

Technical Note

SBA Upgrade and Recovery Ver. 1.0

For

AudioCodes Gateways in Microsoft® Lync™ Server 2010 Environment



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Reader's Notes

Notice

This document describes the procedure for upgrading and recovering (if required) the SBA application running on AudioCodes' Enhanced Media Gateway in 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 and Mediant 2000 devices.

Reader's Notes

1 Introduction

This document provides a detailed description on how to use the “SBA Recovery USB” dongle for upgrading the SBA and for recovering it (in case of failure).

The image upgrading can be done on two types of AudioCodes gateways:

- **Mediant 1000B:** This gateway does not provide a graphics card and the “Emergency Management Service” (EMS) will be used to monitor the process.
- **Mediant 2000:** This gateway provides a graphics card and the process can be monitored by connecting a monitor to it or by using a VNC client (for example, TightVNC) for remote monitoring.

The SBA upgrade and recovery procedure is similar for both gateways. It is done by booting the gateway from the “SBA 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 “SBA Recovery USB” dongle.

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2 Preparation

Before starting the SBA upgrade and recovery process, you need the following:

- In case you upgrade/recover the Mediant 1000B with OSN3, ensure that you have upgraded the bios to version 23 or above.
- “SBA Recovery USB” dongle - supplied by AudioCodes with every SBA system.
- Location of the system image file that you want to burn to the system. The file can be located on the SBA Recovery USB, on an FTP server, on a local network, or on the Recovery Partition of the system (OSN hard drive’s disk D:\).
- If you have recently obtained a later system image, its highly recommended to copy this system image to the SBA Recovery 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 “wim” extension)
- In case you upgrade/recover on the Mediant 2000 device, ensure that you connect a keyboard and monitor prior to performing the upgrade/recover procedure.



Notes:

- The SBA 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.

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3 Upgrade and Recovery Procedure

3.1 Configuring Procedure Options in RecoveryUtil.ini

The *RecoveryUtil.ini* file is located in the Root directory of the “SBA Recovery USB”. This file contains the upgrade/recovery 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 “SBA Recovery USB” into your PC, ensure that in your PC boot priority, the option to boot from USB is disabled or it's on the last priority. This is important because if your PC is set to boot from USB before it tries to boot from hard drive (HD), if your PC will restart while the “SBA Recovery USB” dongle is plugged in and your PC will be formatted.

3.1.1 Define start type of Recovery Utility - RecoveryStartType

The upgrade/recovery 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 (depending on the gateway):

- **Mediant 1000B:** 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, the user has to run the upgrade/recovery script manually. This method is recommended when using the Mediant 1000B where you wish to view the progress of the upgrade/recovery process online via the serial console (note that 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/recovery 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 Procedure’ on page 16.

- **Mediant 2000:** Configure the **RecoveryStartType** to 0. The program starts automatically. The logged messages are printed to the console and you can monitor the status of the image recovering in runtime.

For both modes, the logged messages are saved to the log file and you can view them at the end of the process.

3.1.2 Run Recovery Utility Automatically or Wait for Approval - Automatic

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

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

After the process has started, the user is prompted to confirm the upgrade/recovery procedure. If you are running this procedure automatically,, you must set this parameter to 1.

The following configuration is recommended:

Automatic= 1 (default)

3.1.3 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)

3.1.4 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 SBA 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's 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)

3.1.5 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)

3.1.6 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's recommended to set **OnExit** to 0. In this case, the user views log messages on the console indicating the progress of the upgrade/recovery process.
- If the process is performing automatically without monitoring via a monitor or serial console, you must set **OnExit** to 2. In this case, at the end of the upgrade/recovery process, the gateway OSN module shuts down.

3.1.7 Configure Network - NetworkCardConfiguration

This section defines the network configuration for the upgrade/recovery procedure.

```
[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)

3.1.8 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: imageM1k.wim

The Mediant 2000 image name is: imageM2k.wim

3.1.9 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 ; "SBA 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)

3.1.10 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.

3.1.11 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.
```

3.1.12 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)

3.1.13 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)

3.1.14 Define VNC Server

This option enables a VNC server for providing remote access to the logged messages. This option is applicable only to Mediant 2000.

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

The following configuration is recommended:

Enable = 1 (default)

3.1.15 Define MAC Address Prefix

This parameter defines the MAC prefixes that the upgrade/recovery 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)

3.2 Starting the Procedure

When the *RecoveryUtil.ini* file is ready, you need to plug the “SBA Recovery USB” dongle into the system, and reboot it. You must 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.

3.3 Monitoring the Procedure

You can monitor the procedure on-line 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*.

The procedure monitoring depends on the gateway:

- Mediant 2000: viewing the console (**RecoveryStartType** recommended set to 0. In this case Recovery Utility will start automatically).
- Mediant 1000B: using the EMS to open a console and run Recovery Utility manually (**RecoveryStartType** must be set to 1. In this case, Recovery Utility should be started manually). For a description on how to do this, refer to Chapter 4, “[Appendix A: Monitoring Upgrade/Recovery Process using EMS](#)”.

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

3.4 Initializing the New Operating System

After the burning process has completed successfully, you can continue to the last step to initialize the operating system (OS).

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

Only if the burning procedure is successful should you continue to the next steps.

➤ **To initialize the new OS:**

1. **Remove the “SBA Recovery USB” dongle from the system.**
2. Reboot the system; the initialization process is done automatically (except for Mediant 2000, which requires entering the Windows license key that can be located on the sticker at the bottom of the system). This automatic procedure is about 10 minutes.



Notes:

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

3. Log on to the SBA GUI using the new IP address; the system starts in DHCP mode after the procedure completes. The new IP address can be detected as follows:
 - Mediant 1000B - typing “i” on the EMS
 - Mediant 2000 - using the console

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4 Appendix A: Monitoring Upgrade/Recovery Process using EMS

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

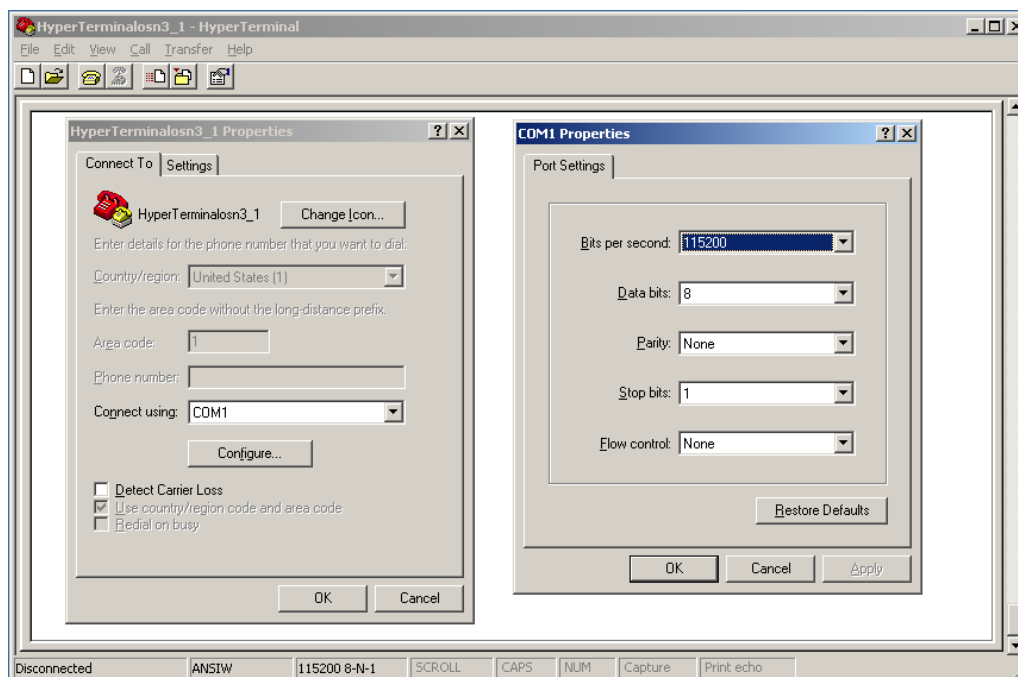
Emergency Management Services (EMS) is a technology that supports remote management and system recovery for servers that are not accessible through an in-band connection.

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.

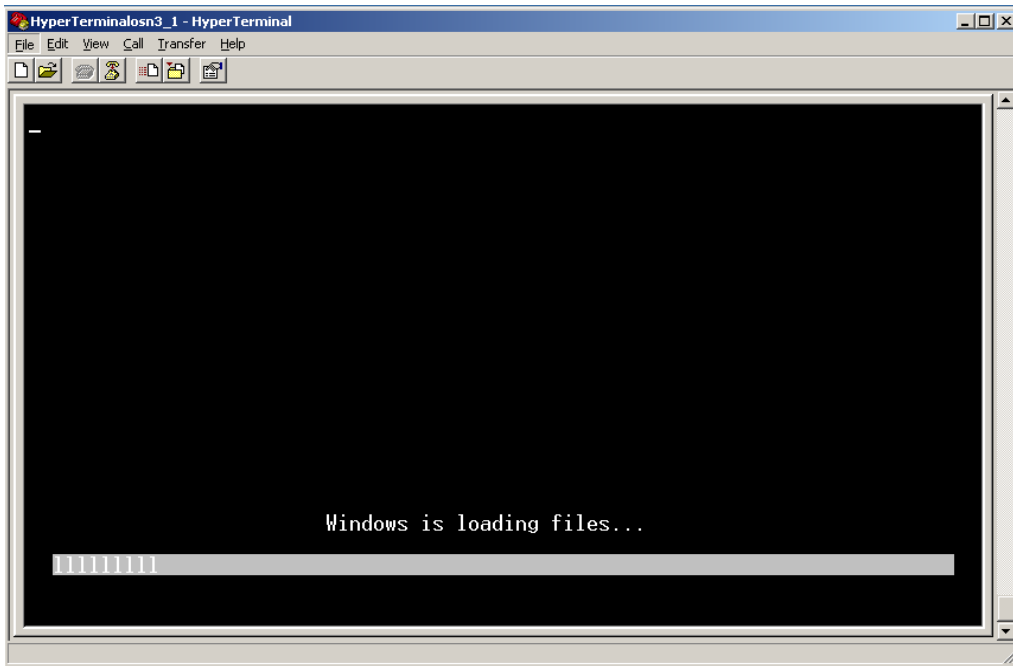
Emergency Management Services (EMS) redirects text output to the out-of-band connection. An out-of-band connection is a nonstandard connection between two computers, such as a serial port connection, and is useful when a remote server cannot access the network or is not fully functional. Emergency Management Services 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:

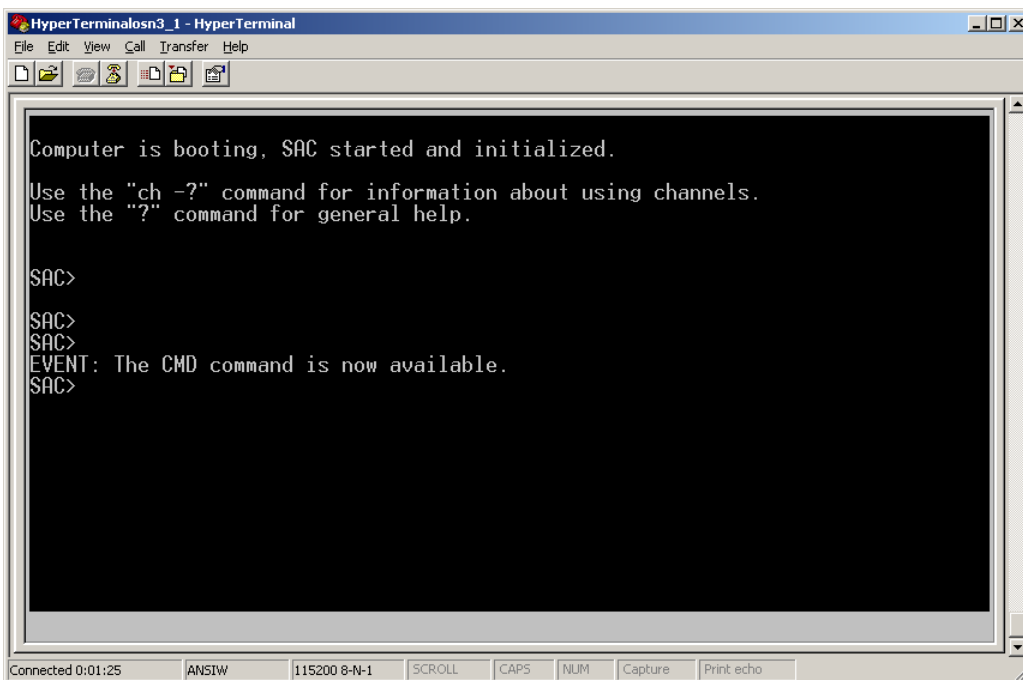
1. Edit the *RecoveryUtil.ini* file and set **RecoveryStartType** to 1.
2. Connect the Mediant 1000B to another PC, using the serial cable supplied with the Mediant 1000B.
3. On the PC, start a terminal application (for example, HyperTerminal – **Start > Programs > Accessories > Communications > HyperTerminal**), 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):



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:



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:

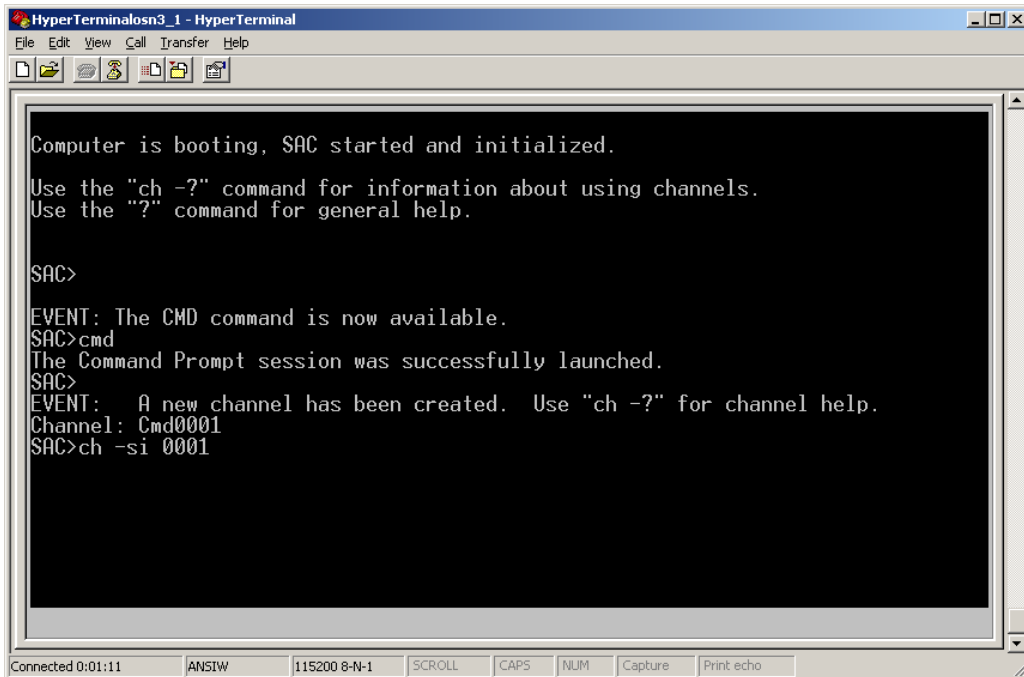


7. Open command line console, by typing **cmd**.

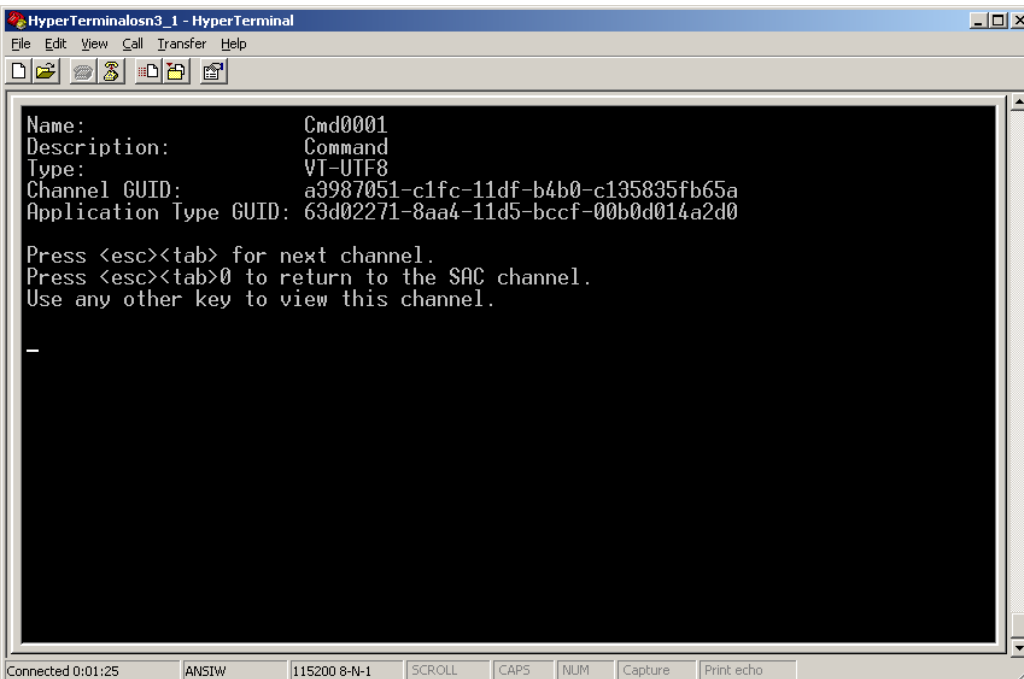
8. When the “A new channel has been created...” message is displayed, type the following command (as shown in the figure below):

ch -si 0001

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



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

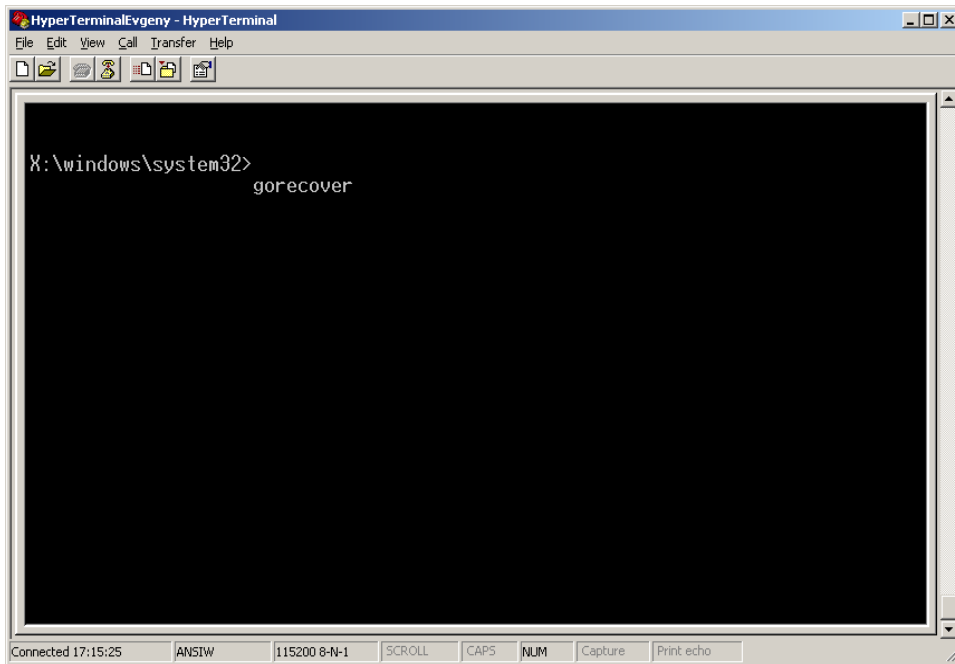


9. Press the Enter key to continue.

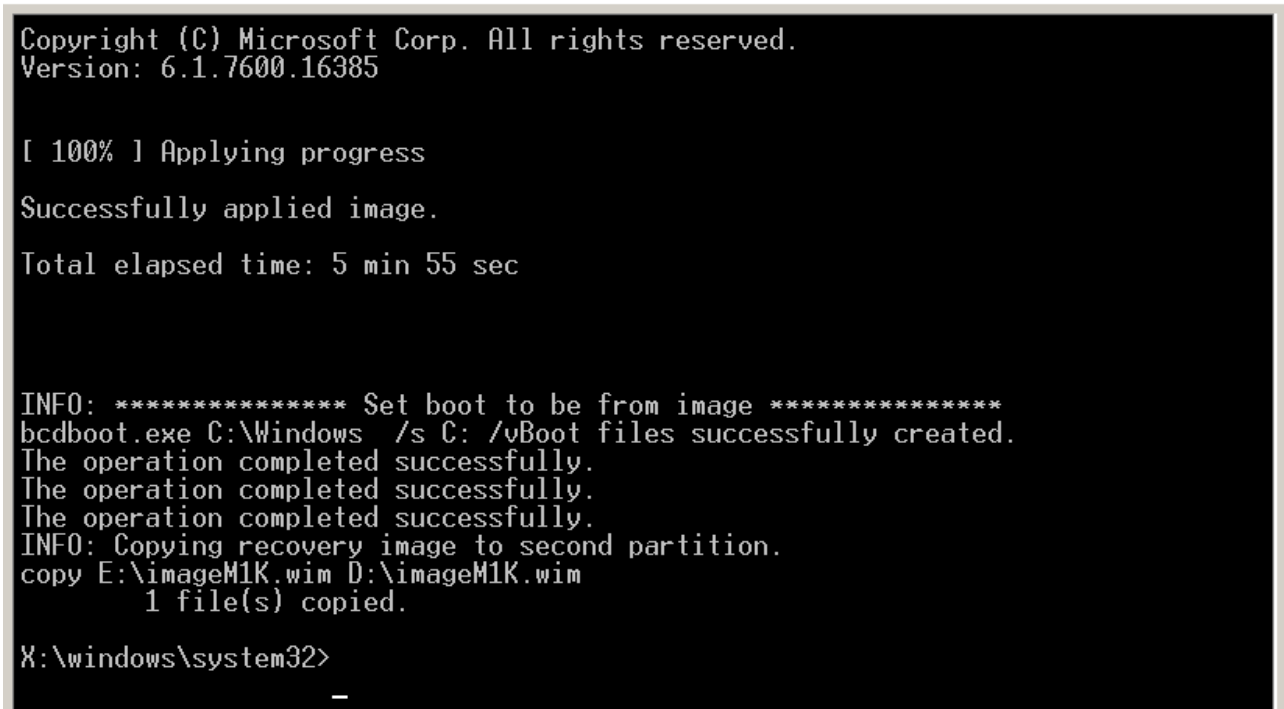
10. When the “:\windows\system32” message is displayed,
 - If in the INI file you set **RecoveryStartType=1** (manually from command line), then type the following command:

X:\windows\system32>gorecover

The SBA Recovery/upgrade starts and logger messages are printed to the console.



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



11. Remove the SBA Recovery USB” dongle and restart the server.

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Mediant 1000B & Mediant 2000

Technical Note

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