Samsung TSP Version 2.1 for DCS Series

User Guide

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TELEPHONY SERVER AND SWITCH SYSTEM REQUIREMENTS

Telephony Server Operating System:

- Windows NT Server 4.0 or Workstation 4.0, with Service Pack 4 or higher.
- Installed as a Standalone or a Primary Domain Controller.

Telephony Server Hardware:

- NIC card & TCP/IP installed and configured.
- The minimum hardware requirements for the computer are the same as those suggested by Microsoft for the Windows NT 4.0 Server operating system.

Protection Key:

- Connect the dongle(supplied by Samsung) to the Telephony Server's LPT port.

Switch System:

- Samsung DCS Key Telephone System (DCS, DCS400si, DCS50si and COMPACT II) that can support TSP I/F functions.

Interface Module:

- Serial Interface Module (SIM) : supplied by Samsung
- Serial cable with a DB-25 male connector on one end and a female connector on the other end that connects into the serial port connector of the NT Server computer.
- A telephone line cord with an RJ-14 connector on each end of the cord.

Note

Without the dongle, the Samsung TSP Version 2.1 for DCS Series cannot operate.

. Chapter 1
SETTING UP THE SAMSUNG DCS KEY TELEPHONE SYSTEM FOR CTI LINK

Chapter 1 SETTING UP THE SAMSUNG DCS KEY TELEPHONE SYSTEM FOR CTI LINK

Note

Please verify that your Samsung DCS Key Telephone System is operating on current firmware. You may want to contact your Samsung Representative to determine whether the firmware you are using must be updated.

Setting up the CTI Link Hardware

This chapter explains how to set up the CTI link between the Samsung DCS Key Telephone System and the Telephony Server (Windows NT Server or Windows NT Workstation).

1. Establish a connection between the NT system and the SIM using the serial cable. The male connector of the cable should be connected to the SIM and the female connector of the cable to one of the serial ports of the NT system. Please record the serial port number to which you are connected. This information is useful for configuring the telephony service provider.

Note 1

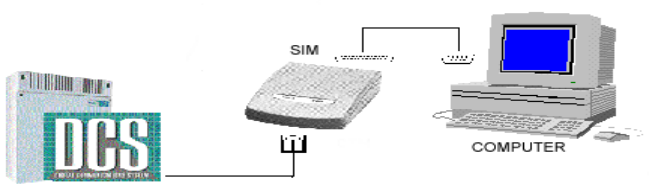
With Some Samsung Key Telephone systems, you can also establish a connection between the NT system and the Samsung Key Telephone System using a serial cable only without a SIM. Contact the Samsung Key Telephone System Reseller for more information.

For example:	DCS	SIM connection only
	DCS 50si / Compact II	Serial connection only
	DCS 400si	SIM and serial cable connection.

Note 2

Verify that the serial port IRQ selected is available and enabled in CMOS. COM 1 and COM 3 use IRQ 4. COM 2 and COM 4 use IRQ 3.

2. Establish a connection between the SIM and the Samsung DCS Key Telephone System DLI card using the telephone line cord which has RJ-14 connectors at both ends.



3. Using the Samsung DCS Keyset, program MMC 804 to set **SysIOPort** and **Service** to the following values :

   SysIOPort - 2 (assuming that you are using COM 2)
   Service - CTI-SMDR (You can use other types : CTI, CTI/UCD and CTI/S/U)

   Configure the System I/O settings for the desired port to connect to the SIM using MMC 804.

SERVICE	:	CTI-SMDR
BAUD RATE	:	**9600 or 19200**
CHAR LENGTH	:	8
PARITY	:	NONE
STOP BIT	:	1
RETRY COUNT	:	5
WAIT TIME	:	03000 msec.

4. Using MMC 311 set SIM parameters (using SIM only).

SIM TYPE	:	DTE
CALL MODE	:	MANUAL
ANS MODE	:	MANUAL
AUTO BAUD	:	ON
DTR CHECK	:	ON
ECHO	:	ON
PROTOCOL	:	V110
SPEED	:	**9600 or 19200**
CHAR LENG	:	8 Bits
PARITY BIT	:	NONE
STOP BIT	:	1

. Chapter 2
CONFIGURING TAPI 2.1

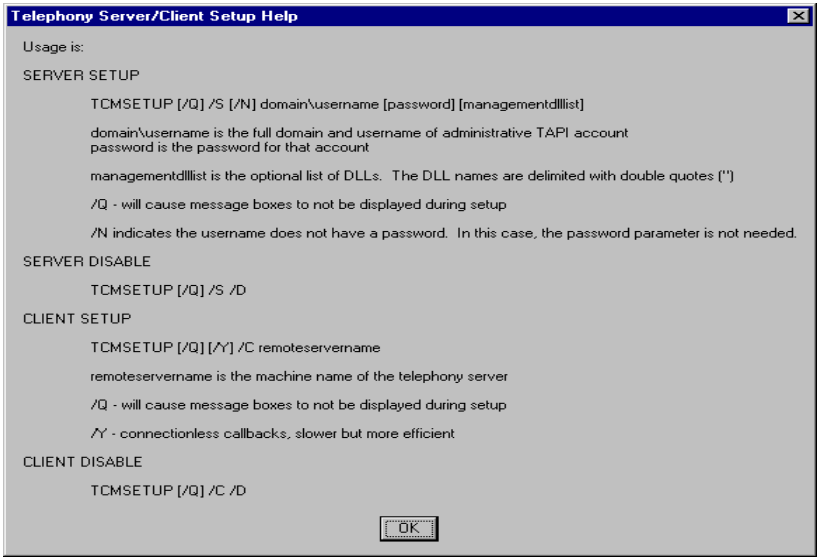
Chapter 2 CONFIGURING TAPI 2.1

This chapter explains the procedure for Tapi2.1 configuration on the Telephony Server. If you use a Microsoft Windows NT Workstation as the Telephony Server, you need not read this chapter.

Configuring the Telephony Server

1. Select **Run** from the Start menu on the Telephony Server.

2. Type **tcmsetup** and click **OK.** The following help screen appears :

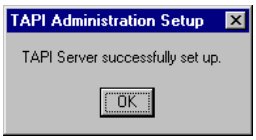


You can see the options that can be used with TCMSETUP on the screen.

3. Click **Start** and **Run** and type TCMSETUP /S domain\username password.

   If the Telephony Server is a PDC, **domain** represents the domain name. If the Telephony Server is a standalone server, **domain** represents the computer name of the Telephony Server.

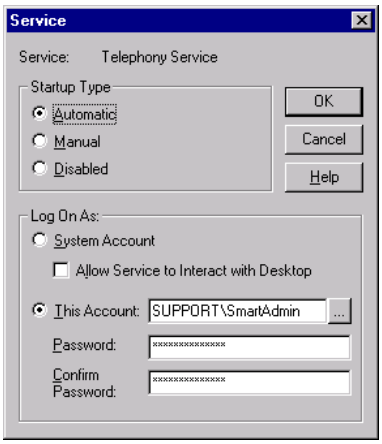
   Username is an NT user account with Administration Privileges.
   Password is the password of the NT User account.
   If the setup is successful, the following dialog box will appear:



   Click **OK**.

Setting the service Account for the Telephony Service

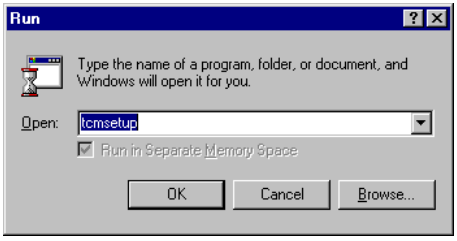
Open the Control Panel and double-click the “Service” icon, and select the Telephony Service option.



Set the parameters as shown above and click **OK.**

Configuring the Telephony Client

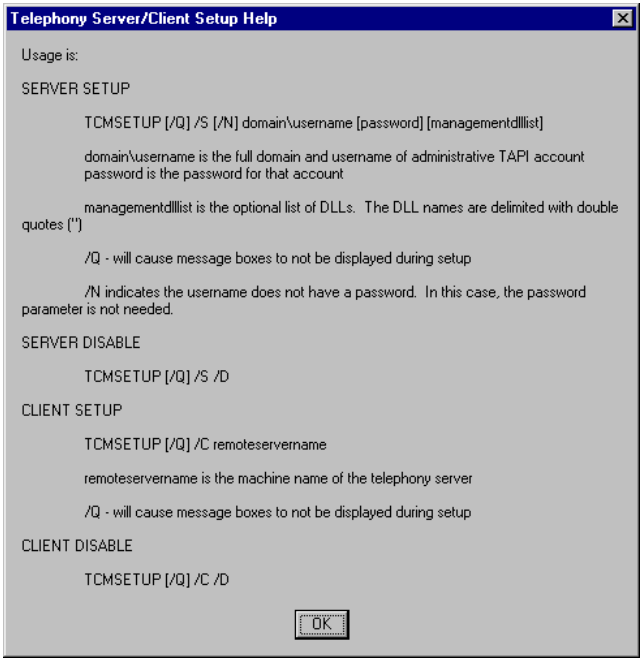
1. Select **Run** from the Start menu on the Telephony Server or Telephony Client.



Note

Telephony Client System can be the Microsoft Windows Server, Workstation, Windows 98 and Windows 95. For detailed information about Tapi 2.1 configuration, refer to the Microsoft Web Site.

2. Type **TCMSETUP** and click **OK.** The following help screen appears :



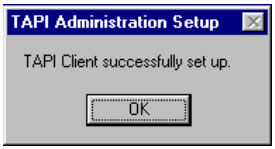
3. Click **Start** and **Run** and type **TCMSETUP /C remoteservername** where remoteservername is the computer name of the Telephony Server. An example is shown below :

Click **OK**.

Note

On NT Workstation Clients you must be logged in locally on the NT workstation as an administrator for TCMSETUP to work.

4. The TAPI Administration Setup dialog box should appear indicating that the TAPI Client was successfully installed.



. Chapter 3
INSTALLING THE SAMSUNG TSP VERSION 2.1 FOR DCS SERIES

Chapter 3 INSTALLING THE SAMSUNG TSP VERSION 2.1 FOR DCS SERIES

This chapter explains the procedure for installing the Samsung TSP Version 2.1 for DCS Series. The following components are installed on the Telephony Server :

- **DCSTSP.TSP** is the Samsung Telephony Service Provider.
- **DCSSERVICE.EXE** is a Samsung DCS Windows NT service.
- **DCSINIT.EXE** is an application called by the service to load the telephony service provider.
- **PMONITOR.EXE** is an application that captures the communication between the Windows NT Telephony Server and the Samsung DCS Key Telephone System.
- **SMDRLOG.EXE** is an application that captures the SMDR messages from the Samsung Key Telephone System.
- **SENTINEL.DRV** is the device driver for the delivered dongle device.

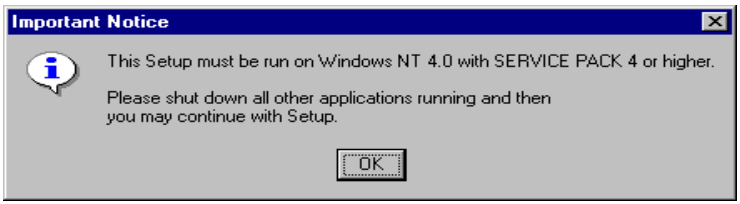
Note

If you want to use the RAS (Remote AccessService) for Dial Up Network and the Samsung TSP Version 2.1 for DCS Series together on the Telephony Server, you have to do some configuration before installing the Samsung TSP Version 2.1 for DCS Series. Refer to **"COM Ports Configuration for RAS (Remote Access Service)"** in Chapter 7.

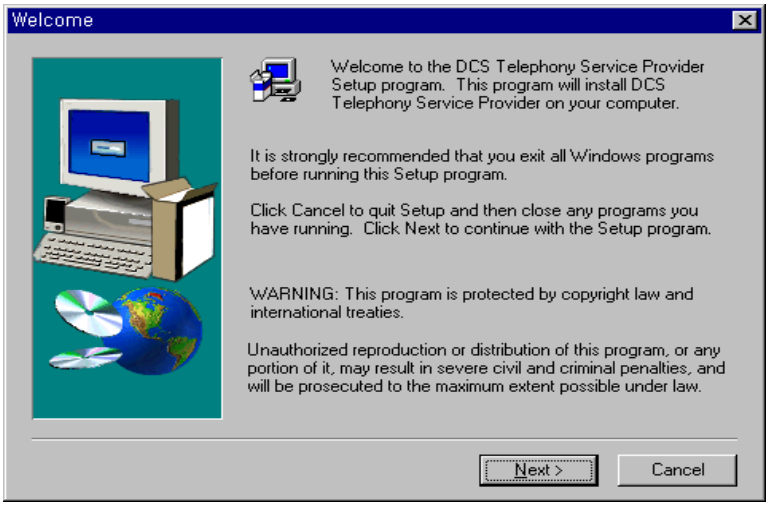
Installation Procedure

- Connect the dongle delivered with the Samsung TSP Version 2.1 for DCS Series to the Telephony Server's LPT port.
- Insert the Samsung TSP Version 2.1 for DCS Series Installation CD into the CD-ROM drive of the Telephony Server.

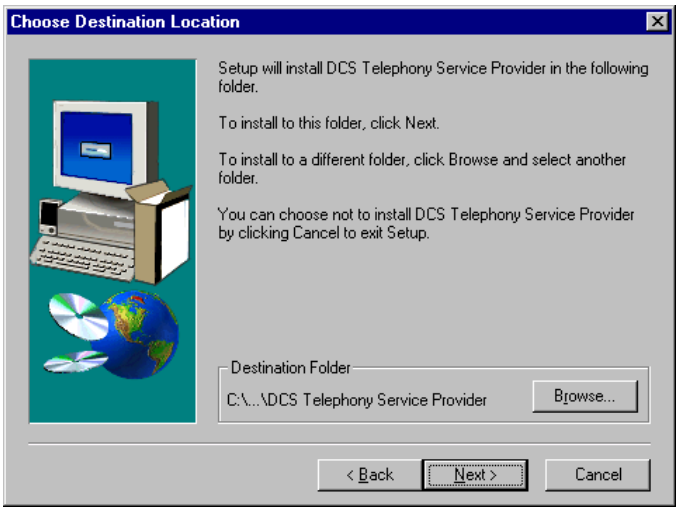
The installation wizard will start automatically.



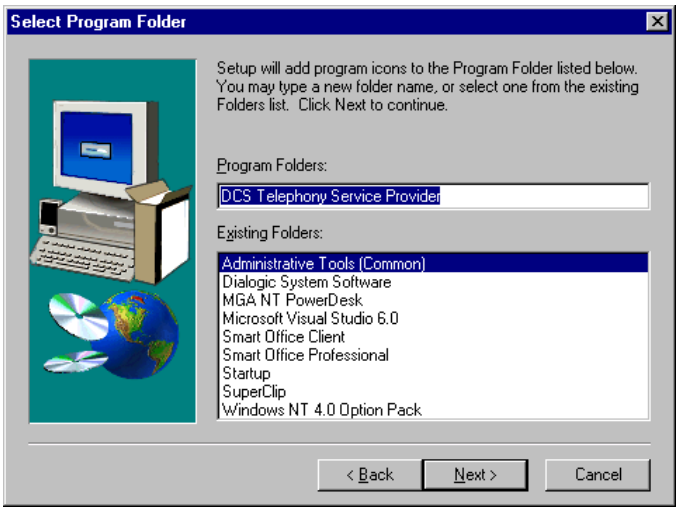
Step 1. Click **OK**. The following Welcome dialog box appears :



Step 2. Click **Next.** The Choose Destination Location dialog box appears :

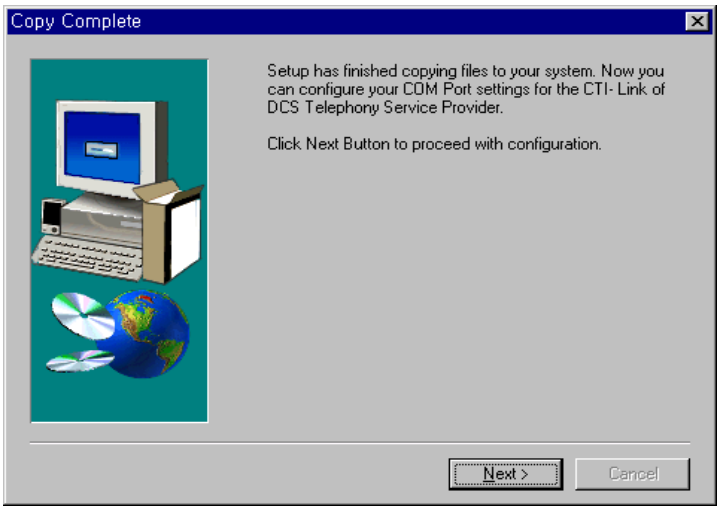


Step 3. Click **Next** to select the default Destination Folder **C:\Program Files\DCS Telephony Service Provider.** The Select Program Folder dialog box appears :

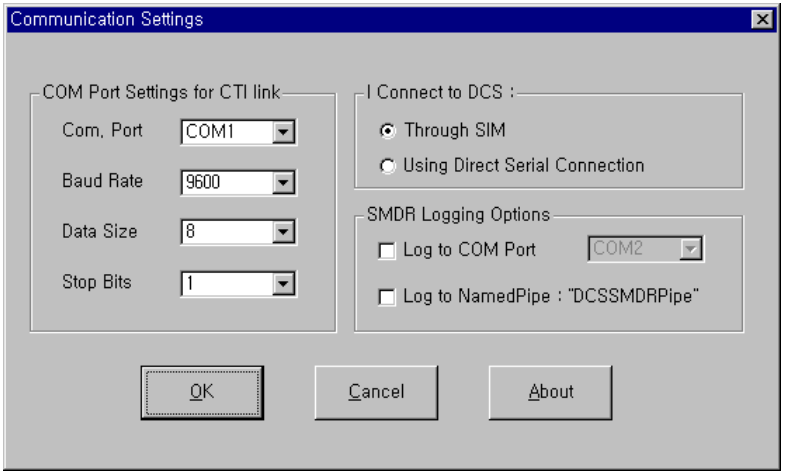


Step 4. Click **Next** to accept the default Program Folder **DCS Telephony Service Provider.** Files will be copied to this folder.

When installation has finished, the Copy Complete dialog box appears :



Step 5. Click **Next.** The Communication Settings dialog box appears :



There are three setting options :

- **COM Port Settings for CTI link**: The default port is COM 1.

- **Connect to DCS:** The default connection type is Through a SIM.
  The connection type depends on the Samsung Key Telephone System being used, as follows :
  - DCS : Through SIM only
  - DCS50si / Compact II : Using Direct Serial Connection only
  - DCS400si : Through SIM or Using Direct Serial Connection

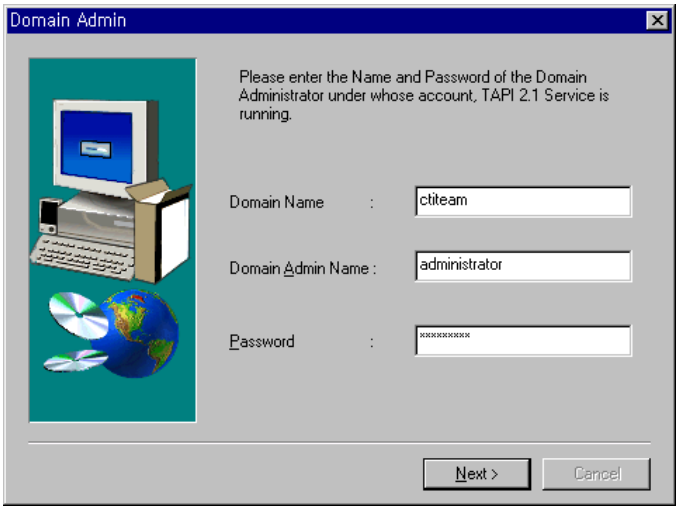
- **SMDR Logging Options**
  The Samsung TSP Version 2.1 for DCS Series can display the DCS system's SMDR data in three ways.
  - Protocol Monitor - This program is installed with the Samsung TSP Version 2.1 for DCS Series. Locate and double click "PMonitor.exe", or use the Windows Start button to open the "DCS Telephony Service Provider" program folder and click "DCS-CTI Link Monitor" to run the program. This is the default option. Do not check any check box.
  - Log to COM Port - If you select this option, the Samsung TSP Version 2.1 for DCS Series sends the SMDR data from the switch to the specified port. You can use SMDR data for your own purposes with this option. You cannot use the same port for the CTI Link Port and SMDR Output Port. If you select the same port, you will receive a warning message and your action will be ignored.
  - Log to Named Pipe: "DCSSMDRPipe" - Using a Pipe, SMDR data can be printed. You can see this data using "SMDRLOg.exe" installed with the Samsung TSP.

Step 6. Complete the connection from the DCS to the Telephony Server . These values must match those configured for the System I/O port on the Samsung switch. Refer to Chapter 1: Setting Up the Samsung DCS Key Telephone System for CTI Link.

Note

Be sure that the COM port has been enabled in the system's CMOS and that no other devices are conflicting with the IRQs used for the port. COM 1 and COM 3 use IRQ 4. COM 2 and COM 4 use IRQ 3.

Step 7. Click **OK**. The following Domain Admin dialog box appears :



Step 8. Enter the Domain Name of the NT Server. If the Telephony Server is a standalone server, enter the name of the Primary domain.

Note

If your NT System is an NT Workstation, enter the computer name of your PC into the Domain Name field and its administrator name and password into the corresponding fields.

Step 9. Enter the Domain Admin Name (**Administrator**).

Step 10. Enter the Administrator password.

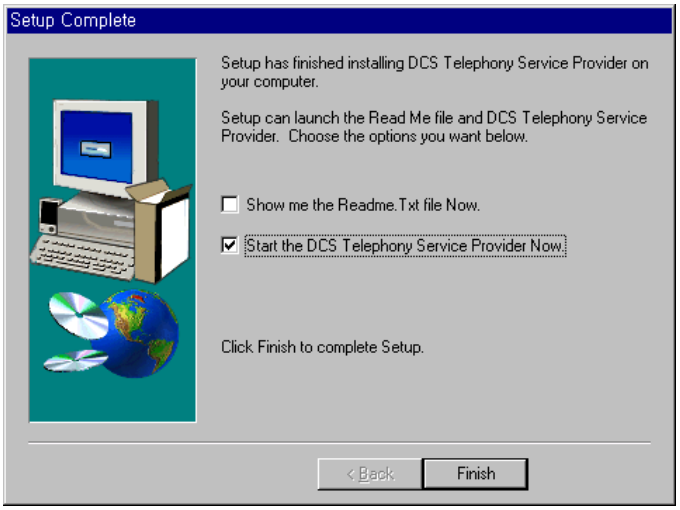
Step 11. Click **Next**. The following Install dialog box appears :

Step 12. Click **Yes** for the Samsung DCS Tapi2.1 Telephony Service Provider to start automatically at startup.

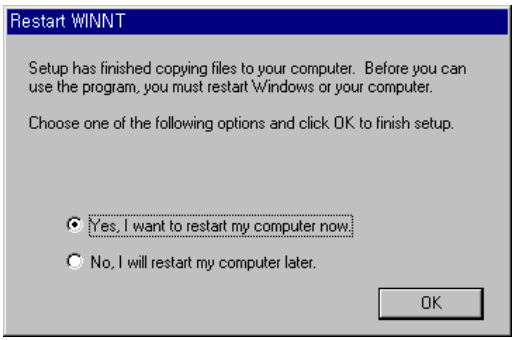
Note

If you select NO, the start mode is set to manual. This manual mode causes some delay whenever you try to start any CTI application because of the initialization time of the Telephony Service Provider.

The Setup Complete dialog box appears :



Step 13. Select **Start the DCS Telephony Service Provider Now** option and click **Finish.** The Restart WINNT dialog box appears :



Note

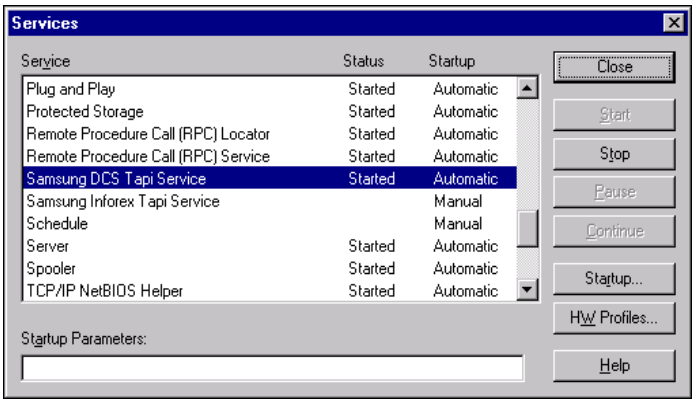
Restart your computer before using the Samsung TSP Version 2.1 for DCS Series for the first time, to ensure that the dongle is operating correctly.

. Chapter 4
CHECKING THE OPERATION OF THE SAMSUNG TSP VERSION 2.1 FOR DCS SERIES

Chapter 4 CHECKING THE OPERATION OF THE SAMSUNG TSP VERSION 2.1 FOR DCS SERIES

This chapter explains how to check the operation of the Samsung DCS Tapi 2.1 Telephony Service Provider.

Step 1. Open the Control Panel and double-click the “Services” icon.



See if the “Samsung DCS Tapi Service” is started or not.
If this service has not been started, click the Start button.

Note 1

When the Samsung TSP Version 2.1 for DCS Series is started, some initialization procedures are carried out.The Samsung TSP Version 2.1 for DCS Series makes a connection between the Telephony Server and the Samsung DCS Key Telephone System. This CTI Link Initialization procedure between the Telephony Server and the Samsung DCS Key Telephone System consists of several internal steps.

First Step. Link Check Step (the serial cable link check between the Telephony Server and the SIM). If the connection type is the serial connection, this step will be skipped.

Second Step. The Samsung TSP Version 2.1 for DCS Series notifies the Samsung DCS Key Telephone System that the TSP is alive and active. If you did not set up the Samsung Key Telephone System for the CTI Link, this step will fail. For detailed Information, refer to Chapter 1.

Third Step. Downloading the Device List from the Samsung DCS Key Telephone System. The Samsung TSP Version 2.1 for DCS Series receives the device list from the Samsung DCS Key Telephone System and manages this list as the internal information.

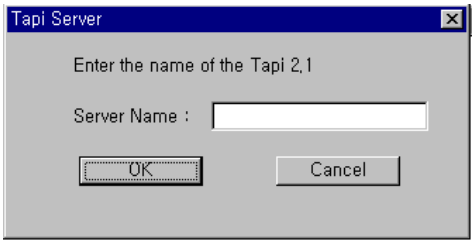
Fourth Step. CTI Link Sanity Check.
The Samsung TSP Version 2.1 for DCS Series tries to check the CTI Link Availability by sending and receiving a periodic Link Check Command to the Samsung DCS Key Telephone System. If there are any problems or errors at the CTI Link, the Samsung DCS Tapi2.1 Telephony Service Provider tries to connect the CTI Link again.

Note 2

If you did not connect the dongle to the Telephony Server, the above initialization procedure is not carried out.

For detailed information, try to follow steps.

Step 2. In Windows, click **Start**, **Programs**, **DCS Telephony Service Provider**, and **DCS-CTI Link Monitor**. If this is the first time that you have accessed the **DCS-CTI Link Monitor**, the following dialog box appears:



Enter the Telephony Server Name.

Note 1

Do not enter the Telephony Server's Domain Name. If you enter the Domain Name, DCS-CTI Link Monitor Program cannot monitor the CTI-LINK Message.

Note 2

If you want to change the Telephony Server Name, select File / Server Name of the DCS-CTI Link Monitor Program.

Step 3. The DCS-CTI Link Monitor Window appears :

This DCS-CTI Link Monitor Window consists of three sub-windows.

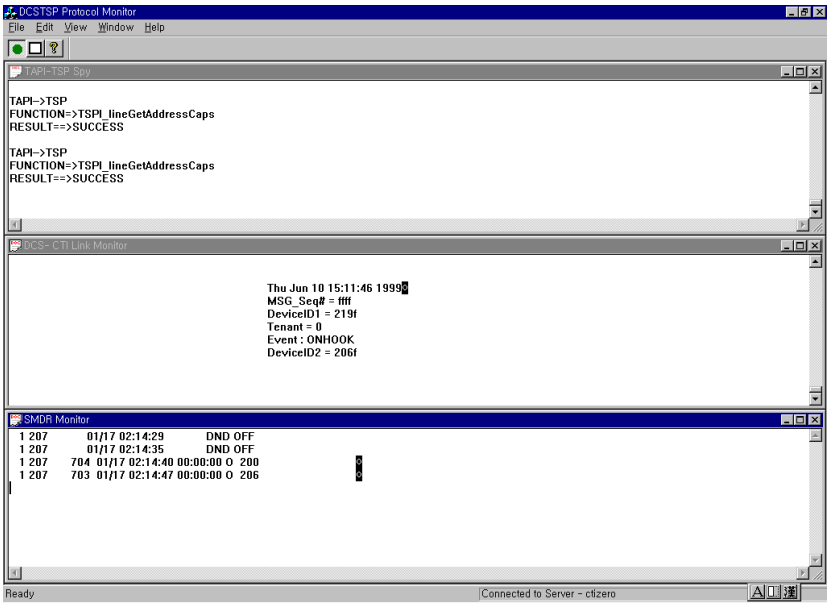
- TAPI-TSP Spy window : This is used to monitor messages between TAPI and the Telephony Service Provider.
- DCS-CTI Link Monitor : This is used to monitor messages between the Samsung TSP Version 2.1 for DCS Series and the Samsung DCS Key Telephone System.
- SMDR Monitor : This is used to monitor SMDR messages from the Samsung DCS Key Telephone System. To monitor SMDR messages with

this Monitor Program, make sure you have correctly set **the SMDR Logging option for the Samsung Telephony Service Provider, and the SMDR options in MMC 725 of the Samsung DCS Key Telephone System.** For detailed information, refer to Chapter 3.

Note

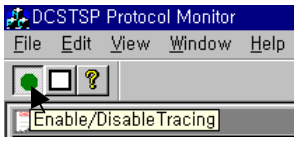
You can use the SMDR Log Monitor Program to monitor the SMDR messages only.

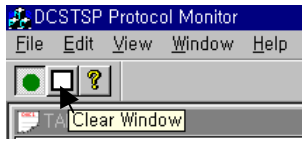
Step 4. If you execute the CTI application Dialer.exe, you can see the message from the DCS-CTI Link Monitor.



Note

You can stop the message trace and restart it and clear the traced message.





You can also save each trace message into other files.

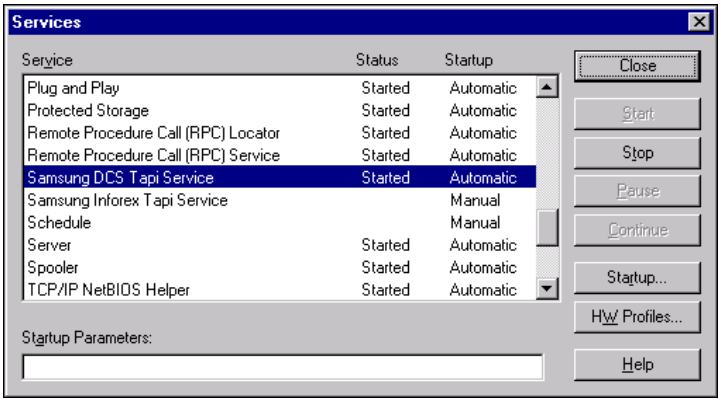
. Chapter 5
CHANGING THE CONFIGURATION OF THE SAMSUNG TSP VERSION 2.1 FOR DCS SERIES

Chapter 5 CHANGING THE CONFIGURATION OF THE SAMSUNG TSP VERSION 2.1 FOR DCS SERIES

This chapter explains how to change the configuration of the Samsung TSP Version 2.1 for DCS Series and the Samsung Key Telephone System for the CTI Link.

Step 1. Stop all TAPI applications that use the Samsung DCS Tapi Service.

Step 2. Open the Control Panel and double-click the "Services" icon.

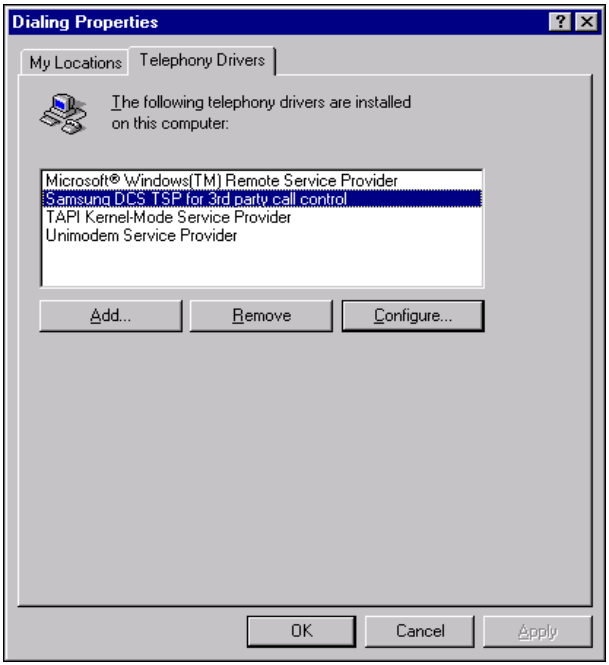


See if the "Samsung DCS Tapi Service" is started or not. If this service has not been started, select "Samsung DCS Tapi Service" and click the Start button.

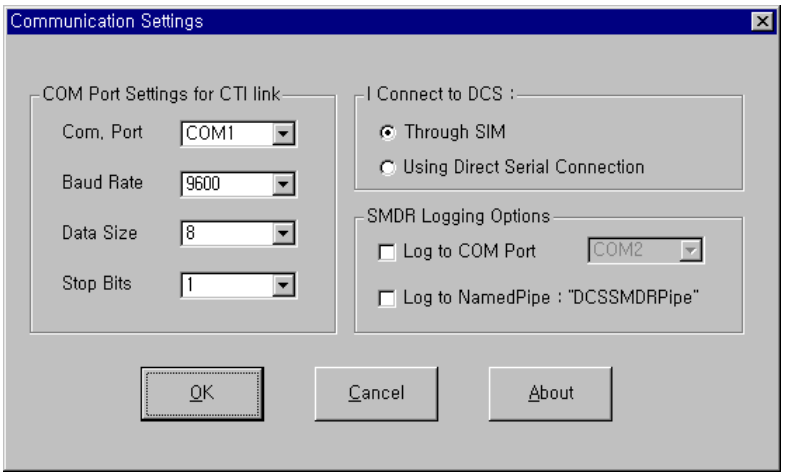
Step 3. Open Control Panel and double-click the "Telephony" icon.

Note

It takes some time to open "Telephony" and initialize the Samsung TSP Version 2.1 for DCS Series if "Samsung DCS Tapi Service" has not been started.



Select “Samsung DCS TSP ” and click the **Configure...** button. The Communication Settings dialog box appears.



For configuration details, refer to Chapter 3: Installing the Samsung TSP Version 2.1 for DCS Series.

After changing the options you want to change, click **OK**.

Click **OK** to continue.

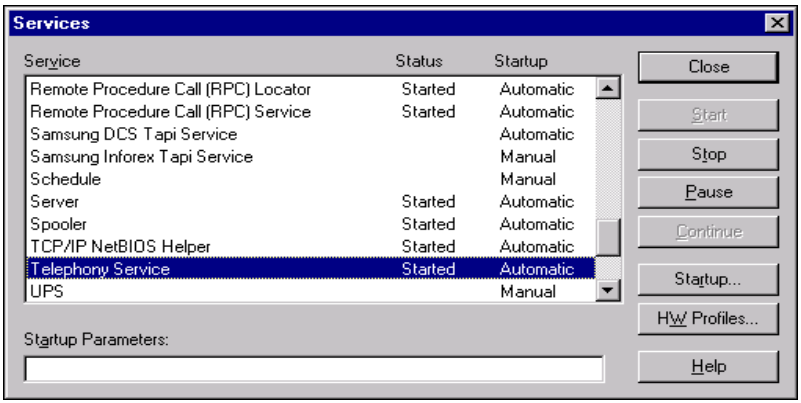
Step 4. Close the "Dialing Properties" window above.

Note

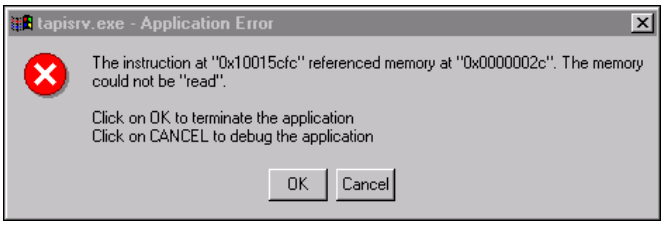
If you restart your PC now, the remaining COM port setup procedures (step 5~step 7) will be performed automatically. Before restarting, do not forget to change the serial cable connection to your PC to the new port.

Step 5. Open the Control Panel and double-click the "Services" icon. Verify that the "Samsung DCS Tapi Service" is stopped.

After stopping the Samsung DCS Tapi Service, stop the "Telephony Service", too.



If the following error occurs at this step, ignore it.



Step 6. Change the serial cable connection to your PC to the new port.

Step 7. Open Control Panel->Services. Start the “Samsung DCS Tapi Service”. The “Telephony Service” will be started automatically.

Note

It takes some time for the Samsung TSP to initialize the link between the DCS System and the Telephony Service (Device Download Procedure). If there are many services in the DCS System, it will take 1 or 2 minutes at least.

COM port setting is done. Now you can run the CTI applications.

Note

If you encounter any problems you cannot solve while changing the Telephony configuration, restart your PC.

. Chapter 6
SUPPORTED FUNCTION LIST

Chapter 6 SUPPORTED FUNCTION LIST

Normal Function List Supported by the Samsung TSP Version 2.1 for DCS Series

Microsoft TAPI Functions	Samsung TSP (Comments for Interface with DCS System)
lineAddToConference	O (Consultation Call)
lineAnswer	O (Off-Hook)
lineBlindTransfer	O (Consultation Call + Transfer)
lineClose	O
lineCompleteCall	O (Camp on + Msg Waiting + OHVA + Callback)
lineCompleteTransfer	O (Transfer)
lineDevSpecific	O (Total 8 DevSpecific options are supported. Refer to the next section)
lineDial	O (Make Call)
lineDrop	O (On-Hook)
lineForward	O (Set/Reset Forward / DND)
lineGenerateDigits	O (Send DTMF Digits)
lineGetAddressCaps	O
lineGetAddressID	O
lineGetAddressStatus	O
lineGetCallInfo	O
lineGetCallStatus	O
lineGetDevCaps	O
lineGetDevConfig	O
lineGetID	O
lineGetLineDevStatus	O
lineHold	O (Hold)

lineMakeCall	O (Make Call)
lineNegotiateExtVersion	O
lineOpen	O
linePark	O (Direct Park : OK, UnDirect Park[=System Hold] :OK)
linePickup	O (Direct Pickup + Group Pickup)
linePrepareAddToConference	O (Consultation Call)
lineRedirect	O (Redirect)
LineRemoveFromConference	O (Consultation Call)
LineSetAppSpecific	O
lineSetCallData	O
lineSetCallParams	O
lineSetMediaMode	O
lineSetStatusMessages	O
lineSetupConference	O (Consultation Call)
lineSetupTransfer	O (Consultation Call)
lineSwapHold	O (Consultation Call for T-Hold And Hold + Retrieve for S-Hold)
lineUnhold	O (Consultation Call for T-Hold and Retrieve for S-Hold)
lineUnpark	O (System Hold Retrieval)

- Samsung TSP Version 2.1 for DCS Series only supports the above functions.
- Samsung TSP Version 2.1 for DCS Series does not support the Phone Device Functions of TAPI2.1.

Note

O – Indicates "Supported by the Samsung TSP Version 2.1 for DCS Series".

Device Specific Function List and Structure of the Samsung TSP Version 2.1 for DCS Series

The Samsung TSP Version 2.1 for DCS Series supports the features of DCS that can not be mapped directly to TAPI standard functions through device specific function lineDevSpecific. This section describes how to invoke these features for the applications.
All the extended features must be invoked through TAPI function lineDevSpecific.

The prototype of this function is

```
LONG lineDevSpecific( HLINE hLine,
                      DWORD dwAddressID,
                      HCALL hCall,
                      LPVOID lpParams,
                      DWORD dwSize );
```

The extended features supported by the Samsung TSP Version 2.1 for DCS Series are –

1. **Station Lock.**
2. **Vacant Station Message.**
3. **Follow Me.**
4. **Make New Trunk Call.**
5. **Page.**
6. **System Hold Retrieve.**
7. **Clear Message Waiting Indication.**
8. **Clear Callback.**
9. **OHVA**
10. **Silent Monitoring(Barge-In without Tone)**
11. **Mute On/Off**

The following describes the parameters to be passed to the lineDevSpecific function to invoke each of the features through appellations.

Station Lock:

Station lock is a feature supported by the Samsung DCS Key Telephone that allows/disallows incoming/outgoing calls from the keyset. There are three possible levels, Unlocked, Locked all and Locked out. Unlocked means you can use your keyset without any restriction, while locked all level is to prevent other people from making or receiving calls from four keyset while you are away. The locked out level is to restrict from accessing a C.O. line, and initiating an external call. You can unlock it when you return.
In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore
lpParams – This buffer should have the values shown:

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'L'	1 byte
Option : 0 – Unlock Lock Out Lock All	1 byte
Password (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer including null terminator.

Vacant Station Message:

This feature of DCS lets you leave a programmed station message when you will be away from your phone. Display stations calling you will see this message and be informed of your status or can follow your instructions.

In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown :

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'V'	1 byte
Message number: 0 - to remove a set message. Message Number 1 to 20 to set programmed message.	1 byte

DwSize – Size of the above buffer. (5 bytes for this command).

Follow Me:

This feature of DCS lets you forward all the calls on your extension to the extension where you are. In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown :

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'F'	1 byte
Device ID of the device from which the calls are to be forwarded. (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer.

Make New Trunk Call:

This feature of DCS lets you make another external call on the trunk you are connected to, without releasing it. In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown:

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'T'	1 byte
Length of external digits to dial – n	1 byte
Digits to dial.	n bytes. No null terminator required.

DwSize – Size of the above buffer. (5 + n bytes for this command).

Page:

This feature of DCS is used to make an announcement through the keyset speakers.
In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown:

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'P'	1 byte
Page zone number	1 byte

DwSize – Size of the above buffer. (5 bytes for this command).

System Hold Retrieval:

This feature of DCS allows you to pick up an external call held at another station. In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown:

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'S'	1 byte
Device ID of the device on which the call is held. (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer.

Clear Message Waiting Indication:

This feature allows you to clear a message set on your station. There is no way to do this through a TAPI standard function. Hence it is implemented as device specific.
In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown:

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'M'	1 byte
Device ID of message setting device. (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer.

Clear Callback:

This feature of DCS allows you to clear a Callback set on a station.

In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown:

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'C'	1 byte
Device ID of device on which Callback has been set. (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer.

OHVA:

This feature of DCS lets you to make an off-hook voice announcement.

In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown :

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'I'	1 byte
Device ID of originator for OHVA (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer including null terminator.

Silent Monitoring(Barge-In without tone):

This mode is similar to Barge-In without tone via the keyset and only the originator of Barge-In operation can listen to the conversation between two parties. The main purpose of this feature is to monitor the Agent.
In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown :

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'B'	1 byte
Device ID of the destination for Silent Monitoring (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer including null terminator.

Mute on/off:

This feature is used for exchanging the Mute Function mode between Intrude and Silent Monitoring or between two normal connected state devices.

In order to invoke this feature in an application through lineDevSpecific, the values to be passed in the parameters of the function are as shown below.

hLine – Line Handle of the line on which you are invoking the feature.
dwAddressID – Should always be zero.
hCall – Ignore.
lpParams – This buffer should have the values shown :

Value	No. of bytes
'D', 'C', 'S'	3 bytes
'm'	1 byte
Device ID to be changed into another mute mode (Null terminated string)	Max 4 bytes + Null terminator

DwSize – Size of the above buffer including null terminator.

. Chapter 7
TROUBLESHOOTING AND MISCELLANEOUS

Chapter 7 TROUBLESHOOTING AND MISCELLANEOUS

Check Points for CTI Link

This section explains how to solve any CTI Link problems if they arise. Follow these steps.

1. Is the dongle (hardware key), provided with the software, plugged into your PC's enabled parallel port?
   - If the dongle is unplugged or mismatched, the "Samsung DCS Tapi Service" is unable to initialize.
   - If the parallel port where the dongle is plugged in is not enabled, the dongle driver cannot run.

2. Did you connect the serial cable to the appropriate COM port?

3. Is the CTI Link type correct for your DCS system (SIM or Direct Serial Connection)?

4. Did you configure COM port parameters correctly?
   - The default baud rate is 9600. Depending on the Samsung DCS Key Telephone System, the baud rate can be set to another value (19200). Refer to MMC 804 (System I/O Parameter).

5. Check the configuration and parameters of the DCS system's I/O settings. For the CTI Link, the following types are supported in MMC 804.
   - CTI, CTI/SMDR, CTI/UCD, CTI/SMDR/UCD

MMC 804 System I/O Parameter

Parameter Options		
Dial 0	Service	Type of Service
Dial 1	Baud Rate	Speed
Dial 2	Char Length	Character Length
Dial 3	Parity	Parity Bit
Dial 4	Retry Count	Number of Retries
Dial 5	Stop Bit	Stop Bit
Dial 6	Wait Time	Message Wait Time
Service Type		
Dial 0	CTI	CTI
Dial 1	CTI/SMDR	CTI and SMDR
Dial 2	CTI/UCD REPT	CTI UCD Report on request by the Supervisor
Dial 3	CTI/SMDR/UCD	CTI Both SMDR and UCD Report will be generated
Speed		
Dial 0	1200 bps	
Dial 1	2400 bps	
Dial 2	4800 bps	
Dial 3	9600 bps	Default
Dial 4	19200 bps	
Character Length		
Dial 7	7 bits	
Dial 8	8 bits	Default
Parity		
Dial 0	None	Default
Dial 1	Odd	
Dial 2	Even	
Stop Bit		
Dial 1	1 bit	Default
Dial 2	2 bit	

Setting Up the TAPI2.1 Client Management Tool

This section explains the configuration of the Tapi2.1 Client Management Tool. This only applies if you are using a Windows NT Server as the Telephony Server and you installed the Samsung TSP Version 2.1 for DCS Series on that system.

TAPI Client Management Tool provides a setup application that can be used to set up a Microsoft Windows NT Server as a Telephony Server or a Windows NT machine as a telephony client.

Overview of Setup

The setup program, called **tcmsetup**, has a command line interface. The **tcmsetup** program can also be used to modify the existing server or client setup. You can make modifications by running the **tcmsetup** program and specifying new settings. Upon completion of the program, the modifications take effect.

Note

The **tcmsetup** program must be run on the machine you are trying to set up. It cannot be used to configure machines remotely.

Conditions After Setup

After running the **tcmsetup** program, a set of conditions exists, determined by whether you have specified the machine as a server or client, and what action the program performed (setup or disable).

After server setup:

- The user specified during setup is verified to be an administrator. If the user is not verified, the setup failed.
- The user has the Log On As A Service privilege.
- TAPISRV is set to start automatically.
- TAPISRV is set to log on as the user specified, not as the **LocalMachine** account.
- The **Server** subkey under the **Telephony** registry key is created. Any Management DLL entries are created and filled in. The **DisableServer** subkey is created and set to 0.

After the server is disabled:

- TAPISRV is set to log on as the **LocalMachine** account.
- TAPISRV is set to start manually.
- The **Server** subkey under the **Telephony** registry key is deleted.

Note

The Log On As A Service privilege is not revoked.

After client setup:

- Remote SP is installed as a service provider

Note

Setup does not copy the remotesp.tsp file or verify that the server is a valid machine name or that a server exists. It only adds Remote SP as a TAPI service provider.

After the client is removed:

- Remote SP is removed as a service provider. The remotesp.tsp file is not deleted.

Arguments for tcmsetup Program

The **tcmsetup** program requires a different set of arguments for each of the following scenarios: server setup, server disable, client setup, and client disable. The following topics summarize the required arguments.

Server Setup

This server setup argument enables the server and administrative functionality.

TCMSETUP /S domain\username password [managementdlllist]

where:

- domain\username is the full domain and user name of an administrative network account (not a local machine account). TAPI logs on as this user on the Telephony Server.
- Password is the password for the administrative network account.
- managementdlllist is the optional list of DLLs.

Note
The DLL names are delimited with " (a double quotation mark), *not two single quotation marks.* (e.g.: Stage1.DLL"Stage2.DLL"Slowdown.DLL).

Server Disable

This server disable argument disables Telephony Server and administrative functionality; however, TAPI still works locally on the machine.

TCMSETUP /S /D

Note
Clients with Remote SP installed are not able to connect to the Telephony Server that has been disabled—they cannot access any devices on the Telephony Server.

Client Setup

This client setup argument sets up the machine as a client of the Telephony Server; however, it does not verify that the machine to connect to is actually a Telephony Server. After a machine is set up as a client, the machine can access all local TAPI devices and any remote TAPI devices that the user has access to (access that was granted by the telephony administrator). If the client machine cannot find the Telephony Server or if there is an error connecting to the Telephony Server, TAPI continues using only the local TAPI devices.

TCMSETUP /C telephony_server_name

where:

- telephony_server_name is the machine name of the telephony server.

Client Disable

The client disable argument removes Remote SP from the machine on which it was running; however, TAPI still works locally on the machine.

TCMSETUP /C /D

TAPI Client Manager

TAPI 2.1 introduces the TAPI Client Manager (**tcmapp.exe**), a basic administrative tool that makes it easier and less expensive to manage and configure client-server telephony applications. The Client Manager standardizes telephony management, and provides an easy way of associating a user's telephone number with the user's account name on the Windows.

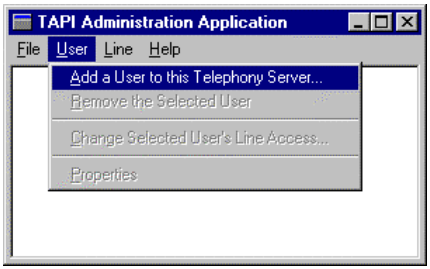
Using the TAPI Client Manager

When using this tool, you must be logged on to the Windows NT Server machine as an administrator account. You add user accounts to the Telephony Server, then give them access to the appropriate lines. You may add users from any Windows NT Server domain. For any given user account, you may grant access to as many lines as needed.

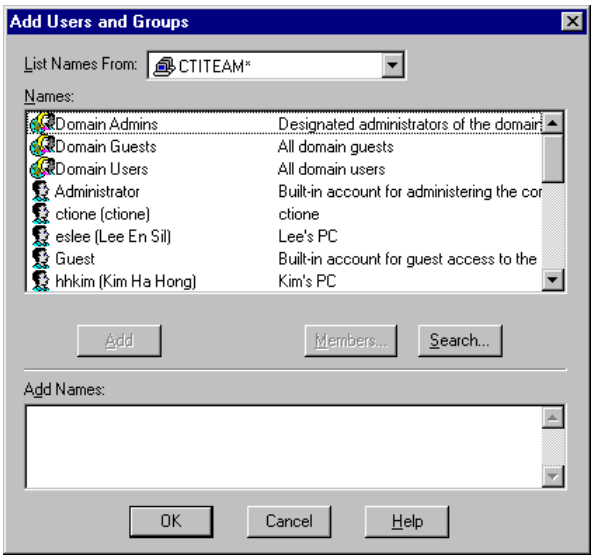
Click **Start, Run,** and enter **tcmapp.exe**

Adding User Accounts to the Telephony Server

- Click **User**, and then click **Add a User to this Telephony Server…**



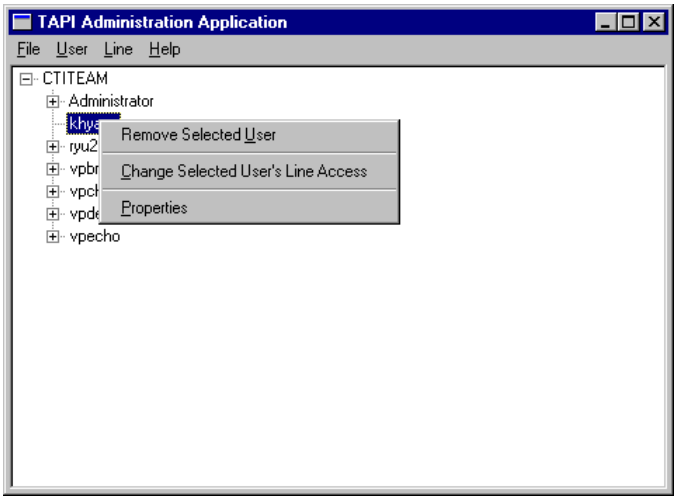
To bring up the following dialog box :



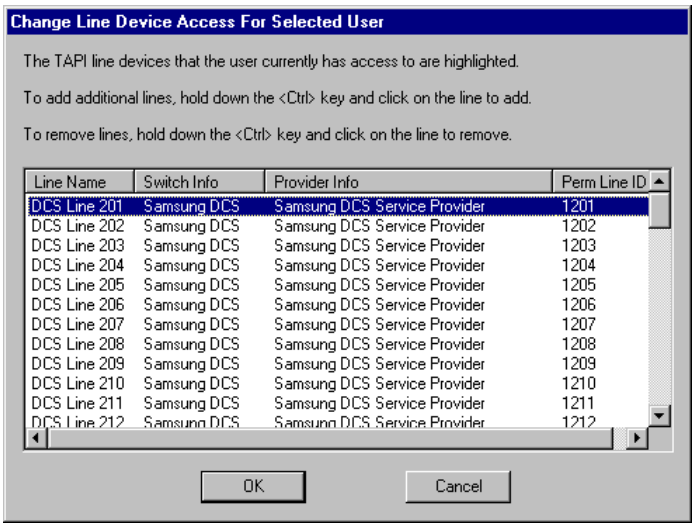
Click a user account entry, then click **Add**. This puts the user account Domain name and user account name into the *Add Names* area. If you have more than one user to add to the Telephony Server, you may do this as many times as necessary without leaving this dialog box. When finished, click **OK**.
See the following section for information on how to specify which lines a user account may access.

Enabling a User Account to Access Telephony Devices on the Telephony Server

In order to give a user access to one or more telephony devices, the user account must have already been added to the Telephony Server. See the previous section for information on how to do this.
To change the lines that an existing user can access, first locate the user account in the correct Windows NT Server domain in the main window. Next, position the pointer over the user account name and right-click. This will bring up the following menu :

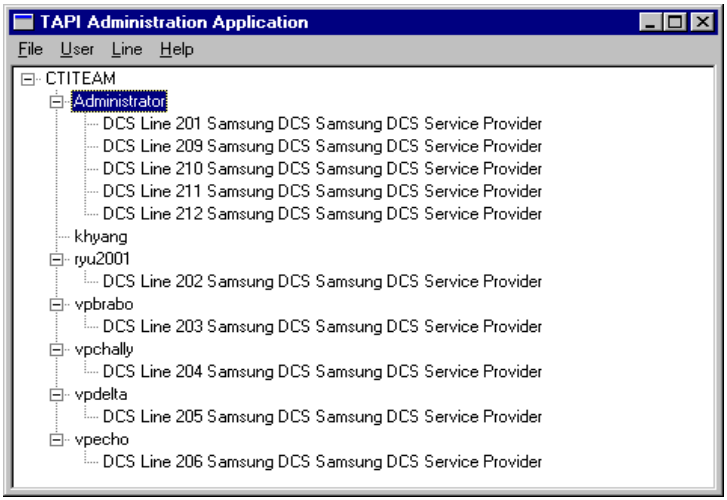


Click **Change Selected User's Line Access**. This will bring up a dialog box filled with the telephony devices available on this Telephony Server. If the selected user account already has access to one or more lines, those devices will be highlighted :



Click the lines to which this user account should have access. You may select more than one line :

- To select a sequential range of lines, click the line that is first in the range. Then locate the last line. Then, while holding down the **Shift** key, click the line that is last in the range. This will cause all lines from the first to the last to be selected.
- To select more than one line that are not sequential, hold down the **Control** key and click each line that the user should have access to.

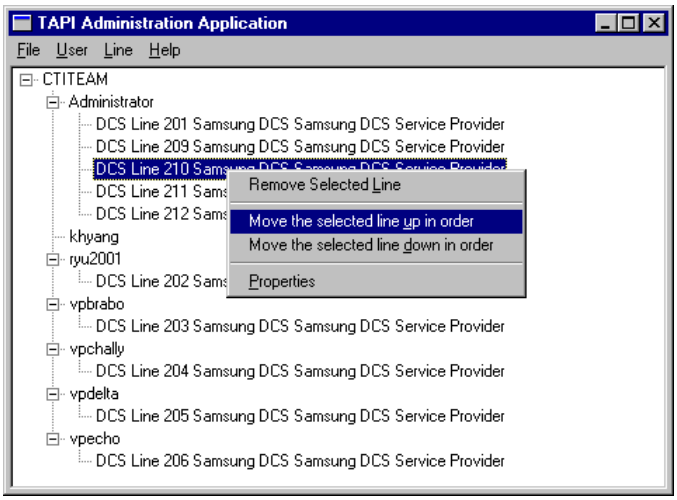


When finished, click **OK**. The main window will be updated to show the updated list of lines to which the user currently has access.

Changing the Order of Telephony Devices for a User Account

You might want to have a user's lines viewable in a specific order. For example, an organization might use a third-party TAPI program that manages calls using the first available line. If an assistant must answer the supervisor's phone as well as his own, it might be preferable for the assistant's line to be listed before the supervisor's line.

To move a particular line up or down in the order of lines for a user, position the pointer over the line to be moved and right-click. This will bring up the following menu :



Clicking **Move the selected line up in order** will move the selected line up one place in order to be positioned over the line that is immediately above it. If the selected line is already the first in the list of lines for this user, this menu item will be unavailable (appears dimmed).

Clicking **Move the selected line down in order** will move the selected line down one place in order to be positioned under the line that is immediately below it. If the selected line is already the last in the list of lines for this user, this menu item will be unavailable (appears dimmed).

COM Ports Configuration for RAS (Remote Access Service)

This is a typical COM port configuration.

COM Port No.	Address	IRQ	
COM1	3F8h	4	Serial Port 1
COM2	2F8h	3	Serial Port 2
COM3	3E8h	4	Serial Port 1
COM4	2E8h	3	Serial Port 2

If you want to run RAS and the Samsung TSP on the same PC, you must use the same serial port for both services. For example, if you install your modem at COM3 for RAS, you should assign COM1 for the Samsung TSP and vice versa. If you assign different serial ports for RAS and the Samsung TSP, such as COM1 for a modem and COM2 for the Samsung TSP, only one of those services will work.

. Chapter 8
GLOSSARY

Chapter 8 GLOSSARY

- **Devices**
  A device can be either an extension or trunk circuit. Each T1 span counts as 24 devices and each E1 span is 30. Phantom extensions, ACD groups, Paths and Workgroups are considered devices as well.

- **Domain**
  A domain is a logical grouping of network servers and computers that share information on users and security.

- **Dongle**
  A dongle is a mechanism for ensuring that only authorized users can copy or use specific software applications. Common mechanisms include a hardware key that plugs into a parallel or serial port on a computer and which a software application accesses for verification before continuing to run; special key diskettes accessed in a similar manner; and registration numbers that are loaded into some form of ROM (read-only memory) at the factory or during system setup.
  The dongle must always be connected to an I/O port of the computer while the program is running. Programs that use a dongle query the port at startup and at programmed intervals thereafter, and terminate if it does not respond with the dongle's programmed validation code.
  If more than one application requires a dongle, multiple dongles can be daisy-chained together from the same port.

- **Extension**
  Telephone device that provides voice connectivity to other telephones.

- **Line**
  The telephony device that represents one phone line (or phone number) that may be assigned to one or more users.

- **Named Pipe**
  A one-way or two-way pipe used for communications between a server process and one or more client processes. A server process specifies a name when it creates one or more instances of a named pipe. Each instance of the pipe can be connected to a client process that uses the pipe name to open a handle to the other end of the pipe.

- **Service**
  An executable object that is installed in a registry database maintained by the Service Control Manager. The executable file associated with a service can be started at boot time by a boot program or by the system, or it can be started on demand.

- **SMDR**
  Station Message Detail Recording.

- **Telephony Administrator**
  the person who is responsible for maintaining the authorizations of user accounts and telephony devices. It may be the same person that is responsible for the maintenance of the computer network or it may be the person that is responsible for telephone equipment at the organization. This person must have administrator privileges on the Telephony Server computer.

- **Telephony Client**
  a computer running Windows 95 or 98, or a Windows NT 4.0 Workstation or Server and that has the TAPI 2.1 software installed on it

- **Telephony Device**
  a line that the Telephony Server can control. See also: *Line*

- **Telephony Server**
  this is a computer running Windows NT Server 4.0 with the TAPI 2.1 update

- **User Account**
  an account in a Windows NT Server domain. See the Windows NT 4.0 Resource Kit for more information on user accounts and domain security.