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ASTi

Voisus Server

Cold Start Procedure

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Product Name: Voisus Server

ASTi Voisus Server Cold Start Procedure

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ASTi

500 A Huntmar Park Drive

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Red Hat® Enterprise Linux®

Red Hat® Subscription

ASTi's ACE software is designed to run on an installation of Red Hat® Enterprise Linux® client. This ensures optimal interoperability with ASTi's ACE software, host routing software and external communications servers. As such included in the Cold Start DVDs is the complete installation of Red Hat® Enterprise Linux® client. This software **is not** activated to a current Red Hat subscription. It is the end users responsibility to activate their subscription and connect to the Red Hat Network. The Red Hat subscription will provide the end user with support, maintenance, software and security updates. For details on Red Hat activation see the Red Hat web site:

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Table of Contents

- 1.0. Introduction 1
- 2.0. Requirements 2
- 3.0. BIOS Configuration 3
 - 3.1. Configuring the BIOS version Q35AX American Megatrends 3
 - 3.2. Configuring the BIOS version Q67AX 5
 - 3.3. Configuring the Small Form Factor with BIOS version BLH6710H 7
 - 3.4. Configuring the Small Form Factor with BIOS version JGIBX10J 9
- 4.0. Back Up the Voisus Server 10
- 5.0. Cold Start Procedure 11
 - 5.1. Installing RHEL and ASTi Software 11
- 6.0. Restore the Voisus Server 13

1.0. Introduction

The cold start procedure described in this document allows users to build Voisus Server system software from scratch. There are three main reasons for using the cold start procedure:

1. Installing the latest software version
2. Rebuilding a damaged hard drive
3. Creating spare hard drive



Warning: Performing a system cold start will cause complete erasure of the system hard drive.

2.0. Requirements

Important: The cold start procedure will erase the system hard drive. Therefore, the user must back up the system configuration, complete the cold start, and then restore the system configuration.

This cold start procedure is for use with the Voisus Server only. The following items are needed for the cold start:

- Voisus Server
- ASTi DVD
- RHEL DVD
- Connected power
- Connected monitor
- Connected keyboard
- Connected network

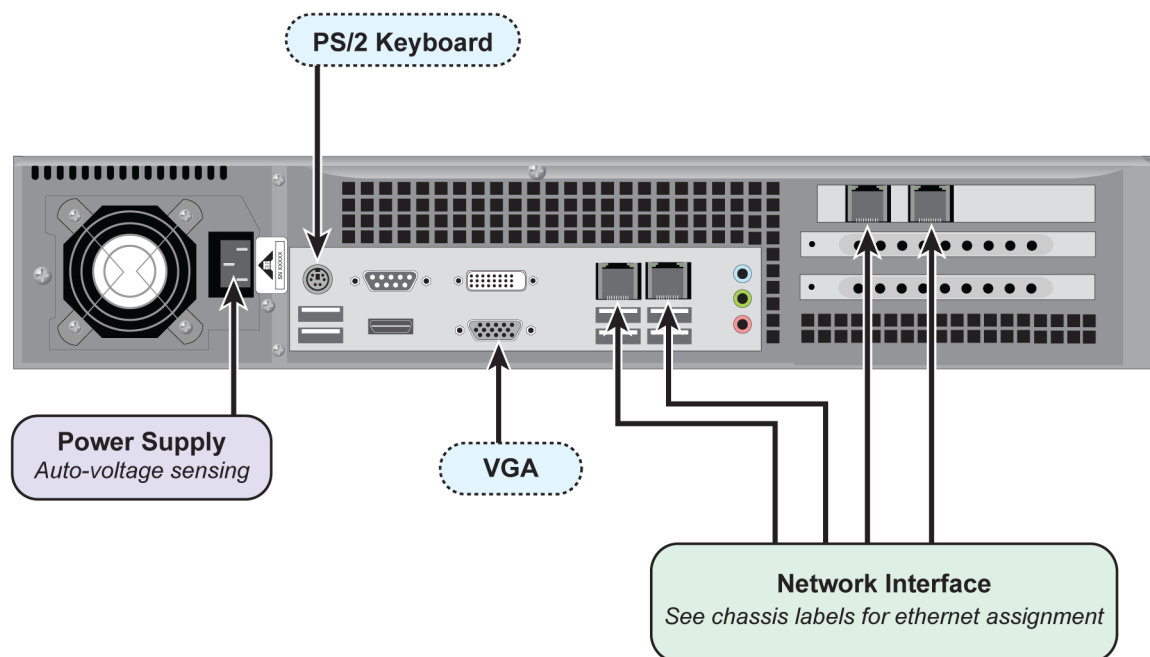


Figure 1: Voisus Server Setup



Remove all plastic packaging from the platform before proceeding with the Cold Start procedure.

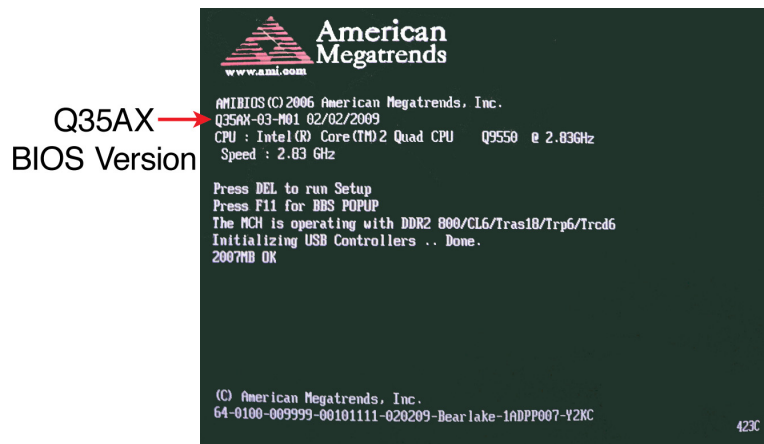
3.0. BIOS Configuration

During initial system boot-up, pause the screen to view the version number of the BIOS. The BIOS versions are:

- Q35AX American Megatrends
- BLH6710H
- JGIBX10J
- Q67AX

Note: By default the USB keyboard is disabled in the BIOS. If you are using a USB keyboard during the Cold Start Procedure, you must enable it in the BIOS.

3.1. Configuring the BIOS version Q35AX American Megatrends



1. If you have not already done so, attach a monitor, keyboard and power cable to the server.
2. Power on the server and immediately press the '**Del**' key as the system starts to enter the BIOS Setup.
 - The BIOS Setup Utility will open with a menu across the top. Navigate to **Exit** and select **Load Optimized Defaults**.
3. Navigate to **Main**.
 - Set Date and Time using Greenwich Mean Time (GMT).
4. Navigate to **Advanced > CPU Configuration** and set the following:
 - **Intel(R) SpeedStep(tm) tech** to **[Disabled]**
 - **Hardware Prefetcher** to **[Disabled]**
 - **Adjacent Cache Line Prefetch** to **[Disabled]**

5. Navigate to **Advanced > IDE Configuration**.
 - Set **SATA#1** to **[Enhanced]**.
 - Set **Configure SATA#1** to **[IDE]**.
6. Navigate to **Advanced > SuperIO Configuration** and set **Serial Port 1 Address** to **Disable** and **Serial Port 2 Address** to **Disable**.
7. Navigate to **Chipset > SouthBridge Configuration** and set **GbE LAN Boot** to **[Enabled]**.
8. Navigate to the **Exit** field and select **Exit and Save**. After the prompt opens, select **OK**.
9. As the server reboots automatically, immediately press the '**Del**' key as the system starts to enter the BIOS Setup.
10. Navigate to the **Boot** field and then to the **Boot Device Priority**. Set the Boot Device Priority as follows:
 - 1st Boot Device **[CD/DVD]**
 - 2nd Boot Device **[SATA]** Note: This will not show up for systems without a hard drive.
 - 3rd Boot Device **[Network]**
 - 4th Boot Device **[Disabled]**
11. Navigate to the main screen and select **Save and Exit Setup**. After the prompt opens, select **OK**.

3.2. Configuring the BIOS version Q67AX

If you have not already done so, attach a monitor, keyboard, and power cable to the Target.

1. Power on the Target. Immediately press the **F2** key as the system boots to enter the BIOS Setup.
2. When the BIOS Setup Utility opens, press the **F3** key to access **Optimized Defaults**.
 - Select **Yes** for **Load Optimized Defaults?**
3. Navigate to the **Main** tab.
 - Set **Date** and **Time** using Greenwich Mean Time (GMT).
4. Navigate to the **Advanced** tab.
 - Set **Launch LAN1 PXE OpROM** to **Enabled**.
 - Set **Launch LAN2 PXE OpROM** to **Enabled**.
5. Navigate to the **Save and Exit** tab.
 - Select **Save Changes and Reset**.
 - Select **Yes** for **Save configuration and reset?**
6. As the system reboots, press the **F2** key to return to the BIOS Setup.
7. Navigate to the **Advanced** tab.
 - Select **SATA Configuration**.
 - Set **SATA Mode** to **IDE Mode**.
 - Set **Serial-ATA Controller 0** to **Enhanced**.
8. Press **ESC** to return to the **Advanced** tab.
 - Select **CPU Configuration**.
 - Set **Hyper-Threading** to **Disabled**
 - Set **Intel Virtualization Technology** to **Enabled**.
9. Press **ESC** and navigate to the **Chipset** tab.
 - Select **North Bridge**.
 - Set **VT-d** to **Enabled**.
10. Press **ESC** and navigate to the **Boot** tab.
 - Set the **Boot Option Priorities** as follows:
 - **Boot Option #1:** [select the DVD drive]
 - **Boot Option #2:** [select the hard drive]
 - **Boot Option #3:** [IBA GE Slot]

11. Navigate to the **Save and Exit** tab.

- Select **Save Changes and Reset**.
- Select **Yes for Save configuration and reset?** Wait as system reboots.

3.3. Configuring the Small Form Factor with BIOS version BLH6710H

1. If you have not already done so, attach a monitor, keyboard and power cable to the Target.
2. Power on the Target and immediately press the '**Del**' or '**F2**' key as the system starts to enter the BIOS Setup.

The BIOS Setup Utility will open with a menu across the top.

- Select '**F9**' to **Load Defaults**.
 - Select '**Y**' to Load BIOS Defaults.
3. Navigate to **Main**.
 - Set **Date** and **Time** using Greenwich Mean Time (GMT).
 4. Navigate to **Configuration** and then to **SATA Drives** and press enter.
 - Set **Chipset SATA** to **Enable**.
 - Set **Chipset SATA Mode** to **AHCI**.
 - Set **S.M.A.R.T.** to **Enable**.
 - Set **eSATA Ports** to **Disable**.
 - Press 'esc' to exit the SATA Drives section. You should still be in the Configuration section.
 5. Navigate to **Fan Control & Real-Time Monitoring**.
 - Select **CPU Fan** and press enter.
 - Set **Control Mode** to **Manual**
 - Set **Minimum Duty Cycle** to **100**.
 6. Navigate to **Security**.
 - Set **Execute Disable Bit** to **Enable**.
 - Set **Intel[®] Virtualization Technology** to **Enable**.
 7. Navigate to **Power**.
 - Set **Enhanced Intel SpeedStep[®] Technology** to **Enable**.
 - Set **After Power Failure** to **Last State**.
 8. Navigate to **Boot**.
 - Set the **Boot Device Priority** as follows:
 - Optical Drive
 - Hard Disk Drive
 - Network

- Set **Boot to Removable Devices** to **Disable**.
 - Set **USB Boot** to **Disable**.
9. Navigate to **Exit** and select **Exit Saving Changes**. After the prompt opens, select **'Y'**.

3.4. Configuring the Small Form Factor with BIOS version JGIBX10J

1. If you have not already done so, attach a monitor, keyboard and power cable to the server.
2. Power on the server and immediately press the '**Del**' or '**F2**' key as the system starts to enter the BIOS Setup.
 - The BIOS Setup Utility will open with a menu across the top. Select '**F9**' to **Load Defaults**. Select '**Y**' to Load BIOS Defaults.
3. Navigate to **Main**.
 - Set Date and Time. Note: set the time value to Greenwich Mean Time (GMT). GMT = Eastern Standard Time + 5 hours
4. Navigate to **Configuration**. Navigate to **On-board Drives** and press enter.
 - Set **Serial Port** to **Disable**.
 - Press '**esc**' to exit the On-board Drives section. You should still be in the Configuration section.
5. Navigate to **Configuration**. Navigate to **SATA Drives** and press enter.
 - Set **Chipset SATA** to **IDE**.
 - Set **S.M.A.R.T.** to **Enable**.
 - Set **eSATA Ports** to **Disable**.
6. Navigate to **Security** section.
 - Set **XD Technology** to **Enable**.
 - Set **Intel[®] Virtualization Technology** to **Enable**.
7. Navigate to **Power**.
 - Set **Enhanced Intel SpeedStep[®] Technology** to **Enable**.
 - Set **After Power Failure** to **Last State**.
8. Navigate to **Boot**.
 - Set the **Boot Device Priority** as follows:
 - Optical Drive
 - Hard Disk Drive
 - Network
 - Set the **Boot to Removable Devices** to **Disable**.
 - Set the **USB Boot** to **Disable**.

Navigate to **Exit** section and select **Exit Saving Changes**. After the prompt opens, select '**Y**'.

4.0. Back Up the Voisus Server

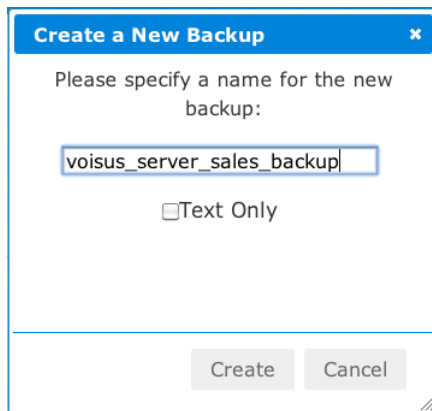
Performing the Cold Start procedure will cause complete erasure of the system hard drive. This includes the Comm plans, Facilities, Scenarios, RMS users, last installed Scenario, and DIS settings. Follow the backup and restore procedures to save all information.

Prior to performing the following procedures, write down the eth 0 IP address for each system. To view this information see the RMS Networking page.

1. Using a computer with RMS access, open a web browser.
2. Enter the Voisus Server's IP address into the URL bar. If this is a master/slave or multi-Voisus Server system, enter the master server's IP address.
3. At the Voisus Server login window, log in with the username and password. ASTi default is:

Username: **admin** Password: **astirules**

4. Select the '**Voisus**' application icon and then on the next screen, select the '**System Backups**' application icon.
5. On the backup management screen, select the '**New..**' button to create a backup file.
6. A '**Create a New Backup**' window will open. Enter a meaningful filename, i.e. "Masterxxx". Do not check the text only box.
7. Select the '**Create**' button.



8. Verify a 'Success' notification appears and click on the blue 'X' in the upper left corner of the notification window.

Note: This only creates a local copy on the Voisus Server.

9. Select the 'disc' download icon to transfer the backup to the RMS computer. The file will be stored in the default download directory.

If this is not a master / slave or multi-Voisus server system, skip to the cold start section. Repeat the steps above (1-9) for each slave using the slave's IP address.



5.0. Cold Start Procedure

Note: Prior to the software installation, ensure that the “Boot Priority” is set in accordance with the proper BIOS instructions previously outlined in this document. Otherwise, the Voisus Server will not boot from the disc and automatically enter the installation routine.

5.1. Installing RHEL and ASTi Software



Warning: Performing the following cold start procedure will cause complete erasure of the system hard drive. This includes the Comm Plans, Facilities, Scenarios, RMS users, last installed Scenario, and DIS settings.

You must back up the system configuration or it will be completely erased. See section 4.0. “Back Up the Voisus Server” in this document for details.

Follow the steps below to install the RHEL and ASTi Software.

1. Power on the server via the power switch on the chassis.
2. Insert the **ASTi DVD** and reboot by pressing the “**Reset**” button on the front of the chassis.
3. The prompt will say “boot:” then press enter.
4. The prompt will eject the **ASTi DVD**. Remove the disc.
5. Insert the **RHEL DVD** and select ‘Ok’.
6. Wait for the installation to complete. Screen will read “Insert ASTi cold start disc *THEN* press [ENTER]”
7. Insert **ASTi DVD** and press enter.
8. Wait as the software installs. Screen will display “Complete” when finished.
9. Press [ENTER] key to continue.
10. Remove the **ASTi DVD**. The system will power off.
11. Power on the system and the login prompt will open.
12. Log in with:

```
username: root password: abcd1234
```

13. Set the IP address configuration. At the prompt type:

```
ace-net-config -a xxx.xxx.xxx.xxx -n yyy.yyy.yyy.yyy
```

where “xxx.xxx.xxx.xxx” is the IP address and “yyy.yyy.yyy.yyy” is the netmask.

This sets the IP address and netmask for Eth 0 which is used to access the Remote Management System (RMS) via a browser to complete the network setup.

14. *Optional*: For more network setup options type:

```
ace-net-config -h
```

15. Reboot the server by typing

```
reboot
```

to activate the changes.

Note: If you do not set up Eth 0, it will automatically default to the DHCP mode and will query a DHCP server for the IP address.

Restore Backup

If you backed up the system configuration before installing the software you must now restore the backup files. See section 6.0. “Restore the Voisus Server” in this document for details.

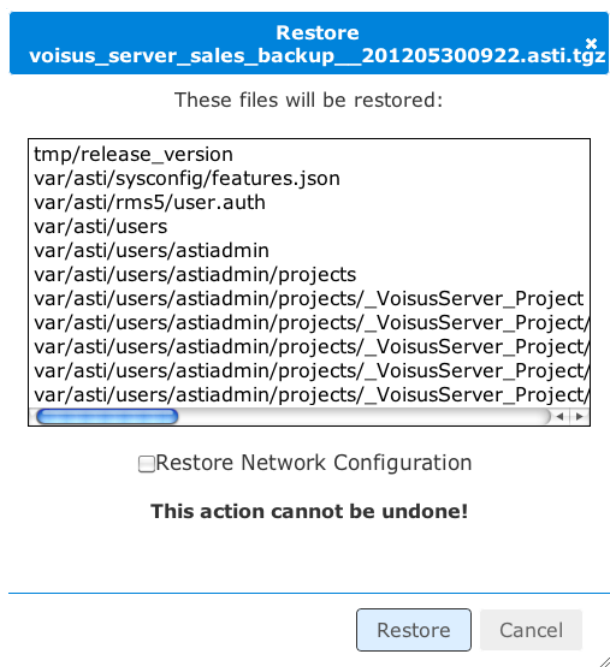
Information Assurance (IA) Installation

For step-by-step instructions on installing the ASTi Information Assurance (IA) software, see the ASTi Information Assurance Installation Procedure (DOC-01-IA-IP-1).

6.0. Restore the Voisus Server

Perform the following procedure on each Voisus server. If this is a multi Voisus server system, perform the actions on each slave Voisus server first, the master Voisus server must be restored last.

1. Enter the Voisus Server's IP address into the URL bar. Depending upon the browser used, some sort of exception window will be displayed. Proceed by accepting the certificate or exception.
2. At the Voisus Server login window, log in with the username and password. ASTi default is:
Username: **admin** Password: **astirules**
3. Select the 'Voisus' application icon.
4. Select the 'System Backups' application icon.
5. If the Voisus Server was cold started, there will be no backup files stored on it. The file must be uploaded to the system. Select the 'Import' button to import a previously backed up file.
6. Select the 'Choose File' button to open the file browser window.
7. Search for and select the previously backed up file.
8. Select the 'Submit' button to import the file to the Voisus Server. The imported file details will now be displayed in the file list.
9. Select the "wrench" restore icon under 'Actions' to restore system files.



10. Select the “Restore” button.
11. After the files have been restored, follow the prompts to reboot the server. This may take a few minutes.