

Stellar Cyber Model 3000 & 6000 Data Processor Software Installation Guide

This document describes how to install the Stellar Cyber 3000 and Stellar Cyber 6000 software on your Dell PowerEdge R640 server. The installation is the same for both appliances, but the server specifications differ. To install:

- Acquire the server
- Install the image

Acquiring the Server

This installation guide is for the Dell PowerEdge R640 server. You must use a Dell PowerEdge R640 server, as the installation will fail on another server.

Stellar Cyber 3000 Server Specifications

When you order your Dell PowerEdge R640 server for Stellar Cyber 3000, you must select (the Dell **SKU** precedes each option):

- **321-BCYI**: 2.5" chassis with up to 8 hard drives and 2 PCI slots, SATA (no PERC)
- **2 x 338-BSDO**: Intel Xeon Silver 4216 2.1 G, 16C/32T, 9.6 GT/s, 22 M cache, Turbo, HT (100 W) DDR4-2400 (or better)
- **8 x 370-AEQH**: 32 GB, 2933 MT/s RDIMMs, Dual Rank
- **619-ABVR**: No operating system
- **540-BBHQ**: Intel X710 Quad Port 10 GbE SFP+
- **540-BBCB**: Intel i350 Quad Port 1 GbE rNDC
- **800-BBDM**: UEFI BIOS boot mode with GPT partition
- **4 x 400-AXSD**: 1.92 TB SSD SATA Read Intensive 6 Gbps 512e 2.5" Hot-plug S4510 Drive, 1 DWP, 3504 TBW
- **400-AZVM**: 960 GB SSD SATA Mix Use 6 Gbps 512 2.5" Hot-plug AG Drive, 3 DWP, 5256 TBW
- **450-ADWS**: Dual, Hot-plug, Redundant Power Supply (1+1), 750 W

Stellar Cyber 6000 Server Specifications

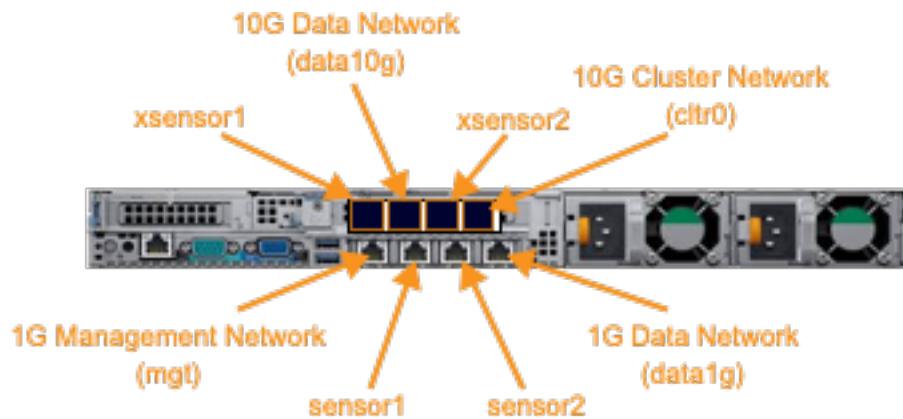
When you order your Dell PowerEdge R640 server for Stellar Cyber 6000, you must select (the Dell **SKU** precedes each option):

- **321-BCYI**: 2.5" chassis with up to 8 hard drives and 2 PCI slots, SATA (no PERC)
- **338-BTSI**: Intel Xeon Gold 6238 2.1 G, 22C/44T, 10.4 GT/s, 30.25 M cache, Turbo, HT (140 W) DDR4-2933 (or better)

- **379-BDCO**: Intel Xeon Gold 6238 2.1 G, 22C/44T, 10.4 GT/s, 30 M cache, Turbo, HT (140 W) DDR4-2666 (or better)
- 8 x **370-ADNF**: 32 GB, 2666 MT/s RDIMMs, Dual Rank
- **619-ABVR**: No operating system
- **540-BBHQ**: Intel X710 Quad Port 10 GbE SFP+
- **540-BBCB**: Intel i350 Quad Port 1 GbE rNDC
- **800-BBDM**: UEFI BIOS boot mode with GPT partition
- 8 x **400-AXSD**: 1.92 TB SSD SATA Read Intensive 6 Gbps 512e 2.5" Hot-plug S4510 Drive, 1 DWPD, 3504 TBW
- 2 x **400-AZUT**: 480 GB SSD SATA Mix Use 6 Gbps 512 2.5" Hot-plug AG Drive, 3 DWPD, 2628 TBW

Interfaces

The server has the following interfaces



We have tested these transceivers:

- Hi Fiber 10G-SFP-T for CSC
- FiBay 10G-SFP-T-CI

Installing the Image

To install the software image:

- Build a Clonezilla Live USB image
- Configure virtualization
- Boot the server from the Clonezilla Live USB drive
- Load the image
- Install (restore) the image
- Verify the installation

Building the Clonezilla Live USB Image

You must boot the server from Clonezilla. To build the Clonezilla Live USB image:

1. Download Clonezilla Live version 2.6.7-28 (with the amd64 CPU architecture) from : <https://clonezilla.org/downloads/download.php?branch=stable>
2. Use the Clonezilla Live image to make a bootable USB drive.

Configuring Virtualization

Ensure that the Dell PowerEdge R640 server is off. If the server is on, turn it off before proceeding. To configure virtualization:

1. Connect a monitor and keyboard to the server.
2. Insert your Clonezilla Live USB drive in any USB port on the server.
3. Turn on the server.
4. Messages scroll across the bottom of the screen. You'll see **Loading BIOS Drivers...**, and then **Initializing PCIe, USB, and Video**. When that message ends, you'll see the **Boot Manager**.
5. Press the **F2** key. The **System BIOS** appears.
6. Enable boot mode of UEFI.
7. Enable SR-IOV.
8. Go to **Processor Settings**.
9. Enable **Virtual Technology**.
10. Go to **Integrated Devices**.
11. Enable **SR-IOV Global**.
12. Go to **Device Settings**.
13. Choose **NIC in Slot 2 Port 4: Intel(R) Ethernet Converged Network Adapter X710**.
14. Choose **Virtualization Mode**.
15. Enable **SR-IOV**.
16. Save the BIOS changes.
17. Turn off the server.

Booting from Clonezilla

To boot from Clonezilla:

1. Turn on the server.
2. Messages scroll across the bottom of the screen. You'll see **Loading BIOS Drivers...**, and then **Initializing PCIe, USB, and Video**. When that message ends, you'll see the **Boot Manager**.
3. Press the **F11** key. You'll see the **Entering Boot Manager** message.
4. Select **One-shot UEFI Boot Menu** on the **Boot Manager Main Menu** and press **Enter**.
5. Select your Clonezilla Live USB drive on the **Boot Manager Boot Menu**.
6. Press **Enter**. The server boots again, this time from the USB drive. The Clonezilla boot screen appears.
7. Select **Clonezilla Live (Default settings, VGA 800x600)**.
8. Press **Enter**. You might see minor error messages, which you can safely ignore. The **Clone Language** screen appears.
9. Select your language and press **Enter**. The **Keyboard Configuration** screen appears.
10. Select your keyboard layout and press **Enter**.
11. Select **Enter_shell** when the **Start Clonezilla** screen appears.

12. Enter `sudo su`.
13. Enter `vi /usr/share/drbl/sbin/ocs-functions`.
14. Add the `-y` option to the `vgcfgrestore` line (line 6710 in Clonezilla Live version 2.6.7-28). It should look similar to:

```
vgcfgrestore -y -f $lvm_tmp/lvm_$vg.conf $vg 2>&1 3<&- 4<&-
| tee --append $OCS_LOGFILE
```
15. Save the changes.
16. Launch Clonezilla with the `clonezilla` command.

Load the Image

To load the image:

1. Select **device-image - work with disks or partitions using images**.
2. Choose your SSH server.
3. Enter the remote server address.
4. Enter the remote server port.
5. Enter the remote server username.
6. Enter the absolute path.
7. Enter the password. The server is mounted.
8. Select the **Beginner** mode and press **Enter**.

Install the Image

To install the image:

1. Select **restoredisk** and press **Enter**.
2. Select the image and press **Enter**. There is only one image on the USB drive.
3. When asked to choose the target disk(s) to be overwritten, select all disks except the Clonezilla Live USB drive.
4. Press **Enter**.
5. When asked if you want to check whether the image is restorable or not, select **-scr No, skip checking the image before restoring** and press **Enter**.
6. Select **Reboot** and press **Enter**.
7. Press **Enter** again.
8. Enter **Y** to continue and press **Enter**.
9. Enter **Y** to continue and press **Enter**. Your Stellar Cyber software begins the installation. This can take up to an hour.
10. The login is **stellar**, and the password is **stellar**.

Verify the Installation

To verify your installation, enter `show service` and press **Enter**. These processes should be active:

- `data sensor`
- `dl-master`
- `da-master`

The Stellar Cyber installation is complete.

