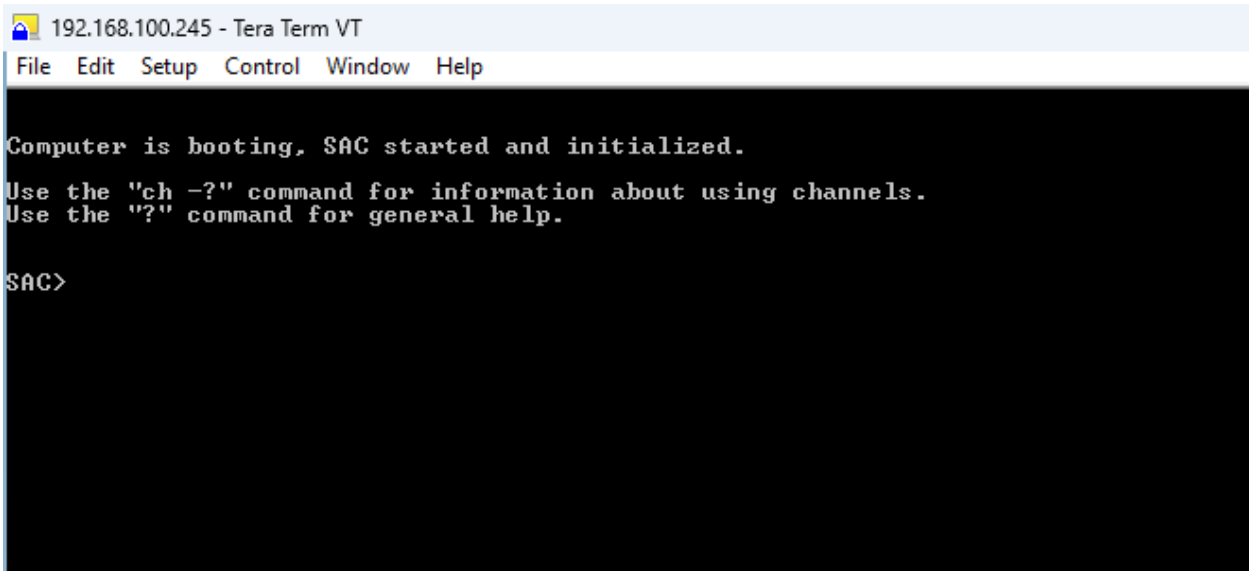
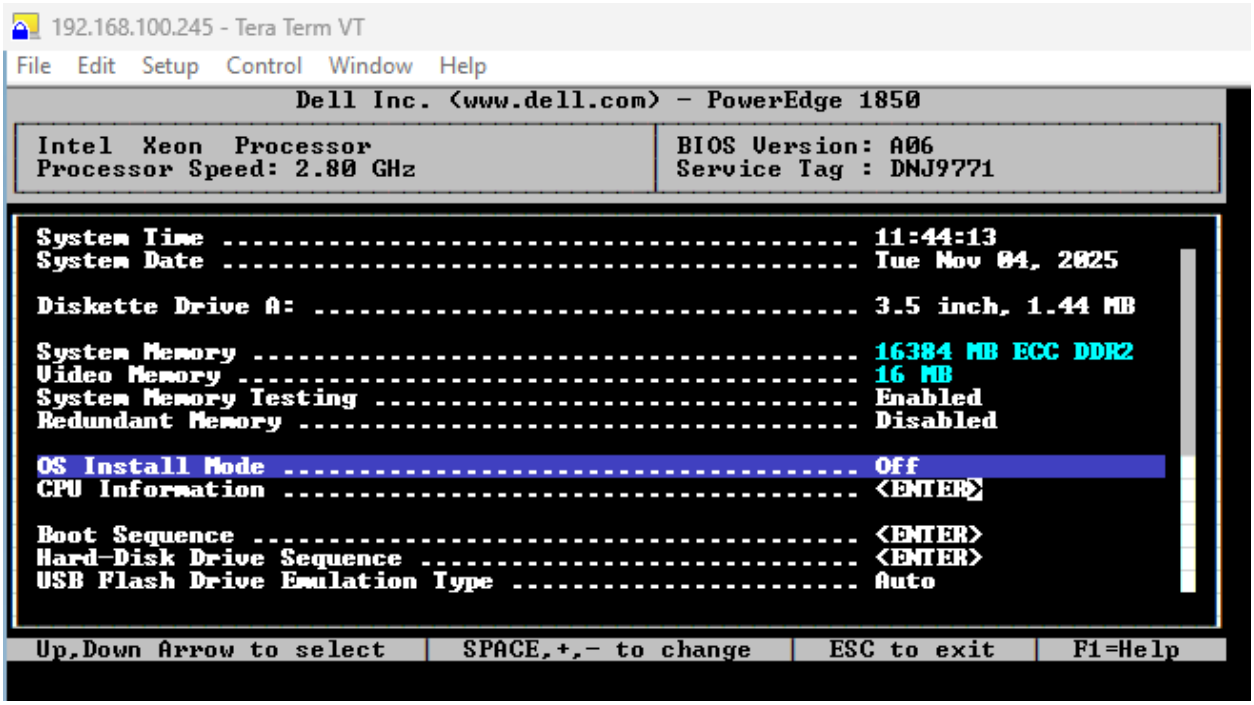
Accessing a Windows Server PowerShell (EMS) or BIOS via Serial Port Using a WTI Device

PowerShell (EMS) SAC Command prompt



BIOS Setup



Requirements

- WTI DB-9F to RJ45 Adapter (DX9F-DTE-RJ-CISCO-SUN)
- Cat5 RJ45 straight cable

Hardware Setup

1. Connect the DB-9F to RJ45 adapter to the serial port on the Windows Server.
2. Connect one end of the Cat5 RJ45 straight cable to the adapter and the other end to the WTI device's serial port.

The connection allows the WTI device to access the Windows Server console through the serial interface.

Windows Server Configuration

Step 1: Windows Server BIOS Setting

1. Press F2 during startup (for Dell PowerEdge Server) or use the designated key for your server model.

2. Navigate to **System Setup → Serial Communication → Console Redirection → Serial Port 1**

3. Configure **Baud Rate** to **115200.**

4. Save changes and exit the BIOS setup.

Step 2: Enable PowerShell (EMS) (Emergency Management Services)

1. Login to Windows Server

2. Run this as an administrator PowerShell or Command prompt:

- bcdedit /ems {current} on
- bcdedit /emssettings EMSPORT:1 EMSBAUDRATE:115200

This enables EMS on COM1 at 115200 baud. You can adjust the port and speed if needed.

Step 3: Enables Serial Console for Boot Loader

- bcdedit /set {bootmgr} displaybootmenu yes
- bcdedit /set {bootmgr} timeout 10
- bcdedit /set {bootmgr} bootems yes

Explanation:
- Enables EMS on the current boot entry.
- Sets the serial port to COM1 and speed to 115200
- Shows the boot menu so you can interrupt startup via serial

Using the PowerShell (EMS) / SAC Console

In the SAC console, you can manage the server with basic text commands.

Examples:
help
cmd
reboot
shutdown
ch -si 1

- Typing cmd opens a Windows command shell session.
- You can switch between sessions using ch -si <number>.

WTI Device Configuration

1. Access the WTI device via its CLI and issue /p2 (2 is the port number).

2. Change the serial port parameters as below:

    Baud rate: 115200
    Data bits: 8-None
    Stop Bits: 1
    Handshakes: None

3. Hit Esc to save the changes.

Verification

Once both sides are configured:

1. Open a serial session from the WTI device to the connected port by issuing the command /c2.
2. Reboot the Windows Server.
3. The BIOS setup screen or PowerShell (EMS) SAC command prompt or boot messages should now appear in your terminal session.