Advanced Server Management Software

Quick Start Guide for Linux-based Intel® Server Platform SRMK2

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Intel Corporation
5200 N. E. Elam Young Parkway
Hillsboro, Oregon 97124-6497

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1 Introduction

Learn about the features of Advanced Server Management software and where to go for more information.

About Advanced Server Management software

Advanced Server Management is an HTML-based set of tools you can use to configure settings and view information on the Intel® Server Platform SRMK2.

The Advanced Server Management tools include:

- System health control
- Alert configuration
- BIOS configuration
- Server control
- Predictive failure settings
- Watch dog timer

System health tools

System health tools let you:

- Monitor the server's temperature, voltage, fans, and disk status.
- Control how the server notifies you when a health sensor detects a problem.
- Monitor the server's CPU and memory utilization.

Alert configuration

Alert configuration settings enable you to specify a destination for SNMP traps.

BIOS configuration

BIOS configuration tools let you:

- Set the BIOS communication settings for use with console redirection.
- Set the BIOS password.

Server control

Server control settings enable you to remotely reboot and shut down the server.

Predictive failure settings

Predictive failure settings enable you to monitor certain kinds of repetitive server failures.

Watch Dog Timer

The Watch Dog Timer is an automatic reboot feature that kicks in when the server isn't responding.

For more information

This document explains how to install Advanced Server Management software and describes its features.

For more information about the software, see the online help. To access, click the **Help** link in the navigation pane. You can also visit Intel's support Web site at http://support.intel.com/support/motherboards/server.

For more information about the Intel Server Platform SRMK2, see these documents:

- *Intel Server Platform SRMK2 Technical Product Specification*
- *Intel Server Platform SRMK2 Product Guide*

These documents are located on Intel's support Web site at http://support.intel.com/support/motherboards/server

2 Setting up the software

This chapter explains how to set up Advanced Server Management software on an Intel® Server Platform SRMK2 that is running Red Hat* Linux* 6.2 SBE2.

Before you begin

Before you install Advanced Server Management software on your Intel Server Platform SRMK2, complete these tasks:

- Boot the server and assign the IP addresses, subnet masks, and default gateways.
- Install two packages for SNMP, **ucd-snmp** and **ucd-snmp-utils**, and one graphics package, **libgr-progs**.

  These additional packages are on the Rat Hat Linux 6.2 SBE 2 CD, but they don't install by default with Red Hat. You'll need to install them using "rpm" commands:

  ```
  #mount /mnt/cdrom
  #rpm -Uv /mnt/cdrom/RedHat/RPMS/ucd-snmp*
  #rpm -Uv /mnt/cdrom/RedHat/RPMS/libgr-progs*
  ```

If you don't install these packages...
The installer will produce an error message and fail to install the Advanced Server Management software.

- Download the latest Linux version of Advanced Server Management software for the SRMK2 from Intel's Business Link database (IBL) at http://intel.com/ibl.
- If this is a reinstall, make sure the previous version of Advanced Server Management software has been uninstalled.

Installing Advanced Server Management software

The next installation steps apply to SRMK2s running Red Hat Linux 6.2 SBE2. Because Linux is case-sensitive, follow capitalization exactly as shown when typing commands.

To install Advanced Server Management software

1. Download the Advanced Server Management program **ASMx.x.tar.gz** (where **x.x** is the software version number) and place it on the SRMK2's hard drive.
2. Transfer the ASMx.x.tar.gz file to the server and save it into the **/tmp** directory.
3. Switch to the tmp directory:

   ```
   cd /tmp
   ```

4. On the server, expand the filename with this command:

   ```
   tar -xzf ASMx.x.tar.gz
   ```

5. To change to the installation directory, type:

   ```
   cd ASMInstallCD
   ```

6. To begin installing Advanced Server Management software, type:

   ```
   ./install
   ```

7. After installation is complete, reboot the server.

Connecting to the SRMK2

Once Advanced Server Management software is installed on the SRMK2, you can connect to it via a networked computer. The computer must be running Internet Explorer 5.5 or higher or Netscape Navigator* 4.7.

To connect to the server

1. At a computer, open Internet Explorer or Netscape Navigator.
2. In the Address field, type the server's IP address or the path to the server followed by **/intelasm/**. For example:

   `http://<machine_name>/intelasm/`

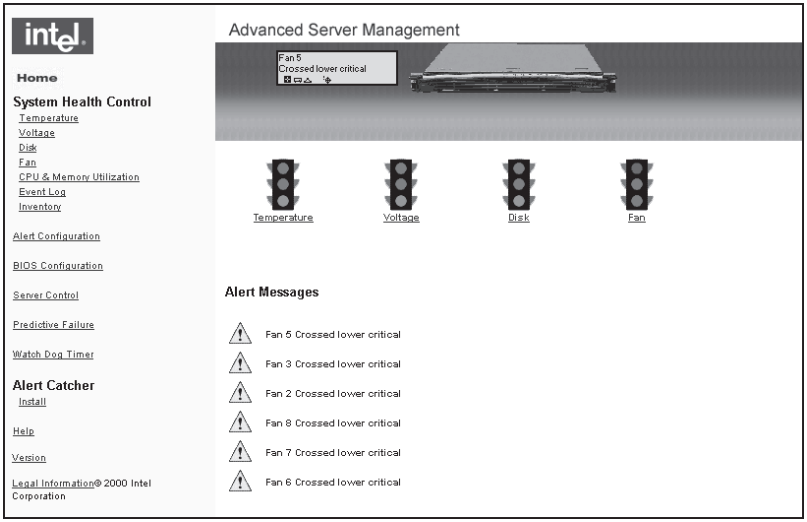
   It may be necessary to type **frtIndex.php** after "intelasm." For example:

   `http://<server_name>/intelasm/frtIndex.php`

   Or

   If you're using Advanced Server Management software on the server (not over the network), type:

   `http://localhost/intelasm/`
3. Press **Enter**. The Advanced Server Management home page appears.



Uninstalling Advanced Server Management software

To uninstall Advanced Server Management software

1. Switch to the tmp/ASMInstallCD directory (or the directory that you installed from):

   ```
   cd /tmp/ASMInstallCD
   ```

2. To begin uninstalling Advanced Server Management software, type:

   ```
   ./rmasm
   ```

3 Configuring system health

This chapter describes the Advanced Server Management software features that monitor the health of the Intel® Server Platform SRMK2.

Sensors, events, and alerts

The Intel Server Platform SRMK2 has sensors that monitor its status and physical environment. The temperature sensor monitors the server's temperature, the voltage sensors monitor the system baseboard and processor voltages, and the fan sensors monitor the fans' RPMs. Advanced Server Management software also monitors how much free space remains on the disks.

If one of these areas has a problem, the server perceives it as an "event." There are two kinds of events, critical and non-critical:

- A **critical event** happens when the temperature, voltage, fan speed, or disk space is above or below the critical thresholds.
- A **non-critical event** happens when the temperature, voltage, fan speed, or disk space is above or below the non-critical thresholds.

You can use Advanced Server Management software to view sensor information, set the non-critical event thresholds, and set what kind of event alert the server sends for each event.

The critical event thresholds are predefined and can't be changed.

To view monitored information

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click the category you want to view: **Temperature**, **Voltage**, **Disk**, or **Fan**.
3. For Voltage, Disk, or Fan, specify which sensor to view by clicking it.

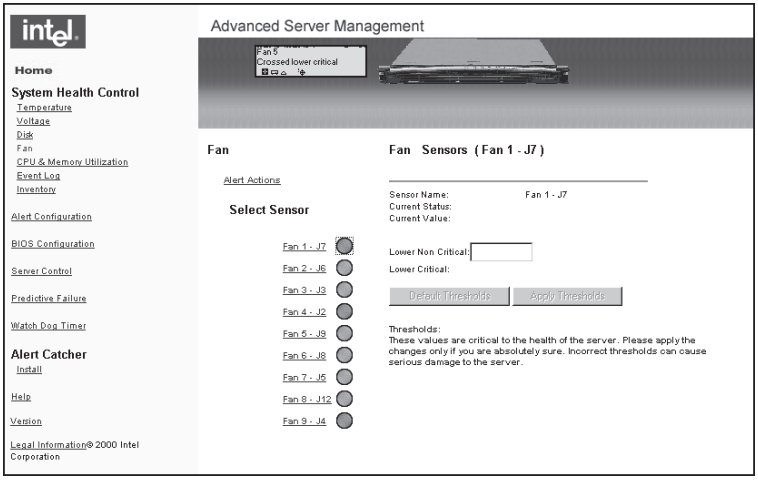
For more information, see the following topics in the online help: *Temperature Sensor Settings*, *Voltage Sensor Settings*, *Disk Sensor Settings*, *Fan Sensor Settings*.

Setting event thresholds

Critical event thresholds can't be changed. However, you can set non-critical event thresholds.

To set non-critical event thresholds

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Temperature**, **Voltage**, **Disk**, or **Fan**.
3. For Voltage, Disk, or Fan, select a sensor to configure by clicking it.
4. Set the upper and/or lower thresholds, or click **Default** to restore the default setting.
5. Click **Apply Thresholds**.



Setting event alerts

You can configure which alert(s) the server sends for each event. Set as many as five different alert options for a specific event:

- **Beep**—The server beeps.
- **Output message to LCD**—The server displays a message and icon on the virtual LCD that appears at the top of the Advanced Server Management home page.
- **Broadcast alert message**—The server sends a message to all networked computers on the subnet.

  This option only works if the Alert Listener software is installed on a receiving computer. For more information, see "Installing Alert Listener software" later in this chapter.
- **SNMP**—The server sends an SNMP trap. You set the trap destination from the Alert Configuration page.

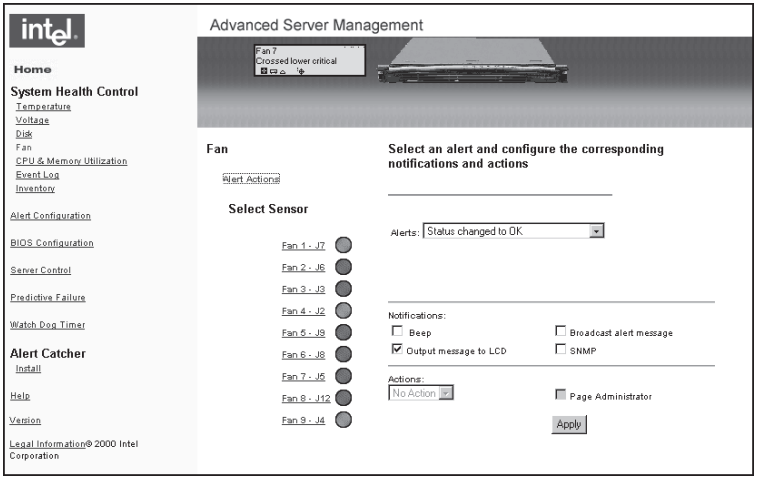
  To use SNMP traps, you must install the SNMP service and trap receiver on computers that will receive the traps, then load the MIB file into the trap receiver. (See chapter 2 for information about installing SNMP.)
- **Page Administrator**—The server pages the network administrator. You set the pager number and string on the BIOS Configuration page.

  A modem on the COM1 or COM2 serial port is required for paging. Configure the modem from the BIOS Configuration page.

To set event alerts

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Temperature**, **Voltage**, **Disk**, or **Fan**.
3. Click **Alert Actions**.
4. Select the Alert options you want: **Beep**, **Output message to LCD**, **Broadcast alert message**, **SNMP**, or **Page Administrator**.
5. Click **Apply**.

For more information, see the online help.



Configuring destinations for SNMP traps

If you've set up receiving computers to use an SNMP trap receiver, access the Alert Configuration page to specify a destination for SNMP traps, or to enter up to three e-mail addresses for e-mail alerts.

To set up SNMP destination computers

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Alert Configuration**.
3. Click the **SNMP Configuration** link. For Destination, type the IP address or IP host name of the SNMP trap destination computer.

Installing Alert Listener software

The Alert Listener software is required for a networked computer to receive alerts from the SRMK2.

This software enables a computer to receive the broadcast/LAN alerts that are sent out in response to an Advanced Server Management software-generated event.

The Alert Listener software works on any computer running Red Hat Linux 6.2.

To install Alert Listener software

You must have the Java* 2 Software Development Kit (SDK) installed on your computer before installing the Alert Listener software. The SDK can be downloaded free from Sun Microsystems' Web site at http://java.sun.com/j2se/1.3.

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Alert Listener**, then click **Install**.
3. Save the downloaded rpm (asmlac) to disk.
4. Log in as **root**.
5. At the command prompt, type:

   ```
   rpm -U asmlac.rpm
   ```
6. A message appears instructing you to run the command:

   ```
   /var/tmp/makeasmlac.pl
   ```

   This creates the environment for asmlac.
7. Enter the directory where Java is installed on the computer:

   ```
   /usr/local/
   ```

   The package installs a set of Java classes into /usr/local/asmlac and a shell script into /usr/local/asm/bin.

   The package also installs the MIB file (required for computers using the SNMP service) into the directory /usr/local/asmlac.

To run Alert Listener software

- At the command prompt, type:

  ```
  /usr/local/asm/bin/asmlac
  ```

The shell script (asmlac) will set up the environment and launch the client.

To uninstall Alert Listener software

1. Log in as **root**.
2. At the command prompt, type:

   ```
   rpm -e asmlac
   ```

Viewing CPU and memory utilization

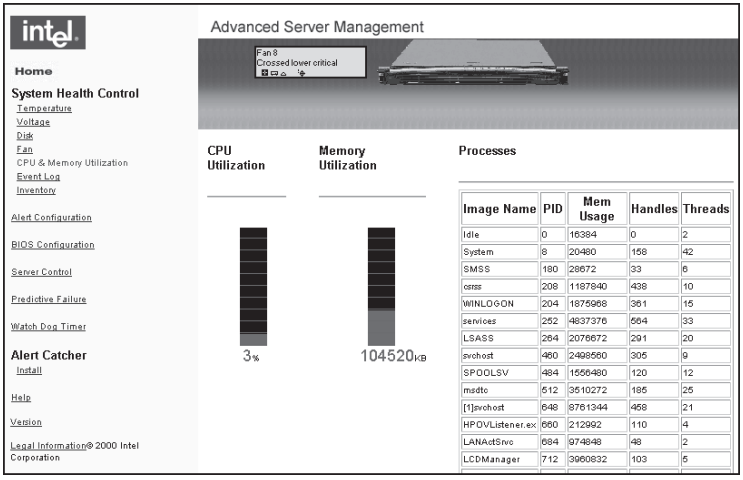
Advanced Server Management software shows CPU utilization as a percentage and memory utilization in KB used.

To view CPU and memory utilization

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **CPU & Memory Utilization**.

CPU utilization indicates how much of the CPU capacity is being used. Memory utilization indicates how much of the memory is being used. This is broken down by process in the Processes table.

For more information, see the *CPU and Memory Utilization* topic in the online help.



Configuring predictive failure events

The predictive failure feature enables you to monitor certain kinds of repetitive failures. You can configure the predictive failure thresholds and notification options for:

- **Temperature events**—The server sends an alert if a specified number of temperature events occur within a specified amount of time.
- **Voltage events**—The server sends an alert if a specified number of voltage events occurs within a specified amount of time.
- **CPU utilization**—The server sends an alert if the CPU utilization exceeds a specified threshold for a specified amount of time.
- **Memory utilization**—The server sends an alert if the memory utilization exceeds a specified threshold for a specified amount of time.
- **Single-bit errors**—The server sends an alert if one single-bit memory error occurs within a specified amount of time.

To configure predictive failure events

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Predictive Failure**.
3. Select the predictive failure event you want to configure: **Temperature**, **Voltage**, **CPU Utilization**, **Memory Utilization**, or **Single-Bit Error**.
4. Set the threshold(s) and notification options.
5. Click **Apply**.

For more information, see the *Predictive Failure* topic in the online help.

Configuring the Watch Dog Timer

The SRMK2 has an automatic reboot feature that uses a timer to count down from a user-defined number to zero. If it reaches zero, the server is rebooted.

Under normal circumstances, the timer never reaches zero because the Watch Dog Timer service periodically resets it, and the countdown begins again.

However, if there is a problem with the server, the Watch Dog Timer service can't reset the timer. In that case, the timer counts down to zero, and the server is rebooted. For example, if the operating system hangs, the Watch Dog Timer service can't reset the timer; the timer reaches zero, and the server is rebooted.

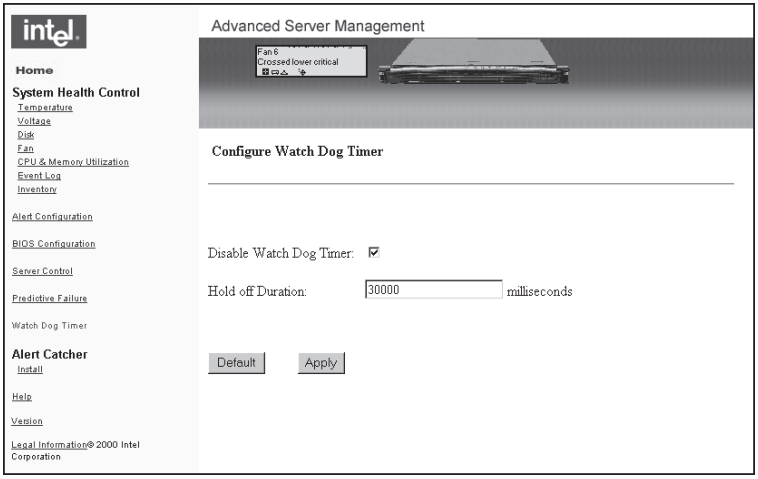
You can configure two Watch Dog Timer settings:

- **Hold Off Duration**—Determines how long the countdown lasts (in milliseconds). Sets the maximum length of time the counter will wait before resetting the server. For example, setting Hold Off Duration to 30000 milliseconds tells the counter to wait 30 seconds before resetting the server.
- **Enable or Disable**—If the Watch Dog Timer is disabled, the server is never automatically rebooted, even if there is a problem such as the operating system hanging.

  The Watch Dog Timer is disabled by default. If you want to use the Watch Dog Timer, you must first enable it.

To configure the Watch Dog Timer settings

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Watch Dog Timer**.
3. Enable the Watch Dog Timer option.
4. Set the Hold Off Duration in milliseconds.
5. Click **Apply**.



4 Configuring system information and settings

This chapter describes the Advanced Server Management software features that provide information about the Intel® Server Platform SRMK2. Also described are the remote reboot and shutdown features and BIOS configuration options.

Viewing the virtual LCD

The virtual LCD appears at the top of the Advanced Server Management home page and displays messages and icons showing the status of the Intel Server Platform SRMK2.

To see the virtual LCD, connect to the Advanced Server Management home page.

Virtual LCD icons

The server is completely booted.

The hard disk drive is running and available.

The hard disk drive is being accessed.

The network is up and functioning normally.

Information is being sent across the network.

Temperature alert. The server's temperature is outside the normal range.

Voltage alert. One of the server's voltage sensors has detected power outside the normal voltage range.

Fan alert. One of the server's fan sensors has detected the fan falling below the set RPM threshold.

Event defined by an Original Equipment Manufacturer (OEM).

Viewing the System Event Log

The System Event Log shows a list of recent events that have occurred on the SRMK2.

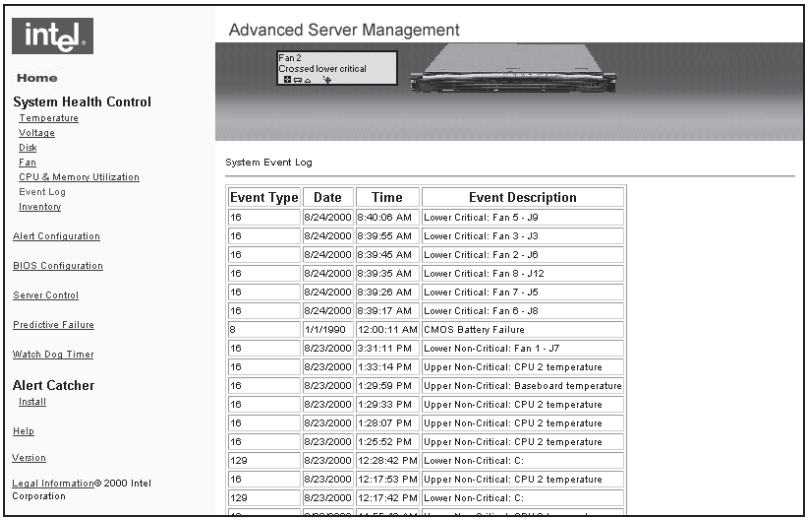
To view the System Event Log

1 Connect to the Advanced Server Management home page.

2 In the navigation pane, click **Event Log**.

If the System Event Log fills up, you can view the log archive by clicking **Archive**. This button appears only if there are archived events.

For more information, see the *Event Log* topic in the online help.

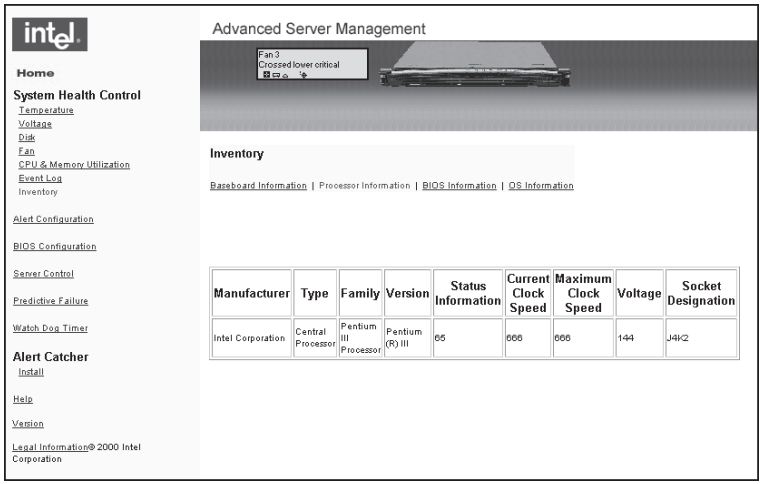


Viewing inventory information

The Inventory page shows information about the server's baseboard, processor, BIOS, and operating system.

To view the Inventory information

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Inventory**.
3. Click the link for the information you want: **Baseboard Information**, **Processor Information**, **BIOS Information**, or **OS Information**.



For more information, see the *Inventory* topic in the online help.

Using server control

Advanced Server Management software enables you to remotely reboot and shut down the SRMK2.

To reboot the server

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Server Control**, then click **Reboot Server**.
3. Click **Apply**.

For more information, see the *Rebooting the Server* topic in the online help.

To shut down the server

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **Server Control**, then click **Shutdown Server**.
3. Click **Apply**.

For more information, see the *Shutting Down the Server* topic in the online help.

Configuring BIOS settings

From the BIOS Configuration page, you can change:

- **BIOS communication settings**—Configure the server's console redirect settings for serial port redirection, the pager number, and string.
- **BIOS password**—Set or change the server's BIOS password.

To set BIOS communication settings

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **BIOS Configuration**.
3. In the BIOS Configuration page, click **BIOS Communication Settings**.
4. Set the necessary options.

For more information, see the *BIOS Configuration* topic in the online help.

To set the BIOS password

1. Connect to the Advanced Server Management home page.
2. In the navigation pane, click **BIOS Configuration**.
3. In the BIOS Configuration page, click **BIOS Password**.
4. Set the server's BIOS password.

For more information, see the *BIOS Configuration* topic in the online help.

For information about configuring other BIOS settings, see the *Intel Server Platform SRMK2 Product Guide*.

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