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# Introduction

The driver required for installing the OS manually is included in Smart Setup Resource Kit, this document provides you a OS installation guide on Altos T310 F3, including,

* Windows Server 2012
* Windows Server 2008 R2
* Red Hat Enterprise Linux 6 Update 4
* Red Hat Enterprise Linux 5 Update 9
* VMware ESXi 5.1 Update 1

# Windows server 2012

## Intel Onboard SATA RAID

Below information describes how to manually install Windows Server 2012 on Altos T310 F3 with Intel Onboard SATA RAID.

### BIOS Required

Altos T310 F3 BIOS P01 (or later) can support Windows Server 2012.

### Drivers Required

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| Intel Onboard SATA RAID | 3.7.0.1092 (Package 3.7.0.1093) | Smart Setup Resource Kit v2.0 |
| Chipset | 9.4.0.1017(Package 9.4.0.1017) | Smart Setup Resource Kit v2.0 |
| Onboard VGA | 9.0.10.96 (Package v096\_whql) | Smart Setup Resource Kit v2.0 |
| Onboard Gigabit Ethernet | 12.7.28.0(Package 18.3) | Smart Setup Resource Kit v2.0 |
| USB 3.0 | N/A | OS Built-in |

### Software Required

|  |  |  |
| --- | --- | --- |
| **Software** | **Version** | **Software Source** |
| Intel Onboard SATA RAID Utility | 3.6.0.1086(Package 3.6.0.1093) | Smart Setup Resource Kit v2.0 |

### Configuring Intel Onboard SATA RAID

Please refer to Appendix A. for Intel Onboard SATA RAID configuration.

### Installation Tips

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

NOTE. Windows Server 2012 cannot detect Intel Onboard SATA RAID. Please load the RAID driver during OS installation.

NOTE. You need an external USB floppy drive or USB Flash drive to load RAID driver during the OS installation.

NOTE. Please copy Intel Onboard SATA RAID driver from Smart Setup Resource Kit DVD to a floppy diskette or USB flash drive.

NOTE. For OS installation, a USB optical drive is required as well. Please prepare a USB Hub to have USB keyboard, USB mouse, USB floppy/flash drive and USB optical drive connected.

1. Please boot the system from the Windows Server 2012 DVD. Follow the instructions to do the installation.
2. When “**Where do you want to install Windows**” message displayed, please Insert the USB flash which includes the Intel Onboard SATA RAID driver and click on “**Load Driver**”.
3. Specify the folder that includes the Integrated Hardware RAID driver and the system will show the available driver. Select “**megasas2.inf**” as target driver.
4. After loading the RAID driver, you could click “Drive options” to partition the drive or click “Next” to use default disk partition setting directly.
5. Follow the normal procedure to finish the installation.

### Chipset Driver Package Installation

1. Please insert the Smart Setup DVD into the optical drive
2. Select **Resource Kit**.
3. Select model and click on **Drivers.**
4. Find the Chipset Driver by expanding the directory in the following order, **Altos T310 F3 -> Chipset -> Intel Chipset**.
5. Select **Windows Server 2012** **64-bit** then click on **Browse**.
6. Double-click on **Setup.exe** and follow the instructions to complete the driver installation.
7. After the installation is completed, reboot the system.

### Gigabit Ethernet Driver Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Select **Resource Kit**.
3. Select model and click on **Drivers**.
4. Find the Gigabit Ethernet Driver by expanding the directory in the following order, **Altos T310 F3 -> Network Adapter -> Intel onboard LAN (I210 Springville)**.
5. Select **Windows Server 2012 64-bit** then click on **Browse**.
6. Double-click on **Autorun.exe**.
7. Follow the instructions, accept the license agreement and use the default setting to complete the driver installation.
8. The driver and PROSet utility will be installed together automatically.

### VGA Driver Installation

NOTE. Windows will treat onboard VGA as Standard VGA device. Please install onboard VGA driver from Smart Setup DVD.

1. Please insert the Smart Setup DVD into the optical drive.
2. Select **Resource Kit**.
3. Select model and click on **Drivers**.
4. Find the VGA Driver by expanding the directory in the following order, **Altos T310 F3 -> Graphics Adapters-> Intel onboard VGA**.
5. Select **Windows Server 2012 64-bit** then click on **Browse**.
6. Right-click on **astgr.inf** and select **Install**.
7. After the installation is completed, reboot the system.

After installing the driver, you would see **ASPEED Graphics Family (WDDM)** listed in Display adapters.

### USB 3.0 Driver Installation

**Windows Server 2012** has the built-in driver for USB 3.0. You don’t need to install USB 3.0 driver manually.

### RAID Utility Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Select **Resource Kit**.
3. Select model and click on **Utilities**.
4. Find the RSTe Utility by expanding the directory in the following order, **Altos T310 F3 -> Onboard SATA RAID (Utility) Adapters**.
5. Select **Windows Server 2012 64-bit** then click on **Browse**.
6. Double-click on **setup.exe**.
7. After the installation is completed, reboot the system.

### Network Utility Installation

The PROSet utility for the onboard Gigabit Ethernet controller will be installed automatically when you installing the onboard Gigabit Ethernet driver.

## MegaRAID 9240-4i/9260-4i/9271-8i

Below information describes how to manually install Windows Server 2012 on Altos T310 F3 with MegaRAID 9240-4i/9260-4i/9271-8i.

### BIOS Required

Altos T310 F3 BIOS P01 (or later) is required to support Windows Server 20012.

### Drivers Required

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| MegaRAID 9240-4i | 6.600.23.00 | Smart Setup Resource Kit v2.0 |
| MegaRAID 9260-4i | 6.600.23.00 | Smart Setup Resource Kit v2.0 |
| MegaRAID 9271-8i | 6.600.23.00 | Smart Setup Resource Kit v2.0 |
| Chipset | 9.4.0.1017(Package 9.4.0.1017) | Smart Setup Resource Kit v2.0 |
| Onboard VGA | 9.0.10.96 (Package v096\_whql) | Smart Setup Resource Kit v2.0 |
| Onboard Gigabit Ethernet | 12.7.28.0(Package 18.3) | Smart Setup Resource Kit v2.0 |
| USB 3.0 | N/A | OS Built-in |

### Software Required

|  |  |  |
| --- | --- | --- |
| **Software** | **Version** | **Software Source** |
| MegaRAID Storage Manager | 6.600.23.00 | Smart Setup Resource Kit v2.0 |

### Configuring MegaRAID 9240-4i/9260-4i/9271-8i

Please refer to Appendix B for MegaRAID 9240-4i/9260-4i/9271-8i configuration.

### Installation Tips

NOTE. When you install OS with MegaRAID, please load BIOS default settings.

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

NOTE. The Windows Server 2012 can detect MegaRAID 9240-4i/9260-4i/9271-8i. Please load the RAID driver during OS installation.

NOTE. You need an external USB floppy drive or USB Flash drive to load RAID driver during the OS installation.

NOTE. Please copy MegaRAID 9240-4i/9260-4i/9271-8i driver from Smart Setup DVD to a floppy diskette or USB flash drive.

1. Please boot the system from the Windows Server 2012 DVD. Follow the instructions to do the installation.
2. Please enter the product key to active Windows and follow the instructions.
3. When you see the “**Where do you want to install Windows?**” on the screen, please insert the floppy diskette or USB flash which includes MegaRAID 9240-4i driver and click on **Load Driver**.
4. Click on **Browse** and select directory of the floppy or USB flash that contains the driver.
5. Click on **OK**. You will see the supported devices listed.
6. Select “**LSI MegaRAID SAS 9240-4i (C:\...\megasa2.inf)**” and click on **Next**.
7. After loading the RAID driver, you could click “Drive options” to partition the drive or click “Next” to use default disk partition setting directly.
8. Please follow the instructions to finish the installation.

### Chipset Driver Package Installation

1. Please insert the Smart Setup DVD into the optical drive
2. Select **Resource Kit**.
3. Select model and click on **Drivers.**
4. Find the Chipset Driver by expanding the directory in the following order, **Altos T310 F3 -> Chipset -> Intel Chipset**.
5. Select **Windows Server 2012** **64-bit** then click on **Browse**.
6. Double-click on **Setup.exe** and follow the instructions to complete the driver installation.
7. After the installation is completed, reboot the system.

### Gigabit Ethernet Driver Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Select **Resource Kit**.
3. Select model and click on **Drivers**.
4. Find the Gigabit Ethernet Driver by expanding the directory in the following order, **Altos T310 F3 -> Network Adapter -> Intel onboard LAN (I210 Springville)**.
5. Select **Windows Server 2012 64-bit** then click on **Browse**.
6. Double-click on **Autorun.exe**.
7. Follow the instructions, accept the license agreement and use the default setting to complete the driver installation.
8. The driver and PROSet utility will be installed together automatically.

### VGA Driver Installation

NOTE. Windows will treat onboard VGA as Standard VGA device. Please install onboard VGA driver from Smart Setup DVD.

1. Please insert the Smart Setup DVD into the optical drive.
2. Select **Resource Kit**.
3. Select model and click on **Drivers**.
4. Find the VGA Driver by expanding the directory in the following order, **Altos T310 F3 -> Graphics Adapters-> Intel onboard VGA**.
5. Select **Windows Server 2012 64-bit** then click on **Browse**.
6. Right-click on **astgr.inf** and select **Install**.
7. After the installation is completed, reboot the system.
8. After installing the driver, you would see **ASPEED Graphics Family (WDDM)** listed in Display adapters.

### USB 3.0 Driver Installation

**Windows Server 2012** has the built-in driver for USB 3.0. You don’t need to install USB 3.0 driver manually.

### RAID Utility Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Select **Resource Kit**.
3. Select model and click on **Utilities**.
4. Find the RSTe Utility by expanding the directory in the following order, **Altos T310 F3 -> Onboard SATA RAID (Utility) Adapters**.
5. Select **Windows Server 2012 64-bit** then click on **Browse**.
6. Double-click on **setup.exe**.
7. After the installation is completed, reboot the system.

### Network Utility Installation

The PROSet utility for the onboard Gigabit Ethernet controller will be installed automatically when you installing the onboard Gigabit Ethernet driver.

# Windows server 2008 R2

## Intel Onboard SATA RAID

Below information describes how to manually install Windows Server 2008 R2 on Altos T310 F3 with Intel Onboard SATA RAID.

### BIOS Required

Altos T310 F3 BIOS P01 (or later) can support Windows Server 2008 R2.

### Drivers Required

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| Intel Onboard SATA RAID | 3.7.0.1092 (Package 3.7.0.1093) | Smart Setup Resource Kit v2.0 |
| Chipset | 9.4.0.1017(Package 9.4.0.1017) | Smart Setup Resource Kit v2.0 |
| Onboard VGA | 9.0.10.96 (Package v096\_whql) | Smart Setup Resource Kit v2.0 |
| Onboard Gigabit Ethernet | 12.7.28.0(Package 18.3) | Smart Setup Resource Kit v2.0 |
| USB 3.0 | 2.5.0.19 | Smart Setup Resource Kit v2.0 |

### Software Required

|  |  |  |
| --- | --- | --- |
| **Software** | **Version** | **Software Source** |
| Intel Onboard SATA RAID Utility | 3.6.0.1086(Package 3.6.0.1093) | Smart Setup Resource Kit v2.0 |

### Configuring Intel Onboard SATA RAID

Please refer to Appendix A. for Intel Onboard SATA RAID configuration.

### Installation Tips

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

NOTE. Windows Server 2008 R2 cannot detect Intel Onboard SATA RAID. Please load the RAID driver during OS installation.

NOTE. You need an external USB floppy drive or USB Flash drive to load RAID driver during the OS installation.

NOTE. Please copy Intel Onboard SATA RAID driver from Smart Setup DVD to a floppy diskette or USB flash drive.

NOTE. For OS installation, a USB optical drive is required as well. Please prepare a USB Hub to have USB keyboard, USB mouse, USB floppy/flash drive and USB optical drive connected.

1. Please boot the system from the Windows Server 2008 R2 DVD. Follow the instructions to do the installation.
2. When “**Where do you want to install Windows**” message displayed, please Insert the USB flash which includes the Intel Onboard SATA RAID driver and click on “**Load Driver**”.
3. Specify the folder iaStorS.free.64bit.3.1.0.1082 that includes the Intel Onboard SATA RAID driver and the system will show the available driver. Select “**Intel(R) C600/C220 Series Chipset SATA RAID Controller (C:\..\RSTe\_f6\_iaStorA\_64\iaStorA.inf)**” as target driver.
4. After loading the RAID driver, you could click “Drive options” to partition the drive or click “Next” to use default disk partition setting directly.
5. Follow the normal procedure to finish the installation.

### Chipset Driver Package Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Driver.**
4. Find the Chipset Driver by expanding the directory in the following order, **Altos T310 F3 -> Chipset -> Intel Chipset**.
5. Select **Windows Server 2008 R2 SP1** then click on **Browse**.
6. Double-click on **Setup.exe** and follow the instructions to complete the driver installation.
7. After the installation is completed, reboot the system.

### Gigabit Ethernet Driver Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Driver.**
4. Find the Gigabit Ethernet Driver by expanding the directory in the following order, **Altos T310 F3 -> Network Adapter -> Intel onboard LAN (I210 Springville)**.
5. Select **Windows Server 2008 R2 SP1** then click on **Browse**.
6. Double-click on **Autorun.exe**.
7. Follow the instructions, accept the license agreement and use the default setting to complete the driver installation.
8. The driver and PROSet utility will be installed together automatically.

### VGA Driver Installation

NOTE. Windows will treat onboard VGA as Standard VGA device. Please install onboard VGA driver from Smart Setup DVD.

1. Please insert the Smart Setup DVD into the optical drive.
2. Open **Device Manager-> Display adapters-> Standard VGA Graphic Adapter-> Update Driver Software…**
3. Select **Brow my computer for driver software.**
4. Press **Brow** button, select **Computer-> DVD Drive (D:) SMARTSETUP-> Bin** then press **Next.**
5. Check **Always trust software from “ASPEED Technology Inc.”** and press **Install** button**.**
6. After the installation is completed, reboot the system.

After installing the driver, you would see **ASPEED Graphics Family (WDDM)** listed in Display adapters.

### USB 3.0 Driver Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Driver.**
4. Find the VGA Driver by expanding the directory in the following order, **Altos T310 F3 -> USB Controllers ->Intel eXtensible Host Controller Drive (USB 3.0)**.
5. Select **Windows Server 2008 R2 SP1** then click on **Browse**.
6. Double-click on **Setup.exe.**
7. After the installation is completed, reboot the system.

### RAID Utility Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Utility.**
4. Find the RSTe Utility by expanding the directory in the following order, **Altos T310 F3 -> Onboard SATA RAID (Utility) Adapters**.
5. Select **Windows Server 2008 R2** **SP1** then click on **Browse**.
6. Double-click on **setup.exe**.
7. After the installation is completed, reboot the system.

### Network Utility Installation

The PROSet utility for the onboard Gigabit Ethernet controller will be installed automatically when you installing the onboard Gigabit Ethernet driver.

## MegaRAID 9240-4i/9260-4i/9271-8i

Below information describes how to manually install Windows Server 2008 R2 on Altos T310 F3 with MegaRAID 9240-4i/9260-4i/9271-8i.

### BIOS Required

Altos T310 F3 BIOS P01 (or later) is required to support Windows Server 2008 R2.

### Drivers Required

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| MegaRAID 9240-4i | 6.600.23.00 | Smart Setup Resource Kit v2.0 |
| MegaRAID 9260-4i | 6.600.23.00 | Smart Setup Resource Kit v2.0 |
| MegaRAID 9271-8i | 6.600.23.00 | Smart Setup Resource Kit v2.0 |
| Chipset | 9.4.0.1017(Package 9.4.0.1017) | Smart Setup Resource Kit v2.0 |
| Onboard VGA | 9.0.10.96 (Package v096\_whql) | Smart Setup Resource Kit v2.0 |
| Onboard Gigabit Ethernet | 12.7.28.0(Package 18.3) | Smart Setup Resource Kit v2.0 |
| USB 3.0 | 2.5.0.19 | OS Built-in |

### Software Required

|  |  |  |
| --- | --- | --- |
| **Software** | **Version** | **Software Source** |
| MegaRAID Storage Manager | 6.600.23.00 | Smart Setup Resource Kit v2.0 |

### Configuring MegaRAID 9240-4i/9260-4i/9271-8i

Please refer to Appendix B for MegaRAID 9240-4i/9260-4i/9271-8i configuration.

### Installation Tips

NOTE. When you install OS with MegaRAID, please

* Load BIOS default settings.

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

NOTE. The Windows Server 2008 R2 cannot detect MegaRAID 9240-4i/9260-4i/9271-8i. Please load the RAID driver during OS installation.

NOTE. You need an external USB floppy drive or USB Flash drive to load RAID driver during the OS installation.

NOTE. Please copy MegaRAID 9240-4i/9260-4i/9271-8i driver from Smart Setup DVD to a floppy diskette or USB flash drive.

1. Please boot the system from the Windows Server 2008 R2 DVD. Follow the instructions to do the installation.
2. When you see the “**Where do you want to install Windows?**” on the screen, please insert the floppy diskette or USB flash which includes MegaRAID 9240-4i driver and click on **Load Driver**.
3. Click on **Browse** and select directory of the floppy or USB flash that contains the driver.
4. Click on **OK**. You will see the supported devices listed.
5. Select “**LSI MegaRAID SAS 9240-4i (C:\...\megasa2.inf)**” and click on **Next**.
6. After loading the RAID driver, you could click “Drive options” to partition the drive or click “Next” to use default disk partition setting directly.
7. Please follow the instructions to finish the installation.

### Chipset Driver Package Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Driver.**
4. Find the Chipset Driver by expanding the directory in the following order, **Altos T310 F3 -> Chipset -> Intel Chipset**.
5. Select **Windows Server 2008 R2 SP1** then click on **Browse**.
6. Double-click on **Setup.exe** and follow the instructions to complete the driver installation.
7. After the installation is completed, reboot the system.

### Gigabit Ethernet Driver Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Driver**
4. Find the Gigabit Ethernet Driver by expanding the directory in the following order, **Altos T310 F3 -> Network Adapter -> Intel onboard LAN (I210 Springville)**.
5. Select **Windows Server 2008 R2 SP1** then click on **Browse**.
6. Double-click on **Autorun.exe**.
7. Follow the instructions, accept the license agreement and use the default setting to complete the driver installation.
8. The driver and PROSet utility will be installed together automatically.

### VGA Driver Installation

NOTE. Windows will treat onboard VGA as Standard VGA device. Please install onboard VGA driver from Smart Setup DVD.

1. Please insert the Smart Setup DVD into the optical drive.
2. Open **Device Manager-> Display adapters-> Standard VGA Graphic Adapter-> Update Driver Software…**
3. Select **Brow my computer for driver software.**
4. Press **Brow** button, select **Computer-> DVD Drive (D:) SMARTSETUP-> Bin** then press **Next.**
5. Check **Always trust software from “ASPEED Technology Inc.”** and press **Install** button**.**
6. After the installation is completed, reboot the system.
7. After installing the driver, you would see **ASPEED Graphics Family (WDDM)** listed in Display adapters.

### USB 3.0 Driver Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Driver**
4. Find the VGA Driver by expanding the directory in the following order, **Altos T310 F3 -> USB Controllers ->Intel eXtensible Host Controller Drive (USB 3.0)**.
5. Select **Windows Server 2008 R2 SP1** then click on **Browse**.
6. Double-click on **Setup.exe.**
7. After the installation is completed, reboot the system.

### TPM Driver Installation (Optional)

NOTE: TPM driver is only needed when TPM module is installed.

Windows Server 2008 R2 has built-in driver for TPM. You don’t need to install additional TPM driver manually.

### RAID Utility Installation

1. Please insert the Smart Setup DVD into the optical drive.
2. Run the SmartAssistant\_install.exe from the DVD.
3. Select **Resource Kit**, accept license agreement, and select **Utilities**.
4. Find the Gigabit Ethernet Driver by expanding the directory in the following order, **Altos T310 F3 -> SAS RAID (Utility) -> LSI MegaRAID SAS 9240-4i**.
5. Select **Windows Server 2008 R2 SP1** then click on **Install**.
6. Follow the instruction and use the default setting to complete the RAID Utility Installation.

### Network Utility Installation

The PROSet utility for the onboard Gigabit Ethernet controller will be installed automatically when you installing the onboard Gigabit Ethernet driver.

# Red Hat Enterprise Linux 6 UPDATE 4

## MegaRAID 9240-4i/9260-4i/9271-8i

Below information describes how to manually install Red Hat Enterprise Linux 6 Update 4 on Altos T310 F3 with MegaRAID 9240-4i/9260-4i/9271-8i.

### BIOS Required

Altos T310 F3 BIOS P01 (or later) is required to support Red Hat Enterprise Linux 6 Update 4.

### Drivers Required (64 bit)

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| MegaRAID 9240-4i  | N/A | OS Built-in |
| MegaRAID 9260-4i | N/A | OS Built-in |
| MegaRAID 9271-8i | N/A | OS Built-in |
| Onboard VGA | N/A | OS Built-in |
| Onboard Gigabit Ethernet | 18.3 | Smart Setup Resource Kit v2.0 |

### Drivers Required (32 bit)

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| MegaRAID 9240-4i  | N/A | OS Built-in |
| MegaRAID 9260-4i | N/A | OS Built-in |
| MegaRAID 9271-8i | N/A | OS Built-in |
| Onboard VGA | N/A | OS Built-in |
| Onboard Gigabit Ethernet | 18.3 | Smart Setup Resource Kit v2.0 |

### Software Required

|  |  |  |
| --- | --- | --- |
| **Software** | **Version** | **Software Source** |
| MegaRAID Storage Manager | 13.04.03.01 | Smart Setup Resource Kit v2.0 |

### Configuring MegaRAID 9240-4i/9260-4i/9271-8i

Please refer to Appendix B for MegaRAID 9240-4i/9260-4i/9271-8i configuration

### Installation Tips

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

1. Please boot the system from the Red Hat Enterprise Linux 6 Update 4.
2. For legacy installation, at Welcome Menu, Please press **Enter**.
3. For EFI installation, when the following message shows on screen, press any key to enter the boot menu

**Press any key to enter the menu**

1. Select **Basic Storage Devices** and press **Next**.
2. Follow the instruction to install.
3. Select **Software Development Workstation.**
4. Follow the normal procedure to finish the installation.

### Gigabit Ethernet Driver Installation

NOTE. The onboard Gigabit Ethernet driver is included in Smart Setup DVD. Please check path of the driver in Windows OS environment first and copy the driver from the Smart Setup DVD to HDD (e.g. \PRO1000\LINUX\igb-<version>.tar.gz to /tmp directory)

1. Stop network service

# service network stop

1. Remove the OS built-in NIC driver

# rmmod igb

1. Change the directory to the driver source and install the driver

# cd /tmp

# tar zxvf igb-<version>.tar.gz

# cd igb-<version>/src/

# make install

# modprobe igb

1. Start the network service to bring up both of the network interfaces.

# service network start

Use the network configuration utility like system-config-network in command line or select System -> Preferences-> Network Connections in GUI to configure the network interfaces.

### VGA Driver Installation

Red Hat Enterprise Linux 6 Update 4 has the built-in driver for onboard VGA. You don’t need to install the VGA driver manually.

### RAID Utility Installation

NOTE. The RAID utility is included in Smart Setup DVD. Please check path of the RAID utility in Windows OS environment first and copy the RAID utility from the Smart Setup DVD to HDD (e.g. /tmp directory)

NOTE. For RHEL 6 64-bit, please install below package first from RHEL 6 64-bit DVD. You can use Add/Remove Software tool from System -> Administrator in GUI to add the packages. The Add/Remove Software tool will check the dependency of package for installation automatically.

libstdc++-4.4.7-3.el6.x86\_64.rpm

compat-libstdc++-33-3.2.3-69.x86\_64.rpm

libXau-1.0.6-4.el6.x86\_64.rpm

libxcb-1.8-1-1.el6.x86\_64.rpm

libX11-1.5.0-4.el6.x86\_64.rpm

libXext-1.3.1-2.el6.x86\_64.rpm

libXi-1.6.1-3.el6.x86\_64.rpm

libXtst-1.2.1-2.el6.x86\_64.rpm

1. Install RAID Utility

# cd /tmp/

# ./install.csh

1. Input **Y** to accept the license agreement.
2. Please select 3 for StandAlone installation.
3. To start the RAID Utility, click on Applications -> System Tools -> MegaRAID Storage Manager StartupUI.

# Red Hat Enterprise Linux 5 UPDATE 9

## MegaRAID 9240-4i/9260-4i/9271-8i

Below information describes how to manually install Red Hat Enterprise Linux 5 Update 9 on Altos T310 F3 with MegaRAID 9240-4i/9260-4i/9271-8i.

### BIOS Required

Altos T310 F3 BIOS P01 (or later) is required to support Red Hat Enterprise Linux 5 Update 9.

### Drivers Required (64 bit)

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| MegaRAID 9240-4i  | N/A | OS Built-in |
| MegaRAID 9260-4i | N/A | OS Built-in |
| MegaRAID 9271-8i | N/A | OS Built-in |
| Onboard VGA | N/A | OS Built-in |
| Onboard Gigabit Ethernet | 18.3 | Smart Setup Resource Kit v2.0 |

### Drivers Required (32 bit)

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| MegaRAID 9240-4i  | N/A | OS Built-in |
| MegaRAID 9260-4i | N/A | OS Built-in |
| MegaRAID 9271-8i | N/A | OS Built-in |
| Onboard VGA | N/A | OS Built-in |
| Onboard Gigabit Ethernet | 18.3 | Smart Setup Resource Kit v2.0 |

### Software Required

|  |  |  |
| --- | --- | --- |
| **Software** | **Version** | **Software Source** |
| MegaRAID Storage Manager | 13.04.03.01 | Smart Setup Resource Kit v2.0 |

### Configuring MegaRAID 9240-4i/9260-4i/9271-8i

Please refer to Appendix B for MegaRAID 9240-4i/9260-4i/9271-8i configuration

### Installation Tips

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

1. Please boot the system from the Red Hat Enterprise Linux 5 Update 9.
2. For legacy installation, at Welcome Menu, Please press **Enter**.
3. For EFI installation, when the following message shows on screen, press any key to enter the boot menu

**Press any key to enter the menu**

1. Select **Basic Storage Devices** and press **Next**.
2. Follow the instruction to install.
3. Select **Software Development Workstation.**
4. Follow the normal procedure to finish the installation.

### Gigabit Ethernet Driver Installation

NOTE. The onboard Gigabit Ethernet driver is included in Smart Setup DVD. Please check path of the driver in Windows OS environment first and copy the driver from the Smart Setup DVD to HDD (e.g. \PRO1000\LINUX\igb-<version>.tar.gz to /tmp directory)

1. Stop network service

# service network stop

1. Remove the OS built-in NIC driver

# rmmod igb

1. Change the directory to the driver source and install the driver

# cd /tmp

# tar zxvf igb-<version>.tar.gz

# cd igb-<version>/src/

# make install

# modprobe igb

1. Start the network service to bring up both of the network interfaces.

# service network start

Use the network configuration utility like system-config-network in command line or select System -> Preferences-> Network Connections in GUI to configure the network interfaces.

### VGA Driver Installation

Red Hat Enterprise Linux 5 Update 9 has the built-in driver for onboard VGA. You don’t need to install the VGA driver manually.

### RAID Utility Installation

NOTE. The RAID utility is included in Smart Setup DVD. Please check path of the RAID utility in Windows OS environment first and copy the RAID utility from the Smart Setup DVD to HDD (e.g. /tmp directory)

NOTE. For RHEL 5 64-bit, please install below package first from RHEL 5 64-bit DVD. You can use Add/Remove Software tool from System -> Administrator in GUI to add the packages. The Add/Remove Software tool will check the dependency of package for installation automatically.

libstdc++-4.1.2-54.el5.x86\_64.rpm

compat-libstdc++-33-3.2.3-61.x86\_64.rpm

libXau-1.0.1-31.el5.x86\_64.rpm

libX11-1.0.3-11.el5\_7.1.x86\_64.rpm

libXext-1.0.1-2.1.x86\_64.rpm

libXi-1.0.1-4.el5\_4.x86\_64.rpm

libXtst-1.0.1-3.1.x86\_64.rpm

1. Install RAID Utility

# cd /tmp/

# ./install.csh

1. Input **Y** to accept the license agreement.
2. Please select 3 for StandAlone installation.
3. To start the RAID Utility, click on Applications -> System Tools -> MegaRAID Storage Manager StartupUI.

# VMware ESXi 5.1 UPDATE 1

## Intel Onboard SATA AHCI

Below information describes how to manually install VMware ESXi 5.1 Update 1 on Altos T310 F3 with Intel Onboard SATA RAID.

### BIOS Required

Altos T310 F3 BIOS P02 (or later) is required to support VMware ESXi 5.1 Update 1.

### Drivers Required

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| Onboard SATA AHCI | N/A | OS Built-in |
| Chipset | N/A | OS built-in |
| Onboard VGA | N/A | OS built-in |
| Onboard Gigabit Ethernet | 4.0.1.7 | <https://my.vmware.com/web/vmware/details?productId=285&downloadGroup=DT-ESXI5X-INTEL-IGB-4017> |
| USB 3.0 | N/A | N/A |

### Configuring onboard SATA AHCI

When you install OS with onboard SATA AHCI, please enable onboard SATA AHCI in BIOS Setup (Advanced -> SATA Mode):

SATA Mode [AHCI]

### Installation Tips

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

NOTE. Add-on LAN card (such as Intel Gigabit CT2 Desktop Adapter) is required to install VMware ESXi 5.1 Update 1 on Altos T310 F3.

After the installation of VMware ESXi 5.1 Update 1, please install the Gigabit Ethernet Driver for VMware ESXi 5.1 Update 1. Then, Altos T310 F3 onboard Gigabit can be supported and Add-on LAN card can be removed.

NOTE. Please use the OS built-in driver of VMware ESXi 5.1 to install the OS.

1. Install an add-on LAN card on Altos T310 F3
2. Boot the system with VMware ESXi 5.1 Update 1 installation CD
3. Select **ESXi-5.1.0-20130402001-standard Installer** from the boot menu.
4. At the Welcome screen, press **Enter** to continue with the installation.
5. Accept VMware license by pressing **F11**.
6. At the Select a Disk screen, select the disk drive on which to install ESXi 5.1 Update 1 and press **Enter**.
7. Follow the instructions to select the keyboard layout, root password.
8. At Confirm Install screen, press **F11** to start the installation.
9. When the installation is completed, press **Enter** to reboot the host. Please remove the installation CD before the host rebooted.

### Configure the VMware ESXi 5.1 Update 1 host

1. When the installation is completed, reboot the host into VMware ESXi 5.1.
2. Press **F2** to configure the host.
3. Select **Configure Management Network** to set IP address.
4. Select the network adapter which you want to configure in **Network Adapters** and set the IP address in IP configuration.
5. Press **ESC** when complete the configuration.
6. Press **Y** to save the change.

### Downloading the vSphere Client to the PC

The vSphere Client is a Windows program that you can use to configure the host and to manage virtual machines.

1. On a Windows-based PC, please launch the web browser.
2. Please use the browser to connect to IP address of VMware ESXi host server which is installed with VMware ESXi.
3. At the welcome page, please click **Download the vSphere Client** under Getting Started (This will redirect you to VMware website to download the vSphere Client).

### vSphere Client Installation on the PC

NOTE. The vSphere Client requires the Microsoft .NET Framwork 3.5 SP1. If it is not installed, the vSphere Client installer will install it.

NOTE. The installation of vSphere Client might require Internet connectivity.

1. To install the vSphere Client on the PC by double-clicking the downloaded VMware-vicient.exe file.
2. Choose a language for the installer and click **OK**.
3. Follow the instructions and accept the license agreement to complete the installation.

### Launch vSphere Client on the PC

1. Open vSphere Client on the PC.
2. Type in the information to login VMware ESXi 5.0
* IP address of VMware ESXi host
* User name (“root” by default)
* Password (set during the VMware ESXi installation)

1. When you see the Security Warning pop-up window, please check the checkbox for **Install this certificate and do not display any security warnings for “IP address/Name of your system”** and click on **Ignore**.

1. Now, you can manage the VMware ESXi hypervisor or create virtual machines with the vSphere Client.


### Gigabit Ethernet Driver Installation

1. Copy the Gigabit Ethernet Driver for VMware ESXi (.VIB file) into the /tmp directory of VMware ESXi server through either WinSCP or command line (Linux scp utility).

NOTE. WinSCP can be downloaded from

NOTE. Here's an example of using the Linux 'scp' utility to copy the file from a local system to a VMware ESXi server located at 10.10.10.10:

scp Intel\_bootbank\_net-igb\_4.0.17-1OEM.500.0.0.472560.vib root@10.10.10.10:/tmp

1. On Altos T310 F3 console, please press **F2**.
2. Please enter Login Name and Password.
3. Select the **Troubleshooting Options** and press **Enter**.
4. Select Enable ESXi Shell and press **Enter** to enable Shell.
5. Select Enable SSH and press **Enter** to enable SSH.
6. Please press **ALT+F1** to enter command line mode.
7. Login VMware ESXi server as root.
8. Type below command to install the Gigabit Ethernet driver:

# esxcli software vib install -v /tmp/ Intel\_bootbank\_net-igb\_4.0.17-1OEM.500.0.0.472560.vib

1. Please press **ALT+F2** to return to console.
2. Press **F12**.
3. Please type Login Name and Password.
4. Press **F11** to restart the VMware ESXi server.
5. After reboot, you can check if onboard Gigabit Ethernet (Intel i210) is detected in **Configure Management Network**.

## MegaRAID 9240-4i/9260-4i/9271-8i

Below information describes how to manually install VMware ESXi 5.1 Update 1 on Altos T310 F3 with Intel Onboard SATA RAID.

### BIOS Required

Altos T310 F3 BIOS P02 (or later) is required to support VMware ESXi 5.1 Update 1.

### Drivers Required

|  |  |  |
| --- | --- | --- |
| **Device** | **Version** | **Driver Source** |
| MegaRAID 9240-4i  | N/A | OS Built-in |
| MegaRAID 9260-4i | N/A | OS Built-in |
| MegaRAID 9271-8i | N/A | OS Built-in |
| Chipset | N/A | OS built-in |
| Onboard VGA | N/A | OS built-in |
| Onboard Gigabit Ethernet | 4.0.1.7 | <https://my.vmware.com/web/vmware/details?productId=285&downloadGroup=DT-ESXI5X-INTEL-IGB-4017> |
| USB 3.0 | N/A | N/A |

### Configuring MegaRAID 9240-4i/9260-4i/9271-8i

Please refer to Appendix B for MegaRAID 9240-4i/9260-4i/9271-8i configuration

### Installation Tips

NOTE. Please refer to Altos T310 F3 FAQ (Frequently Asked Questions) to select OS installation in EFI mode or Legacy mode if the OS media supports EFI.

NOTE. Add-on LAN card (such as Intel Gigabit CT2 Desktop Adapter) is required to install VMware ESXi 5.1 Update 1 on Altos T310 F3.

After the installation of VMware ESXi 5.1 Update 1, please install the Gigabit Ethernet Driver for VMware ESXi 5.1 Update 1. Then, Altos T310 F3 onboard Gigabit can be supported and Add-on LAN card can be removed.

NOTE. Please use the OS built-in driver of VMware ESXi 5.1 to install the OS.

1. Add add-on LAN card in Altos T310 F3
2. Boot the system with VMware ESXi 5.1 Update 1 installation CD
3. Select **ESXi-5.1.0-20130402001-standard Installer** from the boot menu.
4. At the Welcome screen, press **Enter** to continue with the installation.
5. Accept VMware license by pressing **F11**.
6. At the Select a Disk screen, select the disk drive on which to install ESXi 5.1 Update 1 and press **Enter**.
7. Follow the instructions to select the keyboard layout, root password.
8. At Confirm Install screen, press **F11** to start the installation.
9. When the installation is completed, press **Enter** to reboot the host. Please remove the installation CD before the host rebooted.

### Configure the VMware ESXi 5.1 Update 1 host

1. When the installation is completed, reboot the host into VMware ESXi 5.1.
2. Press **F2** to configure the host.
3. Select **Configure Management Network** to set IP address.
4. Select the network adapter which you want to configure in **Network Adapters** and set the IP address in IP configuration.
5. Press **ESC** when complete the configuration.
6. Press **Y** to save the change.

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NOTE. The vSphere Client requires the Microsoft .NET Framwork 3.5 SP1. If it is not installed, the vSphere Client installer will install it.

NOTE. The installation of vSphere Client might require Internet connectivity.

1. To install the vSphere Client on the PC by double-clicking the downloaded VMware-vicient.exe file.
2. Choose a language for the installer and click **OK**.
3. Follow the instructions and accept the license agreement to complete the installation.

### Launch vSphere Client on the PC

1. Open vSphere Client on the PC.
2. Type in the information to login VMware ESXi 5.0
* IP address of VMware ESXi host
* User name (“root” by default)
* Password (set during the VMware ESXi installation)

1. When you see the Security Warning pop-up window, please check the checkbox for **Install this certificate and do not display any security warnings for “IP address/Name of your system”** and click on **Ignore**.

1. Now, you can manage the VMware ESXi hypervisor or create virtual machines with the vSphere Client.


### Gigabit Ethernet Driver Installation

1. Copy the Gigabit Ethernet Driver for VMware ESXi (.VIB file) into the /tmp directory of VMware ESXi server through either WinSCP or command line (Linux scp utility).

NOTE. WinSCP can be downloaded from

NOTE. Here's an example of using the Linux 'scp' utility to copy the file from a local system to a VMware ESXi server located at 10.10.10.10:

scp Intel\_bootbank\_net-igb\_4.0.17-1OEM.500.0.0.472560.vib root@10.10.10.10:/tmp

1. On Altos T310 F3 console, please press **F2**.
2. Please enter Login Name and Password.
3. Select the **Troubleshooting Options** and press **Enter**.
4. Select Enable ESXi Shell and press **Enter** to enable Shell.
5. Select Enable SSH and press **Enter** to enable SSH.
6. Please press **ALT+F1** to enter command line mode.
7. Login VMware ESXi server as root.
8. Type below command to install the Gigabit Ethernet driver:

# esxcli software vib install -v /tmp/ Intel\_bootbank\_net-igb\_4.0.17-1OEM.500.0.0.472560.vib

1. Please press **ALT+F2** to return to console.
2. Press **F12**.
3. Please type Login Name and Password.
4. Press **F11** to restart the VMware ESXi server.
5. After reboot, you can check if onboard Gigabit Ethernet (Intel i210) is detected in **Configure Management Network**.

# APPENDIX A: Intel Onboard SATA RAID CONFIGURATION

## Set Intel Onboard SATA RAID in EFI Mode or Legacy Mode

1. Please enter BIOS Setup during POST
2. Please select Advanced.
3. Please select PCI Configuration.
4. You would see below information.

Lunch Storage OpROM policy [UEFI only]

NOTE. The default setting is UEFI only.

1. To enable EFI mode of RAID controller, please keep Lunch Storage OpROM policy as UEFI only. To enable Legacy mode of RAID controller, please change Lunch Storage OpROM policy as Legacy Only.
2. Please select Boot Options.
3. You would see below information.

Boot Mode [UEFI]

NOTE. The default setting is UEFI.

1. To enable EFI mode, please keep Boot Mode as UEFI. To enable Legacy mode, please change Boot Mode as Legacy.
2. Please save the setting and exit from BIOS Setup.

## Enabling Intel Onboard SATA RAID

1. Please enter BIOS Setup during POST
2. Load default BIOS settings by press F9.
3. Please select Advanced.
4. Please select SATA Configuration.
5. You might see below information:

SATA Mode [AHCI]

1. Please change the setting of SATA Mode from AHCI to RAID.

SATA Mode [RAID].

1. Save the setting and exit from BIOS Setup.

## Entering Intel Onboard SATA RAID BIOS Utility (UEFI Mode)

1. Please enter BIOS Setup during POST
2. Please select Advanced.
3. Please select PCI Configuration.
4. Please select Intel RSTe SATA Controller
5. You would see below information.

Intel RSTe 3.7.0.1049 SATA Driver

Create RAID Volume

Non-RAID Physical Disks:

Port 0, WDC WD50000AAKX-22ERMA0 WD-WMC2E0005605, 465.7GB

Port 1, WDC WD50000AAKX-22ERMA0 WD-WMC2E0005731, 465.7GB

## Entering Intel Onboard SATA RAID BIOS Utility (Legacy Mode)

Please press **CTRL-I** when you see the RAID BIOS during POST.

## Loading Factory Default Setting

The Intel Onboard SATA RAID BIOS utility does not provide the function to load factory default setting.

## Creating a RAID Volume (UEFI Mode)

1. Select Create RAID Volume.
2. The **CREATE VOLUME MENU** displayed.
3. Type in the name of RAID volume.
4. Select RAID level.
5. Select desired HDD to create the RAID.
6. Select Strip Size.
7. Select Capacity.
8. Select **Create Volume**.
9. Now the RAID volume is created and you would see below RAID Volumes information.

RAID Volumes:

Volume0, RAID1(Mirror), 442.5GB, Normal

1. You can press **ESC** and select **Save & Exit** to exit.

## Creating a RAID Volume (Legacy Mode)

1. Select Create RAID Volume.
2. The **CREATE VOLUME MENU** displayed.
3. Type in the name of RAID volume.
4. Select RAID level.
5. Select desired HDD to create the RAID.
6. Select Strip Size.
7. Select Capacity.
8. Select **Create Volume**.
9. Press **Y** when “Are you sure you want to create the volume? (Y/N):” displayed.
10. Now the RAID volume is created, you can press **ESC** and select **Exit** to exit.

## Initializing a RAID Volume

During Intel Onboard SATA RAID volume creation process, the Intel Onboard SATA RAID volume will be automatically initiated once the onboard SATA RSTe RAID volume has been created.

## Assigning a Hot Spare Drive

The Intel onboard SATA RAID BIOS utility does not provide the function to create hot spare drive. Please create the hot spare drive with the Intel Onboard SATA RAID utility in operating system.

# APPENDIX B: MEGARAID 9240-4i/9260-4i/9271-8i RAID CONFIGuration

## Set RAID Controller in EFI Mode or Legacy Mode

1. Please enter BIOS Setup during POST
2. Please select Advanced.
3. Please select PCI Configuration.
4. You would see below information.

Lunch Storage OpROM policy [UEFI only]

NOTE. The default setting is UEFI only.

1. To enable EFI mode of RAID controller, please keep Lunch Storage OpROM policy as UEFI only. To enable Legacy mode of RAID controller, please change Lunch Storage OpROM policy as Legacy Only.
2. Please select Boot Options.
3. You would see below information.

Boot Mode [UEFI]

NOTE. The default setting is UEFI.

1. To enable EFI mode, please keep Boot Mode as UEFI. To enable Legacy mode , please change Boot Mode as Legacy
2. Please save the setting and exit from BIOS Setup.

## Entering RAID BIOS Utility (Legacy Mode)

Please press **CTRL-H** when you see the RAID BIOS during POST. After POST finished, the Adapter Selection page will show on the screen. Please click on **Start** to launch the configuration menu.

## Entering RAID EFI Utility (EFI Mode)

1. Please enter EFI Shell during POST.
2. In EFI Shell, please type in drvcfg –s.
3. You will see below options.

Press 1 for EFI WebBIOS

 2 for EFI CLI

or any other key to return:

1. Please select 1 for EFI WebBIOS.
2. Please click on **Start** to launch the configuration menu.
3. Please type exit to reboot.

## Loading Factory Default Setting

1. In the left panel, select **Controller Properties**. The current adapter settings appear. Please click on **Next** to change the setting.
2. Change the setting of **Set Factory Defaults** from **No** to **Yes** then click on submit.
3. Press **Home** button
4. Please select **Exit** in left panel
5. Press **Ctrl+Alt+Del** to reboot the server.

## Creating a RAID Volume

1. Launch the configuration menu.
2. Select **Configuration Wizard** in left panel
3. Select **New Configuration** and click on **Next**.
4. Select **Manual Configuration** and click on **Next**.
5. Hold the **Ctrl** key and select the drives that you want to add into the array. After you selecting the drives, click on **Add to Array.**
6. Click on **Accept DG** and then click on **Next**.
7. Select the array you just created, click on **Add to SPAN** and then **Next**.
8. Select the **RAID Level** you want to use, create the logical volume by specify the size at **Select Size** and click on **Accept** to create the logical volume.
9. Select **Yes**. If you want to select Write Through mode.
10. Click on **Next** after you creating the logical volume.
11. Click on **Accept** and **Yes** to save the configuration.

## Initializing a RAID Volume

1. After you create the logical volumes and click on **Accept** to save the configuration, the new logical volume will be automatically initialized after you click on **Yes** to confirm the change.
2. You will see all the logical drives listed.
3. Click on **Home** to go back to the configuration menu.

## Assigning a Hot Spare Drive

1. Select a free disk marked as **UNCONF GOOD** and listed under **Physical Drives**.
2. Select Make Global HSP or Make Dedicated HSP options and then click on **Go**.
3. Click on **Home** to go back to the configuration menu. You will see the disk marked as **Hot Spare** in pink and listed under Physical Drives.
4. Now you can reboot the system and install the Operating System. Select **Exit**, click on **Yes** and press **Ctrl+Alt+Del** to reboot the system.