you close all background applications, including anti-virus software, before performing the installation.
When performing one of the following by TFTP, *ERROR: FILE OPEN FAILED* displays: ■ configuration upload ■ Engage firmware upgrade	**1** Ensure that the TFTP server application is installed and running on your administration PC. **2** Ensure that the file you are trying to upload is present in the target directory, that is, either in the TFTP directory, or in the directory that is specified as the base directory in the TFTP server application. **3** Review messages displayed by the TFTP server application for clues. **4** Ping the Engage server to verify that network connectivity exists.

Symptom	What to do
CONFIG UPLOAD FAILED displays when attempting to perform a configuration upload by TFTP.	**1** Ensure that you selected an appropriate file. That is, ensure that the file you attempted to upload is a TALC configuration file. **2** Ensure that the configuration file you are attempting to upload is compatible with current Engage firmware. **3** Perform the configuration upload using a previous configuration file, if necessary. **Note:** Each time you perform a Engage firmware upgrade, you should also create a backup of the configuration. The configuration database format in the TALC is dependent on the version of firmware installed on the TALC. If you recently downgraded to a previous version of Engage firmware, you may also need to revert to a previous configuration format.
System not responding displays when working with Configuration Manager.	It is possible that communication has been lost between the administration PC and the TALC. Close Configuration Manager, and then restart it.
Nothing happens when attempting to log off from the TALC.	It is possible that communication has been lost between the administration PC and the TALC that you were logged on to. Close Configuration Manager, and then restart it.

Using Configuration Manager PING

This section explains how to use the Ping option provided in Configuration Manager to verify connectivity. Use this procedure as a troubleshooting tool to determine if you can reach all network TALCs, or any other device on the network.

Performing a Configuration Manager PING

To perform a Configuration Manager PING:

1 From the menu, choose Tests → Ping.

Result: The PING Test dialog box displays, similar to the following:

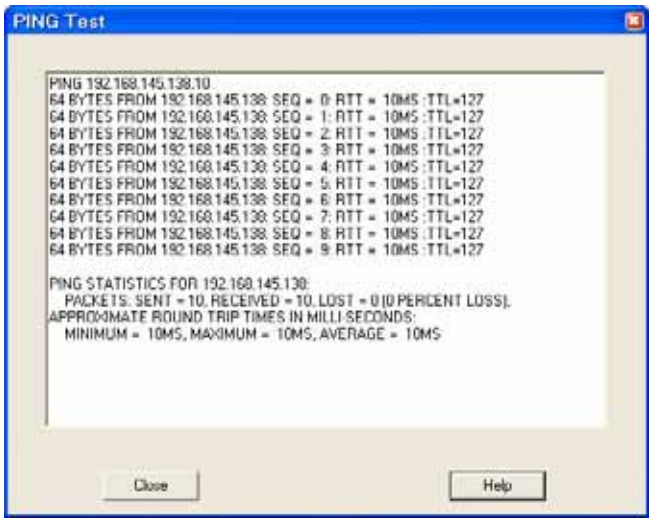
2 Enter the IP Address of the TALC that you want to ping.

3 In the Number of Cycles box, enter the number of times you want to ping the TALC.

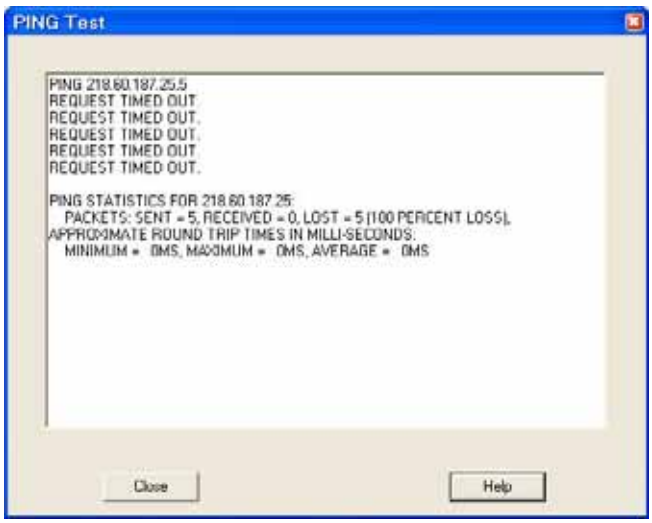
The number must be in the range of 1 to 100.

4 Click on the **OK** button.

Result: The PING test results dialog box displays, showing the ping results. The following is an example of a successful ping.



The following is an example of an unsuccessful ping.



5 Click on the **Close** button.

Result: The PING test dialog box closes.

ATTENTION

It is possible to successfully ping a device (for example, a TALC) on the network and still not be able to log on to that device. If you log on to a TALC using a serial connection and neglect to log off, you can successfully ping the TALC. However, you cannot establish a Telnet connection. The TALC only allows one logon at a time.

If you cannot log on to a TALC after a successful ping, ensure that you

What to do if the Ping Did Not Work

If the ping was unsuccessful, answer these questions:

1 Did you enter the IP address correctly?

2 Are the subnet mask and default gateway configured properly at your site? (Confirm this by checking the IP Configuration property sheets for the involved TALCs.)

3 Are the subnet mask and default gateway configured properly at the site that you are pinging? (Confirm with the site's network administrator.)

4 Does the gateway respond to a ping?

If you are able to answer "Yes" to the questions above and the ping still does not work, the problem lies somewhere in the network between the involved sites.

Responding to a Catastrophic Failure

For the purposes of this discussion, a *catastrophic failure* is defined as a failure of the equipment to operate after review of all troubleshooting information and implementation of appropriate procedures.

Inoperative Hardware

Should your TALC fail to operate after thorough review of the troubleshooting information in this and related guides, consult your distributor for hardware replacement.

Appendix A

Pin-out Table for TALC Multi-I/O Cable-Enhanced

Reading the Table

The first line of the table below is read as follows:

In pair 1 of bundle W1, the red wire connects pin P1-21 to pin P2-5 and carries the following signal: EN0RXD+.

In pair	of bundle	the	wire connects pin	to pin	and carries the following signal:
1	W1,	RED	P1-21	P2-5	EN0RXD+.
1	W1,	BLK	P1-46	P2-12	EN0RXD-.
2	W1,	WHT	P1-22	P2-6	EN0TXD+.
2	W1,	BLK	P1-47	P2-13	EN0TXD-.

TALC Multi-I/O Cable-Enhanced

Introduction

The TALC Multi-I/O Cable–Enhanced (800-00072-03) is a 6-plug cable that provides the following connectivity:

The connector at	is a	providing connectivity to
P1	25-pair	the switch's I/O panel
P2	DB-15	an external (user) Ethernet port
P3	DB-9	a serial port
P4	DB-15	the switch's internal Ethernet port
P5		(reserved)

Pin-out Information

The following table shows the pin-out of the TALC Multi-I/O Cable–Enhanced:

In pair	of bundle	the	wire connects pin	to pin	and carries the following signal:
1	W1,	BLK	P1-21	P2-5	EN0RXD+.
1	W1,	RED	P1-46	P2-12	EN0RXD-.
2	W1,	BLK	P1-22	P2-6	EN0TXD+.
2	W1,	WHT	P1-47	P2-13	EN0TXD-.
				P2-4	GND (SHD).
1	W2,	BLK	P1-17	P3-3	SDIRXD.
1	W2,	RED	P1-42	P3-2	SDITXD.
2	W2,	BLK	P1-45	P3-5	GND.
2	W2,	WHT			
			P3-1	P3-4	SDIDTR-SDIDCD.
			P3-4	P3-6	SDIDTR-SDIDSR.
			P3-7	P3-8	SDIRTS-SDICTS.
1	W3,	BLK	P1-23	P4-5	EN1RXD+.
1	W3,	RED	P1-48	P4-12	EN1RXD-.
2	W3,	BLK	P1-24	P4-6	EN1TXD+.
2	W3,	WHT	P1-49	P4-13	EN1TXD-.
1	W4,	BLK	P1-1	P5-1	(reserved)
1	W4,	RED	P1-26	P5-26	(reserved)
2	W4,	BLK	P1-2	P5-2	(reserved)
2	W4,	WHT	P1-27	P5-27	(reserved)
3	W4,	BLK	P1-3	P5-3	(reserved)
3	W4,	GRN	P1-28	P5-28	(reserved)
4	W4,	BLK	P1-4	P5-4	(reserved)
4	W4,	BLU	P1-29	P5-29	(reserved)

In pair	of bundle	the	wire connects pin	to pin	and carries the following signal:
5	W4,	BLK	P1-5	P5-5	(reserved)
5	W4,	YEL	P1-30	P5-30	(reserved)
6	W4,	BLK	P1-6	P5-6	(reserved)
6	W4,	BRN	P1-31	P5-31	(reserved)
7	W4,	BLK	P1-7	P5-7	(reserved)
7	W4,	ORG	P1-32	P5-32	(reserved)
8	W4,	RED	P1-8	P5-8	(reserved)
8	W4,	WHT	P1-33	P5-33	(reserved)
9	W4,	RED	P1-9	P5-9	(reserved)
9	W4,	GRN	P1-34	P5-34	(reserved)
10	W4,	RED	P1-10	P5-10	(reserved)
10	W4,	BLU	P1-35	P5-35	(reserved)
11	W4,	RED	P1-11	P5-11	(reserved)
11	W4,	YEL	P1-36	P5-36	(reserved)
12	W4,	RED	P1-12	P5-12	(reserved)
12	W4,	BRN	P1-37	P5-37	(reserved)
13	W4,	RED	P1-13	P5-13	(reserved)
13	W4,	ORG	P1-38	P5-38	(reserved)
14	W4,	GRN	P1-14	P5-14	(reserved)
14	W4,	WHT	P1-39	P5-39	(reserved)
15	W4,	GRN	P1-15	P5-15	(reserved)
15	W4,	BLU	P1-40	P5-40	(reserved)
16	W4,	GRN	P1-16	P5-16	(reserved)
16	W4,	YEL	P1-41	P5-41	(reserved)
1	W5,	BLK	P5-9	P6-2	(reserved)
1	W5,	RED	P5-34	P6-14	(reserved)
2	W5,	BLK	P5-10	P6-3	(reserved)

In pair	of bundle	the	wire connects pin	to pin	and carries the following signal:
2	W5,	WHT	P5-35	P6-16	(reserved)
3	W5,	BLK	P5-11	P6-4	(reserved)
3	W5,	GRN	P5-36	P6-5	(reserved)
4	W5,	BLK	P5-12	P6-20	(reserved)
4	W5,	BLU	P5-37	P6-6	(reserved)
5	W5,	BLK	P5-13	P6-8	(reserved)
5	W5,	YEL	P5-38	P6-7	(reserved)
6	W5,	BLK	P5-14	P6-17	(reserved)
6	W5,	BRN	P5-39	P6-9	(reserved)
7	W5,	BLK	P5-15	P6-24	(reserved)
7	W5,	ORG	P5-40	P6-11	(reserved)
8	W5,	RED	P5-16	P6-15	(reserved)
8	W5,	WHT	P5-41	P6-12	(reserved)

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