

Technical Note

SPS Upgrade

From OCS 2007 R2 Compatible to Lync Compatible

Ver. 1.2

For

AudioCodes Gateways



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Notice

This document describes the procedure for upgrading the SPS application running on AudioCodes' Enhanced Media Gateway in the Microsoft Lync environment.

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Abbreviations and Terminology

Each abbreviation, unless widely used, is spelled out in full when first used, and only Industry standard terms are used throughout this manual.



Note: Throughout this guide, the term *gateway* refers to AudioCodes' Mediant 1000B.



Warning: The Mediant 1000B and the relevant additional components – OSN and MPM – are supplied as sealed units and must only be serviced by qualified service personnel.



Note: Where 'network' appears in this manual, it means LAN, WAN, etc. accessed via the OSN's Ethernet interface.

Related Documentation

Manuals Name
SPS Lync Version Initial Setup Configuration Guide
SPS Web Admin User Guide
Mediant 1000 MSBG User's Manual

1 Introduction

This document provides a detailed description on how to use the “SPS Recovery USB” dongle for upgrading the SPS from the Microsoft OCS 2007 R2 compatible version to the Microsoft Lync compatible version.

The image upgrading can be done on the **Mediant 1000B** AudioCodes gateway. This gateway does not provide a graphics card and the “Emergency Management Service” (EMS) will be used to monitor the process.

The SPS upgrade procedure is done by booting the gateway from the “SPS Recovery USB” dongle, preparing the hard disk (partitions and formatting) and finally burning an image to the hard disk.

The procedure options are setup using the *ini* file located on the “SPS Recovery USB” dongle.

Upgrading to the Lync compatible version requires moving to the Windows 2008 R2 operating system (OS), which causes the loss of the current setup and configuration due to reinstalling the OS. The backup procedure is not available yet (available in future versions) so the upgrade procedure will include the following steps:

- Manual backup
- Burn the new image and set network and SPS computer name
- Setup the SPS
- Manual restore

Reader's Notes

2 Preparation

Before starting the SPS upgrade process, you will need the following:

- Ensure that you have upgraded the *bios* to Version 23 (Kontron module) or above.
- “SPS Recovery USB” dongle - supplied by AudioCodes.
- Location of the system image file that you want to burn to the system. The file can be located on the SPS Recovery USB, FTP server, local network or on the Recovery Partition of the system (OSN hard drive’s disk D:\).
- If you have recently obtained a newer system image, it is highly recommended to copy this system image to the SPS USB (prior to performing the backup procedure) and then delete the old image from the USB - (the old image resides on the USB root with a “wim” extension).



Notes:

- The SPS Recovery USB is delivered with a system image.
- When using the Recovery Partition of the system as the location of the image file, you must disable the partitions and formatting operations on the *RecoveryUtil.ini* file.
- You can also download the image file from AudioCodes web site or obtain a DVD from AudioCodes with the new version.

Reader's Notes

3 Upgrade Procedure

3.1 Manual Backup

Due to the lack of a backup option of the SPS, the backup and restore functions will need to be done manually. The backup and restore will be available in future versions¹.

3.1.1 Network Setup

After burning the new image to the disk, the Windows 2008 R2 will use DHCP and the SPS computer name will be reset. In case you need to restore the computer name and old static network configuration keep a copy of it and use it later.

3.1.2 Users

For the **Restore** step, you will need a Comma Separated Value (CSV) file with all existing SPS users. This CSV can be based on an older CSV version (by exporting users from the old GUI – see below).

If the old SPS version is managed via local files, reconstruct the CSV file by getting the information from the configuration files as explained below or by defining the users again. If the system contains a very small number of users, define the users manually in the SPS Web Admin because it will be much faster.

The CSV used to restore users should have the following fields:

- **Name:** Lync login name (without the domain part).
- **Domain:** User domain.
- **Password:** SIP password.
- **IPP Presentation Name:** User Display Name
- **Device 1 Display name:** Description only field of the main user device.
- **Device 1 MAC Address:** Device MAC Address. This is needed so that the GUI will prepare the IPP configuration file. It is relevant if the IPP Model is set in *Device 1 IP Phone Model* parameter.
- **Device 1 IP Phone Model:** IPP Model. Select one of the following:
 - *Audiocodes_320HD* – AudioCodes 320 Version 1.2
 - *Audiocodes_310HD* – AudioCodes 310 Version 1.2
 - *Audiocodes_320HD_1_4_x* – AudioCodes 320 Version 1.4
 - *Audiocodes_310HD_1_4_x* – AudioCodes 320 Version 1.4
 - *Snom 3x0*
 - *Polycom 670*
 - *cisco_7960_7940*
 - *cisco_7911*
 - *cisco_7941*

Keep this field empty in case you are using a different device.

¹ Should be available in Q1 2011

- **Device 1 Language:** Select one of the following. Ensure the IPP must support the language you selected.
 - English
 - Spanish
 - Russian
 - Portuguese
 - German
 - Ukraine
 - French
- **Device 1 VLAN Mode:** VLAN mode can be one of the following:
 - Disabled
 - Automatic - CDP
 - Enable - The following two parameters are relevant:
 - ◆ **Device 1 VLAN ID:** VLAN ID can be between 0 to 4094
 - ◆ **Device 1 VLAN Priority:** VLAN Priority can be between 0 to 7
- **Users were managed *only* via the GUI:** Open the Web GUI and export the users. See the following figure. This CSV will be used to help build the restore user's CSV:

Figure 3-1: SIP Phone Support for OCS



■ **Users were managed only via files or via GUI and files:**

Create the Restore user's CSV from the beginning. Two types of files hold the information: FrontEnd config file under *C:\Program Files (x86)\AudioCodes\SPS\SPS Switch\conf\directory\default* (xml file per user. The name of the file is according to the user login name) and IPP configuration file under *C:\tftpsrv\files* – the last one is not mandatory and used only in case the IPP is configured via configuration file which is downloaded via TFTP/FTP. Open these files and retrieve the user information.

Below are examples with explanations of which field to copy:

- FrontEnd config file

The file name is according to the user name and should be used as the *Name* field on the restore users CSV file.

When you open the file, get the SIP password under the password field:

```
<param name="password" value="p58l96$OaS$^9!!" />
```

In the above example the SIP password is: **p58l96\$OaS\$^9!!** and should be used as the *Password* field on the restore user's CSV file.

- IPP config file

The IPP config file name contains the MAC address of the IPP and the IPP model. Match which user the file belongs to according to the user set in the Config file – e.g., for the AudioCodes config file, find the user the file that belongs to the *voip/line/0/auth_name* parameter.

3.1.3 TFTP/FTP Files

The TFTP/FTP directory under *C:\tftpsrv\files* must be backed up. At the end of the upgrade process, this folder should be restored manually. This directory holds IP Phones firmware files and IP Phones configuration files. The SPS Web admin creates the IP Phones files in case the type and the MAC of the IP Phones are set and will overwrite the old files. If you have files that you set manually (e.g. firmware or IP Phones configuration files that the Web admin does not generate), these files should be copied manually. It's important to keep the same IP for the server because these files which will not be overwritten can hold the IP of the server (e.g., SPS SIP proxy).

3.2 USB Configuring Procedure Options in RecoveryUtil.ini

The *RecoveryUtil.ini* file is located in the Root directory of the “SPS Recovery USB”. This file contains the upgrade procedure options. You need to modify the parameters in this file to define the different scenarios of image upgrading. This section provides a detailed description of the options in the file. The *RecoveryUtil.ini* is delivered using the recommended configuration as described in this section.



Note: Before plugging the “SPS Recovery USB” into your PC, ensure that in your PC boot priority, the option to boot from USB is disabled or it is on the last priority. This is important because, if your PC is set to boot from the USB before it tries to boot from the hard drive (HD), your PC will restart while the “SPS Recovery USB” dongle is plugged-in and your PC will be formatted.

3.2.1 Define Start Type of Recovery Utility - RecoveryStartType

The upgrade procedure can start automatically or manually.

[Execution] RecoveryStartType= 0 ; Recovery Utility starts automatically when Windows Pre-installation Environment starts;
[Execution] RecoveryStartType= 1 ; Recovery Utility should start manually, from dos shell command line

The following configuration is recommended:

- Configure **RecoveryStartType** to 1. Run the Recovery Utility manually from the command line from the serial port monitor (i.e. HyperTerminal). The logged messages are printed to the console of the HyperTerminal and you can monitor the status of the image recovering in runtime.

When setting **RecoveryStartType** to 1, run the upgrade script manually. This method is recommended when using the Mediant 1000B where you wish to view the progress of the upgrade process online via the serial console.



Note: The Mediant 1000B does not have a direct monitor connection.

If you set **RecoveryStartType** to 0, the program starts automatically when Windows PE starts. The logged messages are saved only in the log file.

Setting **RecoveryStartType** to 0 should be used in cases where you cannot connect the serial console to the Mediant 1000B. In this case, the upgrade process runs automatically. In addition, it is highly recommended to set **OnExit** to 2, in which case, the Mediant 1000B OSN module shuts down when the procedure has completed.

For both modes, the logged messages are saved in the *RecoveryLog.txt* log file and you can view them at the end of the process. For more information, see ‘Monitoring the Hard Disk Preparation and Restoring with New Version Procedure’ on page 19.

3.2.2 Run Recovery Utility Automatically or Wait for Approval - Automatic

The upgrade procedure can start automatically or wait for the user confirmation.

[Execution] Automatic= 0 ; the upgrade starts only after user approval via the console.
[Execution] Automatic= 1 : the upgrade starts immediately after the system boots from the USB.

After the process has started, the user is prompted to confirm the upgrade procedure.

If you are running this procedure automatically, you must set this parameter to 1.

The following configuration is recommended:

Automatic= 1 (default)

3.2.3 Check Disk - CheckDisk

This option forces disk checking before burning the image. The result of the check disk is logged.

[Execution] CheckDisk=0 ; check disk is enabled.
[Execution] CheckDisk=1 ; check disk is disabled.

The check disk command parameters are set in the [CheckDiskSettings] section of the *ini* file.

The following configuration is recommended:

CheckDisk = 0 (default)

3.2.4 Create Disk Partitions - DiskPartitions

This option enables creation of disk partitions.

[Execution] DiskPartitions=0; don't create disk partitions.
[Execution] DiskPartitions=1; create disk partitions.

The disk partition parameters are set in the [DiskPartitions] section of the *ini* file.

[DiskPartitions] MainPartitionSize ; the main partition size in Megabytes.
[DiskPartitions] FormatPartitions ; "1" to format disk partitions, "0" not to format.

When **DiskPartitions=1**, you must also set FormatPartitions to 1.



Notes:

- The SPS is shipped with an image on the recovery partition (OSN hard drive's disk D:\). If DiskPartitions = 1, then this image will be deleted. It is recommended to back up the file to an external storage. If DiskPartitions = 1, then the image location can't be the recovery partition.
- The secondary partition size is hard disk size – MainPartitionSize. Ensure that the secondary partition is at least 10 Gb as it is used to hold images which are downloaded through FTP.

The following configuration is recommended:

DiskPartitions = 1 (default)

3.2.5 Burn Image - RecoverImange

This option burns the image on the primary partitions.

```
[Execution] RecoverImange =0      ; don't burn image.
[Execution] RecoverImange =1      ; burn image.
```

The following configuration is recommended:

RecoverImange = 1 (default)

3.2.6 Exit Operation - OnExit

This option defines the operation after the execution ends.

```
[Execution] OnExit = 0      ; command prompt.
[Execution] OnExit = 1      ; reboot.
[Execution] OnExit = 2      ; shutdown.
```



Note: The recommendation for this configuration is as follows:

- If the user monitors the procedure by connecting a monitor or serial console, it is recommended to set **OnExit** to 0. In this case, the user views log messages on the console indicating the progress of the upgrade process.
- If the process is performing automatically without monitoring via a monitor or serial console, you must set **OnExit** to 2. At the end of the upgrade process, the gateway OSN module shuts down.

3.2.7 Configure Network - NetworkCardConfiguration

This section defines the network configuration for the upgrade procedure. This setting is valid only for the upgrade process. When the server starts after the process ended it will use DHCP for the network.

```
[NetworkCardConfiguration] EnableDhcp=1      ; use DHCP.
[NetworkCardConfiguration] EnableDhcp=0      ; use static IP configuration with the
following parameters:
[NetworkCardConfiguration] IpAddress         ; static IP address.
[NetworkCardConfiguration] SubnetMask        ; subnet.
[NetworkCardConfiguration] DefaultGateway    ; default gateway.
[NetworkCardConfiguration] DnsServers        ; DNS.
```

The following configuration is recommended:

EnableDhcp = 1 (default)

3.2.8 Define Image File Name - Filename

This option defines the image file name.

[WIM Filename] Filename ; the image file name.

By default:

The Mediant 1000B image name is: *SPS_V1.wim*

3.2.9 Define Image file Source - Source

This option defines from where to obtain the image file.

[ImageSource] Source = 1 ; FTP.
[ImageSource] Source = 2 ; Local Network.
[ImageSource] Source = 3 ; "SPS Recovery USB" dongle.
[ImageSource] Source = 4 ; Recovery Partition.



Note: For sources 1, 2, and 3, the image is also copied to recovery (second) partition for future use.

The following configuration is recommended:

Source = 3 (default)

3.2.10 Define FTP - FtpSettings

This option is applicable only when **[ImageSource] Source = 1**.

[FtpSettings] Site ; IP/FQDN of FTP server (FTP server can be in the local network or on the Internet).
[FtpSettings] User ; FTP user.
[FtpSettings] Password ; FTP Password.



Note: The image file must be located on the root of the FTP.

3.2.11 Define Local Network

This option is applicable only when **[ImageSource] Source = 2**.

[LocalNetworkSettings] Path; the network URI (for example, \\192.168.1.4\images).
[LocalNetworkSettings] User; user name (for example, audiocodes\john.smith).
[LocalNetworkSettings] Password; password.

3.2.12 Define Disk On Key

This option is applicable only when **[ImageSource] Source = 3**.

[DOKsettings] DirectoryPath ; specify the directory path without the volume (for example, \recovery\). The application searches for this directory in all drives.
For USB root, set to \

The following configuration is recommended:

DirectoryPath = \ (default)

3.2.13 Define Recovery Partition

This option is applicable only when **[ImageSource] Source = 4**.

[RecoveryPartition] DirectoryPath ; specify the directory path without the volume (for example, \recovery\). The application searches all the drives for this directory.
For Recovery partition root, set to \

The following configuration is recommended:

DirectoryPath = \ (default)

3.2.14 Define VNC Server

This option enables a VNC server for providing remote access to the logged messages. This option is for future use.

[RemoteDesktopServer] Enable=0 ; VNC is disabled.
[RemoteDesktopServer] Enable=1 ; VNC is enabled.

The following configuration is recommended:

Enable = 1 (default)

3.2.15 Define MAC Address Prefix

This parameter defines the MAC prefixes that the upgrade procedure can run on. This prevents accidental running of the upgrade/recovery procedure on your PC. If not configured, the procedure will run on any system.

[User Confirm] MacPrefix ; verify that the Mediant network adapter MAC address has this prefix (for example, MacPrefix= 00-45-B1-22-49-B1).

You can also define several prefixes with different digit extensions. For example:

```
MacPrefix=01034E
MacPrefix1=0
MacPrefix7=01-03-5C
MacPrefix3=01-03
```

The following configuration is recommended:

MacPrefix=00-80-82 (default)

MacPrefix1=00-40-9E (default)

3.3 Starting the Upgrade Procedure

When the *RecoveryUtil.ini* file is ready, plug the “SPS Recovery USB” dongle into the system, and reboot the system from the USB (and not from the hard drive/HD). If the system boots from the HD, you need to set the BIOS to boot from the USB.

3.4 Monitoring the Hard Disk Preparation and Restoring with New Version Procedure

You can monitor the procedure online or allow it to run and then when complete, check the results in the log file created on the USB. This logged file name is *RecoveryLog.txt*.

Use the EMS to open a console and run the Recovery Utility manually (**RecoveryStartType** must be set to 1.). For a description on how to do this, see Chapter 4, “[Appendix A: Monitoring Upgrade Process using EMS](#)”.

This procedure takes several minutes, at the conclusion of which you will view a windows console prompt.

3.5 Initializing the New Operating System

After the burning process has completed successfully, continue to the last step to initialize the Operating System (OS).

To determine whether the burning process is complete, check the console or the system shutdowns down (if onexit=2).

If the burning procedure is successful, continue to the following steps.

➤ **To initialize the new OS:**

1. **Remove the “SPS Recovery USB” dongle from the system.**
2. Reboot the system; the initialization process is done automatically. This automatic procedure takes approximately 10 minutes.



Notes:

This step may take a while; don't power off the system. For OS initialization, the system restarts once.

3.6 SPS Setup

3.6.1 Network Setup

The first step is to set the network properties as it was before the upgrade. It is recommended if you are going to use the old IP Phone configuration files which hold the SPS IP.

3.6.2 SPS Installation and Configuration

Follow the instructions in “SPS Lync Version Initial Setup Configuration Guide” doc.

3.6.3 Manual Restore

3.6.3.1 TFTP/FTP Files

Copy the directory that you backup in section: 3.1.3 TFTP/FTP Files to the same place.

3.6.3.2 Configuration Parameters

The new Web Admin version provides the ability to set several new parameters via the GUI that in previous SPS versions were managed via the configuration files.

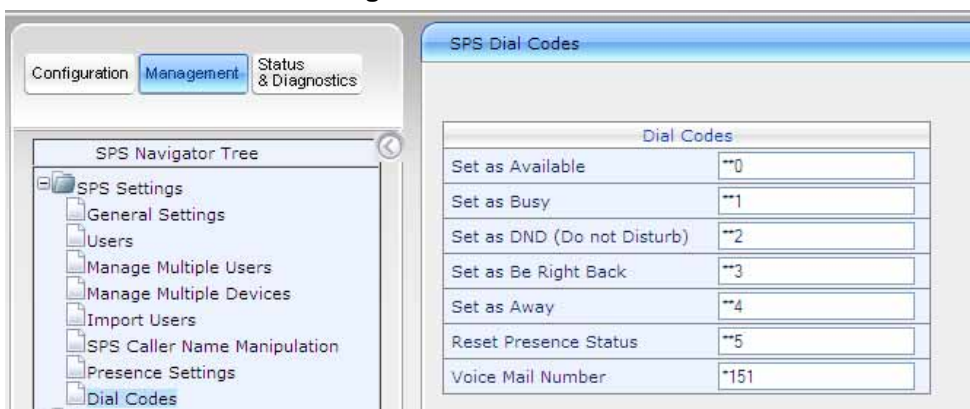
1. Set the time in minutes that will cause to the user to be in Away/Inactive after a call.

Figure 3-2: SPS Settings



2. Set dial codes for changing presence via IPP.

Figure 3-3: SPS Dial Codes



Notes:

For detailed instructions on how to perform SPS settings please refer to the SPS Web Admin User’s Guide.

3.6.3.3 Users Restore

To restore the users, use the CSV file that you created according to the new import users format. Refer to the **Import Users** section in the SPS Web Admin User's Guide:

Figure 3-4: Import Users



4 Appendix A: Monitoring Upgrade Process using EMS

This chapter describes how to monitor the upgrade procedure for **Mediant 1000B** using Emergency Management Services (EMS).

EMS is a technology that supports remote management and system recovery for servers that are not accessible through an in-band connection.

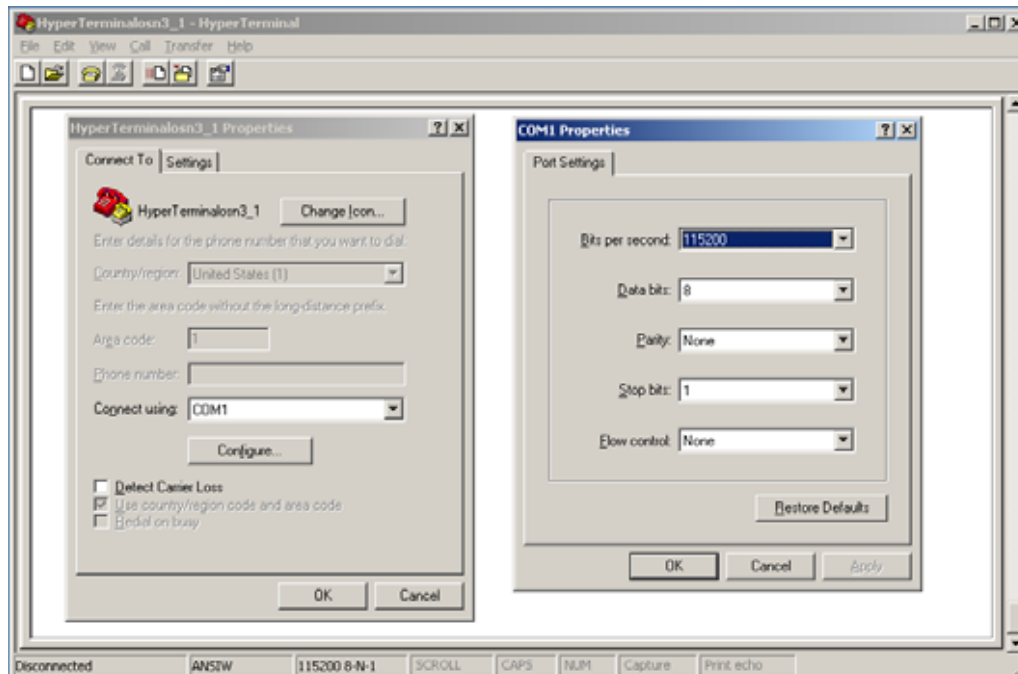
An in-band connection is a connection between two computers that relies on a standard network, such as a local area network (LAN) or the Internet, and on standard remote administration tools, such as Remote Desktop or Telnet. You can use this type of connection to remotely manage computers only if both the local and remote computers are in a functional state and accessible on the network.

EMS redirects text output to the out-of-band connection. An out-of-band connection is a nonstandard connection between two computers, such as a serial port connection, and is useful when a remote server cannot access the network or is not fully functional. EMS provides a command-line environment for managing a server through the out-of-band port. The capability of redirecting text output is also known as console redirection.

➤ **To monitor the procedure using EMS:**

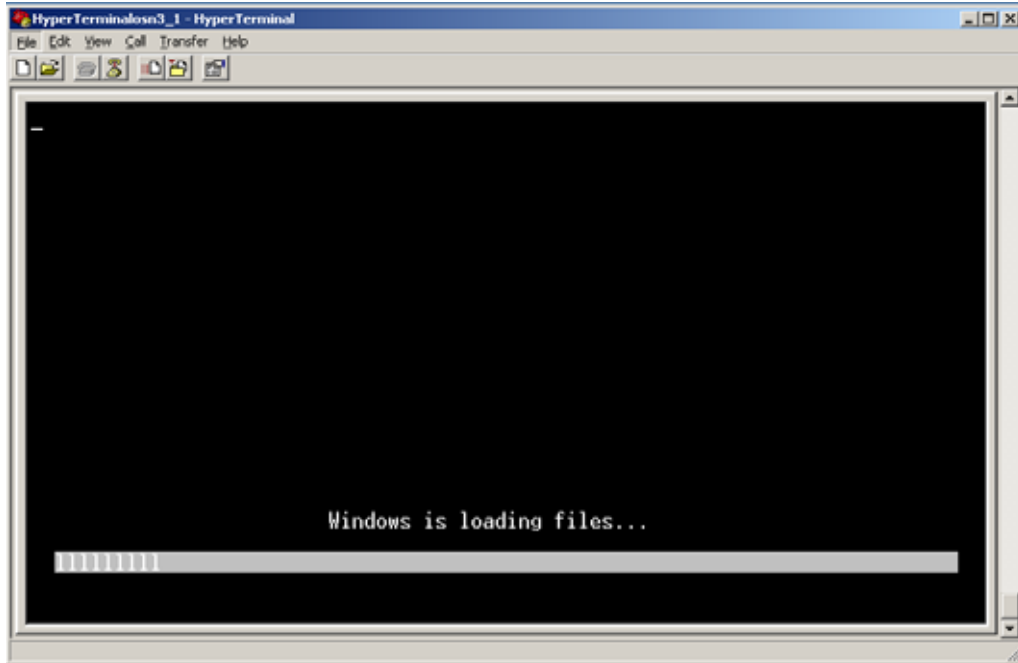
1. Edit the *RecoveryUtil.ini* file and set **RecoveryStartType** to 1.
2. Connect the Mediant 1000B to another PC, using the serial cable supplied with the Mediant 1000B.
3. On the PC, start a terminal application (for example, HyperTerminal – **Start > Programs > Accessories > Communications > HyperTerminal**), and then set it as shown in the figure below (On your PC you may need to use a different COM # rather COM1 which is used in the figure below):

Figure 4-1: HyperTerminal



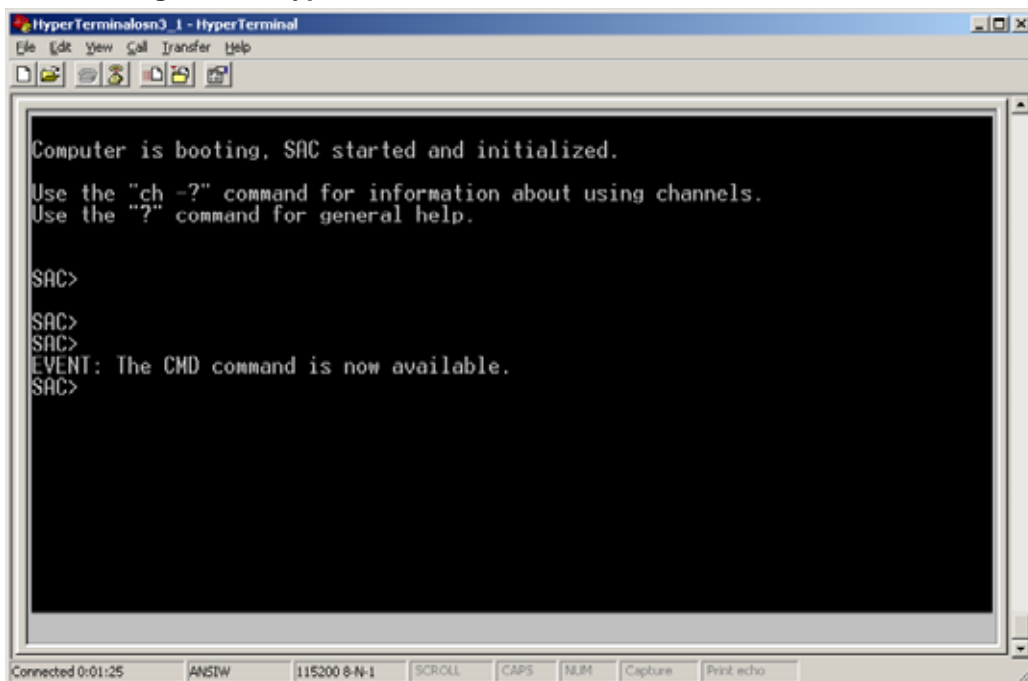
4. Plug the USB into the system and then reboot the server; during reboot, from the USB in the terminal window, the following message is displayed: "Windows is loading files...", as shown in the figure below:

Figure 4-2: HyperTerminal – Windows is Loading Files



5. SAC is available; the following message is displayed: "Computer is booting. SAC is started and initialized."
6. Wait for the next message: "The CMD command is now available.", as shown in the figure below:

Figure 4-3: HyperTerminal – CMD Command is now Available



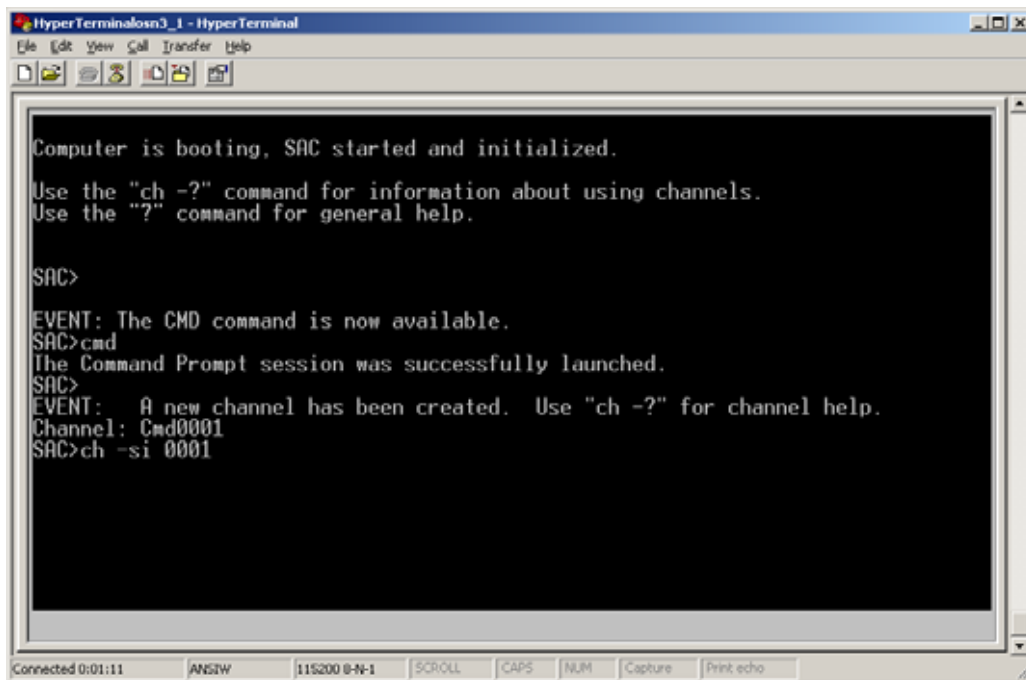
7. Open the command line console, by typing **cmd**.

8. When the “A new channel has been created...” message is displayed, type the following command (as shown in the figure below):

ch -si 0001

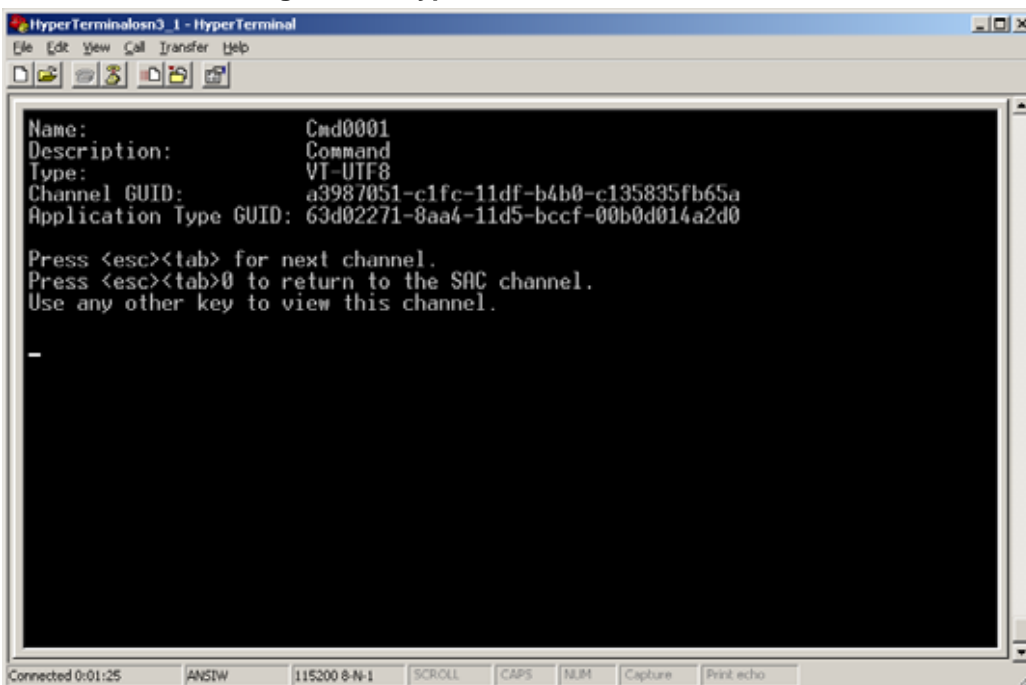
where “0001” is the number of the created channel.

Figure 4-4: HyperTerminal – New Channel



The command prompt console starts. When the command console is ready, the following is displayed , as shown in the figure below:

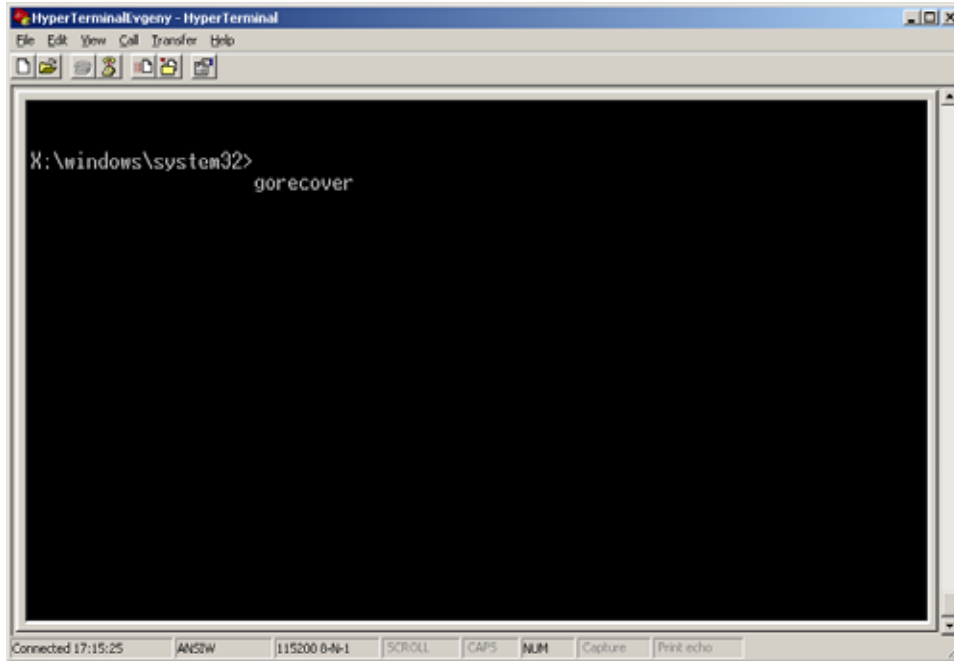
Figure 4-5: HyperTerminal – SAC Channel



9. Press the **Enter** key to continue.

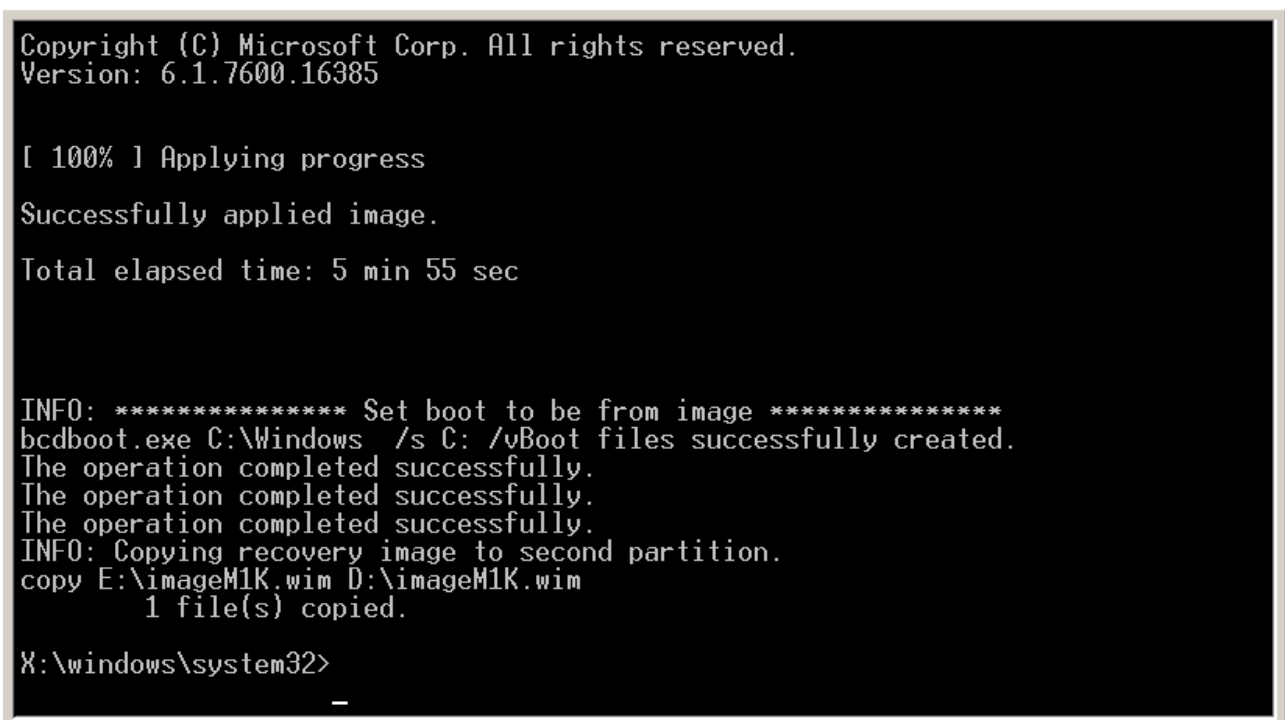
10. When the “:\windows\system32” prompt is displayed:
 - If in the *ini* file you set **RecoveryStartType=1** (manually from command line), then type the following command:
X:\windows\system32>gorecover
 The SBA Recovery/upgrade starts and logger messages are printed to the console.

Figure 4-6: HyperTerminal – gorecover



11. When the procedure has completed, the following log messages are displayed.

Figure 4-7: HyperTerminal – Successfully Applied Image



12. Remove the SPS Recovery USB” dongle and restart the server.

Reader's Notes

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