# Install - TelStrat Application Line Card (TALC)

## *Engage Voice Recorder*

Release 5.2

Issue 1.0

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## 1.1 Introduction

The TelStrat Application Line Card (TALC) is an Nortel Networks referenced Intelligent Peripheral Equipment (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.

# 1 TALC - PBX Compatibility

**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) in the PBX.

**PBX Hardware Compatibility**

**Meridian 1 PBXs**

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 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.
  - Older Meridian 1 PBXs that are upgraded with IPE modules.

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.

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

**CS 1000 PBXs**

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

The TALC required packages for Communication Server 1000 are:

- 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.

**CS 2100 PBXs**

For new CS 2100 PBX installations of the TALC card, the CS 2100 PBX does not accept a TelStrat Product Number (Product Engineering Code or PEC) longer than eight characters. Therefore, map the IPE PEC 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 Option 11).
- T0106003 (TALC 32-channel - IPE).

An example data entry of this type is:

```
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 Option 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.

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.

# 1 TALC - PBX Software Compatibility

The TALC is compatible with the following software:

- Meridian 1 PBX software release 17 through 22 when using TALC firmware release 1_02_00cb6.
- Meridian 1 PBX software release 23 or higher.
- CS 1000 PBX software release 2 or higher.
- 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 Software Release | Setting |
|---|---|
| 15 - 17 | CLS prompt = DTA |
| 18 or higher | DTA0 output = ATA / MCA |

For further details, refer to the section on LD 11 in the Meridian 1 PBX X11 I/O Guide (NTP 553-3001-400).

**Tandem Digit Display (TDD) Feature**

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.

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.

## 1.2 TALC LED Indicators

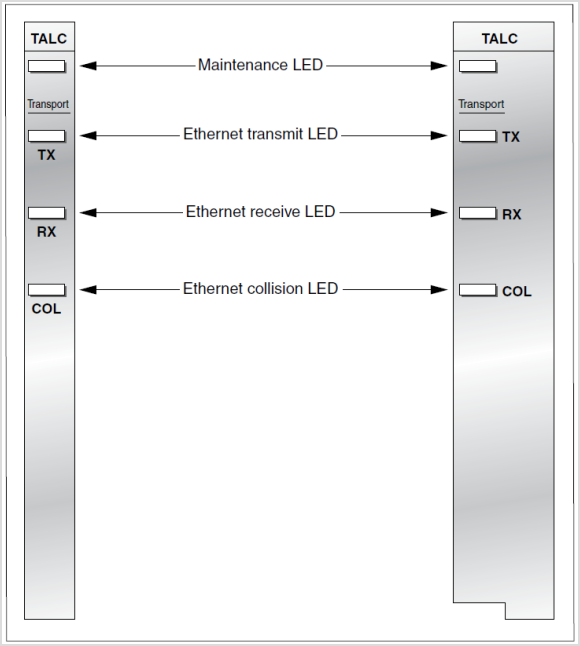
The red Maintenance LED on the faceplate indicates the basic health of the TALC, just as with all other IPE line cards. Under normal conditions:

- 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 it 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.

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.

*TALC Faceplates (16 channel and 32 channel)*



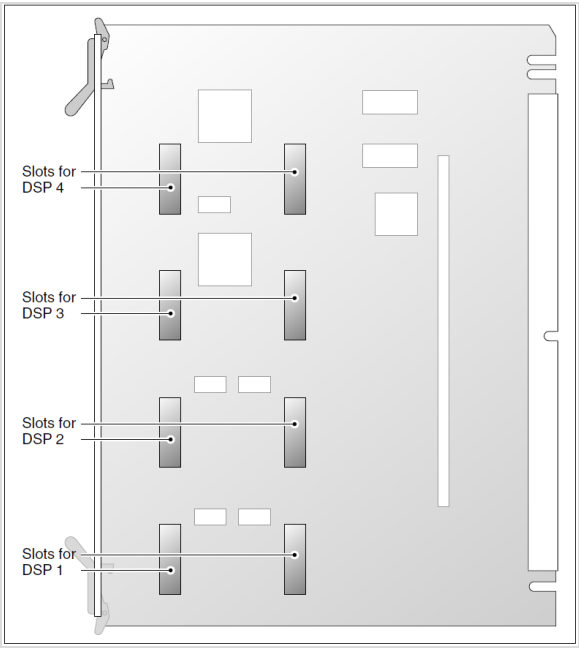

## 1.3 TelStrat DSP 8 Modules

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

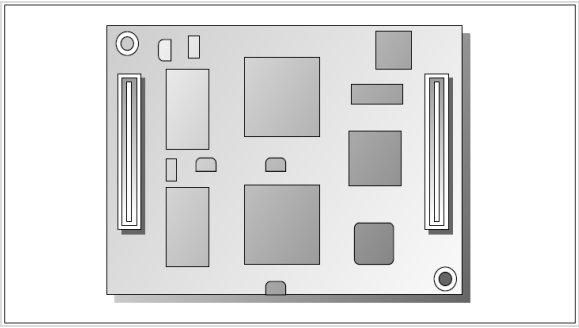
Each TelStrat DSP 8 module provides an additional eight channels of packet voice recording. The image below shows the locations of digital signal processor(DSP) expansion slot pairings on the TALC.

The following image shows a TelStrat DSP 8 module that holds two DSP devices. Up to three TelStrat DSP 8 modules can be added to the TALC to increase the line card's call processing capability by up to 32 channels.

*TALC Motherboard*




*TelStrat DSP 8 module (740-01062-01)*



## 1.4 TALC Multi-IO 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

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

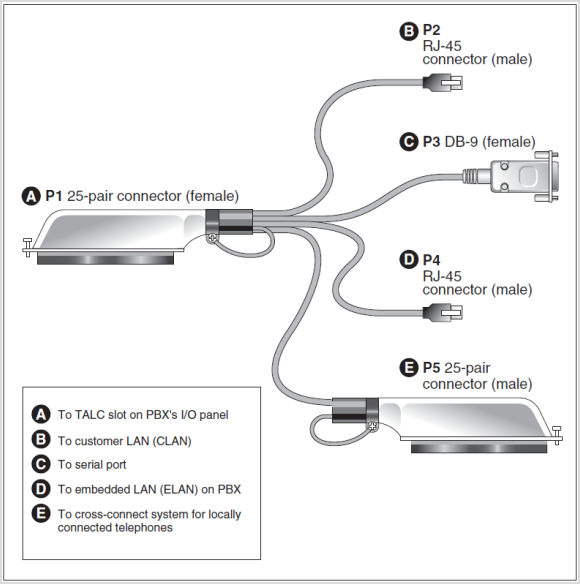
The TALC Multi-I/O Cable-Enhanced connectors are described as:

| Connector Labeled | Connector Type | Transmits | Connects to |
|---|---|---|---|
| P1 | female 25-pair connector | all signals | I/O panel |
| 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 maintenance and administration |
| P4 | male RJ-45 connector | 10BaseT signaling | ELAN Ethernet (PBX's embedded LAN) |
| P5 | male 25-pair connector | TCM signaling | cross-connect to local phones |

NOTE: If you are using a double-wide, 32-channel TALC, insert connector P1 into the socket for the first of the two card slots occupied by the TALC.

The length of this cable, from the termination end of connector 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)*




## 1.5 Meridian Digital Telephone Hardware Compatibility

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

| Models | | Modules |
|---|---|---|
| M2006 (see note 1) | M3310 | add-on modules (see note 5) |
| M2008D | M3820 | key expan-sion mod-ules |

| Models | | Modules |
|---|---|---|
| M2008HFD | M3901 (see note 1) | |
| M2216D | M3902 (see note 3) | |
| M2616D | M3903 (see note 4) | |
| M2616CT (see note 2) | M3904 | |
| M3110 | M3905 | |

1. 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
2. ii. Nortel has discontinued the M2616CT cordless telephone.
3. 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
4. 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.
5. Add-on modules include key based add-on modules (KBAs) and display-based add-on modules (DBAs) for M39xx sets.

## 1.6 Meridian Digital Console 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.

## 1.7 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.

## 1.8 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% (non-condensing) | 95% (non-condensing) |
| Storage - Recommended Temperature | -40° C (-40° F) | 70° C (158° F) |
| Storage - Relative Humidity | 5% RH (non-condensing) | 95% RH (non-condensing) |

# 2 Installation

This section describes the steps to be taken to successfully install a TALC.

## 2.1 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.

---

**WARNING: 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. First-time installation or maintenance upgrade will 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

**Installation or Upgrade software:**

- Downloaded from the TelStrat Support Portal.
- Engage Record CD-ROM.

## 2.2 Installation Overview

For a successful installation, the steps to complete the installation are:

1. Assemble and Install the TALCs into the IPE module or Meridian 1 PBX 11 cabinet.
2. Connect a TALC Multi-I/O Cable-Enhanced to each slot of the cabinet containing a TALC.
3. Initially, install the TALC Configuration Manager software on a laptop computer.

> Note: Installing the TALC Configuration Manager software on a laptop computer allows initial configuration of the TALC(s) without relocating the Engage Record server to perform the configuration. TelStrat recommends also installing 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.

## 2.3 Installing TelStrat DSP 8 Modules

Install TelStrat DSP 8 Modules in the expansion slots on the TALC. Adding TelStrat DSP 8 Modules to the TALC increases the number of telephone calls that can be recorded. To add TelStrat DSP 8 Modules to the TALC:

- Determine the number of channels that you want to record.
- Install TelStrat DSP 8 Modules.

**Determining How Many TelStrat DSP 8 Modules to Add**

Allow one DSP channel on the TALC for each telephone call to be recorded. The TALC comes with sufficient on-board DSP resources to record up to eight simultaneous telephone calls. In addition, DSP expansion slots enable the addition as many as three TelStrat DSP 8 Modules (740-01062-01) to the TALC.

Each TelStrat DSP 8 module increases the voice processing capabilities of the 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 a32-channel TALC.

Once ordered and received from TelStrat, the TelStrat DSP 8 modules can be installed.

**Handling TelStrat DSP 8 Modules**

Be careful an follow the guidelines for ESD protection while handling DSPs and TALCs.

**WARNING: 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. become grounded with an approved wrist or heel strap before handling TelStrat DSP 8 Modules or TALCs.
2. Clear a flat, static-free work area with sufficient space to hold all 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. 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.

## 2.4 Installing a TALC into a PBX

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

1. Locate the correct PBX cabinet or IPE module, shelf and card slot for the TALC.
2. Insert the TALC into its assigned card slot. Ensure that the lower tips of the ejector tabs are positioned properly inside the front edges of the shelf.
3. Lock the TALC into position by pushing the handles toward one another until they touch the faceplate. If there is inappropriate resistance, stop and reposition the card.
4. Look for the Self-Test and Maintenance LEDs to operate.
5. Verify that the host PBX recognizes the presence of the TALC. (Refer to the documentation specific to the host PBX for exact procedures to verify the presence of an XDLC.)

## 2.5 Verifying the Installation

Once you have finished the installation and cable connection of the TALC, verify the installation.

**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 in this guide for more details.

**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.

## 2.6 Install TALC Configuration Manager Software

The **TALC Configuration Manager** software is installed on the administration workstation, not the server. Use this software to configure and administer the TALC.

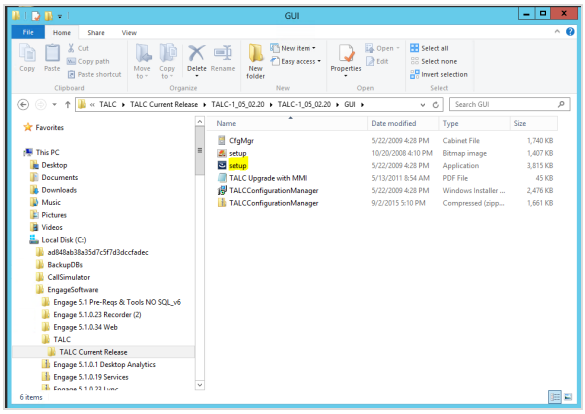
**Download Engage Software**

Engage product software is available for download from the TelStrat Support Portal. Use this link DOWNLOAD ENGAGE SOFTWARE.HTM to get instructions for downloading and extracting Engage software from the **Install - Obtain Engage Software** Administration Guide.

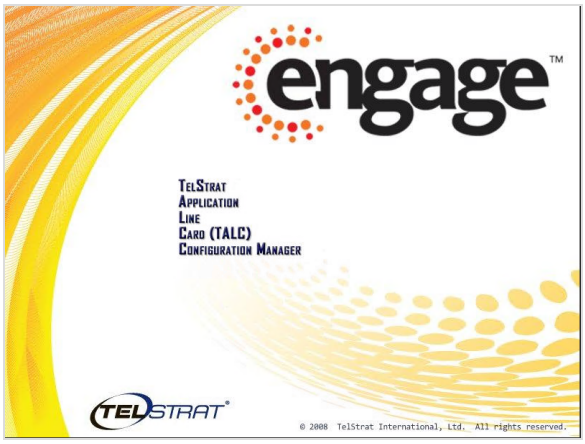
**Configuration Manager software**

After downloading and extracting the software:

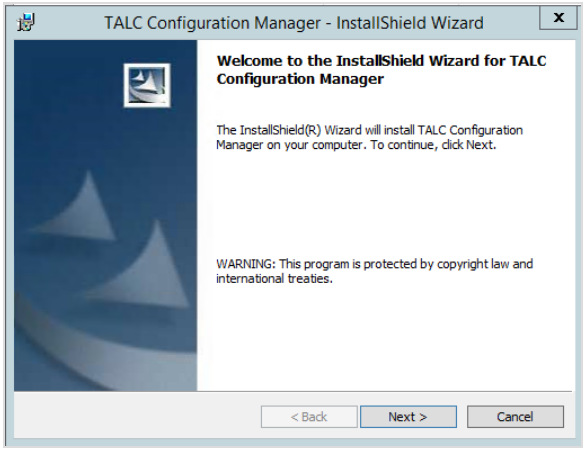
1. Open these folders: **C:\EngageSoftware\TALC\TALC Current Release\TALC-1_05_02.20\TALC-1_05_02.20\GUI**.



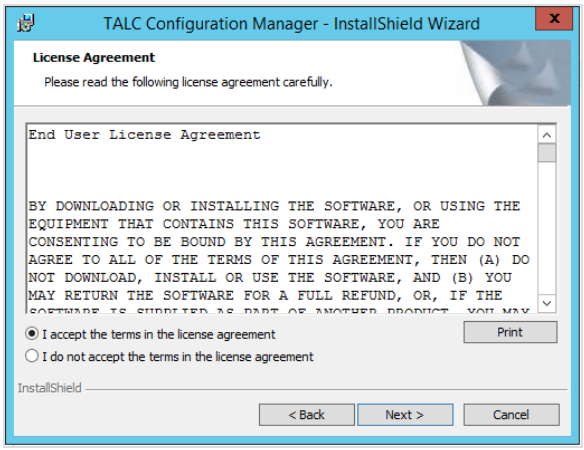

2. In the TALC folder, double-click on ***setup*** to launch the TALC Configuration Manager installation wizard. The Wizard splash screen appears while setup is running.



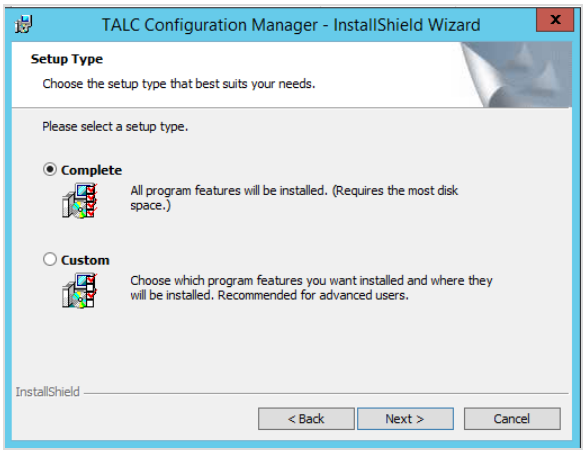

3. When the **Welcome** screen appears, click ***Next***.



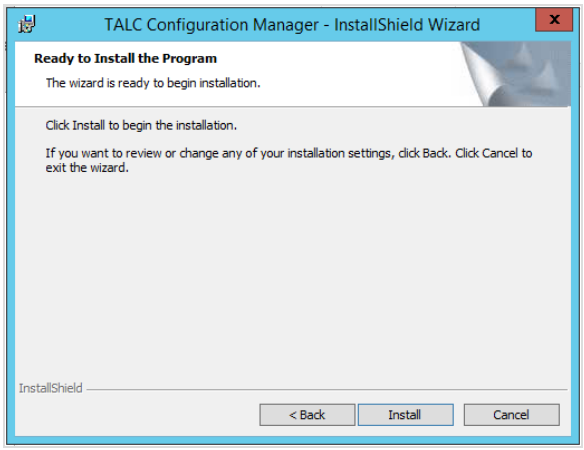

4. On the **License Agreement** window, click on ***I accept the terms in the license Agreement*** button and click ***Next***.



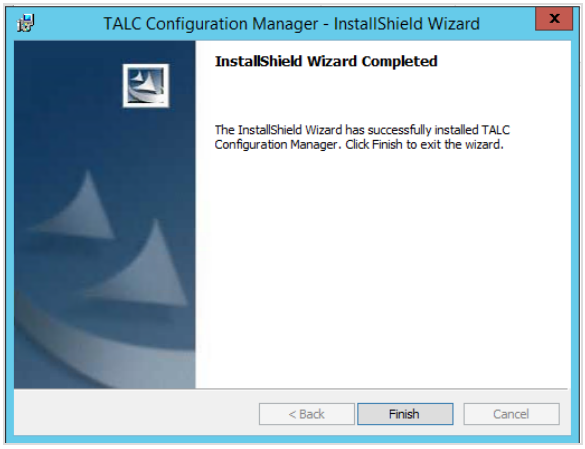

5. At the **Setup Type** window, click on the **Complete** button and click ***Next***.




6. Click ***Install*** on the Ready to Install the Program window.



7. The install takes a very short time. When complete, click ***Finish*** on the **Completed** window.




## 2.7 Initial Configuration of TALC

Each TALC requires an initial configuration. The **TALC Configuration Manager** program has a *Configuration Wizard* option used to input the minimum configuration 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. Using the Configuration Wizard, the TALC can be up and running within ten minutes.

The Configuration Wizard can be used in an unconnected (offline mode) or while connected and logged onto the TALC (online mode).

**The Initial Configuration**

The Configuration Wizard performs an initial configuration of the TALC for the following:

- TelStrat Application Line Card IP addressing, including:
  - IP address of the TALC,
  - Subnet mask,
  - Default gateway,
  - IP address of the Engage Record server to which the TALC connects.

- DN Discovery, including:
  - scheduling parameters,
  - specific times and dates.

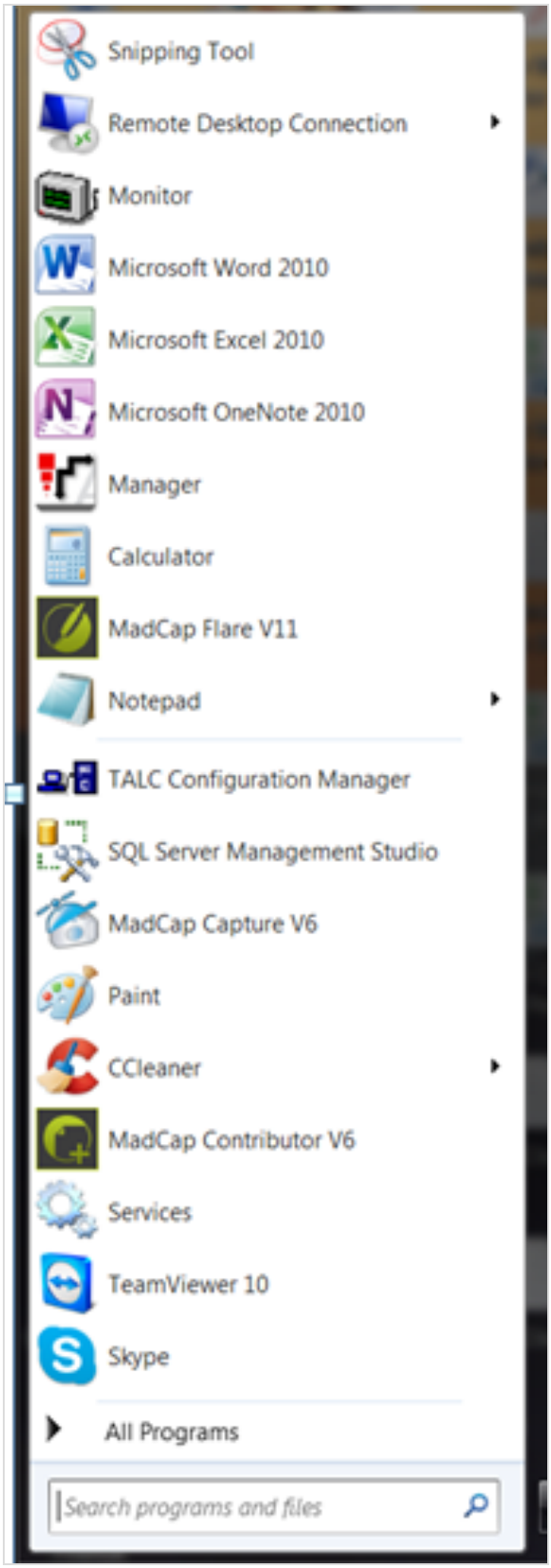
NOTE: Make sure the IP information is correct and valid for establishing a Telnet session with the TALC.

NOTE: Any changes to initial settings made after the initial configuration are made with the TALC Configuration Manager, not the Configuration Wizard.

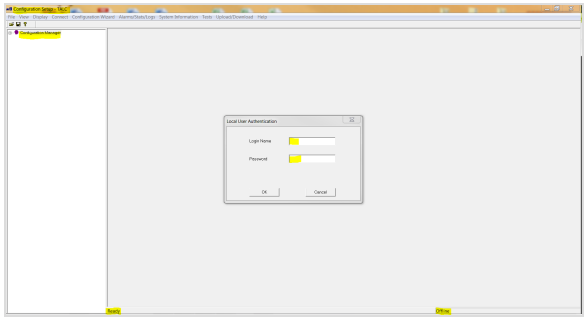
**Start the TALC Configuration Manager**

With the software installed on the administration PC:

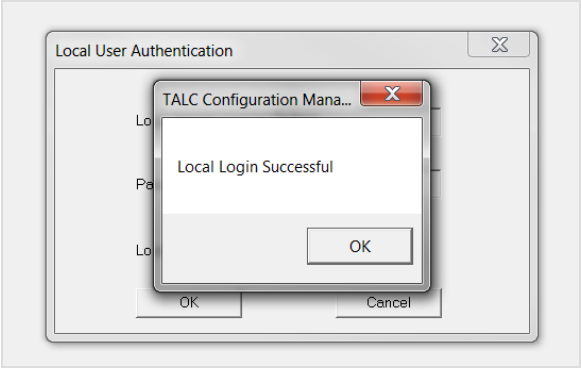
1. Use the PC's *Start* menu to launch the program: **Start » All Programs » TALC Configuration Manager**.



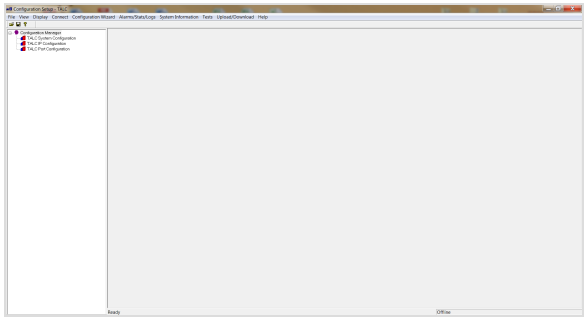
2. The **TALC Configuration Manager** opens and displays the **Local User Authentication** dialog box. Enter the following:
    a. **Login Name**: Enter ***admin***.
    b. **Password**: Enter ***root***.



3. Click on the ***OK***. The **TALC Configuration Manager** dialog box displays a successful log on.




4. Click on the ***OK*** button in the **Login Successful** box to exit the logon window. The **TALC Configuration Manager** screen appears and displays a few menu commands on the top navigation bar.



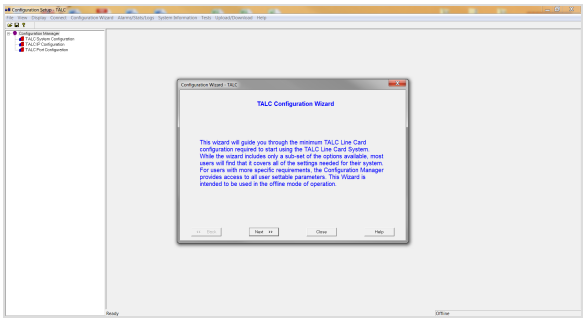
**Start the Configuration Wizard**

TALC configurations are stored on the TALC circuit pack in flash memory. The initial configuration of a TALC is completed one of two ways:

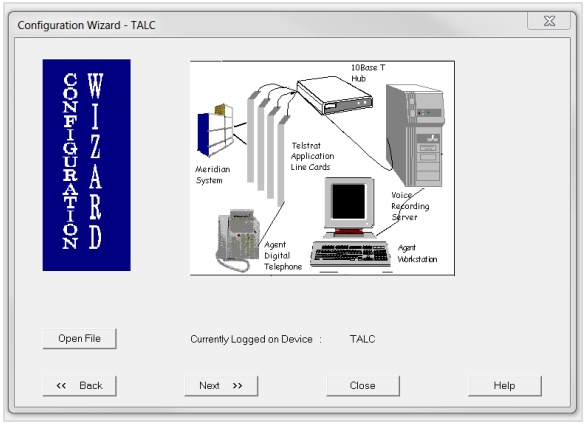
- Creating a NEW configuration file.
- Selecting an existing configuration file.

Start the wizard:

1. On the TALC Configuration Manager, click the **Configuration Wizard** command. The *Configuration Wizard* introductory screen pops up.




2. Review the screen's information and click on ***Next***. The **Configuration Wizard - TALC** graphic screen displays:




**Create a NEW Initial TALC Configuration**

On the **Configuration Wizard** screen, there are five action buttons that perform different tasks. The buttons are described as:

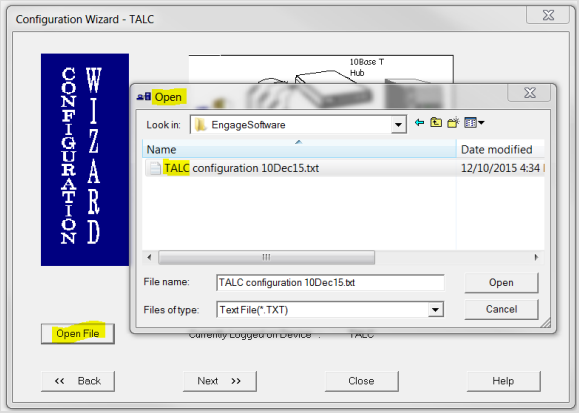
a. ***Open File*** button: Used to load an existing configuration file into the TALC's Flash memory.

b. ***Next*** button: Used to create a NEW configuration file for a TALC.

c. ***Back*** button: Used to review the information on a previous screen.

d. ***Close*** button: Used to stop the TALC Configuration Wizard.

e. ***Help*** button: Used to view information about the fields on the current screen.




**Initial Configuration Addressing**

To create an initial, NEW TALC configuration file, click on ***Next*** and enter this information into the **Configuration Wizard - TALC** window fields:

a. **Set the unique Unit ID of the unit**: Select a unique number (1 through 254) to identify the TALC being configured (ex. ***1***). 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.

NOTE -- the TALC card Unit ID is also used in the Engage client, when adding ports. The port number will be "00XX", where the XX is the Unit ID number.

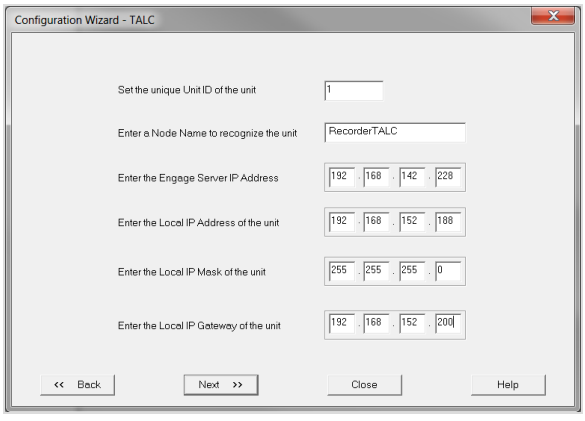
b. **Enter a Node Name to recognize the unit**: Enter a name that describes the TALC being configured (ex. ***RecorderTALC***).

c. **Enter the Engage Server IP address**: Four boxes for the octets to contain the recording server IP Address (ex. ***192 168 142 228***). 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).

d. **Enter the IP address of the unit**: Four boxes for the octets to contain the TALC unit's IP address (ex. ***192 168 152 188***). If you do not have a valid IP address, enter the sample IP address*: 5.6.7.8*.

e. **Enter the Local IP Mask of the unit**: Four boxes for the octets of the subnet mask (ex. ***255 255 255 0***). If you do not have a valid subnet mask, enter the sample subnet mask: *255.255.0.0*.

f. **Enter the Local IP Gateway of the unit**: Four boxes for the octets to contain the IP address of the gateway between the TALC being configured and the network (ex. ***192 168 152 200***). If there is no router between the TALC and the network, then the administration PC acts as the gateway. Enter the address: *1.2.3.5*.



Note: When entered and applied, this IP information allows administration of the TALC from any PC on the network where a copy of the TALC Configuration Manager software resides.

**DN Discovery Settings**

a. Click the ***Next*** button. The **Configuration Wizard - DN Discovery** window displays. Complete the Configuration Wizard DN Discovery screen fields as follows:

b. **Frequency**: Select how often the TALC is to automatically detect the host PBX-configured name and number assigned to each of its ports. Choose one of the following:
   - **Once a Day**: If the TALC is to perform DN Discovery daily.
   - **Once a Week**: If the TALC is to perform DN Discovery weekly.
   - **Once a Month**: If the TALC is to perform DN Discovery monthly.

c. **Time**: Set the time of day when the TALC will perform DN discovery in the time scroll box. Do one of the following:
   - Highlight the *hour* displayed in the **Time** selection box and enter the hour or use the arrows at the right side of the Time field to select the hour that the TALC is to perform DN Discovery.
   - Highlight the *minute* displayed in the **Time** selection box. Enter the minute or use the arrows at the right side of the Time field to select the minute that the TALC is to perform DN Discovery.

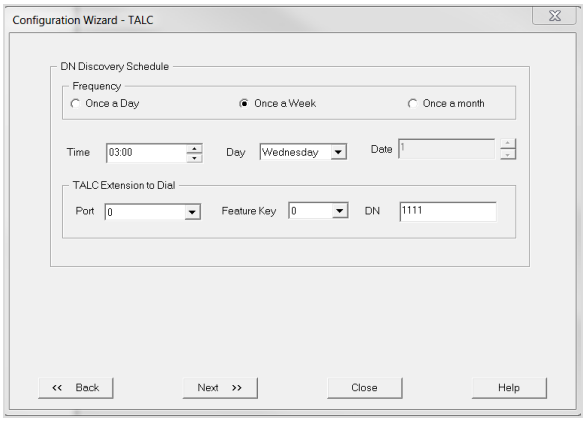
d. **Day**: If you select *Once a Week*, choose the day of the week when the TALC will perform DN Discovery. In the Day list box, choose the correct day of the week.

e. **Date**:If you select *Once a Month*, select the date when the TALC will perform DN Discovery each month. In the Date scroll box, choose the correct date.

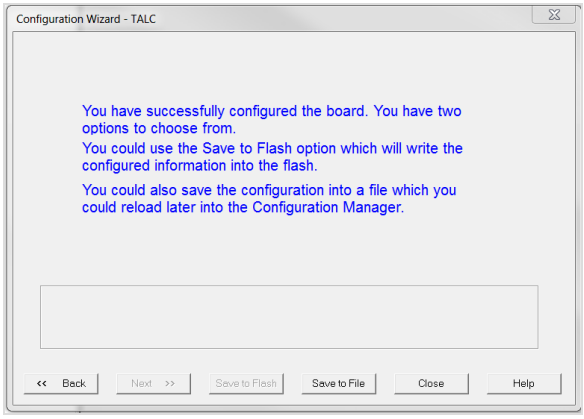
f. **Port**: Choose the TALC port occupied by the DN in the DN field that follows. Engage Record uses this port as a baseline in deriving DN Discovery information.

g. **Feature Key**: Choose the feature key assigned to the TALC port and DN shown in the adjacent fields.

h. **DN**: Enter the directory number of the TALC port where calls are to be placed for DN Discovery. Click ***Next***.




i. An information screen appears. Read the text regarding saving the configuration file.



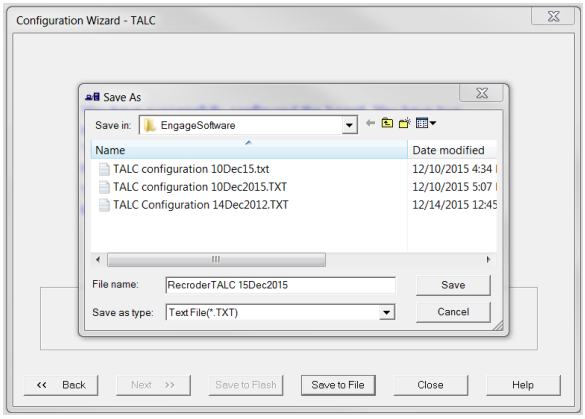

**Save the initial configuration file**

There are two ways to SAVE the initial configuration file, depending on what process was used:

- Using an offline configuration process
- Using an online configuration process

*Perform an OFFLINE configuration SAVE*

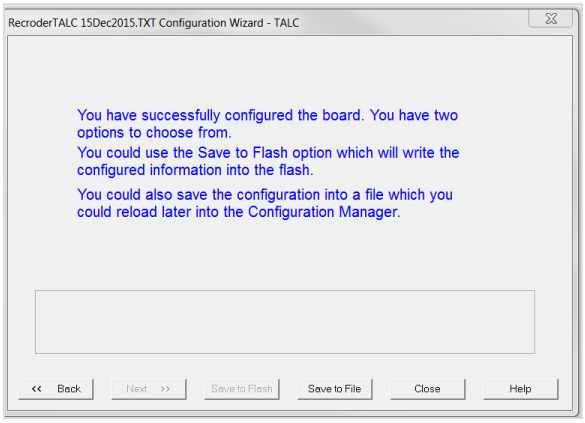
a. Click on the ***Save to File*** button. The **Save As** dialog box displays:



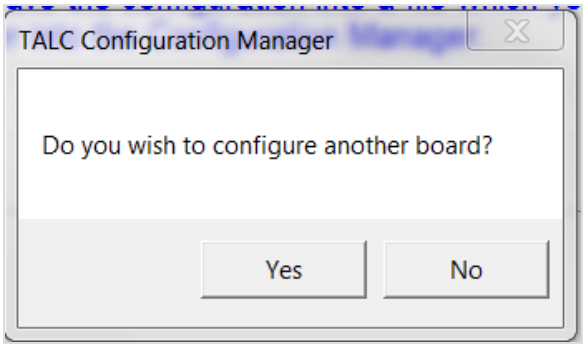

b. Specify the directory path and filename for this configuration.

c. Ensure the *Save as type* box shows the type of file as a Text File (***.TXT***)

d. Click on ***Save***. The previous **Configuration Wizard** information screen re-displays.




e. Click on ***Close*** to accept the configuration file just created. A dialog box will ask if another TALC is to be configured. Click ***Yes*** if there are other TALCs to be configured or click on ***No*** to close this specific configuration.




Note: This file can be opened in Configuration Manager, then send and save the file in the TALC's Flash memory at another time.

*Perform an ONLINE configuration SAVE*

If the TALC configuration file was created online (connectivity with the TALC established), it can be saved into the TALC flash memory.

1. Click on the ***Save to Flash*** button. The **Configuration Manager** will write the information contained in the initial configuration file to the flash memory of the TALC being configured. If successful, the message *Data Sent Successfully* appears.

   Note: TelStrat recommends also saving the configuration to a separate file using the ***Save As*** command. This creates a backup file of the initial configuration for use in the event the TALC loses its flash memory.

2. Restart the TALC by using the Configuration Manager commands: ***Connect » System Reset » Restart***.

The TALC has the minimum information required for network connectivity.

## 2.8 Testing TALC Connectivity

After the initial configuration of the TALC is complete, test the connections to the TALC using the following methods:

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

**Check Ethernet Cable Connections**

Check the following cable connections:

1. DB15 – RJ45 adapter at Plug 2 of the TALC Multi-I/O Cable–Enhanced is properly and securely joined to Plug 2.
2. RJ45 plug of a CAT5 data cable leading to the system's Ethernet hub is securely seated in the RJ45 socket of the DB15 – RJ45 adapter in previous step.
3. Other end of the CAT5 data cable discussed in the previous step is securely seated in the appropriate Ethernet hub socket.
4. CAT5 data cable leading to the Ethernet network's data router is securely seated in the appropriate Ethernet hub socket.
5. CAT5 data cable leading from the system's Ethernet hub is securely seated in the data router's socket.

NOTE: The TALC supports only half-duplex 10BaseT Ethernet

**Performing a TALC Configuration Manager PING**

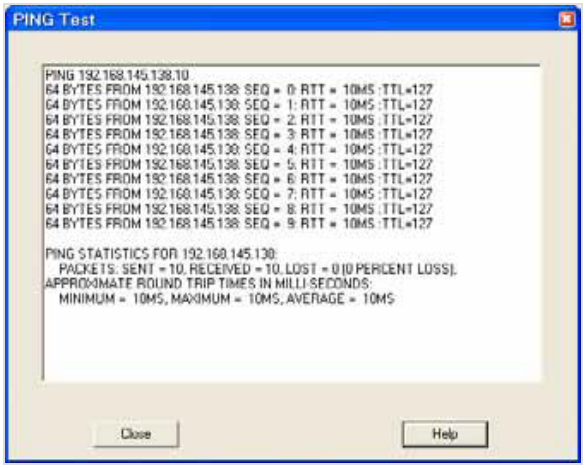
**Successful PINGs**

A PING is a procedure whereby a device sends a packet set to a far end device on the network and having that device respond by sending the packet set back to the sender. The time for the handshake is calculated and displayed. This ping tests the Ethernet connection from the Administration PC to the TALC unit and back.

1. From the TALC Configuration Manager menu bar, choose ***Tests » Ping***. The PING Test dialog box displays, similar to the following:
2. - **IP Address**: Enter the IP address of the TALC unit (far end) to ping (ex. ***192 168 142 228***).

- **Number of Cycles**: Enter the number of times (ex. ***1 to 100***) to ping the TALC unit.
- Click on the ***OK*** button.


3. The PING test results screen appears showing the successful ping results. The Ethernet connection between the administration PC and the TALC functions correctly.




4. Click on the ***Close*** button.

**Unsuccessful PINGs:**

If a PING is sent from the administration PC and no response from the TALC is received back, there exists and issue on the Ethernet somewhere. Check the following:

1. Ensure the IP address, subnet mask, and default gateway are configured correctly.
2. PING the gateway address to see if the gateway responds.

3. Check the Ethernet connections on the administration PC and the TALC.
4. Contact the data network administrator if the ping still does not work.

Once the TALC is recognized on the network (can be pinged), begin the configuration. TelStrat recommends changing the passwords for logging on to the TALC Configuration Manager and the TALC at this time.

# 3 Using Configuration Manager

### The Configuration Manager

Configuration Manager is a Windows-based software application installed on an administration PC. Configuration Manager allows configuration, administration and upgrades on the TALC.

### Configuration Manager Connections

These tasks can be performed over either of the following connection types:

- 10BaseT Ethernet
- RS-232 serial

### Windows PC Requirements

To be able to use the 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 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 ofMicrosoft Windows.

## 3.1 Starting-Viewing the Configuration Manager

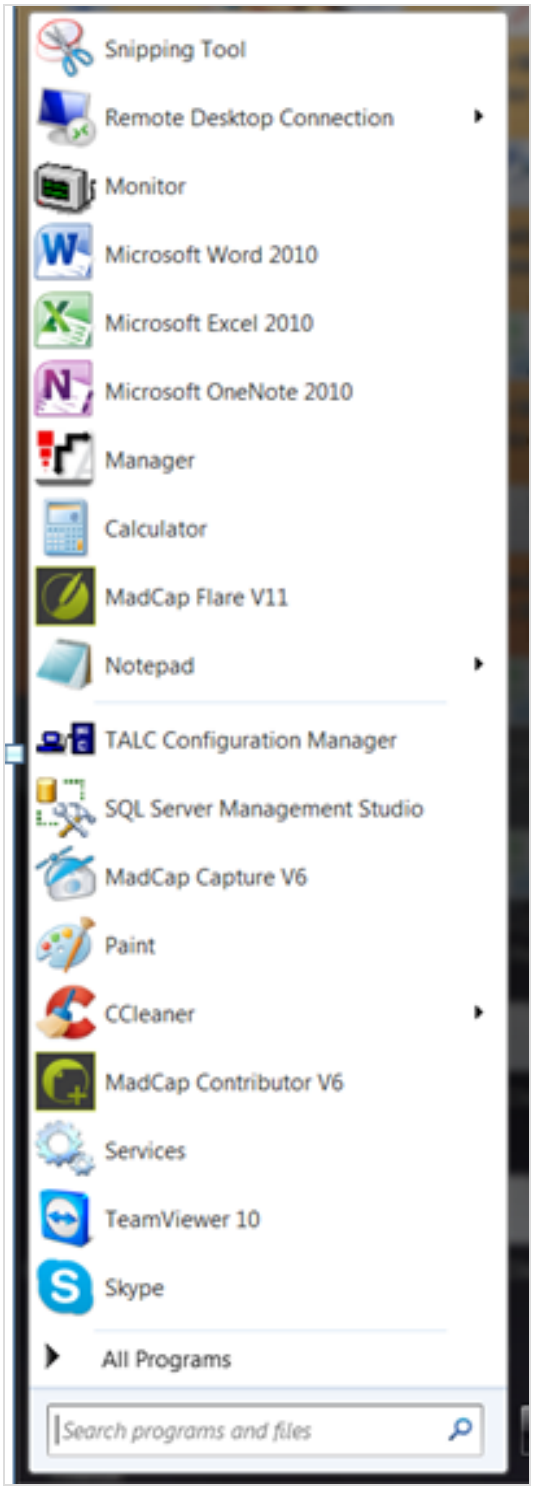
The Configuration Manager software application is best viewed when the monitor settings are configured as 1024 by 768 pixels using Small Fonts at 96 dpi.

If using larger fonts, some fields and buttons might be hidden. Use the horizontal and vertical scroll bars to view the hidden fields or buttons.

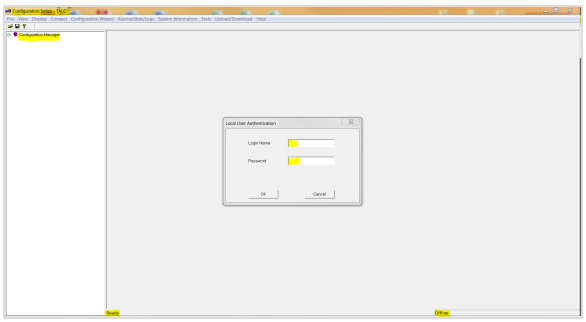
**Start the TALC Configuration Manager**

To start and log on to a Configuration Manager session:

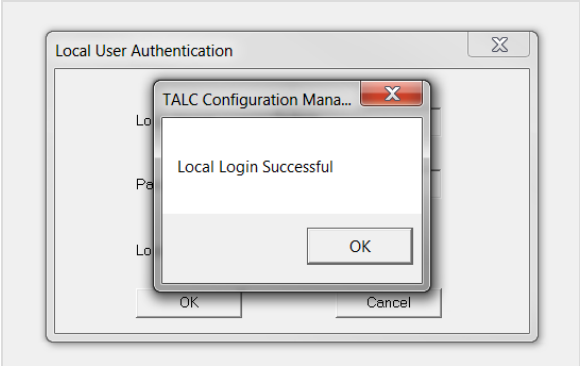
1. From the **Menu** bar, choose ***Start » Programs » TALC Configuration Manager » TALC Configuration Manager***.



2. The *Configuration Manager* screen opens and prompts for the login name and password. Enter the following:
    a. **Login Name** box: Enter ***admin***.
    b. **Password** box: Enter ***root***.



3. Click on the ***OK*** button. The **TALC Configuration Manager** dialog box displays a *Local Login Successful* message.




4. Click on the ***OK*** button in the **Login Successful** box to exit to the **Configuration Setup** window.

Note: This (root) is the default password. Change the password after installation, though TelStrat recommends that you do not change the password until the Engage Record system is up and running.

5. Click on the ***OK*** button.
    - If the logon was successful, the dialog box disappears.
    - If the login was unsuccessful, the system will require a re-attempt to login.

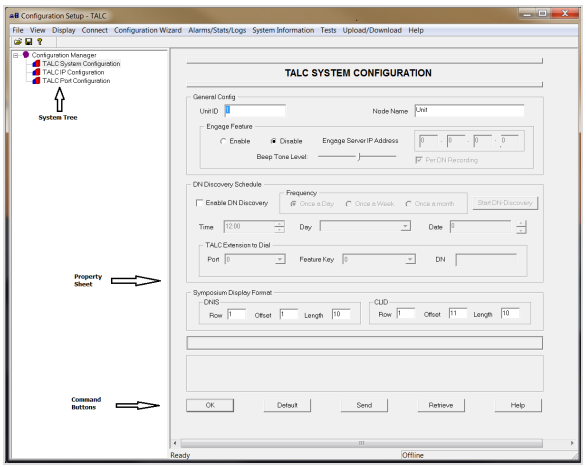
# 3 System Tree and Property Sheets

The left pane of Configuration Manager lists the System Tree of Property sheet names 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.

**System Tree**

With the System Tree expanded, three types of configurations become available with associated property sheets found in the right pane.

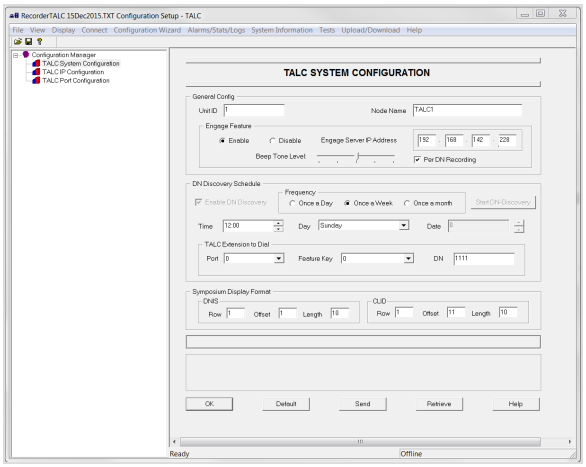
To hide the system tree, choose ***View » System Tree*** from the **Menu** bar. The screen redraws itself showing only the right pane and displaying the selected property sheet. To display the system tree again, choose ***View » System Tree.***




**Property Sheets**

When clicking on a configuration topic in the system tree (left-hand pane), the associated property sheet and it's content appears in the right-hand pane. There are three Property Sheets for a TALC, including:

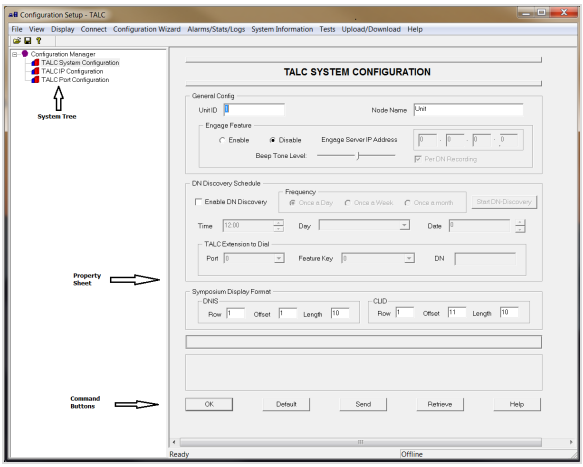
- TALC System Configuration,
- TALC IP Configuration,
- TALC Port Configuration.




## 3.2 Command Buttons

Each property sheet listed in the first level of the TALC Configuration Manager system tree has Command Buttons. The buttons used to send, retrieve accept new or default changes and to get help. The buttons are defined as:

- ***OK***: Use this button to accept any changes made to the displayed property sheet. This command stores these values in a temporary file on the administration PC until the user is ready to update the TALC's Flash memory.
- ***Default***: Click on this button to insert default values into every field in the displayed property sheet.
- ***Send***: Use this button to update the buffer of the logged on TALC with the values currently on the displayed property sheet.
- ***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.
- ***Help***: Click on this button to view online Help for the displayed property sheet.

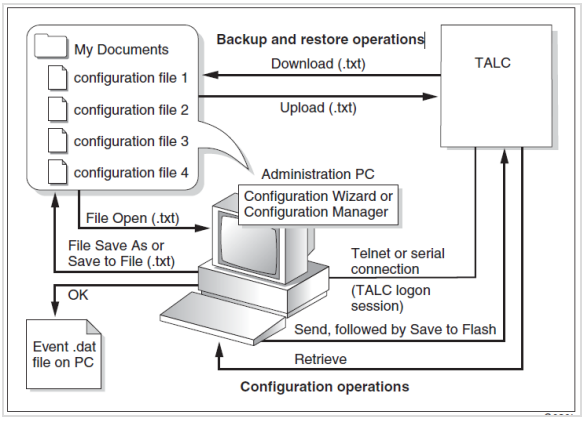



## 3.3 Configuration Files Description

The TALC unit has three types of configuration files: event.dat (log file), *.txt (text file) and *.upg (upgrade file).

**Configuration Manager: File Operations Diagram**

TALC configuration information is stored in default locations to which Configuration Manager saves the TALC configuration files on the Administration PC in the My Documents folder. If needed, the user can 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.

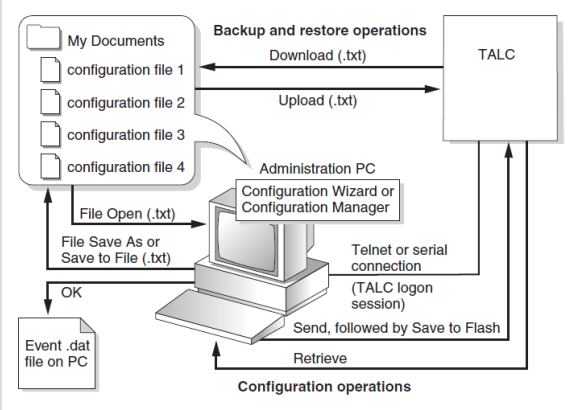



**Types of Files**

| File name | File type | When 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:<br>• logging on to Configuration Manager<br>• logging on to a TALC (by serial or Telnet connection)<br>• logging off of a TALC<br>• performing configuration changes<br>• performing firmware upgrades<br><br>This file can be very useful when troubleshooting system problems. Technical support personnel may ask for this file. |
| *.txt | Text file | The text (.txt) file is created when you do one of the following:<br>• click on the Save to File button while running the Configuration Wizard.<br>• click on File → Save As while working in Configuration Manager.<br>• choose Upload/Download → Download Configuration to save a TALC's configuration in a text file on the administration PC. |
| *.upg | Upgrade file | Use the upgrade (.upg) file when performing firmware upgrades. |

## 3.4 Files Operation Description

The Configuration Manager performs different tasks and operations via menu commands. These commands are used to save information to TALC buffers and flash memory, to retrieve information from a TALC, save copies of configuration files for backups as well as displaying TALC configuration content.




Regarding file operations commands:

| Operation | Description |
|---|---|
| ***OK*** | When the ***OK*** button is clicked, the following occurs:<br>• The Configuration Manager checks any changes made for errors. Errors found produce an error dialog box.<br>• Make the necessary changes to fix the errors and click on the ***OK*** button again.<br><br>Note: Always click on the OK button: 1) after making changes to a property sheet 2) before leaving a property sheet. To save the information, click on OK to accept the changes. After clicking OK, send the changes to the TALC's buffer using a ***Send or Send All*** command. All changed data is LOST if not saved OR by leaving the property sheet before saving the data.<br><br>Users can update the Flash memory on TALC by performing an ***Upload/Download » Save to Flash*** operation from the **Menu** bar. |

| Operation | Description |
|---|---|
| ***File » Open*** | When choosing ***File » Open*** from the **Menu** bar, a user 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.<br><br>Note: The file type must be text (.txt) to be opened. |
| ***File » Save As*** | When choosing ***File » Save As*** from the **Menu** bar, Configuration Manager saves the TALC's configuration to a file on the administration PC. The user must specify the file name and directory location after saving the file so it can be opened and modified at a later time.<br><br>Notes: Configuration Manager saves the file as a text (.txt) file. If the Configuration Manager closes without choosing ***File » Save As***, all of the changes made are lost. |
| ***Send*** | When clicking 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, this message is displayed:<br><br>*Data Sent Successfully*<br><br>TelStrat recommends clicking on the ***OK*** button before clicking on the ***Send*** button.<br><br>Note: The user must choose ***Upload/Download » Save to Flash*** from the **Menu** bar to save the changes *to the logged-on TALC's Flash memory*. |
| ***Send All*** | When choosing ***Upload/Download » Send All*** on any property sheet, changes for all property sheets pertaining to the logged-onTALC are sent to the *buffer on the TALC connected to*. If the send is successful, this message displays: |

| Operation | Description |
|---|---|
| | *Data Sent Successfully*<br><br>Note: The user must choose ***Upload/Download » Save to Flash*** from the **Menu** bar to save the changes *to the logged-on TALC's Flash memory*. |
| ***Retrieve*** | When clicking ***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, this message displays:<br><br>*Data Received Successfully* |
| ***Save to Flash*** | When choosing ***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, this message displays in the status bar at the bottom of the screen:<br><br>*Save to Flash*<br><br>When the *Save to Flash* is completed, the **Data Stored to Flash** dialog box displays.<br><br>Some changes require a restart of the TALC after saving the changes. If a restart is necessary, Configuration Manager prompts the user to do so.<br><br>Note: Click on the ***Send*** button or choose ***Upload/Download →Send All*** from the **Menu** bar before choosing ***Upload/Download » Save to Flash***. Perform a ***Save to Flash*** as often as necessary to keep the configuration information safe.<br><br>Note: **Do not ignore error messages** in the ***Save to Flash*** process. If ***Save to Flash*** fails, retry uploading and then ***Save to Flash*** again. If the problem persists, check the file being uploaded and report the problem to TelStrat. |

| Operation | Description |
|---|---|
| ***Upload Configuration*** | When choosing ***Upload/Download » Upload Configuration*** from the **Menu** bar, Configuration Manager uploads the configuration file specified and writes the file *to the buffer on the logged-on TALC* . Use this option if needing to restore or replace an entire configuration. Choose ***Upload/Download → Save to Flash*** from the **Menu** bar to save the changes *in the TALC's Flash memory*. If the Save to Flash is not completed and a power loss occurs, all changes to TALC configuration are lost and must be re-entered. While in progress, this message displays in the status bar at the bottom of the screen.<br><br>*Save to Flash in Progress*<br><br>When the *Save to Flash* is complete, the **Data Stored to Flash** dialog box displays.<br><br>Note: To upload a configuration file, the file type must be text (.txt).<br><br>Note: To perform a configuration upload over the IP network, a TFT server application must be running on the administration PC. TelStrat does not support uploads over the serial port.<br><br>Note: Perform a Restart of the TALC after the Save to Flash operation.<br><br>Note: If the upload fails or aborts, confirm that the uploaded file is correct. If the problem persists, contact TelStrat Customer Services for assistance. |
| ***Download Configuration*** | When choosing ***Upload/Download → Download Configuration*** from the **Menu** bar, Configuration Manager saves the configuration stored on the logged-on TALC to a file on the administration PC. Use this option to create a backup copy of the TALC's configuration.<br><br>Notes: The downloaded file is saved as a text file (.txt). |

| Operation | Description |
|---|---|
| | Note: If changes are made BUT are not saved, that information is lost and must be re-entered. |

## 3.5 Working with Configuration Files

TALC configuration files are manipulated using the Configuration Manager on an administration PC. The Configuration Manager is used to:

- create a configuration file.
- open a configuration file.
- perform a configuration upload.
- perform a configuration download.

TALC configuration files contain information pertaining to PBX card slots, TALC IP addresses and ports. Each TALC is a unique configuration.

Property sheets for each TALC contain configuration information and are completed, saved and sent to TALC card buffers and flash memory.

**Create a Configuration File**

To create a new TALC configuration file:

1. Use the Administration PC ***Start*** menu to launch the Configuration Manager.
2. Enter the required configuration information on each property sheet.
3. From the **Menu** bar, choose ***File » Save As***. 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.
    - If the file contains a basic configuration that is to be used for TALC, enter **template** as the file name.
    - If the file contains a configuration that is unique to a specific TALC, enter the **TALC's name or number** as the file name.

5. Ensure that the **Save as** type drop-down box selection shows text file (*.txt).
6. Specify the folder where you want to save the file.
7. Click on the ***OK*** button. The file is saved.

---

Note: TelStrat strongly recommends that you do not manually edit TALC .txt configuration files. Instead, use the procedures referenced in the this guide for making changes, viewing and storage.

---

**Open an Existing Configuration File**

To open an existing TALC configuration file:

1. Use the Administration PC Start menu to launch the Configuration Manager.
2. Log on to the TALC being worked on.
3. From the Menu bar, choose ***File → Open***. 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 to open.
6. Select the file and click on the ***Open*** button. The contents of the configuration file are loaded into Configuration Manager property sheets in the system tree.
7. View the configuration details by expanding the system tree and clicking each item in the system tree to display the associated property sheet.
8. Make changes to the property sheet information, as necessary.
9. Save the file by choosing ***File → Save*** from the Menu bar. If changing the file name, choose ***File → Save As*** from the Menu bar.

10. 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 the Restoring the Configuration process section.

**Downloading a Configuration from a TALC**

For complete instructions on downloading a configuration from a TALC, refer to the Creating a Backup Configuration File process section.

## 3.6 Logging On and Off of 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:

- Serial connection (direct connect or modem)
- Telnet (over the IP network)

**Connection Types**

**Serial**

If the TALC is connected to the administration PC by an RS-232 cable, a user can establish a connection through the serial port. Similarly, you can establish a modem connection if the TALC or an Avaya Remote Gateway 9150 unit is connected to a modem. Modem settings are typically: 9600bd, 8 bits, 1 Stop bit, N parity, Com 1-4 only, NULL serial cable.

**Telnet**

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

**Default Logon ID and Password**

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

The default password is ***guest123***. A user can change the password and, therefore, it maybe 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. A user 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 the user walks away from the administration PC while logged on to a TALC.

**TALC Logon Procedures**

There are three ways to logon to a TALC unit:

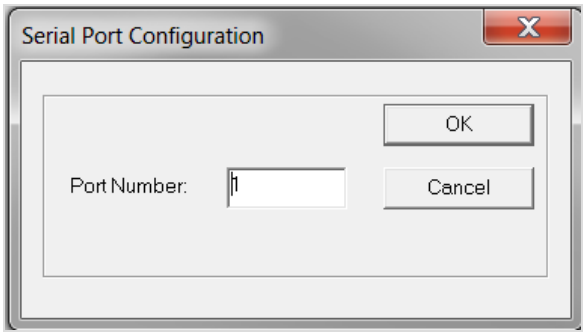
- Logon using a Serial port connection.
- Logon using a Telnet connection.
- Logon using the Connection History List.

**Log on to a TALC Using the Serial Port**

To log on to a TALC using the serial port:

Note: Use the serial port connection to perform the initial configuration of the TALC.

1. From the **Menu** bar, choose ***Connect » Logon Unit » Serial***. The **Serial Port Configuration** dialog box displays:

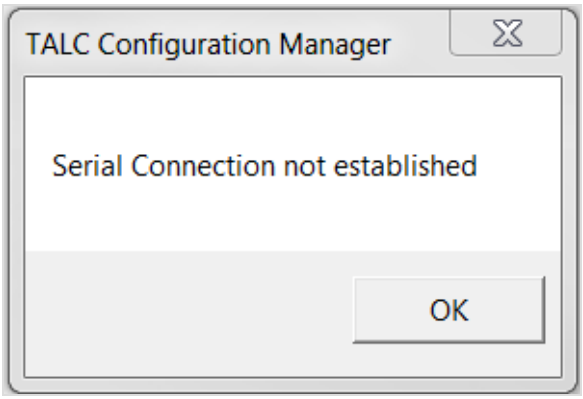


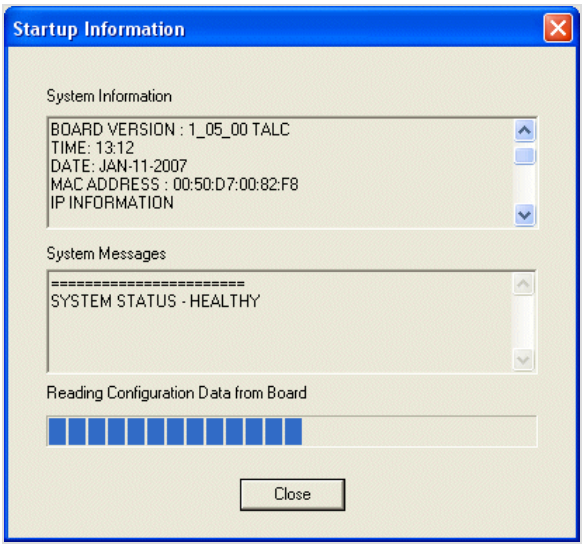

2. In the **Port Number** field, enter the *COM port number* that the TALC is connected to, then click ***OK***.


3. Enter your logon name and password, then click on the ***OK*** button. The connection attempt is initiated. The message *Trying to Connect via Serial Port <port number>* might appear.

Regarding the connection:

| IF the logon attempt... | Then... |
|---|---|
| Fails | The following messages may appear: SERIAL CONNECTION FAILED or SERIAL CONNECTION NOT ESTABLISHED. |

| IF the logon attempt... | Then... |
|---|---|
| |  <br>Check the serial port connections and ensure they are well connected at both ends.<br>Check the modem settings.<br>Go back and attempt the logon again. |
| Is Successful | The **User Logged In** dialog box displays.<br>Click on the ***OK*** button. The **Startup Information** dialog box displays: |

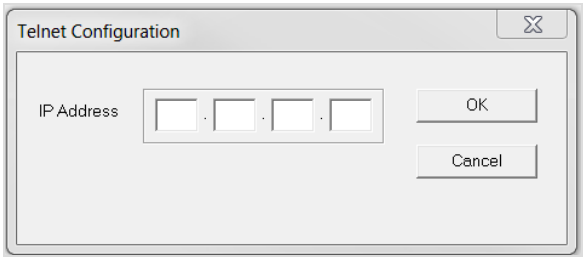
| IF the logon attempt... | Then... |
|---|---|
| |  <br>Messages appear above the progress bar at the bottom of the dialog box:<br>• *Reading Hardware Information*<br>• *Reading DSP Load Data*<br>• *Reading Configuration Data*<br>These messages mean that Configuration Manager is obtaining the TALC's information from Flash memory. When initialization is complete, the *Configuration Data Read Successfully* message appears above the progress bar.<br>Click on the ***Close*** button. |

**Log on to a TALC Using Telnet**

To log on to a TALC using Telnet:

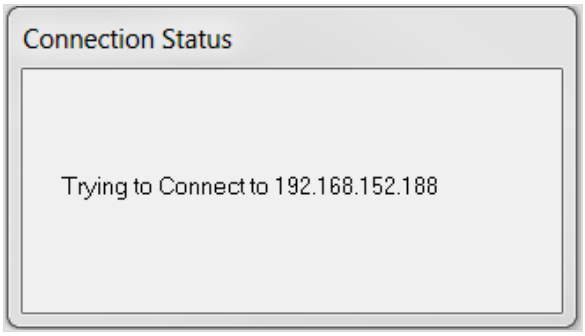
Note: If someone else has logged on to the TALC before you, you cannot log on. A user can only log on to a TALC using a Telnet connection after performing the initial configuration through a serial connection.

1. From the **Menu** bar, choose ***Connect » Logon Unit » Telnet***. The **Telnet Configuration** box displays. Enter the IP address of the TALC to log on to (ex. 192 168 152 188). Click ***OK***.



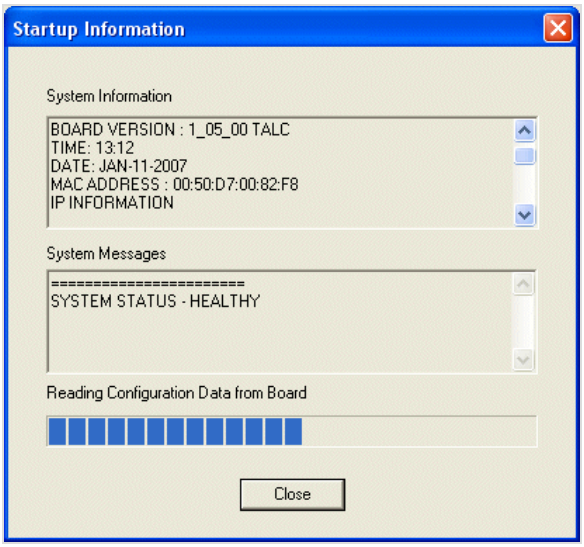

2. If no one else logged on to the TALC, the **User Authentication for Telnet Mode** dialog box displays. Enter the following:
   a. **Login Name** field: Enter the logon user default logon name.
   b. **Password** field: Enter the user default logon password.


3. Click on the ***OK*** button. The Configuration Manager initiates a connection attempt. A **Connection Status** message box may appear noting the attempt to connect.




Regarding the connection:

| IF the logon attempt... | Then... |
|---|---|
| Fails | The following message displays:<br><br>10060 TELNET CONNECTION FAILED<br><br>Click ***OK***, go to the logon window, check the address and re-attempt the logon. |
| Is Successful | The **User Logged In** dialog box displays.<br><br>Click on the ***OK*** button. A **Startup Information** dialog box displays. |

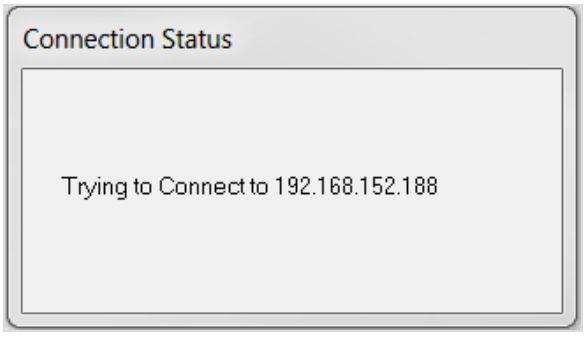
| IF the logon attempt... | Then... |
|---|---|
| |  <br>Messages appear above the progress bar at the bottom of the dialog box, similar to the following:<br>• *Reading Hardware Information*<br>• *Reading DSP Load Data*<br>• *Reading Configuration Data*<br>These messages mean that Configuration Manager is obtaining the TALC's configuration information from Flash memory.<br>When initialization is complete, the *Configuration Data Read Successfully* message appears above the progress bar.<br>Click on the ***Close*** button. |

**Log on to a TALC Using the Connection History**

To log on to a TALC using the connection history:

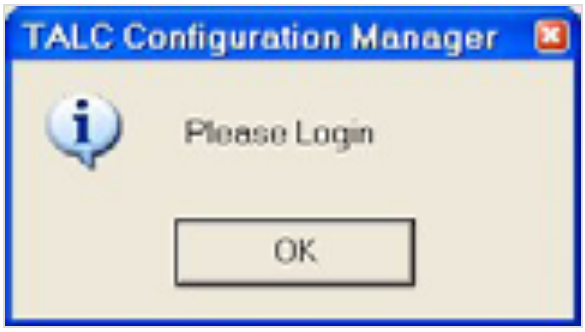
1. From the **Menu** bar, choose ***Connect » xxx.xxx.xxx.xxx*** (xxx.xxx.xxx.xxx being the IP address on the list of the TALC to log on to).
2. If no one else logged on to the TALC, the **User Authentication for Telnet Mode** dialog box displays. Enter the following:
    a. **Login Name** field: Enter the logon user default logon name.
    b. **Password** field: Enter the user default logon password.


3. Click on the ***OK*** button. The Configuration Manager initiates a connection attempt. A **Connection Status** message box may appear noting the attempt to connect.



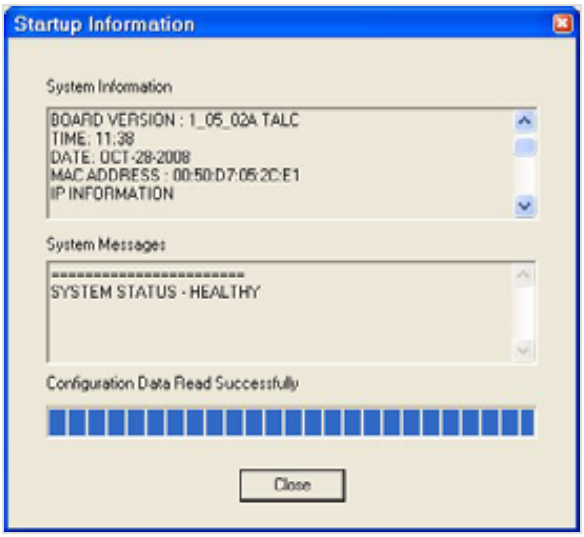

Note: The connection speed may be too fast for this message to be seen in a successful logon attempt.

4. If you do not enter any logon information, after two minutes Configuration Manager displays a *Please Try Again* reminder dialog box. Click on OK to return to the Telnet logon box.




Regarding the connection:

| IF the logon attempt... | Then... |
|---|---|
| Fails | A **Connection Failed** message box displays:<br>  <br><br>Click ***OK***, go to the logon window, check the address from the list and re-attempt the logon. |
| Is Successful | The **User Logged In** dialog box displays.<br>Click on the ***OK*** button. The **Startup Information** dialog box displays. |

| IF the logon attempt... | Then... |
|---|---|
| |  <br>Messages appear above the progress bar at the bottom of the dialog box:<br>• *Reading Hardware Information*<br>• *Reading DSP Load Data*<br>• *Reading Configuration Data*<br>These messages mean that Configuration Manager is obtaining the TALC's configuration information from Flash memory.<br>When initialization is complete, the *Configuration Data Read Successfully* message appears above the progress bar.<br>Click on the ***Close*** button. |

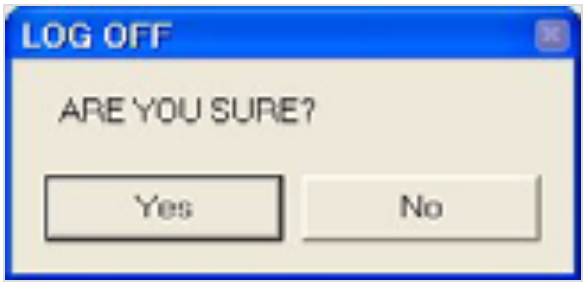
**TALC Logoff Procedures**

**Log off of a TALC**

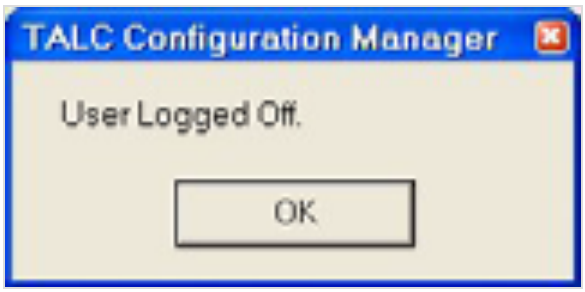
When the user is finished using Configuration Manager to make configuration changes, view logs or statistics, log off from the TALC. Logging off secures the TALC's configuration.

To log off of the TALC:

1. From the **Menu** bar, choose ***Connect » Logoff Unit***. The **LOG OFF** dialog box displays.




2. Click on the ***Yes*** button. The **TALC Configuration Manager: User Logged Off** dialog box displays




3. Click on the ***OK*** button.

## 3.7 Performing a System Restart or Shutdown

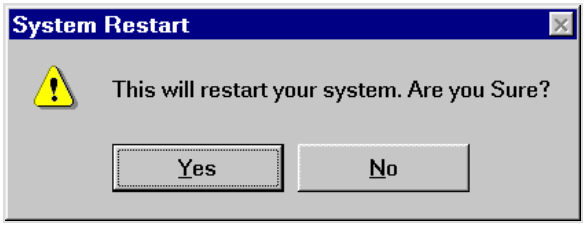
The Configuration Manager provides controlled system restarts or shutdowns.

Note: Always perform a system restart each time the configuration is changed or the firmware is upgraded. A shutdown can be performed to power-down the system for any reason.

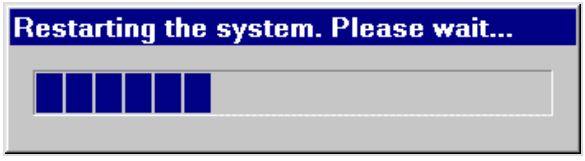
**Perform a System Restart**

To perform a system restart:

1. From the **Menu** bar, choose ***Connect » System Reset » Restart***. The **System Restart** dialog box displays.




2. Click on the ***Yes*** button. A progress bar displays.

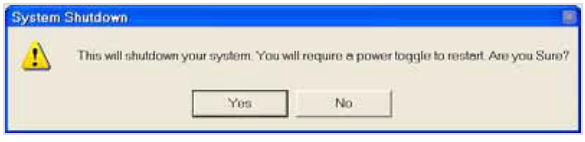



3. The message *Restarting the System* displays in the status bar at the bottom of the screen.
4. The status continues to show *Online*. When the system restart is complete, a dialog box displays informing the user that the system restart was successful, and that the user is logged off.
5. Click on the ***OK*** button.
6. Configuration Manager will prompt the user to log back on using the previous connection method (Serial or Telnet).

**Perform a System Shutdown**

To perform a system shutdown:

1. From the Menu bar, choose ***Connect » System Reset »Shutdown***. The **System Shutdown** dialog box displays.




2. Click on the ***Yes*** button. Configuration Manager disconnects the user's logon session and the message *Shutting Down the System* displays in the status bar at the bottom of the screen.
3. The status shows *Offline*.

4. Turn the power on the TALC off.

## 3.8 Closing the Configuration Manager

When the user has completed all of the configuration modifications or is done viewing display logs and statistics, log off and close the Configuration Manager application. This secures the configuration and prevents others from accessing it if the user walks away from the administration PC while logged on to a TALC.

---

**WARNING: There is a risk of configuration loss**. If the user closes Configuration Manager without saving the changes made to a file on administration PC or without updating the Flash memory of the TALC being worked on, all changes are lost. The user will have to re-enter all changes again.

---

**Close the Configuration Manager**

1. **Ensure all configuration changes have been saved** by doing one or more of the following:
   - From the **Menu** bar, choose ***File » Save As***, and 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 the user has saved the changes to a file, choose ***Upload/Download » Upload Configuration » Save to Flash*** from the **Menu** bar.
2. Log off by choosing ***Connect » Logoff Unit*** from the **Menu** bar.
3. Choose ***File » Exit*** from the **Menu** bar.
4. **Configuration Manager** closes.

# 4 PBX and TALC Configurations

Both the PBX system and the TALC system must be configured before call recording can take place.

## 4.1 PBX Configuration for Recording

The following telephone set programming needs to be confirmed prior to installation or upgrades of TALC units.

All telephone sets on the PBX have a class of service assigned. All telephone sets that are to be recorded must have these specific classes of service features assigned to them:

- TDD: Tandem Digit Display
- CNDA: Calling Party Name Display Allowed

One *DN Discovery* port must be programmed on *port 16* of the TALC card with a class of service including:

- VCE: Voice
- FLXA: Flexible Voice/Data Allowed
- WTA: Warning Tone Allowed
- TDD: Tandem Digit Display
- CNDA: Calling Party Name Display Allowed
- Key 0 on the telephone is set to any unused DN as an SCR (single call ringing) key

Digital telephones sets in the Meridian 1 and CS1000 PBXs are managed using LD 11 in the user interface.

## 4.2 Configure a TALC Slot on a PBX

For the host PBX to communicate properly with the TALC, the PBX 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.

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Note: Configure a TALC's slot either before or after inserting the card.

---

To configure a TALC slot, access the host PBX through the 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 the host PBX's documentation for the specific steps necessary to complete this procedure.

## 4.3 TALC System Configuration Property Sheet

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

- The identity of the TALC within the 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.

Each TALC unit will have its own set of property sheets to be configured. On the TALC System Configuration property sheet, there are three areas of configurations and a row of command buttons to be used to control the configuration effort. Configure the three sections of the property sheet as follows:

**General Config Configuration**

**Unit ID**: Enter a number from 1 through 254 that distinguishes the TALC being configured 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 (ex. Node 1).

**Engage Record Feature**: Click on the ***Enable*** option button to enable the Engage Record server to record telephone calls made to ports on the TALC being configured. Only click on the Disable option button if the cus-

tomer does not want to enable the Engage Record server to record telephone calls made to ports on the TALC being configured.

**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 Engage Feature is enabled using the TALC System Configuration property sheet.

**Per DN Recording**: Confirm that the **Per DN Recording** check box is checked if the customer wants to record multiple DNs connected to the same TN(phone). If the customer does 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).

**DN Discovery Schedule Configuration**

The DN Discovery Schedule settings area 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 the user having to enter it manually every time DN assignments change.

The opportunity to set these fields is provided during the Initial Configuration. They can be changed here, as well.

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.

**PBX Class-of-Service**

Enable the Tandem Digit Display (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).

**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 the user 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.

**Configure DN Discovery Schedule box and field settings**

- **Enable DN Discovery**: Is configured during Initial Configuration, however, it can be configured on this sheet. Engage Feature must be Disabled to allow the **Enable DN Discovery** check box to enable the TALC being configured 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 the customer does not want the TALC to perform DN Discovery.

Note: If you have enabled recording, DN Discovery is required.

- **Frequency**: Click on the option button that identifies how often the TALC is to perform DN discovery:
  - Once a day,
  - Once a week,
  - Once a month.

- **Start DN Discovery** button: 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 the TALC is to perform DN discovery.
- **Day** : Choose the day when the TALC is to perform DN discovery (if Once a week was selected in the Frequency field).
- **Date**: Choose the date when the TALC is to perform DN discovery (if Once a month was selected in the Frequency field).
- **TALC Extension to Dial**: These fields allow the user 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 the user wants 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, usually 0.

- **DN**: Enter the directory number associated with the port chosen for DN Discovery in the Port list box.

Note: If the feature key is not key 0, such as in ACD environments, the user 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.

Note: Engage Record feature keys are not supported on DBAs.

**Symposium Display Format Configuration**

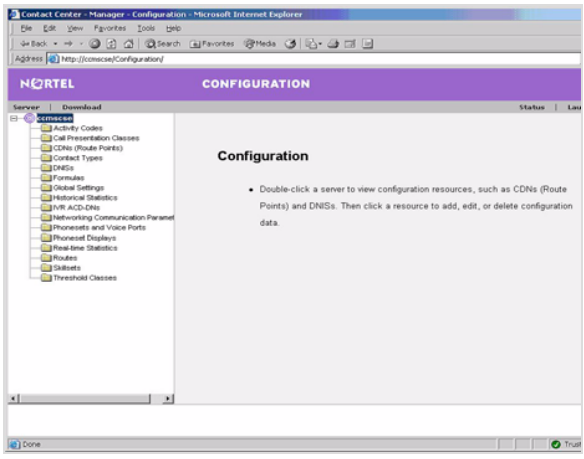
Contact Center Manager (CCM) is the current name for one of Avaya's contact centers. It is also known as Symposium, thus, Symposium will be seen in the property sheet settings. It is the same as CCM.

If Engage is to record call records containing DNIS and ANI information in the Contact Center Manager (CCM), then the user 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 (ex. DNIS, ANI, Agent ID, etc) 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.

Note: The user must configure CCM to use the English language.

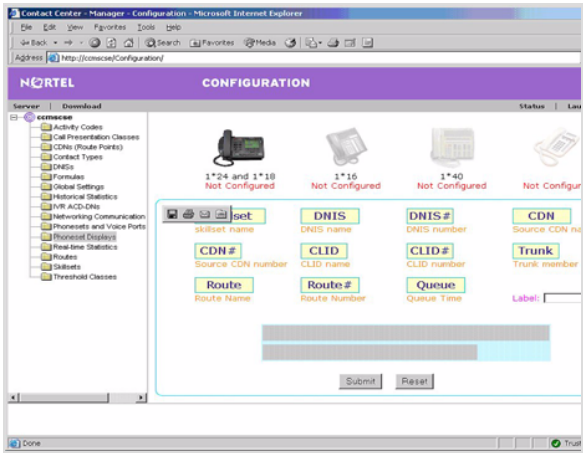
Configure the CCM (Symposium) to display DNIS and ANI information on the telephone:

1. Access the **Contact Center Manager Server (CCMS)** or **CCM Express (CCME)** using Avaya's *CCM Web* application.



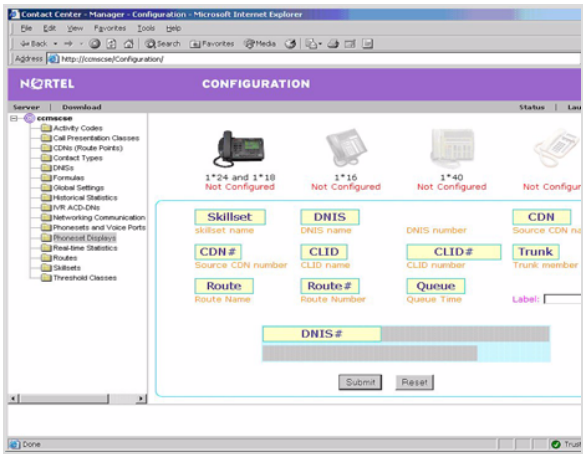

2. Click on ***ccmsc » Phoneset Displays*** in the left-hand pane to display all supported ACD telephones (ex. M2216, M2616, M3904, and M3905.)

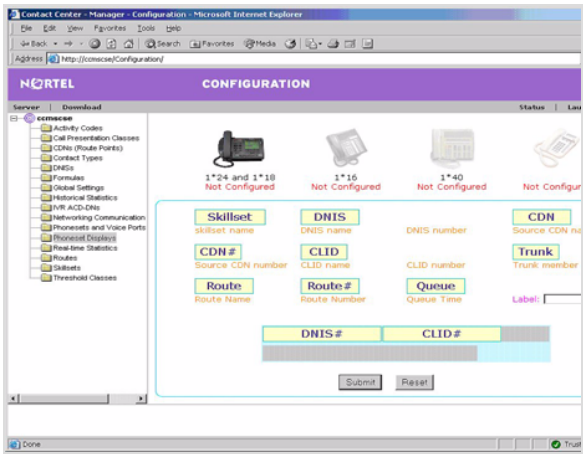
3. Double-click on the **1 x 24 and 1 x 18** Telephone Set Type to configure the telephone display.




Note: 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. The user can configure the CLID number (ANI) or DNIS on either row.

4. Drag the item(s) chosen, 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:



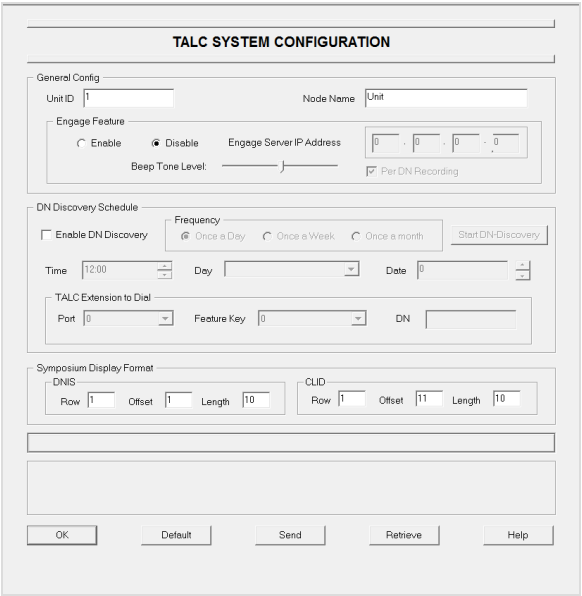

5. Click on the ***OK*** button.

**Symposium Display Format box and field settings**

Configure the TALC to receive the DNIS and ANI by setting these fields:

- **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.
- **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.
- **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.
- **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.
- **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.
- **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.




## 4.4 TALC IP Configuration Property Sheet

Use the TALC IP Configuration property sheet to configure information that gives the user the ability to configure a TALC over an IP connection.

This includes the TALC's

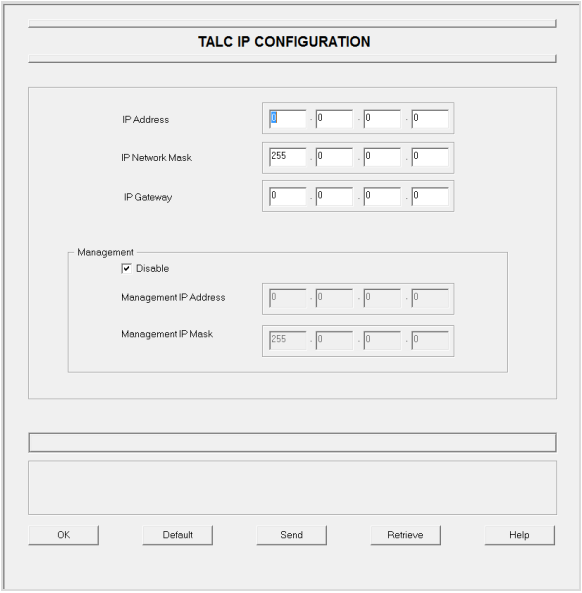
- IP address,
- Subnet mask,
- Default gateway.

**Management**

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

**TALC IP Configuration Property Sheet fields**

- **IP Address** fields: Enter the address of the TALC.
- **IP Network Mask** fields: Enter the network mask of the TALC.
- **IP Gateway** fields: Enter the IP Gateway of the TALC.
- **Management**:
    - **Disable checkbox**: Check the **Disable** checkbox if the user does not want to be able to complete the host PBX administration from the TALC.
    - **Management IP address**: Enter the management IP address of the host PBX.
    - **Management IP Mask**: Enter the management IP mask of the host PBX.



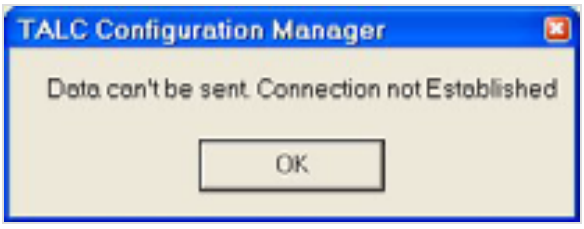

**Entering the IP Information**

To enter the IP information into the TALC IP Configuration property sheet:

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

| IF you want to... | Then do this... |
|---|---|
| Use the host PBX's management IP connection to complete TALC administration. | 1. Clear the **Disable** check box.<br>2. Enter the IP address and mask ofthe TALC's second Ethernet portnto the appropriate boxes in theManagement section of the TALC IPConfiguration property sheet. |
| NOT use to your host PBX's management IP connection to complete TALC administration | Click on the ***OK*** button and continue. |

2. Click on the OK button.
3. Update the TALC with the new information clicking 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.<br><br>Note: To save changes to the TALC's Flash memory, choose ***Upload » Save to Flash***. |
| NOT logged on to the TALC | A dialog box display:<br><br>  <br><br><br>Log on to the TALC, then on the click ***Send*** button again.<br><br>The revised IP information is written to the TALC's Flash memory |

If the user changes the TALC IP Address field on the TALC IP Configuration property sheet, calls do not record when the user initializes 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 the user initializes a recording, the Engage Record server references the previous TALC IP address. Therefore, the Engage Record server never receives a Call End 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, restart the TALC card after changing a TALC IP address.

## 4.5 TALC Port Configuration Property Sheet

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

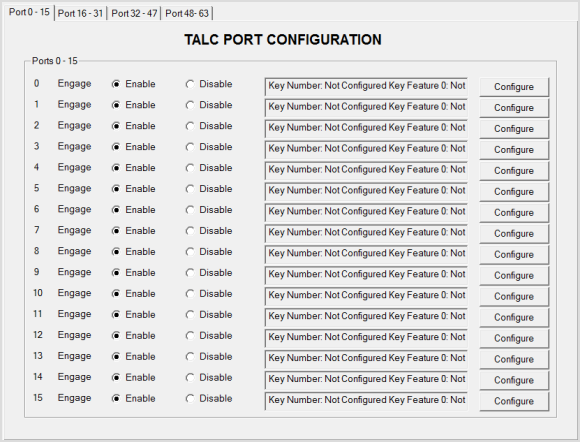
- Whether the Engage Record server can record calls through the ports.
- The feature keys that are to have Engage Record functionality.
- The compression rate that you want the port to use.
- Whether you want the port to react with a Telephone Application Programming Interface (TAPI) server.
- Whether 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 Element Descriptions**

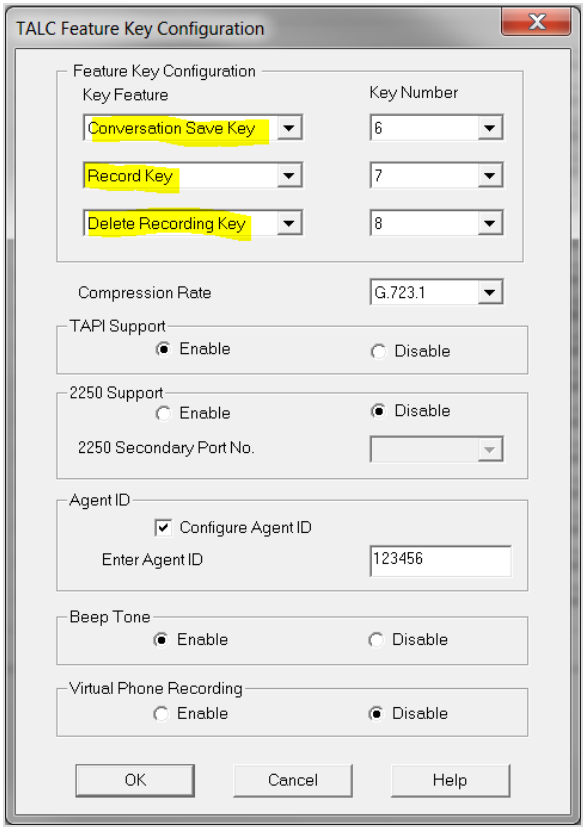
- **Enable** button: Click on the Enable button if the user wants the Engage Record server to be able to record conversations on the associated port.
- **Disable** button : Click on the Disable button if the user does not want the Engage Record server to be able to record conversations on the associated port.
- **Configure** button : Click on the Configure button if the user wants to configure the Engage Record feature keys, the compression rate, TAPI support, and M2250 support for the associated port.




**Engage Record Feature Keys**

Part of the TALC configuration allows assigning of Engage Record feature keys. These softkeys will appear on assigned keys on the digital telephone set. The keys are described as:

- **Record** key: When clicked, commences recording the call.
- **Conversation Save** key: When click,ed saves this call recording.
- **Delete Recording** key: When clicked, deletes the entire recording from start to finish.




**Fixed Seating**

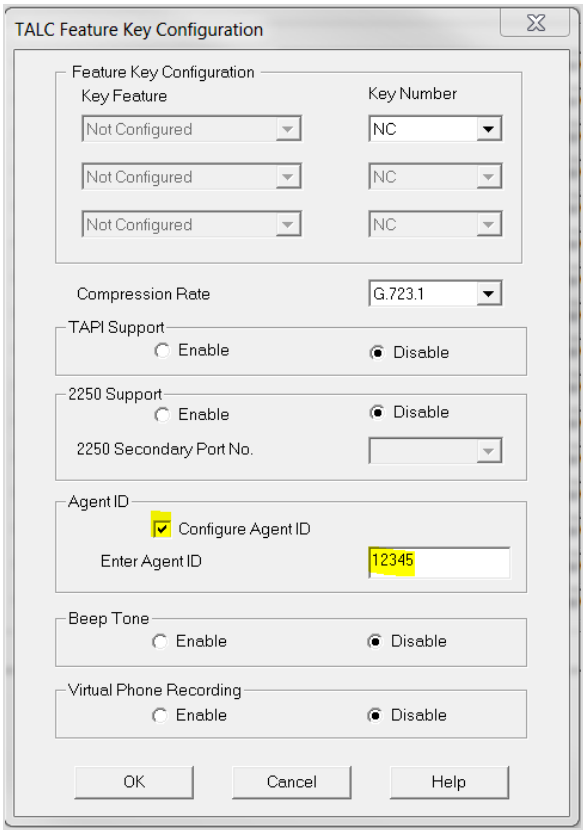
If the user's ACD agents can log on to their telephone sets using their Make Set Busy keys, the PBX is configured for fixed seating.

For Engage Record call records to contain ACD Agent ID information in this mode of operation, the user must:

1. Access the **TALC Port Configuration** property sheet.
2. Click on the ***Configure*** button.

3. Click on the **Configure Agent ID** check box.

4. Enter the ***ACD agent's Agent ID*** in the **Enter Agent ID** field.




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

**Free Seating**

If the user's ACD agents must log on to their telephone sets by entering their Agent ID, the PBX is configured for free seating.

The user's Engage Record system's call records can contain ANI and DNIS information. To do this, the user must:

1. Configure CCM to provide DNIS information in the first field of the first line of the telephone display.
2. Configure CCM to provide ANI information in the second field of the first line.

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

**Fixed seating or free seating is a PBX configuration**

If 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.

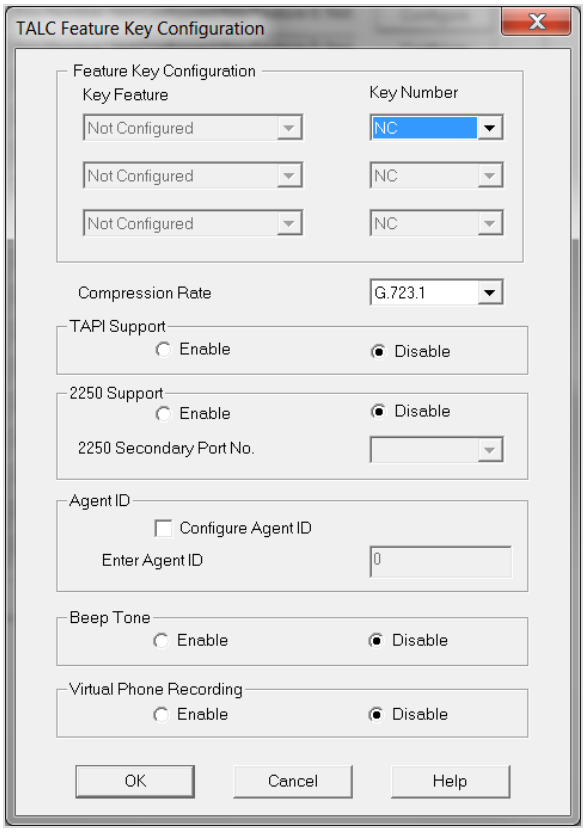
**Configuring a TALC Port**

To configure a TALC port:

1. Click on the appropriate tab for the port being configured, 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 the user wants to Enable or Disable recording.

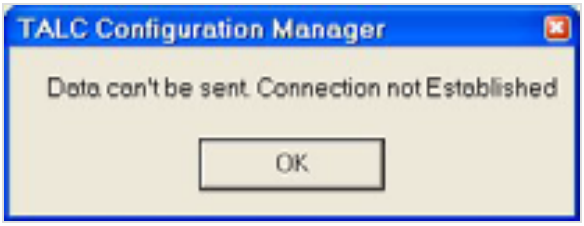
   Note: Enable is the default setting. If the user does want to enable recording on a specific port, then select Disable.

3. Click on the ***Configure*** button associated with the port being configured to set the Engage-related feature keys (Conversation Save, Record, Delete Recording) and compression rate for any telephone connected to that port. The **TALC Feature Key Configuration** dialog box displays:




4. Configure the settings in the **TALC Port Configuration options** dialog box.
5. Click on the ***Send*** button to update the TALC with the new information.

| IF you are... | Then... |
|---|---|
| Logged on to the TALC | The changes are written to a temporary file on the administration PC.<br><br>Note: To save changes to the TALC's Flash memory, choose ***Upload » Save to Flash***. |
| NOT logged on to the TALC | A dialog box display: |

| IF you are... | Then... |
|---|---|
| |  <br>Log on to the TALC, then on the click ***Send*** button again.<br><br>The revised IP information is written to the TALC's Flash memory |

**TALC Key Feature Configuration Dialog Box Field Descriptions**

| Field | Description |
|---|---|
| Key Feature | Select the Key Feature that you want to assign.<br><br>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 not configured on the host PBX.<br><br>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.<br><br>Valid options are G.711 and G.723.1 (6.4K).<br><br>The default is G.723.1. |
| 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. |

| Field | Description |
|---|---|
| | • Click on the Enable option button if you want this port to react to a TAPI server.<br>• Click on the Disable option button if you want to prevent this port from reacting to a TAPI server.<br><br>The default is Disable.<br><br>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.<br><br>Note: You must configure CS 2100 ATA sets and CS 2100 AAB sets for TAPI support for them to function properly. |
| 2250 Support | When 2250 support is enabled, the selected port can interact properly with an M2250 console telephone.<br><br>• Click on the Enable option button if the user wants this port to interact properly with an M2250 console telephone.<br>• Click on the Disable option button if the user wants to prevent this port from interacting properly with an M2250 console telephone.<br><br>The default is Disable. |
| 2250 Support: 2250 Secondary Port No. | If 2250 support is enabled, select the M2250's secondary port from the drop down list.<br><br>Valid options are NC (Not Configured) and 0 through 63.<br><br>The default is NC. |
| Agent ID: | Click on the Configure Agent ID check box if you have fixed seating ACD configured on your |

| Field | Description |
|---|---|
| Configure Agent ID | host PBX.<br><br>Note: Do not configure Agent IDs in free seating environments. |
| 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. |
| Beep Tone | When the user enables 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.<br><br>• Click on the Enable option button if the user wants to enable the beep tone.<br>• Click on the Disable option button if the user does not want to enable the beep tone.<br><br>The default is Disable.<br><br>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 the user enables 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 |

| Field | Description |
| --- | --- |
| | 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.<br>• Click on the Enable option button if the user wants to enable virtual phone recording.<br>• Click on the Disable option button if the user does not want to enable virtual phone recording.<br>The default is Disable.<br>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 disconnected 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 |

# 5 Password Administration

Password Administration of the Configuration Manager and all TALC units is required.

**Changing the Administration Passwords**

Two layers of password security protect the TALC's configuration. If the user wants to secure the TALC's configuration so that only those with passwords unique to the 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.

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Note: Ensure that the user records the password and stores it in a safe and secure place. If the passwords are forgotten or lost, the user must re-enter all configuration information. Contact TelStrat Customer Services for assistance.

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**Changing the Configuration Manager Password**

Default Configuration Manager user name and password are: ***admin*** and ***root***.

To change the Configuration Manager (local) password:

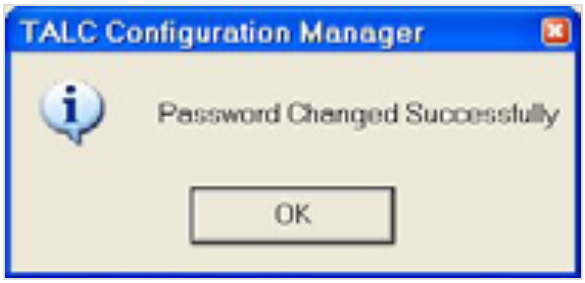
1. Choose ***Connect » Change Password » Local*** from the Menu bar. The **Change Password - Local** dialog box displays:


2. Completed the fields in the **Password Dialog** Box.

   The Password Dialog box descriptions are:

   - **Old Password**: Enter the existing password.
   - **New Password**: Enter the new password.
   - **Retype New Password**: Enter the new password again.

3. If the password change failed, a dialog box appears indicating what is needed (ex. Incorrect Old Password).
4. If the password change succeeded, a dialog box appears. Click ***OK***.




**Changing the TALC Password**

Default TALC user name and password are: ***guest*** and ***guest123***.

To change the TALC's (node) password:

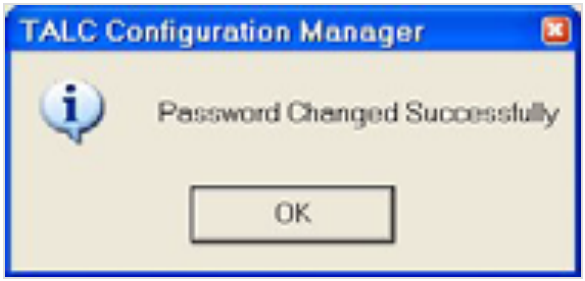
1. Choose ***Connect » Change Password » Node*** from the Menu bar. The **Change Password - Node** dialog box displays:


2. Completed the fields in the **Password Dialog** Box.

   The Password Dialog box descriptions are:

   - **Old Password**: Enter the existing password.
   - **New Password**: Enter the new password.
   - **Retype New Password**: Enter the new password again.

3. If the password change failed, a dialog box appears indicating what is needed (ex. Incorrect Old Password).
4. If the password change succeeded, a dialog box appears.



5. This means the password has been written to the TALC's Flash memory. Click ***OK***

# 6 Create 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 the administration PC.

TelStrat recommends that the user create a backup of the configuration file(s) whenever configuration changes are made or after a firmware upgrade.

**Storing Backup Configuration Files**

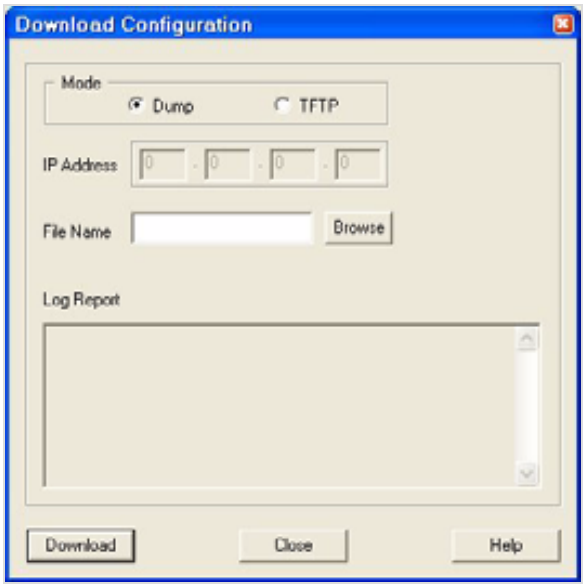
The TALC is an extension of the telecommunications and data network. It is extremely important that the user keep a backup copy of the TALC's configuration. If the TALC's Flash memory or configuration becomes corrupted or is lost, the user can easily restore it.

Store the configuration file in a safe, secure location, such as on backup tape or other media that is stored off site. TelStrat recommends that the user keep the backup files indefinitely.

**Creating the Backup File**

To create the backup file:

1. Choose ***Upload/Download » Download Configuration*** from the **Menu** bar. The **Download Configuration** dialog box displays:



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

| IF saving the configuration to... | Then do this... |
|---|---|
| the administration PC | Click on the ***Dump*** option button. |
| a different location on the IP network | 1. Click on the ***TFTP*** option button. This enables the IP Address fields.<br>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 used to keep the configuration text file.
4. Enter a name for the file in the ***File Name*** field.

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

5. Select the *configuration* file, and click on the ***Open*** button. The chosen file displays in the ***File Name*** field.
6. Click on the ***Download*** button. The following message displays in the **Log Report** window:

   *Downloading Configuration from board. Please wait....*

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

   *Configuration Data download complete*

8. Click on the ***Close*** button.

# 7 Restoring a Configuration File

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

Use a TFTP server application, such as PumpKIN, running on the administration PC. The TFTP server's base directory must point to the directory that contains the configuration file needed to upload for restoration.

**Before You Begin**

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:

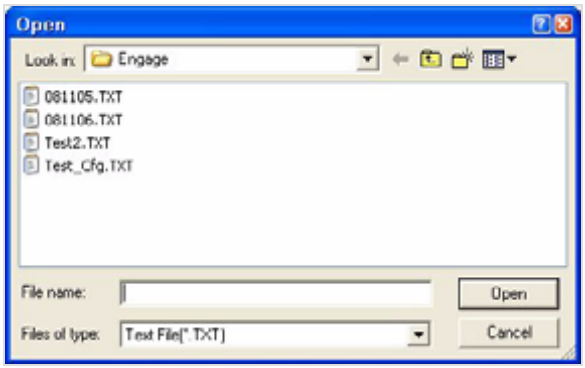
1. Choose ***Upload/Download → Upload Configuration*** from the **Menu** bar. The **Upload Configuration** dialog box displays:


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. The **Open** dialog box displays:

4. Ensure the Files of type drop-down box shows Text File (*.TXT) and navigate to the folder containing the configuration file.

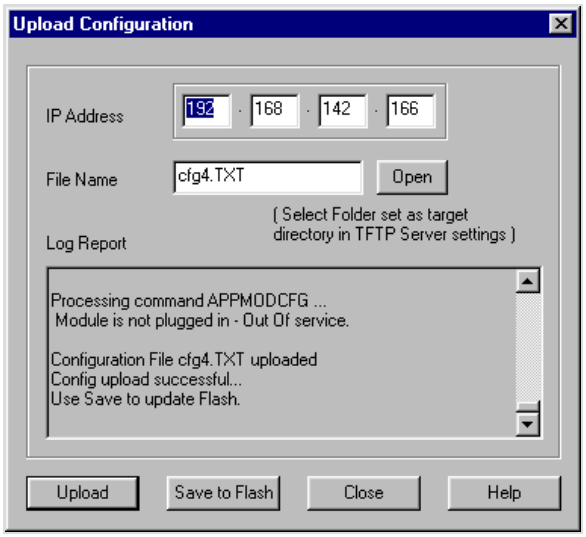



5. Select the configuration file, and click on the ***Open*** button. The **Upload Configuration** dialog box displays with the file you selected in the *File Name* field.

6. Click on the ***Upload*** button. 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*

7. The **Log Report** window displays status messages relating to the upload:




WARNING: Risk of incorrect operation due to partial configuration. Do not interrupt the configuration upload. If the configuration upload is interrupted, the result is 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:<br><br>CONFIG UPLOAD SUCCESSFUL... USE SAVECFG TO UPDATE FLASH.<br><br>Proceed to step 9. |
| NOT Successful | The following message displays in the middle of the Upload Configuration dialog box:<br><br>CONFIG UPLOAD FAILED<br><br>For further instructions, refer to the Troubleshooting section of this guide. |

8. On the **Upload Configuration** dialog box, click on the ***Save to Flash*** button. The **FLASH CONFIG** dialog box displays:


9. Click on the ***Yes*** button. The following message displays in the status bar at the bottom of the screen:

   *Saving to Flash in Progress*

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

    *CONFIGURATION IS UPDATED INTO FLASH...*

11. Click on ***Close***.

12. Restart the TALC.

# 8 Managing 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.

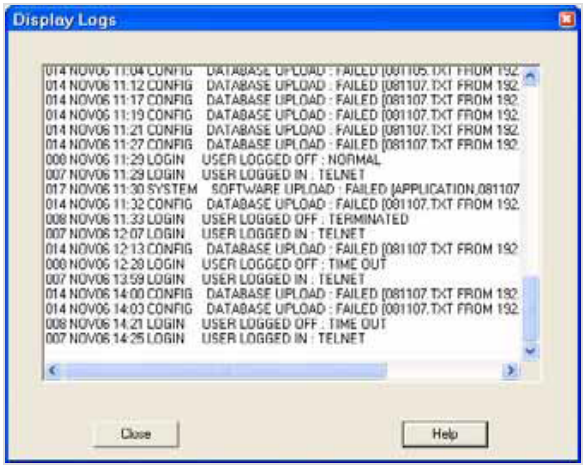
Access these logs through the **Alarms/Stats/Logs** menu.

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. The **Display Logs** dialog box displays:




2. Use the scroll bar to browse through the logs to find the information that you ar 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 the Number of Logs to Display**

Use the ***Resize Logs*** command to increase (to as many as 1000) or decrease (to as fewas 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.

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

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

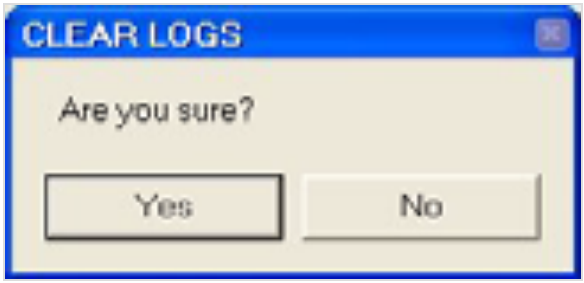
2. Enter the maximum number of logs you want the TALC to keep in the queue at any one time.
3. Click on the ***OK*** button.

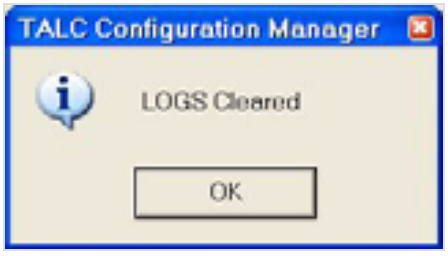
**Clearing Logs**

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

To clear the display logs:

Choose ***Alarms/Stats/Logs → Clear Logs*** from the **Menu** bar. The CLEAR LOGS dialog box displays:




| 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.<br><br>The LOGS Cleared dialog box displays:<br><br>  |

| IF you select... | Then... |
| --- | --- |
| | Click on the ***OK*** button. |

# 9 DSP and VCT Statistics Screens

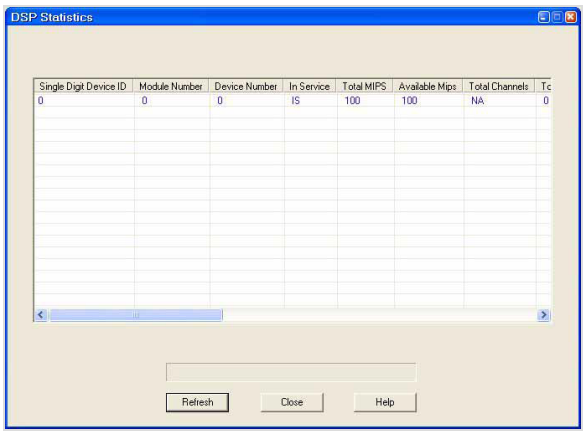
All statistics screens provided by the **Alarms/Stats/Logs** menu, function primarily to helpyou obtain information to provide to technical support personnel, upon request.

**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:

**Displaying DSP Statistics**

Choose ***Alarms/Stats/Logs → DSP Statistics*** from the **Menu** bar to display the DSP Statistics screen. Configuration Manager gathers statistics from the TALC and displays the DSP Statistics screen.




| IT you want to... | Then click... |
|---|---|
| Update the statistics with the latest information, | the ***Refresh*** button. |
| Close the DSP Statistics screen, | the ***Close*** button. |
| Obtain descriptions of the statistics in the DSP Statistics screen, | the ***Help*** button. |

**DSP Statistics Field Descriptions**

DSP Statistics fields are described as:

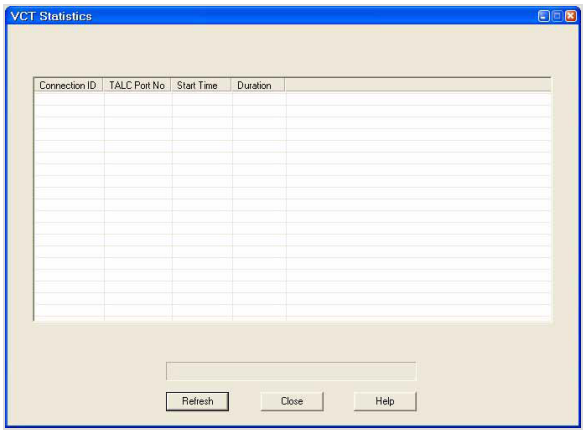
- **Single Digit Service ID**: Identifies internal sequence number for indexing DSP devices.
- **Module Number**: Identifies the module position of the DSP. Valid values are 0, 1, 2, 3, and 4.
- **Device Number**: Identifies the DSP device that processed the call.
- **In Service**: Identifies the number of voice channels operating on this DSPdevice.
- **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.
- **Total Flex Channels**: Identifies the total number of channels on the DSP device that can 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.

### Displaying VCT Statistics

Choose ***Alarms/Stats/Logs » VCT*** from the **Menu** bar to display the **VCT Statistics** screen. 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, | the ***Refresh*** button. |
| close the VCT Statistics screen, | the ***Close*** button. |
| obtain descriptions of the statistics in the VCT Statistics screen, | he ***Help*** button |

### VCT Statistics Field Descriptions

The fields of the VCT Statistics screen are described as:

**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.

# 10 Verify Firmware and Software Versions

This section describes how to determine the version of firmware and software currently installed TALC. Firmware management includes:

- Verifying the Configuration Manager software version.
- Verifying the TALC software version.
- Determine the Current Versions of both software elements.
- Performing Firmware upgrades.

### Verify the Configuration Manager Software Version

Before performing a firmware or software upgrade, determine what version is currently installed. This ensures that the user does not replace the installed firmware or software with an older version.

To verify your TALC Configuration Manager software version:

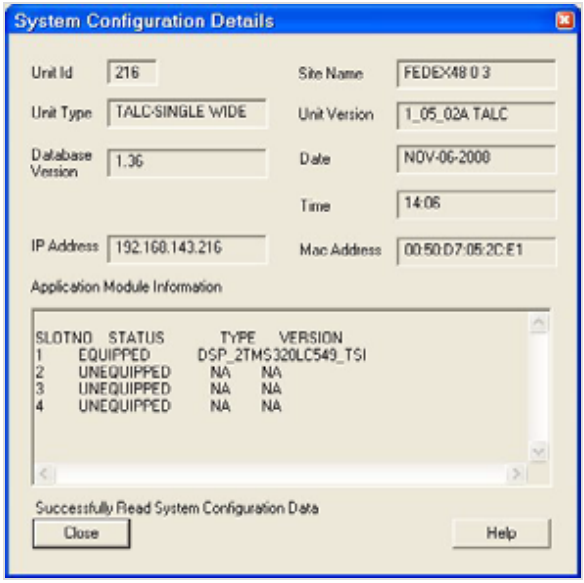
1. Choose ***Help → About Configuration Manager*** from the **Menu** bar. The **About TALC Configuration Manager** dialog box displays:


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

3. Click on the ***OK*** button.

**Verify the TALC Software Version**

1. Choose ***System Information → System Data*** from the **Menu** bar. The **System Configuration Details** dialog box displays:




2. Review the Unit Version box. This identifies the version of firmware installed on the TALC.
3. Click on the ***Close*** button.

**Determine the Current Firmware and Software Versions**

To determine what the current firmware and software versions are, refer to the Engage Product Release Notes, found at the HTTP://ESUPPORT.TELSTRAT.COM portal.

# 10 Perform TALC Firmware Updates

This section describes how to perform a firmware upgrade on a TALC.

The upgrade is accomplished over the IP network using the TFTP protocol. A TFTP server application must be 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 it is determined that the TALC is using out-of-datefirmware.

**About Firmware Upgrades and Configuration Files**

Each time a firmware upgrade is performed, 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 a user performs a firmware upgrade, the first step should be to create a backup copy of the converted configuration file, and store it in a safe secure location.

**Obtain the Software, First**

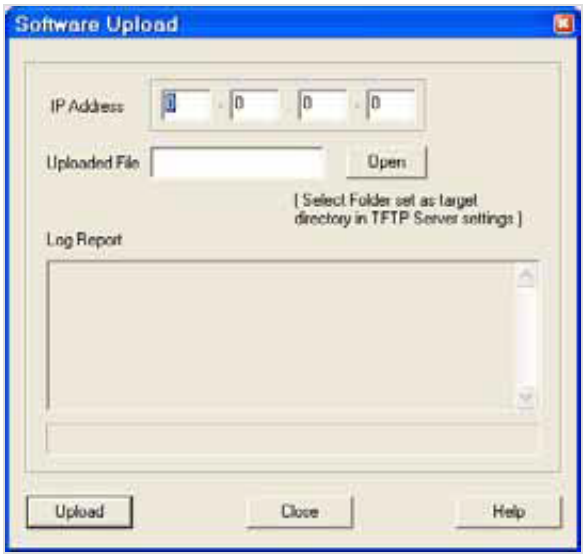
It is important to complete the following steps before performing a firmware upgrade:

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

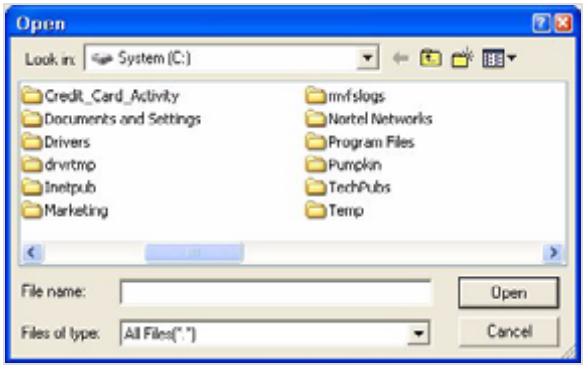
**Upgrading TALC Firmware**

To steps to upgrade the TALC firmware are:

1. Choose ***Upload/Download » Upload S/W*** from the **Menu** bar. Result: The **Software Upload** dialog box displays:




2. Enter the IP address of the TFTP server in the **IP Address** fields.
3. Note: Since the TFTP server application is running on your administration PC, this is the IP address of the PC.
4. Click on the ***Browse*** button. The **Open** dialog box displays:




5. Ensure that the **Files of type** drop down box shows Upgrade Files (***.UPG**).
6. Navigate to the folder where the firmware file is located.
7. Select the file (ex. ***talc-100.upg***) and then click on ***Open***. The **Software Upload** dialog box reappears.
8. The file you selected appear sin the *Uploaded File* field.
9. Click on the ***Upload*** button

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

.

# 10 Perform Configuration Manager Software Upgrades

Perform a software upgrade if it is determined that system is using out-of-date software.

**Upgrading Configuration Manager Software**

The steps to upgrade Configuration Manager software are:

1. Navigate to the directory that contains the upgrade files extracted earlier.
2. Double-click on the ***setup.exe*** file.
3. Follow the prompts on screen.
4. The InstallShield installs the software, *overwriting the previous version*.
5. ***Close*** the installer, when complete.

# 11 TALC Multi-I/O Cable-Enhanced Descriptions

**TALC Multi-I/O Cable-Enhanced Description**

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 PR | 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 |

**TALC Multi-I/O Cable-Enhanced Pin-out Descriptions**

**How to read the tables**

The this example, 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 this signal**: EN0RXD+.

| In Pair | of bundle | the | wire connects pin | to pin | and carries this signal |
|---|---|---|---|---|---|
| 1 | W1 | B-L-K | P1-21 | P2-5 | EN0RXD+ |
| 1 | W1 | R-E-D | P1-46 | P2-12 | EN0RXD |

**Pin-out Information**

| In Pair | of bundle | the | wire connects pin | to pin | and carries this signal |
|---|---|---|---|---|---|
| 1 | W1 | B-L-K | P1-21 | P2-5 | EN0RXD+ |
| 1 | w1 | R-E-D | 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 | B-L-K | P1-17 | P3-3 | SDIRXD |
| 1 | W2 | R-E-D | P1-42 | P3-2 | SDIRXT |
| 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 | B-L-K | P1-23 | P4-5 | EN1RXD+ |
| 1 | W3 | R- | P1-48 | P4-12 | EN1RXD- |

| In Pair | of bundle | the | wire connects pin | to pin | and carries this signal |
|---|---|---|---|---|---|
| | | E-D | | | |
| 2 | W3 | BLK | P1-24 | P4-6 | EN1TXD+ |
| 2 | W3 | WHT | P1-49 | P4-13 | EN1TXD- |
| 1 | W4 | B-L-K | P1-1 | P5-1 | (RESERVED) |
| 1 | W4 | R-E-D | 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) |
| 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) |

| In Pair | of bundle | the | wire connects pin | to pin | and carries this signal |
|---|---|---|---|---|---|
| 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 | B-R-N | P1-37 | P5-37 | (RESERVED) |
| 13 | W4 | R-E-D | P1-13 | P5-13 | (RESERVED) |
| 13 | W4 | O-R-G | P1-38 | P5-38 | (RESERVED) |
| 14 | W4 | G-R-N | P1-14 | P5-14 | (RESERVED) |
| 14 | W4 | W-H-T | P1-39 | P5-39 | (RESERVED) |

| In Pair | of bundle | the | wire connects pin | to pin | and carries this signal |
|---|---|---|---|---|---|
| 15 | W4 | G-R-N | P1-15 | P5-15 | (RESERVED) |
| 15 | W4 | B-L-U | P1-40 | P5-40 | (RESERVED) |
| 16 | W4 | G-R-N | P1-16 | P5-16 | (RESERVED) |
| 16 | W4 | Y-E-L | P1-41 | P5-41 | (RESERVED) |
| 1 | W5 | B-L-K | P5-9 | P6-2 | (RESERVED) |
| 1 | W5 | R-E-D | P5-34 | P6-14 | (RESERVED) |
| 2 | W5 | B-L-K | P5-10 | P6-3 | (RESERVED) |
| 2 | W5 | W-H-T | P5-35 | P6-16 | (RESERVED) |
| 3 | W5 | B-L- | P5-11 | P6-4 | (RESERVED) |

| In Pair | of bundle | the | wire connects pin | to pin | and carries this signal |
|---|---|---|---|---|---|
| | | K | | | |
| 3 | W5 | G-R-N | P5-36 | P6-5 | (RESERVED) |
| 4 | W5 | B-L-K | P5-12 | P6-20 | (RESERVED) |
| 4 | W5 | B-L-U | P5-37 | P6-6 | (RESERVED) |
| 5 | W5 | B-L-K | P5-13 | P6-8 | (RESERVED) |
| 5 | W5 | Y-E-L | P5-38 | P6-7 | (RESERVED) |
| 6 | W5 | B-L-K | P5-14 | P6-17 | (RESERVED) |
| 6 | W5 | B-R-N | P5-39 | P6-9 | (RESERVED) |
| 7 | W5 | B-L-K | P5-15 | P6-24 | (RESERVED) |
| 7 | W5 | O- | PR-40 | P6-11 | (RESERVED) |

| In Pair | of bundle | the | wire connects pin | to pin | and carries this signal |
|---|---|---|---|---|---|
| | | R-G | | | |
| 8 | W5 | R-E-D | P5-16 | P6-15 | (RESERVED) |
| 8 | W5 | WHT | P5-41 | P6-12 | (RESERVED) |

Delete this text and replace it with your own content.

# 12 Troubleshooting

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

**Identifying Why a Problem Occurred**

Before beginning any troubleshooting , answer these questions:

| Question | Answer | The do this... |
|---|---|---|
| Is this a new installation? | Yes | Perform the troubleshooting in the sequence presented in this section. |
| | No | Go to the next question. |
| Did the TALC work, then suddenly stop working? | Yes | Go to the next question. |
| | No | Perform troubleshooting in the sequence presented in this section. |
| Did the configuration get modified or change any hardware components? | Yes | Verify that changes were made correctly.<br><br>Check the hardware components and connections to ensure they are working correctly.<br><br>Perform troubleshooting for the specific component where the problem occurred. |
| | No | Contact the local telecom or data network administrator. There may be a problem with the network. |

## 12.1 Using TALC LEDs

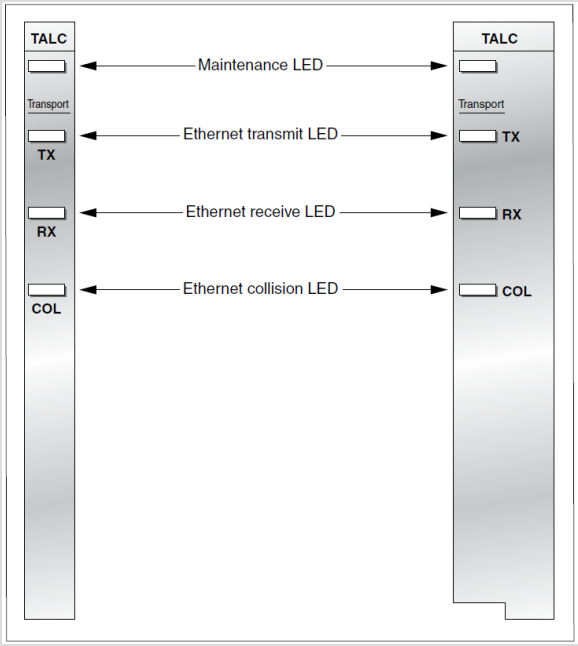
**TelStrat Application Line Card LEDs**

The primary purpose of TALC LEDs is to give a visual indication of the line card's general health. When resetting the 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.<br>2. If the Maintenance LED still does not flash, contact the distributor. There may be a hardware problem. |

| Symptom | What to do... |
|---|---|
| The Maintenance LED remains lit after a successful self-test. | 1. Confirm that the slot is enabled on the host PBX.<br>2. If other LEDs are not lit or flashing, did the Maintenance LED ever light? If not, contact the distributor. There may be a hardware problem.<br>3. Ensure that the TALC is properly seated in its slot and is properly inserted into the backplane.<br>4. If the TALC is improperly or incompletely seated, reseat it.<br>5. If the Maintenance LED remains lit, contact the distributor. There may be a hardware problem. |
| The Maintenance LED is flashing. | The power-up self-test failed. Contact the 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 the distributor. There may be a hardware problem. |
| 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:<br>• Check the physical network connection.<br>• Verify the TALC can receive and send a PING.<br>• Check the network configuration (such as routing, traffic load, and so on). Adjust the network configuration, if required.<br>• 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. |

## 12.2 Checking Network Connectivity

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

**Telephone Set Indicator**

When the TALC card loses connection to the Engage server, the phone can or may display the message **CP Server Down** on the display of the phone. This message is generated by the TALC card for the phones that are connected on it

**Symptom Descriptions**

If unable to establish TALC connectivity on the network, follow these steps to identify and repair the connection:

| Symptom | What to do... |
|---|---|
| Cannot establish a connection from the administration PC to the TALC. | 1. Ensure that the entered the IP address is correct when trying to establish the connection.<br>2. Ensure that the entered the logon ID and password is correct when trying to establish the connection.<br>3. Ensure that the TALC's IP address, network mask, and default gateway are correctly configured in the TALC.<br>4. Ping the TALC.<br>5. Ping the gateway.<br>6. If the ping still does not work, contact the local data network administrator. |
| *10060 TELNET CONNECTION FAILED* displays when attempting to connect to the TALC. | 1. Ensure that the entered the logon ID and password are correct when trying to establish the connection.<br>2. Ensure that the entered the IP address is correct when trying to establish the connection. |

| Symptom | What to do... |
|---|---|
| | 3. Ensure that someone is not already logged on to the TALC.<br>4. Verify that the Ethernet cable is connected at both ends (TALC and network hub).<br>5. Check the Ethernet cable and ensure that it is good.<br>6. Ensure that the TALC is properly seated in its slot.<br>7. Verify that the IP address, subnet mask and gateway are all correct on the TALC.<br>8. Ping the TALC.<br>9. If the TALC does not respond, ping the TALC's gateway to see if it responds.<br>10. If the gateway does not respond, ping a known good device on the TALC's network.<br>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.<br>12. Contact the distributor. There may be a hardware problem. |
| *SERIAL CONNECTION FAILED* displays when attempting to connect to the TALC. | 1. Ensure that the entered the logon ID and password are correct when trying to establish the connection.<br>2. Ensure that someone is not already logged on to the TALC.<br>3. Ensure the TALC is properly seated in its slot.<br>4. Re-seat the TALC.<br>5. Ensure that the specified COM port is correct when attempting the connection.<br>6. Verify that no other applications on the administration PC are using the COM port. |

| Symptom | What to do... |
|---|---|
| | 7. Ensure that the serial cable connection is good.<br>8. Use a breakout box to verify that the COM port is active.<br>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.<br>2. Ensure that the Ethernet cable between the TALC and the network is good.<br>3. Ensure that the Ethernet cable is connected.<br>4. If the TALC still does not send or receive traffic, contact the local data network administrator.<br>5. Data network administrator: Ensure other network devices are configure 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.<br><br>Close and restart Configuration Manager. |
| 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:<br>1. Check the physical network connection.<br>2. Verify that the Engage server can be Pinged.<br>3. Check the network configuration (such as routing, traffic load, and so on). Adjust the network configuration, if required.<br>4. There should be no broadcast or multicast activity on the TLAN .Interconnect a hub and a network analyzer to the TLAN and monitor for |

| Symptom | What to do... |
|---|---|
| | 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.)<br>2. Ensure that the unit IDs have been correctly configured at each end. An incorrect unit ID causes security authentication to fail.<br>3. Ensure that the TALC's IP address is correctly configured on the Engage server.<br>4. Verify that the IP network is operational (up and running) as appropriate.<br>5. Ensure that the TALC is enabled on the host PBX.<br>6. Use the Ping option in Configuration Manager to ping the Engage server.<br>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. |

Delete this text and replace it with your own content.

## 12.3 Solving 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:<br>• configuration upload<br>• Engage firmware upgrade | 1. Ensure that the TFTP server application is installed and running on the administration PC.<br>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.<br>3. Review messages displayed by the TFTP server application for clues.<br>4. Ping the Engage server to verify that network connectivity exists. |
| *CONFIG UPLOAD FAILED* displays when attempting to perform a configuration upload by TFTP. | 1. Ensure that you selected anappropriate file. That is, ensure that the file you attempted to upload is a TALC configuration file.<br>2. Ensure that the configuration file you are attempting to upload is compatible with current Engage firmware.<br>3. Perform the configuration upload using a previous configuration file, if necessary<br><br>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 | It is possible that communication has been lost between the |

| Symptom | What to do... |
|---|---|
| working with Configuration Manager. | administration PC and the TALC.<br><br>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.<br><br>Close Configuration Manager, and then restart it. |

## 12.4 Using Configuration Manager PING

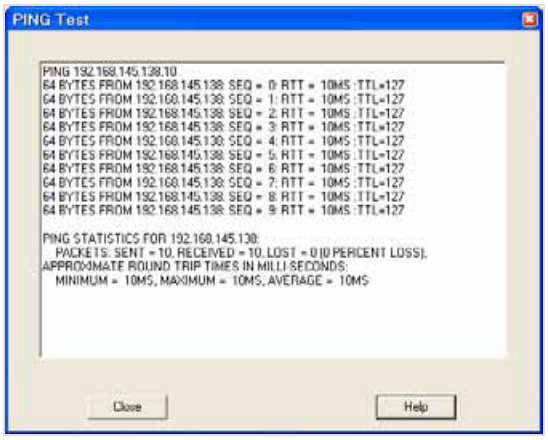
This section explains how to use the Ping option provided in Configuration Manager to verify connectivity. Use this procedure as a troubleshooting tool to determine if you can reach all network TALCs, or any other device on the network.

**Perform a Configuration Manager PING**

To perform a Configuration Manager PING:

1. From the menu, choose ***Tests → Ping***. The PING Test dialog box displays:


2. Enter the ***IP Address*** of the TALC to be tested with a ping.
3. In the **Number of Cycles** box, enter the number of times to ping the TALC. The number must be in the range of ***1 to 100***.
4. Click on the ***OK*** button. The **PING Test** results dialog box displays PING results.




5. ***Close*** the PING Test box.

## 12.5 TALC Card Traces and Commands

Access the TALC through Telnet client.

Go to Edit and hit Start Loggin

Give the file a name

In Debuf, type pf 2 port

Leave the session open so it logs all the calls on the port.

**When the TALC card is ready to communicate**, it displays:

***TALC_RDY>***

***dc 0,s***: Dumps the configuration of the card.

***displog*** shows the events on the board (reset, login, connection to IDVR).

**Description of dump elements:**

Ex. *IPCFG 192.168.143.134, 255.255.255.0, 192.168.143.254, 0.0.0.0, 255.255.255.0, D*

**IP Address**: 192.168.143.134

**IP Network Mask**: 255.255.255.0

**IP Gateway**: 192.168.143.254

**Management IP Address**: 0.0.0.0

**Management IP Network Mask**: 255.255.255.0

**Ethernet Full Duplex** [E-Enable D-Disable]: D

Ex. *SYSCFG 1,IDVR Beta Card 1*

**Board ID**: 1

**Node Name**: IDVR Beta Card 1

Ex. *ACCFG E, 1, 04:00, 16, 0, 4728*

**Configuration name**: accfg

**DN Discovery[E/D]**: E

**DN Discovery Frequency [1-Per Day 2-Per Week 3-Per Month]**: 1

**DN Discovery Time [hh:mm]**: 04:00

**Extension to Dial - Port Number**: 16

**Extension to Dial - Feature Key**: 0

**Extension to Dial - DN**: 4728

Ex. *PORTCFG 0, E, 1, D, D, N, D ,D*

**Port Number**: 0

**IDVR Status [E/D]:** E

**IDVR CompressionRate[0-G711 1-G723.1]**: 1

**TAPI Support [E/D]**: D

**2250Port[E/D]**: D

**Configure Agent ID ?[Y/N]**: N

**Beep Tone [E/D]**: D

**Virtual Phone Recording [E/D]**: D

Ex. *FKEYCFG 1,13 EREC ,14 ECS ,9 RDIS ,NC*

**Device Number**: 1

Feature 1

**KeyNo Feature Data**: 13 EREC (record)

Feature 2

**Key No Feature Data**: 14 ECS (Conversation save)

Feature 3

**Key No Feature Data**: 9 RDIS (Delete Recording)

Feature 4

**Key No Feature Data**: NC

**Config commands**

Attribute ***rc*** : Type ***rc*** before any of the following *config commands* and the system will print the *current config* for that command.

***Dm i***

***ip***: set the IP address of Card

***syscfg***: set the unit ID, and Node Name

***idvrcfg*** : enable, and set the IP address of server

***accfg***: set DN Discovery

***portcfg***: configure a port

***fkeycfg***: configure key for port

***sympdispcfg***: symposium configuration

***sc y***: save configuration

***sr 1,y*** : reset board

***us***: upload software

***uc***: upload configuration

**DEBUG Commands and Suggestions**

***wh*** displays version number of the card and how long the card has been up

***pf 4 (port 0 - 15)*** captures information sent between card & Phone

***pf 4 (port 32 - 47)*** captures information sent between card & PBX

***cp 5 (port 0 – 15)*** snapshot of the phone

***cp 085 <port>*** To see the DN Discovery of the particular port

***db 13 5*** displays cross connect information

***db 2 153*** Call start information

***db 2 154*** detailed call start information

***db 2 8*** See DND discover run

***db 2 184*** Agent login

***db 8 y*** IDVR State Machine

***db 2 026*** Call State Machine

***cp 021 <port>*** To see the Call Bits for the port

***cp 022 <port>*** To see the RSM (Recorder State Machine) for the port – use it for recording problem

***ES 1*** Network states

***Dcb*** DSP information

***NVD***

***CPP MADN*** enable disable

***TMS*** (set in seconds) Time stamp (default 60 for 1 minute)

***Sdp 13 3 port*** Beep tone

***Sdp 8 3 port*** ?

*sdp*: **Set Debug Print Level**: Type (max=18), Level (max=3), Channel(max=31)

*0* : Icon Control

*1* : Connect ID

*2* : Privacy Override

*3* : Line Preference Key (LPK)

*4* : Redundant_Indicator

*5* : CP Virtual Device

*6* : CP Call Handler

*7* : CP Call State Machine

*8* : CP RSM Manager

*9* : CP Recorder State Machine

*10* : IDVR Keys

*11* : CPND State Machine

*12* : Softphone Hotline State Machine

*13*: Recording Beep Tone

*14* : ACD Call Force Tone

*15* : Fast Path

*16* : KBA Phase II From PBX

*17* : Overlay

*18* : DC IDVR Call Manager

During a debug session, always do the following:

- When doing traces, annotate what the user is doing. Use special characters (ex. !, @, #, $, % etc.) to mark the comments.

In debug window:

- ***wh***: Get the version, how long the card has been up.

Before closing the debug window and while in the MMI window:

- ***dc***: Get the config
- ***dlog***: Get the display log

**When a customer reports a problem, while communicating with them, always get:**

- Card's config
- TNB of the whole slot
- Symptoms of failure
- Exact date/time of failure
- Frequency of failures
- **Finally, get a VERY detailed description describing exactly (as close as possible) what the user is doing (ex. keys being pressed, how many times, lamp status whether on, off or blinking, and any other symptoms) to generate the issue.**

## 12.6 Catastrophic Failures

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 the TALC fail to operate after thorough troubleshooting and review if all test and system configuration results, consult with the distributor for hardware replacement.