



Intel® Active System Console v8.0

User Guide

Reference for using the Intel® Active System Console (IASC)

Rev 8.0
August 2019

<This page intentionally left blank>

Document Revision History

Date	Revision	Changes
April 2015	1.0	Support for Intel® Server Board based on Intel® Xeon® processor E3-1200 v5
April 2015	1.1	Cache River update to 7.0 to support UEFI
May 2015	1.2	Trackers EPSD100247844 ,EPSD100247850, EPSD100248104, EPSD100247843 and EPSD100028503 are fixed
May 2015	1.3	Tracker EPSD100247847 has been fixed
Jun 2015	1.4	New CR 7.0 Build 4 is integrated
July 2015	1.5	<ul style="list-style-type: none"> • New CR 7.0 Build 6 is integrated • RHEL 7.1 support • Improved First Login Time to be less than/within 1 minute 15 seconds
August 2015	1.6	<ul style="list-style-type: none"> • Integrated CR 7.0 Build 7 • Integrated the KW fixes for Linux and Windows • Integrated CR 7.0 Build 8 • Fixed Sol Tracker
September 2015	1.7	<ul style="list-style-type: none"> • Redhat all versions supports • CentOS all versions supports • New CR Build 9 with sysfwupdt module added
October 2015	1.8	<ul style="list-style-type: none"> • Code defense flags are enabled for windows • Code defense flags are enabled for Linux • Integrated with CR build 10
February 2016	1.9	<ul style="list-style-type: none"> • Updated Appcore 3.3 Build 2 with appcore log lock • Debug log lock • Removed RHEL 5.xx and SLES 10.xx binary • Updated Copyright year to 2016
June 2016	2.0	Fix Tracker EPSD100253633 : Getting Error Message in Linux OS during Intel® Active System Console installation
August 2016	2.1	Fix Tracker EPSD100254345 : Intel® Active System Console build 14 - Cooling - Temperature column the Plus "+" minus "-" button is not working properly
August 2016	2.2	Fix Tracker EPSD100251040 : Storage model and serial number not showing up for 2nd HDD in Intel® Active System Console by using Linux OS (show not_available)
August 2016	2.3	Fix Tracker EPSD100254454 : Storage model and serial number not showing up for 2nd HDD in Intel® Active System Console by using Linux OS (show not_available)
August 2016	2.4	Fix Tracker EPSD100254756: Unable to Install Intel® Active System Console by using SLES 12.1 OS
August 2016	2.5	Fix Tracker EPSD100254813 : Unable to run/install RPM package for RHEL 6.8 x64 OS
August 2016	2.6	Fix Tracker EPSD100254719 : Operating System Name show incorrect value for Windows 2016
December 2016	2.7	<ul style="list-style-type: none"> • Fix Tracker EPSD100256347 : Getting Error Message during uninstallation on Grantley in Linux OS • Fix Tracker EPSD100256552 : Unable to run/install RPM package for RHEL 7.3 x64 OS • Fix EPSD100256618 : [Greenlow] - Intel® Active System Console Build 8.0.17 -Irrelevant error message in SUSE during installation
January 2017	2.8	<ul style="list-style-type: none"> • Appcore 3.3 Build 3 Debug log disabled • Updated copyright year to 2017
February 2017	2.9	Integrated with CR 7.0 Build 16
March 2017	3.0	Added Support for RHEL 7.3
March 2017	3.1	Shows available users list in BMC User Configuration Table in the generated reports.
August 2017	3.2	Added Support for RHEL 6.9
August 2017	3.3	<ul style="list-style-type: none"> • Added Support for RHEL 7.4 • Integrated Appcore 3.3 build (HDD Threshold support) • Supports configurable HDD Thresholds • Fix 1504579956.2: [Grantley] – Rhel 7.4 RPM auto script not working by using Intel® Active System Console 8.0.22
September 2017	3.4	Fixed HDD Threshold EOL (End of Line) error for windows

April 2019	3.5	Fix for EXE and DLL Hijacking for Windows binaries
------------	-----	--

Legal Statements

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL® PRODUCTS FOR THE PURPOSE OF SUPPORTING INTEL DEVELOPED SERVER BOARDS AND SYSTEMS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS OTHERWISE AGREED IN WRITING BY INTEL, THE INTEL PRODUCTS ARE NOT DESIGNED NOR INTENDED FOR ANY APPLICATION IN WHICH THE FAILURE OF THE INTEL PRODUCT COULD CREATE A SITUATION WHERE PERSONAL INJURY OR DEATH MAY OCCUR.

Intel may make changes to specifications and product descriptions at any time, without notice. Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined." Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The information here is subject to change without notice. Do not finalize a design with this information.

The products described in this document may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

Intel is a trademark of Intel Corporation in the U.S. and other countries.

Microsoft, Windows, Windows Server, Active Directory, and Vista are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

* Other names and brands may be claimed as the property of others.

Copyright © 2019 Intel Corporation. All rights reserved

Table of Contents

1. Introduction	11
1.1 Target Audience	11
1.2 Overview.....	11
1.3 Features and Benefits.....	12
1.3.1 Intel® Active System Console.....	13
1.4 System Requirements.....	13
1.4.1 Supported Operating Systems	13
1.4.2 Browser Requirements	14
1.4.3 Supported Platforms	14
1.5 Supported Languages.....	14
1.6 Additional Information	14
1.6.1 Third Party Source Code/Binaries.....	14
1.6.2 Support Information	14
1.7 Related Documentation	15
1.8 Terminology.....	15
2. Getting Started	16
2.1 Installing the Intel® Active System Console.....	16
2.2 TCP Information.....	16
2.3 Uninstalling the Intel® Active System Console.....	18
3. Navigating the Intel® Active System Console	19
3.1 System Information.....	20
3.1.1 Viewing System Health	21
3.1.2 Viewing System Summary	21
3.1.3 Viewing Processor Summary Readings	22
3.1.4 Viewing Memory Device Readings.....	24
3.1.5 Viewing Temperature and Fan Readings (Cooling Sensors).....	24
3.1.6 Viewing Voltage and Electrical Current Sensors Readings	25
3.1.7 Viewing Chassis Information.....	25
3.1.8 Viewing Storage Readings.....	26
3.1.9 Viewing Miscellaneous Readings.....	27
3.1.10 Viewing System Events	27
4. Configuring Server Hardware and Reports Generation	29
4.1 Configuring the BMC	29
4.1.1 Configuring BMC Users	29
4.1.2 Configuring the Network	30
4.1.3 LAN Failover.....	31
4.1.4 Configuring Serial Over Lan (SOL) Settings.....	31
4.1.5 Configuring SNMP Alerts	32
4.1.6 Configuring the BIOS	32

4.1.7	Configuring Basic Email: Use a Default Email Profile.....	33
4.1.8	Configuring Advanced Email: Create and Apply Email Profiles	34
4.2	Generating Reports	34
4.3	User Settings	35
4.4	Viewing Software Updates	35
5.	Security Features	36
5.1	Replacing a Certificate in a Windows* Installation.....	36
5.2	Replacing a Certificate in a Linux* Installation	36
5.3	Traceability and Security Audit.....	37
5.4	Security Recommendations	37
6.	Troubleshooting Guidelines.....	39
6.1	Installation Issues and Environemtn Requirements.....	39
6.2	User Login Issues and Browser Settings	42
6.3	Known Informational Irregularities and Issues.....	44

List of Tables

Table 1. Comprehensive feature list of the Intel® Active System Console	12
Table 2. Related documentation	15
Table 3. Glossary of terms.....	15
Table 4. TCP ports used by Intel® Active System Console.....	16
Table 5. Tasks in the Intel Active System Console	19
Table 6. Hardware choices and functions	20
Table 7. Required RPMs for Intel® Active System Console Installation	40

Table of Figures

Figure 1. Intel® Active System Console Login page (By default, Intel® Active System Console opens in Dashboard page)	19
Figure 2. System Summary page	22
Figure 3. Processor summary readings	23
Figure 4. Memory device readings	24
Figure 5. Cooling sensors	24
Figure 6. Power sensors	25
Figure 7. Chassis information page/Identify Chassis On/Off Dialog	25
Figure 8. Storage Device, Logical Drives, Drive Sensor Information page	26
Figure 9. Miscellaneous Information page (Bus Sensors, BIOS and other discrete sensors)	27
Figure 10. System Events Information page	27
Figure 11. Configuration Menu	29
Figure 12. Intel® Active System Console BMC User Configuration window	30
Figure 13. Configuring the BMC User Settings: Edit User dialog box	30
Figure 14. Configuring the BMC Network window	30
Figure 15. Configuring LAN failover	31
Figure 16. Configuring the SOL Settings window	31
Figure 17. Configuring the SNMP Alerts Settings window	32
Figure 18. Configuring the BIOS window	32
Figure 19. BIOS Admin Credentials for boot order	33
Figure 20. Basic Email Alerts Settings window	33
Figure 21. Advanced Email Alerts Settings window	34
Figure 22. Generating Reports window	35
Figure 23. User Settings window	35
Figure 24. Mozilla script termination	39
Figure 25. Editing the registry	41
Figure 26. Member login window	43
Figure 27. RHEL shell script	43
Figure 28. SuSE shell script	43

<This page is intentionally left blank.>

1. Introduction

The Intel® Active System Console is a simple, lightweight web application console that gives a dashboard view of the Server hardware on which it is running. It helps to proactively monitor the health of the Server, allows remote configuration of the Server, tracking of assets, and alerting of any issues and generation of asset reports.

The Intel® Active System Console is a product offering from the Intel® System Management Software - a suite of software products designed to reduce the cost and time of managing servers and keep businesses running 24/7.

Intel® Active System Console is included with almost all Intel® Server Products at no additional charge giving your customer “peace of mind” that servers are healthy.

Intel® Active System Console offers the following:

- **Proactive alerting** allows the server administrator to plan routine maintenance activities and avoid unplanned downtime
- **Asset Inventory** informs which components are installed in the server without having to shut down and open the system
- **Remote debug** isolates problems quickly saving hours and even days in the time it takes to debug and fix the issue.

1.1 Target Audience

The purpose of this document is to help system/server administrators install and use the Intel® Active System Console. It provides detailed information on the features and benefits of Intel® Active System Console and how to use them. It describes the software requirements, supported operating systems, and the supported platforms. It also explains the installation and un-installation process.

1.2 Overview

The Intel® Active System Console helps with proactive monitoring of the health of the Server, allows remote configuration of the Server, tracking of assets, alerting of any issues and generation of asset reports, giving a holistic view of the server hardware. This comprises information on hardware components of the system - overall health of the server and component health, sensors, System Event Log (SEL), storage (Logical Drives, Hard Drives), processors, memory, Field Replaceable Units (FRUs) as well as BMC configuration.

Get Peace of Mind

It improves security, reduces costs, and helps businesses move from reactive to proactive system management. The software enables secure remote management and monitoring of servers, clients, and applications from virtually any location—in a way that IT generalists can understand without attending weeks of training. It's all about IT made easy:

Simple

- Makes it easy to set up and maintain a reliable and secure IT infrastructure
- Streamlines tasks throughout server life cycle with remote management
- Manages IT functions with a single suite of tools

Secure

- Keeps IT informed with automated daily health reports and alerts
- Improves reliability and stability with application and patch deployment

Smart

- Designed specifically for small to midsize business
- Reduces travel time and costs
- Provides a proactive solution to server management with reports and alerts

To launch the Intel® Active System Console, go to **Start> Programs> Intel® Server Management Software >Intel® Active System Console**.

Intel® Active System Console may also be launched from any client using the URL:
<https://<ipaddressofserver>:9393/asc>

1.3 Features and Benefits

This section discusses the features and benefits of the Intel® System Management Software suite of Products in general and the Intel® Active System Console in particular.

Intel® System Management Software

The following table lists the comparative features and benefits of Intel® System Management Software suite of Products:

Table 1. Comprehensive feature list of the Intel® Active System Console

Features	Intel® Active System Console	Intel® SNMP-SA
Server Environment	Enterprise	Enterprise
User Interface	Web Based	Integrates into enterprise tools such as HP* OpenView
Operating System Support	Windows, Linux	Windows, Linux
Single, easy to use console	X	
Hardware Predictive Failure Analysis	X	X
Sensor readings	X	X
Hardware Event Log	X	
Hardware and Software Inventory	X (Hardware and Operating System)	
OS and Application Monitoring		
Software Patch Deployment		
Application Deployment		
Alerting	X (Email and BMC SNMP)	X (SNMP)
Reporting	X	
BMC Configuration	X	
Power Management		
Performance Views		
Remote Management	X	X
Multi Server Management		

Remote Power On/Off/Reboot		
Serial Over LAN (Console Redirection)		
OEM Customization		

1.3.1 Intel® Active System Console

The Intel® Active System Console has the following features:

- Viewing System Health in the Dashboard
- Viewing Other System Information as follows:
 - Viewing System Summary
 - Viewing Processor Summary Readings
 - Viewing Memory Device Readings
 - Viewing Temperature and Fan Readings (Cooling Sensors)
 - Viewing Voltage and Current Sensors Readings
 - Viewing Chassis Information
 - Viewing Storage Readings
 - Viewing Miscellaneous Readings
 - Viewing System Events
- Generating Reports
- Checking for software updates

1.4 System Requirements

This section details the software requirements, supported operating systems and the supported platforms for the Intel® Active System Console.

1.4.1 Supported Operating Systems

- Microsoft Windows* Server 2016 64-bit
- Red Hat* Enterprise Linux 6.5 64-bit
- Red Hat* Enterprise Linux 6.6 64-bit
- Red Hat* Enterprise Linux 6.7 64-bit
- Red Hat* Enterprise Linux 6.8 64-bit
- Red Hat* Enterprise Linux 6.9 64-bit
- Red Hat* Enterprise Linux 7.0 64-bit
- Red Hat* Enterprise Linux 7.1 64-bit
- Red Hat* Enterprise Linux 7.2 64-bit
- Red Hat* Enterprise Linux 7.3 64-bit
- Red Hat* Enterprise Linux 7.4 64-bit
- SUSE* Linux Enterprise Server 11.x 64-bit
- SUSE* Linux Enterprise Server 12.x 64-bit

The below OSES are not supported after Build 13

- Windows* Server 2012 Enterprise
- Windows* Server 2008 Enterprise
- RHEL* 6.x 32 bit
- SUSE* 11.x 32 bit

Important Notes:

- OS without GUI (Graphical User Interface) is not supported.
 - For Red Hat OS version, before installing the Intel® Active System Console execute RHELx86_64AUTO.sh script (>sh RHELx86_64AUTO.sh) with OS DVD in the DVD for installing the dependent packages for Intel® Active System Console.
 - Linux UEFI secure boot enabled is not supported.
-

1.4.2 Browser Requirements

The application has been tested to run on Microsoft* Internet Explorer 7.x or later and Mozilla Firefox* 3.6 or later versions. It is best viewed in screen resolution from 1024 X 768 to 1440 X 900.

1.4.3 Supported Platforms

- Intel® Server Board based on Intel® Xeon® processor E5-1600/2600/4600 v2 product family
- Intel® Server Board based on Intel® Xeon® processor E5-2400 v2 product family
- Intel® Server Board based on Intel® Xeon® processor E5-2600 v3/v4 product family
- Intel® Server Board based on Intel® Xeon® processor E3-1200 v5/v6 product family
- Intel® Server Board based on Intel® Xeon® Scalable Processor family
- Intel® Server Board based on 2nd Generation Intel® Xeon® Scalable Processor family

For the latest and up-to-date list of supported operating systems, system requirements and platforms supported refer to the release notes available with the product.

1.5 Supported Languages

English

1.6 Additional Information

This section lists additional Intel® Active System Console related information that will allow for appropriate use.

1.6.1 Third Party Source Code/Binaries

For third party source code/binaries, please refer to the following link:

<http://support.intel.com/support/motherboards/server/sysmgmt/sb/CS-031025.htm>

1.6.2 Support Information

If an issue is encountered with the server platform or management software, please follow these steps to obtain support on the product.

1. Get connected to our [support web page](#) for 24x7 support when needed to get the latest and most complete technical support information on all Intel® Enterprise Server, Storage Platforms and Management Software. Information available at the support site includes:

- Latest BIOS, firmware, drivers and utilities available through Intel's download center.
- Product documentation and flash demos, installation and quick start guides
- Full product specifications, technical advisories and errata
- Compatibility documentation for memory, hardware add-in cards, chassis support matrix, and operating systems
- Server and chassis accessory parts list for ordering upgrades or spare parts
- A searchable knowledgebase to search for product information throughout the support site

2. Utilize the [community forums](#) or [chat with a live person](#).

3. Contact an Intel support representative using one of the [following support phone numbers](#). Charges may apply. Intel customer support suggests running the Intel® System Information Tool (depending on the operating system being used) for [Microsoft Windows*](#), [Linux*](#) or [EFI*](#) to extract relevant data that pertains to the issue being encountered and provide the information when asked by a support agent.

Intel now offers Channel Program members round-the-clock [24x7 technical phone support](#) on Intel® server boards, server chassis, server RAID controller cards, and Intel® Server Management.

Warranty Information

Connect to Intel's website to obtain [warranty information](#).

Note: Requires Login to the Reseller Site to obtain the 24x7 Number.

1.7 Related Documentation

The following table lists the related documentation:

Table 2. Related documentation

Document/ Information	Source
Intel® Active System Console Release Notes	Distributed with this file

1.8 Terminology

The following table lists the terminology used in this document and their relevant descriptions.

Table 3. Glossary of terms

Term	Description
BMC	Baseboard Management Controller
CIM	DMTF's Common Information Model - CIM provides a common definition of management information for systems, networks, applications and services, and allows for vendor extensions
GUI	Graphical User Interface
Intel® SMS	Intel® System Management Software
IPMI	Intelligent Platform Management Interface. Allows the user to interact with the BMC, which operates independently of the operating system (OS) and allows management of the system remotely even in the absence of an OS
RMCP	Remote Management Control Protocol – Protocol used by IPMI for communicating over LAN
SEL	System Event Log
SMBIOS	System Management BIOS (SMBIOS) is specification to lay out data structures (and access methods) in a BIOS which allows a user or application to store and retrieve information specifically about the Server
SNMP	Simple Network Management Protocol
SOL	Serial Over LAN
Upgrade	Enhanced versions of Intel® SMS with new platform support or new features are uploaded to Intel Website. Users installing Intel® SMS from a CD can upgrade to a new version using multiple ways. Intel recommends all users to upgrade to the latest version.

2. Getting Started

This section provides information on how to install and use the Intel® Active System Console.

2.1 Installing the Intel® Active System Console

For Linux*

To install the software, run with root privilege:

1. Get the zip package and unzip to a folder
 - a. `cd Linux/<OS_NAME> [RHEL5 | RHEL6 | RHEL7 | SUSE10 | SUSE11 | SUSE12]`
2. Run the following command to untar the package
 - a. `tar -xvf [Intel® Active System Console package name]`
3. After untar-ing the Intel® Active System Console package, the following folders will be present:
 - a. `./ASC` and `./common`
4. Run the following commands.
 - a. `cd ASC`
 - b. `./install`

For Microsoft Windows*

1. Insert the Intel® Server Deployment and Management media, go to the System Management Software Tab or browse the ASC package folder and start the ASC installation main interface manually.
2. Click on the “Click to Install” button for Intel® Active System Console Install. This will take you to the prerequisite Page, choose “Install Software” if enabled. Then, once the prerequisite software is installed click the “Continue Installation” button.

Notes:

- While installing, user will be asked to change the default password of the “admin” user. It is recommend to set a strong password for “admin” (for example, use a password with a length of at least 14 characters comprised of a combination of letters, numbers, and keyboard characters not defined as letters or numerals such as `` - _ = + ! ~ # @ $ * : ; . , ? & ^`)
 - The Intel® Active System Console installed in the server also serves as an MSM agent monitoring this server.
-

2.2 TCP Information

The following TCP ports are used by Intel® Active System Console.

Table 4. TCP ports used by Intel® Active System Console ort #	Description	Firewall Exception Required
7777	Use for discovery and management by Intel® Multi Server Manager (MSM).	Yes **
9393	Use for web server hosting	Yes ***
4369	Use for socket based IPC on the software backend.	No
9191	Use for lighttpd web service.	No
521	Use for lighttpd web service / PHP CGI.	No

Notes:

** 7777 is required to add on the firewall approval list only when used to manage Intel® Active System Console with Intel® Multi-Server Manager.

*** 9393 is required to add on the firewall approval list if accessing Intel® Active System Console remotely over the network with a supported web browser.

Refer to **Section 5** for more security features.

2.3 Uninstalling the Intel® Active System Console

To uninstall, run the following:

Linux* -

```
cd /usr/local/asc/bin/
```

```
"sh uninstall"
```

Windows*

You can uninstall ASC from Windows either

- from Add/Remove Program options
- from Start Menu->All Programs->Intel->Uninstall Intel® Active System Console

A server reboot prompt will appear to complete uninstallation, allowing to either reboot immediately or postpone it. All files and registry entries will be completely removed only on reboot.

Note: The database will also be removed on uninstallation. If the database is required for any further storage make certain that the database SMS.db is copied to a non-default location before uninstall.

- /usr/local/asc/bin/SMS.db (in Linux*)
 - C:\Program Files\Intel\ASC\SMS.db (in Windows* 32 bit)
 - C:\Program Files (x86)\Intel\ASC\SMS.db (in Windows* 64 bit)
-

3. Navigating the Intel® Active System Console

This section details the navigation of the Intel® Active System Console for use of its features.

By default, the Intel® Active System Console opens in the **System>Dashboard** view displaying overall server health as shown in Figure 1.



Figure 1. Intel® Active System Console Login page (By default, Intel® Active System Console opens in Dashboard page)

The left side Navigation menu is comprised of icons that have submenu icons.

For a quick overview of the tasks performed by these icons and their sub menu items see following Table:

Table 5. Tasks in the Intel Active System Console

Menu Icon	Submenu	Task
System		
	Dashboard	Displays aggregate of the system health in the Dashboard (chassis, storage, cooling, processor, memory, and power).
	Summary	Displays a table of all hardware sensors and the threshold settings.
	Processor	Displays processor details and speed information.
	Memory	Displays memory size and type information.

	Cooling	Displays all System/Processor fans. It shows the current health status of the fans and the current reading of the fan in RPM.
	Power	Displays all Voltage and Current sensors. It shows the current health status and the current reading of the Voltage and Current sensors.
	Chassis	Displays the state of the chassis intrusion sensor and enables identifying the system by turning on/off the Chassis ID LED
	Storage	Displays information about the hard disk drives, logical disk drives, and media or DVD drives.
	Miscellaneous	Lists out all the Sensors which are not categorized under any of the main sensors. These include some BIOS and other discrete sensors.
	Events	Lists all the server event logs.
Configuration		
BMC	Baseboard Management Controller. Manages the interface between system management software and platform hardware. Has the following submenu items:	
	Users	Access menus to add/delete/edit a BMC User.
	Network	Lists all the Network ports present on the motherboard.
	Serial Over Lan	SOL settings help change the baud rate of the system.
	SNMP Alerts	Help send SNMP based alerts to the target server (fan failure, memory error, etc.)
	BIOS	BIOS settings.
Basic Email		Simple mail configuration that sends all server alerts to mail server.
Advanced Email		Helps configure user specific Email alerts. Feature-rich customized user settings available.
Reports		
Generation		Helps generate reports on many categories. For example, Asset Information, All System Events, Critical Events, Sensor Values ,and BMC Settings. The file can be exported either in XML, HTML, or CSV format.

3.1 System Information

This section lists the Hardware choices available shown in Figure 1.

The Hardware choices and their functions are listed in the following Table:

Table 6. Hardware choices and functions

Hardware choice	Function
System - Displays system health information.	

Dashboard	Default Intel® Active System Console view. Displays chassis, Processor, Storage, Memory, Cooling, Power, and other Miscellaneous information in a convenient dashboard view.
Summary	Displays a table of all hardware sensors and the threshold settings.
Processor	Displays processor details and speed information.
Memory	Displays memory size and type information.
Cooling	Displays all System/Processor fans. It shows the current health status of the fan and the current reading of the fan in RPM.
Power	Displays all Voltage and Current sensors. It shows the current health status and the current reading of the Voltage and Current sensors.
Chassis	Displays the state of the chassis intrusion sensor and enables identifying the system by turning on/off the Chassis ID LED.
Storage	Displays information about the hard disk drives, logical disk drives, and media or DVD drives.
Miscellaneous	Lists out all the Sensors which are not categorized under any of the main sensors. These include some BIOS and other discrete sensors
Events	Lists all the server event logs.

3.1.1 Viewing System Health

The **System** page as shown in Figure 1 displays the health of the system and its components. The UI is refreshed every 10 minutes.

3.1.2 Viewing System Summary

To view information on the board, BIOS, and Firmware, in the **System** page, click the **Summary** button to display System Summary, FRU data, and Power Supply as shown in Figure 2.

Property	Value
System Name	WIN-4QPORIBE804
Asset Tag	
BIOS Version	SE5C610 868 01 01 0533
System GUID	FFFFFFFFFFFFFFFF S2600WTT FFFFFF
Manufacturer	Intel Corporation
Platform ID	S2600WTT
SDR Version	SDR Package 0.11
BMC Version	0.22.6105
HSC Version	1.09
Serial Number	
Operating System Name	Microsoft (build 9200), 64-bit
Operating System / Kernel Version	6.2.9200
Operating System Build	9200

Device Name	Model Number	ID	Manufacturer	Part Number	Serial	Version
Baseboard	S2600WTT	0	Intel Corporation			
Front Panel	NOT_AVAILABLE	4	Intel Corporation	G10279-402	Q9BT32406558	NOT_AVAILABLE
HS Backplane 1	NOT_AVAILABLE	5	Intel Corporation	G43186-150	QSRU22002945	NOT_AVAILABLE
Pwr Supply 1 FRU	DPS-750XB A	2	DELTA	E98791-007	E98791D1227	02
Pwr Supply 2 FRU	DPS-750XB A	3	DELTA	E98791-007	E98791D1311	02

Health	Name	Current Reading (Watts)	Upper Critical (Watts)
✔	PS1 Input Power	80.000000	920.000000
✔	PS2 Input Power	0.000000	920.000000
✔	System Airflow	14.000000	NOT SUPPORTED

Figure 2. System Summary page

System Summary:

- **System Name:** Computer name given to a server.
- **Asset Tag:** Name given to a server for easy server asset tracking such as hardware and software configuration information during server deployment.
- **BIOS version details:** Current values obtained from server.
- **System GUID value:** Global Unique Identifier for each system on the network.
- **Manufacturer, Platform ID and Serial Number:** Details of server baseboard manufacturer, product name and serial number.
- **SDR (Sensor Data Record) Package version, BMC (Baseboard Management Controller) and HSC (Hot Swap Controller) version.**
- **Operating System Name, Kernel Version and Version Build.**

FRU Data:

Display entire FRU for server baseboard, chassis board, PDB (Power Distribution Board) and Power Supply unit.

Power Supply:

Display system sensor type code for “Other Units Based” threshold sensors.

3.1.3 Viewing Processor Summary Readings

To view the processor summary readings, click **System** -> **Processor** to display processor summary, processor configuration, and discrete sensor readings shown as follows:

Processor Summary									
Description	Current Speed(MHz)	Socket	Cores						
Genuine Intel(R) CPU @ 2.20GHz	2200	CPU1	14						
<table border="1"> <thead> <tr> <th>L1 Cache</th> <th>L2 Cache</th> <th>L3 Cache</th> </tr> </thead> <tbody> <tr> <td>896 KB</td> <td>3584 KB</td> <td>35840 KB</td> </tr> </tbody> </table>				L1 Cache	L2 Cache	L3 Cache	896 KB	3584 KB	35840 KB
L1 Cache	L2 Cache	L3 Cache							
896 KB	3584 KB	35840 KB							
Not Populated	-	CPU2	-						

Processor Configuration	Value
MLC Spatial Prefetcher	Enabled
Active Processor Cores	All
Intel(R) TXT	Disabled
DCU Data Prefetcher	Enabled
DCU Instruction Prefetcher	Enabled
Direct Cache Access DCA	Enable
Execute Disable Bit	Enabled
MLC Streamer	Enabled
Intel(R) Virtualization Technology	Disabled
Intel(R) Hyper Threading Tech	Enabled

Discrete Sensor		
Health	Name	VALUE
✔	CPU Missing	STATE_DEASSERTED
✔	CATERR	STATE_DEASSERTED
✔	CPU ERR2	STATE_DEASSERTED
✔	P1 Status	PROCESSOR_PRESENCE_DETECTED

Figure 3. Processor summary readings

Note: Intel® Active System Console gets the L1, L2 & L3 Cache from SMBIOS table Type 7. In this case, by pressing "F2" the BIOS shows L1, L2 & L3 Cache differences from the Intel® Active System Console. In the BIOS setup, the cache size is for per-core instead of per-socket, but in SMBIOS Type 7 the cache size is per-socket instead of per-core. This example as shown in Figure 3:

Intel® Active System Console:

- L1 = 896KB (64KB X 14 (cores))
- L2 = 3584KB (256KB X 14 (cores))
- L3 = 35840KB

BIOS:

- L1 = 64KB
- L2 = 256KB
- L3 = 35840KB

3.1.4 Viewing Memory Device Readings

To view the system memory device readings, click **System** -> **Memory** to display memory device details and discrete sensor readings shown as follows:

Memory Device				
Health	Slot Name	Size(MB)	Speed(MHz)	Type
	DIMM_A1	1024	1067	DDR3
-	DIMM_A2	-	-	-
-	DIMM_A3	-	-	-
	DIMM_B1	1024	1067	DDR3
-	DIMM_B2	-	-	-
-	DIMM_B3	-	-	-

Discrete Sensor	
Health	Name
-	Mmry ECC Sensor

Figure 4. Memory device readings

This page displays the health of each populated memory module, listing the entire memory bank supported in the server. If a memory module is populated in the memory slot, it will list the corresponding size, speed, and type of module. If the slot is not populated, then it will list a "-" to indicate not populated.

3.1.5 Viewing Temperature and Fan Readings (Cooling Sensors)

To view the temperature and fan readings, click **System** -> **Cooling** to display the Cooling Sensors page shown as follows:

Temperature			
	Health	Name	Current Reading(Deg Celsius)
		P1 Therm Margin	-71
		P1 Therm Ctrl %	0
		Baseboard Temp	30
		P1 Mem Margin	0

Fan			
	Health	Name	Current Reading(RPM)
		System Fan 2	1,620
		System Fan 3	1,566

Discrete Sensor		
Health	Name	Current Reading
	CPU Therm Trip	STATE_DEASSERTED

Figure 5. Cooling sensors

This page displays all system threshold temperatures and fans and discrete temperature sensors. It shows the current health status of the fan and the current reading of the fan in RPM. Click on any of the system threshold temperatures and fans to view the upper and lower threshold details.

3.1.6 Viewing Voltage and Electrical Current Sensors Readings

To view the voltage and electrical current readings, click **System** -> **Power** to display the Voltage and Current Sensors page shown in Figure 6.

Voltage											
Health	Name	Current Reading(Volts)									
+	BB +12.0V	12.10									
<table border="1"> <thead> <tr> <th>Lower Critical</th> <th>Lower Warning</th> <th>Upper Warning</th> <th>Upper Critical</th> </tr> </thead> <tbody> <tr> <td>10.616000</td> <td>11.001000</td> <td>13.311000</td> <td>13.696000</td> </tr> </tbody> </table>				Lower Critical	Lower Warning	Upper Warning	Upper Critical	10.616000	11.001000	13.311000	13.696000
Lower Critical	Lower Warning	Upper Warning	Upper Critical								
10.616000	11.001000	13.311000	13.696000								
+	BB +3.3V Vbat	3.10									

Current											
Health	Name	Current Reading(Amps)									
+	PS1 Curr Out %	8.00									
<table border="1"> <thead> <tr> <th>Lower Critical</th> <th>Lower Warning</th> <th>Upper Warning</th> <th>Upper Critical</th> </tr> </thead> <tbody> <tr> <td>NOT SUPPORTED</td> <td>NOT SUPPORTED</td> <td>100.000000</td> <td>112.000000</td> </tr> </tbody> </table>				Lower Critical	Lower Warning	Upper Warning	Upper Critical	NOT SUPPORTED	NOT SUPPORTED	100.000000	112.000000
Lower Critical	Lower Warning	Upper Warning	Upper Critical								
NOT SUPPORTED	NOT SUPPORTED	100.000000	112.000000								

Discrete Sensor		
Health	Name	Current Reading
-	Voltage Fault	STATE_ASSERTED
+	VR Watchdog	STATE_DEASSERTED
+	Pwr Unit Status	ALL_DEASSERTED
+	PS1 Status	PRESENCE_DETECTED

Figure 6. Power sensors

This page lists all current readings of the voltage sensors present on the base board. The details of each voltage sensor list the upper/lower critical and warning values.

3.1.7 Viewing Chassis Information

To view chassis status, click **System** -> **Chassis** to view the page shown in the following figure. The server may also be identified by turning the LED on or off. To do this, click the 'ON' / 'Off' button.

Notes:

- For systems that do not support the chassis sensor, the system LED status is displayed as Not Supported.
- For some platforms, the status of LED is not supported, but the user will still be able to turn the LED on and off as shown in Figure 7.



Figure 7. Chassis information page/Identify Chassis On/Off Dialog

Display physical security status of the chassis. Also helps identify chassis (physical Server) by turning the blue LED in the front panel of the chassis on/off (LED blinks till it is turned off).

3.1.8 Viewing Storage Readings

To view the storage device and sensor readings, click **System** -> **Storage** to display the Storage Sensors page as shown in Figure 8.

Storage device			
Model	Name	Serial Number	Total Space
ST360815AS	ldev/sda	9QZ3PQOW	80.00 GB

Logical Drives		
Name	Total Space	Free Space
/	72.39 GB	65.01 GB
ldev	0.96 GB	0.96 GB
lboot	0.47 GB	0.42 GB

Drive Sensor		
Health	Name	VALUE
No sensors found		

Figure 8. Storage Device, Logical Drives, Drive Sensor Information page

- **Storage Device.** The Storage page lists out all the Storage drives present in the server. Each drive name includes the Model Number, device name, serial number and the total capacity.
- **Logical Drive.** Each correctly mounted logical drive is listed including its total and free space.
- **Drive Sensor.** The Drive Status and the Drive Presence sensors are displayed for each drive slot. These indicate the corresponding hard drive presence or absence status.

Note: A warning alert gets generated in the Events page if the Hard disk space crosses the threshold of 75% and a Critical alert is generated if it crosses the 90% margin.

3.1.9 Viewing Miscellaneous Readings

This section lists out all the Sensors which are not categorized under any of the main pages. These include some BIOS and other discrete sensors. It lists the name of the Bus Sensors and shows the corresponding health along with the values.

Bus Sensor		
Health	Name	VALUE

Figure 9. Miscellaneous Information page (Bus Sensors, BIOS and other discrete sensors)

3.1.10 Viewing System Events

This page lists all the server events as shown in Figure 10.

State	Open	Severity	All	Sensor	All	Delete Events	Close Selected
Date/Time	Description	Severity	State	Sensor Type			
2010-03-29 12:44:25	User "admin" logged in from 10.223.52.3	Informational	Open	Security			
2010-03-29 12:41:49	System Event sensor 131 reports a system boot event has occurred.	Informational	Open	System Event			
2010-03-29 12:41:49	System Event sensor 255 reports a system boot event has occurred.	Informational	Open	System Event			
2010-03-29 12:40:35	System Event sensor 131 reports Timestamp Clock Sync. Event is second of two expected events from BIOS on every power on.	Informational	Open	System Event			
2010-03-29 12:40:11	System Event sensor 131 reports Timestamp Clock Sync. Event is first of two expected events from BIOS on every power on.	Informational	Open	System Event			
2010-03-29 11:30:06	User "admin" logged in from 10.223.52.3	Informational	Open	Security			
2010-03-29 11:03:45	User "admin" logged in from 10.223.52.3	Informational	Open	Security			
2010-03-25 13:58:18	User "admin" logged in from 127.0.0.1	Informational	Open	Security			
2010-03-25 13:56:55	User "admin" logged in from unknown client	Informational	Open	Security			
2010-03-25 13:56:55	User admin logged off	Informational	Open	Security			
2010-03-25	System Event sensor 131 reports a system boot event has occurred.	Informational	Open	System Event			

Figure 10. System Events Information page

The description, severity, status (open or closed) and time stamp for each of the events is listed.

The top row heading shows a list of filters and actions that can be taken on the table. There are filters for State, Severity and Module Type. If a particular value in filter is selected, only events belonging to that filter value appears in the table. The entire table can be sorted based on each column. To sort the table based on a column click on column heading. First click on the column that sorts it in ascending (lexicographic) order. Any further clicks allow the order to toggle between ascending and descending.



- **Severity filter.** Use for viewing only critical/warning/informational events. The column headings follow the filters and actions.



- **Open Status.** If in an open state, check for the event description. If in a critical event, take immediate corrective action.

Actions

Two sets of actions can be performed on events:

- **Delete Events.** All the events listed in the table can be deleted from database. Here again, two options are available:
 - Delete all events from Database. Here the events are deleted from Intel® Active System Console database. This include all open and closed Server Events as well as Application Events.
 - Delete all events from Baseboard Management Controller (BMC). Here the Server Events are deleted from BMC SEL store.

Notes:

- You cannot selectively delete events from either the database or BMC. Either all events or none are deleted.
 - If you delete from the database, it cannot be recovered. Backup event logs by exporting Reports, as a refresh for new event information will not display anything until after ~5-6 mins.
-
- **Close Selected.** Update the status of events to closed. Based on the type of events two results are observed. If the event is regular events, close will just update the status to close. If any active events are appearing in bottom scroll log, that will be gone. If the event contributes to Server health, displayed as “Open *” in the Status column, closing the event causes the Intel® Active System Console to ignore the event and re-compute the health of the component. This may cause the health of the Server to change from being critical to healthy in Intel® Active System Console (if the event that closed is the only one causing the critical state).

4. Configuring Server Hardware and Reports Generation

This section details configuring the server hardware using Intel® Active System Console, and more specifically the options available in the Configuration feature of the Intel® Active System Console. Click the **Configuration** button to access the menu with the configuration options on Baseboard Management Controller as shown in Figure 11.

Note: Only users with ADMIN privilege can configure a Server using Intel® Active System Console.



Figure 11. Configuration Menu

4.1 Configuring the BMC

This section details the configuring of the BMC along with the options available in the BMC Configuration feature of the Intel® Active System Console. The BMC Configuration window has the choices listed in Figure 11.

4.1.1 Configuring BMC Users

The BMC User Configuration section helps you edit specific BMC Users. While doing so, the privilege level may be set as Administrator, Operator, or User.

The Baseboard Management Controller supports authentication and authorization for remote access (out-of-band access). Users have to configure a BMC Username and password to access BMC in out-of-band fashion. You can also enable or disable the User. In the left navigation pane, click the **Configuration>Users** button to view the BMC User window as shown in Figure 12.

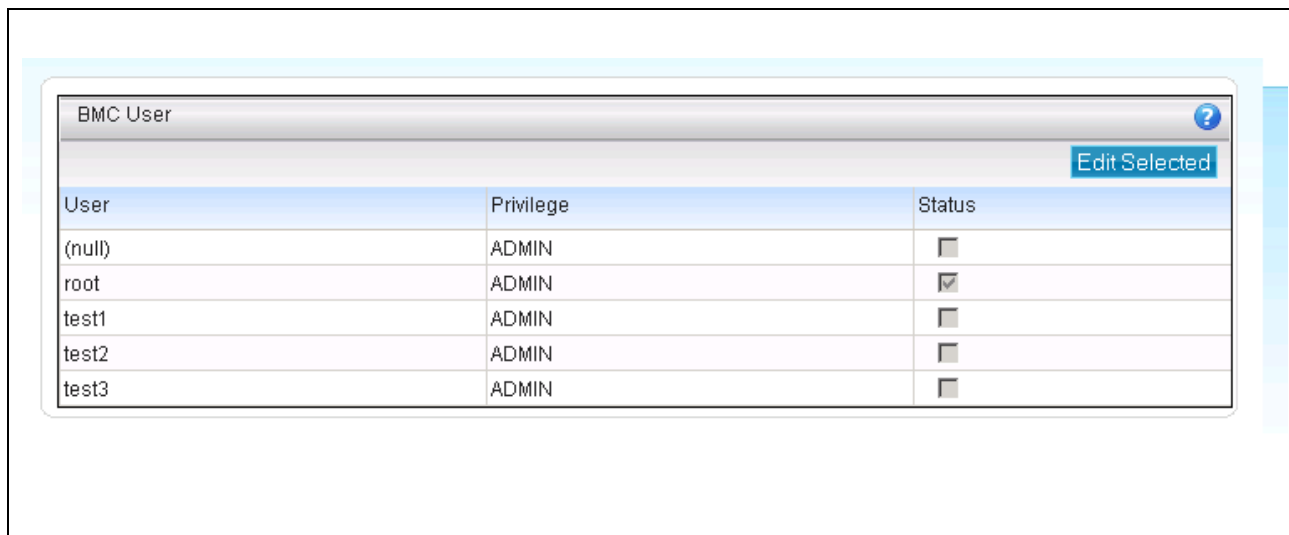


Figure 12. Intel ® Active System Console BMC User Configuration window

Enable or disable the User by clicking **Edit Selected** to display the following dialog:



Figure 13. Configuring the BMC User Settings: Edit User dialog box

4.1.2 Configuring the Network

Click **Configuration>Network**.

Network	Enable	IP Address	Gateway
1	<input checked="" type="checkbox"/>	10.223.132.53	10.223.132.62
3	<input checked="" type="checkbox"/>	0.0.0.0	0.0.0.0

Figure 14. Configuring the BMC Network window

This page lists all the network ports present on the motherboard, indicating the LAN channels over which a baseboard controller (BMC) can be reached out-of-band.

To enable, check the enable box.

- To edit the settings, select the network channel and then choose either a static or DHCP IP address.
- If you are choosing the option "IP address from a DHCP server" then you must have a DHCP Server present in your network environment for the server to obtain an IP address automatically.
 - User Privilege can be either set to Admin, User, or Operator.

- Admin user privilege configuration is needed for read, execute, and write privileges.

Note: These are not Operating System IP Addresses.

4.1.3 LAN Failover

The BMC firmware provides the LAN Failover capability so that the failure of the system hardware associated with one LAN link will result in traffic being routed to an alternate link.

The Intel® Active System Console enables the LAN Failover feature dynamically on the supported platform. When enabling LAN Failover, only LAN Channel number one will be allowed for configuration. Other active LAN channels share the same configuration when the network connection of LAN channel one is broken.

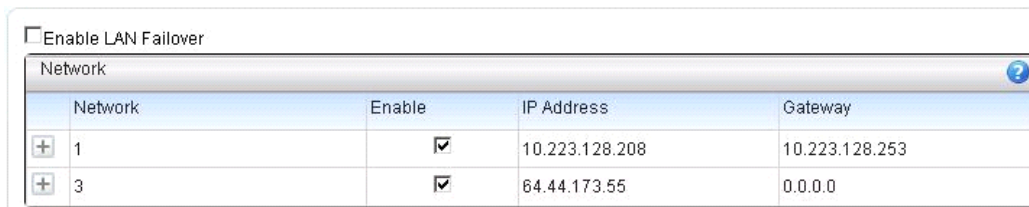


Figure 15. Configuring LAN failover

Note: This feature is supported only on Intel® Xeon® Processor E5 family based platforms. For more details on the LAN Failover feature, refer to the Motherboard TPS.

4.1.4 Configuring Serial Over Lan (SOL) Settings

The BMC supports re-direction of a server boot sequence video console over LAN channel. The entire screen output of the boot sequence is controllable via a keyboard simulating actual server control. This console is lost once the operating system boots up.

Using Intel® Active System Console you can enable/disable or edit the Serial-Over-LAN settings in the BMC. To change SOL settings, select **LAN channel -> select baud rate -> select privilege level -> click Update**.

You can enable authentication in which case only users with valid username and password can do SOL console redirection. You can enable encryption in which case the entire SOL traffic will be encrypted and protected from network snooping. Click **Configuration>Serial Over Lan** to display the **Serial Over Lan** window as shown in Figure 16.



Figure 16. Configuring the SOL Settings window

Note: Configuring the Baud Rate is not supported on Intel® Xeon® E5, E5 V2, E5 V3, E5 V4 Processor based platforms and the Baud Rate will be shown as "NOT_AVAILABLE". For more details, refer to the Motherboard TPS.

4.1.5 Configuring SNMP Alerts

SNMP Alerts send SNMP-based alerts to the target server. Alerts include fan failure, memory error, etc.

If it is required for the BMC to send alerts about any change in Server hardware in the form of SNMP Traps to any SNMP Manager, configure it by using the Intel® Active System Console.

Click **Configuration>SNMP Alerts** to display the SNMP Alerts settings window as shown in Figure 17.

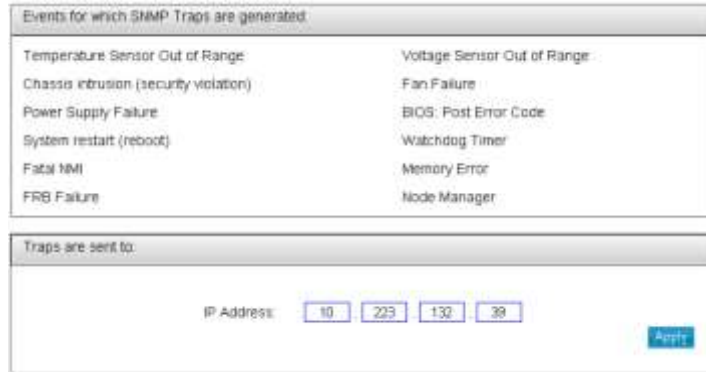


Figure 17. Configuring the SNMP Alerts Settings window

To set an alert, enter the IP address of target SNMP Manager or trap receiver -> click **Apply**.

4.1.6 Configuring the BIOS

Click **Configuration>BIOS** to display the BIOS settings window as shown in Figure 18.

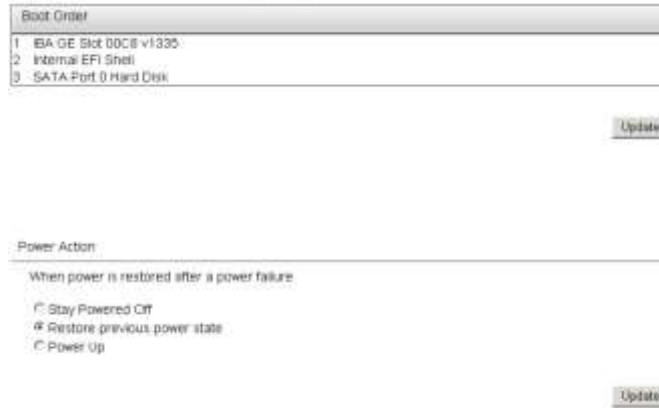


Figure 18. Configuring the BIOS window

Click **Set Boot Order** to select system boot order (Hard Disk, DVD, Network, etc.) for the next reboot cycle. Select desired boot order -> click **Update**.

When the Admin Password is set within the BIOS, a prompt is displayed as shown in Figure 19 to enter the BIOS Admin password in order to update the boot order change. This feature is supported only on Intel® Xeon® Processor E5-XXXX V1 & V2 Sequence-based Servers.

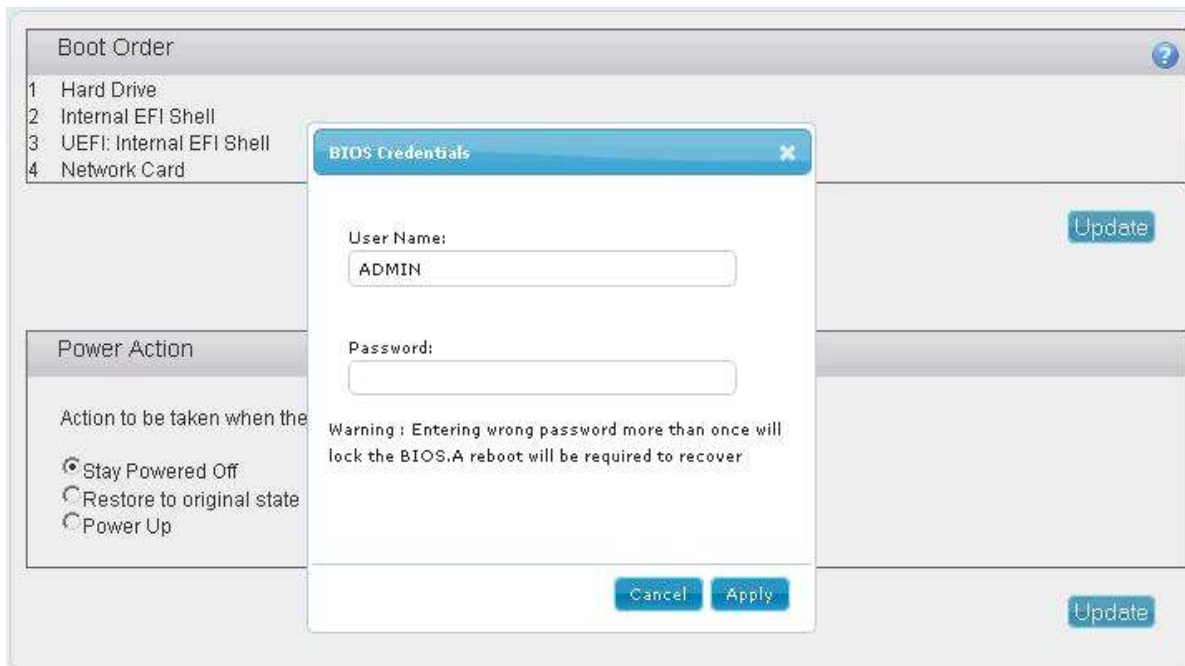


Figure 19. BIOS Admin Credentials for boot order

Click **Power Action** to set a specific power action in case of a power failure via the following options:

- **Stay powered off:** Server remains in a powered off state even if the power is restored back.
- **Restore to Original State:** Server will either get powered up or it will remain in an off state depending on the previous power state during the power outage.
- **Power Up:** Server powers up when the power is restored.

4.1.7 Configuring Basic Email: Use a Default Email Profile

Email Alerting helps in the receipt of Server Health Alert messages. First configure the mail settings either through Basic Email settings or through Advanced Email settings.

Click **Configuration>Basic Email** to display the Email Alerts Settings window as shown in following figure:

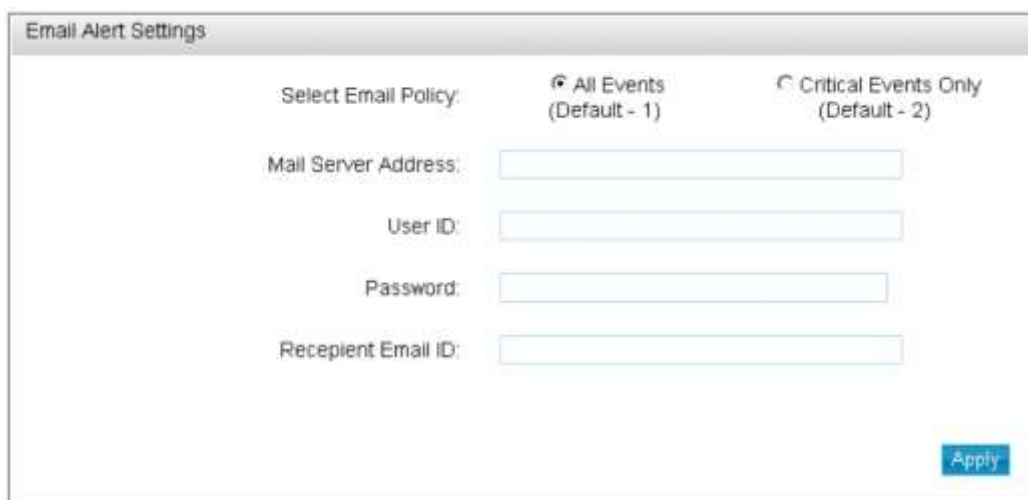


Figure 20. Basic Email Alerts Settings window

For configuring Basic Email settings, a mail server in your network environment is required. If not present, a mail server to use this feature must be created.

- Select Default 1 profile to receive all Hardware alerts that include critical, warning, and informational.

OR

- Select Default 2 profiles to get only the critical Hardware events alert.

Enter the mail server IP address, its hostname and then enter the **To** Email address to which the alert shall be sent. Click **Apply** to set the basic Email alert setting.

4.1.8 Configuring Advanced Email: Create and Apply Email Profiles

Click **Configuration>Advanced Email** to display the advanced **Email Alerts Settings** window as shown in Figure 21.

Figure 21. Advanced Email Alerts Settings window

The Advanced Email Settings feature is rich in customized user settings. To create an advanced Email, do the following:

- Enter the following:
 - Profile name
 - Mail server IP address: If a mail server is not present, then one must be created to use this feature.
 - From address of the Email
 - One/multiple "To" address/s
 - Subject line: For example, Chassis Intrusion Detected
 - Specific comments
- Next, in the Alerts pane:
 - Click **Select All** to select all the alerts (Select **Clear All** to deselect all as needed)

OR

- Select only specific alerts based on your need.
- Next, click **Apply** to apply the settings.

To create another advanced Email, create a separate profile in step one and then follow the same procedure.

4.2 Generating Reports

This option helps you generate reports on categories such as Asset Information, All System Events, Critical Events, Sensor Values, and BMC Settings. Click **Reports>Generation** to display the **Report Generation** window as shown in following figure:

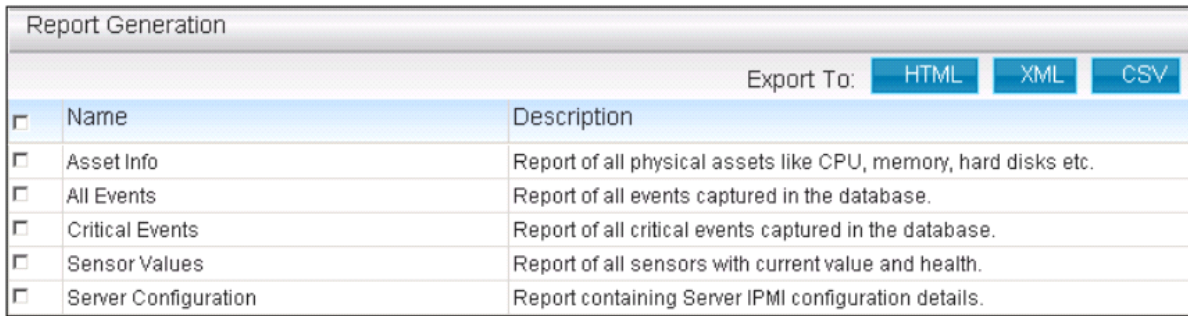


Figure 22. Generating Reports window

The file can be exported either in HTML, XML, or CSV format.

4.3 User Settings

A User setting icon is provided on the main Intel® Active System Console page in the top right corner.

Clicking on the setting icon opens the user settings page. Here, new users can be added or existing user privileges can be edited or deleted.

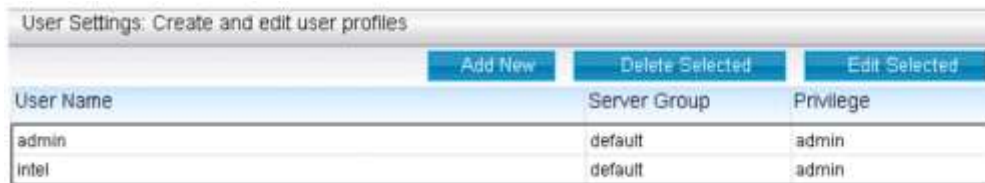


Figure 23. User Settings window

4.4 Viewing Software Updates

This feature is no longer supported.

5. Security Features

The Intel® Active System Console offers multiple security features as protection against unauthorized access to the application.

- It supports role-based multiple user authentication as follows:
 - **ADMIN:** Users with administrator privileges. The default Administrator user is “**admin**”. Only **admin** can create new users and assign privileges. Any user can, however, change their password.
 - **USER:** Users with read-only privileges. Configuration changes using the application are not permitted.
- Intel® Active System Console supports SSL based data encryption to securely communicate between the client and application
- Secure Socket Layer allows two communicating devices to encrypt data using a public certificate and private key.
- The certificate used in Intel® Active System Console is a self-signed one to reduce the cost of deployment. All modern browsers detect a self-signed certificate and give a warning that the “certificate is invalid” since the authority that signed the certificate is not a publicly acknowledged authority. However, users can override the warning and accept the certificate. Do this only if sure that the certificate is originated from the application itself by ensuring launch of the application from a trusted network and add the certificate to the trusted list.

Once a certificate is accepted, the warning disappears as long as the application is launched from the same client. Customers having a valid certificate from a public CA can use that certificate instead of auto-generated one.

5.1 Replacing a Certificate in a Windows* Installation

To replace a certificate in a Windows* installation, do the following:

1. After installation, shut down the web-server for Certificate replacement.
2. Run services.msc from the Run command in Windows, launching the Services window.
3. Search for LightTPDService and stop the service.
4. Go to application installation directory (C:\Program Files\Intel\ASC\ in default case) and go inside conf folder.
5. Replace lighttpd.crt with your valid certificate. If the name is different rename it to lighttpd.crt.
6. Replace the private key file, lighttpd.pem with your private key file.
7. Set all the permissions of the key file to only Administrator. No other users should be able to read or write this file.
8. Set the permissions of the lighttpd.pem to read-write for Administrator and read-only for other users.
9. If you do not want to change the file names of your certificate/key file pair, make appropriate changes in the lighttpd-inc.conf in the same folder.
10. Restart the web-service LightTPDService from the Service window.

5.2 Replacing a Certificate in a Linux* Installation

To replace a certificate in a Linux installation, do the following:

1. After installation, shut down the web-server for Certificate replacement.
/etc/init.d/lighttpd stop.
2. Go to the folder /etc/lighttpd/ and replace lighttpd.crt with your valid certificate. If the name is different rename it to lighttpd.crt.
3. Replace the private key file, lighttpd.pem with your private key file.
4. Set the permissions of the files as below:


```
-rw-r--r--  1 root root 1326 Mar 28 12:11 lighttpd.crt
-rw-----  1 root root 3005 Mar 28 12:11 lighttpd.pem
```

- Only root is allowed to read the private key file and write the public certificate file
5. If you do not want to change the file names of your certificate/key file pair, make appropriate changes in the `lighttpd.conf` in the same folder.
 6. Restart the web-server
`/etc/init.d/lighttpd start`
 - Intel® Active System Console uses a custom http TCP port (9393) so it does not conflict with site's access control lists or firewall rules
 For proper access to the application, appropriate changes should be done in firewall rules to exclude this port from blocking.
 Customers can modify the port if they want by editing the `/etc/lighttpd/lighttpd.conf` (in Windows, `%ProgramFiles%\Intel\ASC\conf\lighttpd-inc.conf`) and restarting the web-service.
 - Intel® Active System Console uses TCP port 7777 for the communication between Intel® Active System Console and Intel® Multi-Server Manager (MSM). The port can be blocked by customer firewall if you don't have MSM.
 - Intel® Active System Console may use TCP port 9191, 4369, 521 for internal only, those ports all can be blocked by firewall for security purpose.

5.3 Traceability and Security Audit

- Intel® Active System Console keeps track of all users at login and log out, as well as logging the client system from which the Server System was accessed. Any unauthorized attempts to login are also logged. This is recorded in the form of events in the Event Table.

Administrators of the tool should periodically do an audit on the events table to find out if there is any misuse of the application or any unauthorized attempts to access the tool.

5.4 Security Recommendations

No security feature can guarantee perfect security. Following the below standard security procedures and controls can improve the server's security.

- **Security controls.** Implement, update and monitor industry security products for servers, such as but not limited to: anti-virus, anti-spyware, host based firewall, intrusion prevention, and so on.
- **Remote access.** The platform should be managed by those familiar with securing remote access functions as well as managing systems that are exposed to the Internet.
- When assigning passwords for the Intel® Active System Console and BMC user accounts, make them strong enough to minimize the risk that someone could guess the passwords and thus use the Intel® Active System Console to change the server configuration or interrupt its power/temperature controls. Intel® Active System Console warns the user if the password is weak, so follow the warning and guidelines.
- **Network controls.** If the management console is being established to allow internet based access it is recommended to be placed within a network enclave that is consistent with many companies' internal policy of maintaining a "DMZ" or zone of networked systems that is more closely monitored than internal networks.
- **Firewall.** Enable firewall software/services on Server where you install Intel® Active System Console or to the network, and only enable exceptions to allow access to the web server on each server. Where possible, limit which remote clients (e.g., using IP address ranges) can connect to the web server.

To prevent successful Cross-Site Scripting and Forgery attack (XSS/CSRF) the following security guidelines should be followed:

- Make sure you access the application only from trusted clients.
- Do not leave the application logged in for a prolonged time and close the browser as soon as the session is finished.

- Do not visit any suspicious site or click on any public links in any other tabs in the browser while you are accessing the application.
- Change the passwords frequently to prevent unauthorized access by any internal user and to reduce exposure window in case a password is compromised.
- Delete and create new application user accounts to reduce the risk of unauthorized access from internal users or ex-users.

6. Troubleshooting Guidelines

If any issues or concerns are encountered while using Intel® Active System Console, please refer to the **Help** section available in each page of Intel® Active System Console. If the issue persists, read the following sections for known issues and troubleshooting tips.

6.1 Installation Issues and Environment Requirements

If it is not possible to access the Intel® Active System Console installed in a server from a remote location but it is possible to ping the server or connect remotely to the server, then it could be a firewall configuration issue. Troubleshoot this by disabling the firewall temporarily and try connecting to the Intel® Active System Console URL remotely again. If it works by disabling the firewall, then try adding the ports **9393**, **9191**, and **7777** to the firewall's exception list.

Note: Intel® Active System Console uses ports **9393**, **9191**, and **7777** which should be excluded from system's firewall if it is required to access the tool from other systems remotely or from outside of the private network.

System runtime components such as Microsoft Visual C++ Redistributions 2005 and 2010 x86 are prerequisites for Intel® Active System Console installation, the Intel® Active System Console installer will install those components automatically.

During installation of Intel® Active System Console on Linux* Operating Systems, the License Agreement may be loaded with Firefox* browser and cannot be closed by clicking the "Close" button. This is due to the Firefox* browser's default setting which disables any external script to terminate the browser.

To enable the button:

1. In Mozilla Firefox browser, type **about:config** in the URL textbox.
2. Search for **dom.allow_scripts_to_close_windows** and double-click it to set the value to "true".
3. Click the "Close" button, it shall close the License Agreement and browser both.



Figure 24. Mozilla script termination

Installation of Intel® Active System Console on RHEL* 5.x requires **libxslt.so**, a compiled library file which is not installed by default OS installation. This may halt the installation with a dependency error message. To resolve the issue, install compatible **libxslt.<os_arch>.rpm** before re-installing Intel® Active System Console.

For RHEL* 6.4 (Legacy Boot and UEFI Optimized Boot), SLES 11 (UEFI Optimized Boot only) and their subsequent releases, the Intelligent Platform Management Interface (IPMI) drivers must always be started manually before starting Intel® Active System Console service, including before the installation of Intel® Active System Console software.

To start the IPMI service,

1. Enter **sudo modprobe ipmi_devintf*** in a Linux Terminal.
2. This command works only if the openIPMI package has been installed in the OS.
3. For first-time installation of Intel® Active System Console, re-launch the installation script after **Step 1**, Intel® Active System Console service will use the latest setting of IPMI.

- i. For post-installation, run `/usr/local/asc/bin/IASCService.sh` script to restart Intel® Active System Console after **Step 1**, this will update the IPMI setting in Intel® Active System Console.

Note: Both steps have to be performed after each System reboot.

Installation of Intel® Active System Console on RHEL* 6.x (x64 architecture only) requires the following 32-bit shared library files which are not installed with the OS by default setting. The shared libraries could be installed from the RHEL* OS installation image disc (ISO) containing their respective RPMs.

Table 7. Required RPMs for Intel® Active System Console Installation

<ul style="list-style-type: none"> • zlib-1.2.3*i686* • libxml2-2.7.6*i686* • libgpg-error-1.7*i686** • libgcrypt-1.4.5*i686* • libxslt-1.1.26*i686* • libstdc++-4.4.7*i686* • compat-libstdc++-33-3*i686* • ncurses-libs-5.7-3*i686* • ncurses-devel-5.7-3*i686* • db4-4.7*i686* • nspr-4.9*i686* • nss-util-3.14.0*i686* • readline-6.0*i686* 	<ul style="list-style-type: none"> • sqlite-3.6.20*i686* • nss-softokn-3.12.9*i686* • nss-3.14.0.0*i686* • cyrus-sasl-lib-2.1.23*i686* • libidn-1.18-2*i686* • libcom_err-1.41.12*i686* • openldap-2.4.23*i686* • keyutils-1.4-4*x86_64* • keyutils-libs-1.4-4*i686* • libselinux-2.0.94*i686* • krb5-libs-1.10.3*i686* • openssl-1.0.0-27*i686* • libssh2-1.4.2*i686*
--	---

Note: The RPMs have inter-dependency which requires them to be installed in a single command (e.g., `sudo yum localinstall <list of packages>`).

The Intel® Active System Console installation package has included a shell script `RHELx86_64AUTO.sh` for the convenience of installing the 26 RPMs all in once.

To use the script:

1. Insert a RHEL* 6.x OS installation image disc containing the 32-bit shared library RPMs to the system.
2. Unzip the shell script and run `sh RHELx86_64AUTO.sh` in a Linux Terminal.

Disclaimer: The `RHELx86_64AUTO.sh` script is intended to be used as an installation auxiliary, and it is not maintained as an Intel product, thus its content may be outdated and rendered the script erroneous. However, user may install each of the RPMs directly from the RHEL* OS ISO Disc or download using `sudo yum install`.

User may see the following warnings during installation of Intel® Active System Console on SLES*:

- Insserv: warning: script 'K01Appcore' missing LSB tags and overrides
- Insserv: warning: script 'S01Appcore' missing LSB tags and overrides

Insserv warnings are bootscript comment header warnings and may be ignored as they do not affect the installation.

Installation of Intel® Active System Console on Microsoft Windows 8* and Windows 2012* R2 requires UAC to be disabled using direct registry modification:

1. Launch `regedit.exe`, look through directories for **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System**
2. Look for entry `EnableLUA`, and alter the values as followed
 - UAC Enabled: 1
 - UAC Disabled: 0
3. Save the setting and reboot the system if required.

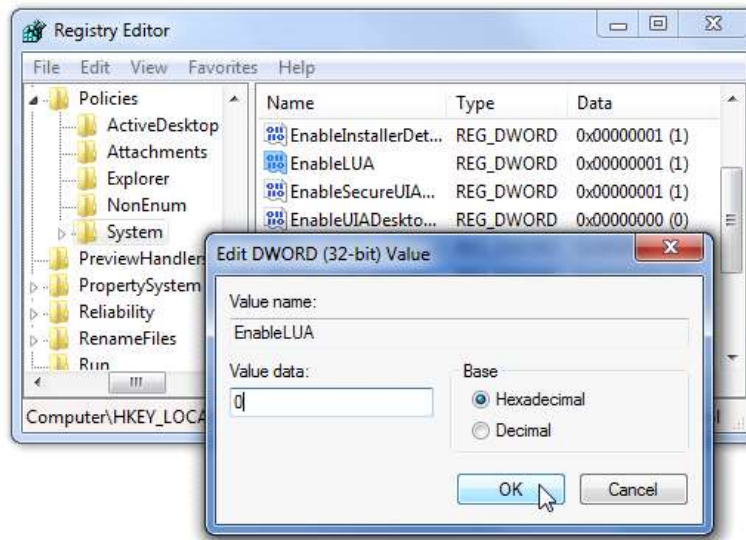


Figure 25. Editing the registry

If at any time, any of the following essential services of Intel® Active System Console are stopped, Intel® Active System Console will not work properly. If you are facing some issues in accessing the tool, you should check if the following services are running.

In Windows*, start the following services and verify:

- Intel® Active System ConsoleServiceManager
- Appcore

In Linux*, run the following commands and verify,

- `/etc/init.d/lighttpd status`
- `/etc/init.d/ascpolicy status`
- `/etc/init.d/Appcore status`

If web-server seems to be non-responsive on Linux* OS, run the following command:

- `/etc/init.d/lighttpd restart`

User must make sure two Windows* services, **IASCServiceManager** and **Appcore**, are always running on Windows* OS. To run the services, execute the batch file “**IASCService.bat**” in the installed path, or user may run “**services.msc**” from command line and search for the service names.

Manually start these services if they are stopped. If the problem persists due to Baseboard Management Controller (BMC) interface being non-responsive, a power cycle may resolve the problem.

User must make sure that the system installed with Intel® Active System Console is **NOT** installed with SNMP-SA or equivalent applications. Intel® Active System Console may provide incorrect and incomplete information or even cease functioning as it would conflict with SNMP-SA by using the same system resources.

Installation of Intel® Active System Console in Linux* Operating Systems will show warning message (shown below) at the end of the installation process. This warning is to let user know user may experience Intel® Active System Console login failure if the system network configuration not working properly.

Note: Please check the DNS server setting or add the hostname into system file `/etc/hosts` in order for the Active System Console to do name resolution for the system name to avoid login fail issue, refer to the software Release Notes for details.”

6.2 User Login Issues and Browser Settings

Intel® Active System Console supports secure transport using SSL/TLS authentication process with a self-signed certificate. But as the certificate is not signed by publicly acknowledged authority, default security settings of web browsers may block Intel® Active System Console Login Page from loading and prompt warning messages of “Untrusted Connection” (Firefox) or “Invalid Security Certificate” (Internet Explorer)

To resolve this:

- **Method 1:** Override the warnings and accept the certificate, proceed to login page. User must ensure the certificate is originated from the application on a trusted secure network.
- **Method 2:** Add a custom certificate, please refer to the below sections for further instructions.

When user logs into Intel® Active System Console webpage https://system_IP:9393/asc/ for the first time, Intel® Active System Console may appear unresponsive for a few minutes as it is updating its system health data enquiries with latest information.

When using Internet Explorer to launch Intel® Active System Console, users may click web page interface buttons with no response, or be unable to launch pop-up active windows upon clicking button.

To resolve this, user must edit setting of Internet Explorer:

1. **Go to Menu -> Tools -> Options -> Security -> Select Internet Zone -> Custom Level -> Scripting**
2. Under Scripting, enable all Active Scripting and Scripting options.
3. Save the new setting, then restart Internet Explorer and load Intel® Active System Console page.

User may not able to save the reports generated by Report feature of Intel® Active System Console in Internet Explorer* due to browser setting.

To change this:

1. **Go to Tools -> Internet Options -> Advanced -> Security**, and uncheck the ‘Do not save encrypted pages to disk’.
2. Retry generating the reports and save.

The “waiting” icon (spinning wheel, flashing dots) and Critical Event scrolling may not work if the browser does not allow animation to play.

To enable the feature in Internet Explorer,

1. **Go to Tools -> Internet Options -> Advanced -> Multimedia**, and check the ‘Play animations’ option.
2. Refresh browser or re-launch Intel® Active System Console.

When Intel® Active System Console login shows “Login Failed Try Again” or no activity, user should follow the methods below to debug the issue.

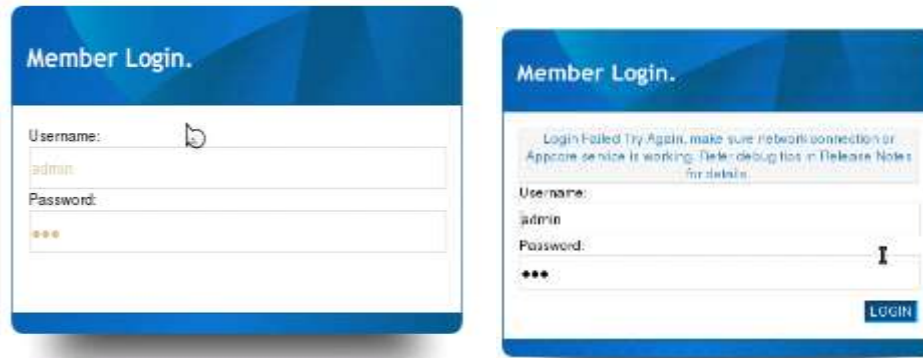


Figure 26. Member login window

To resolve this:

- **Method 1:** If the Appcore service is stopped, restart the service by running the shell script file `/usr/local/asc/bin/Intel® Active System ConsoleService.sh`.
- **Method 2:** Check the network connection. If DNS network connection is disconnected, Intel® Active System Console will keep looping until time-out. If user decides not to use DNS network anymore, user can set the system hostname into the `/etc/hosts` refer below example (mysys_hostname added into hosts file). Restart Intel® Active System Console service after setting the system hostname.

Red Hat* Enterprise Linux:

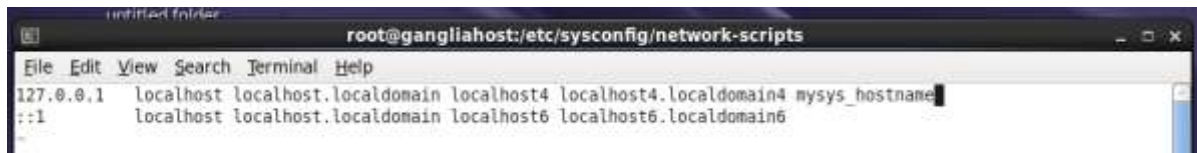


Figure 27. RHEL shell script

SuSE Linux Enterprise Server:

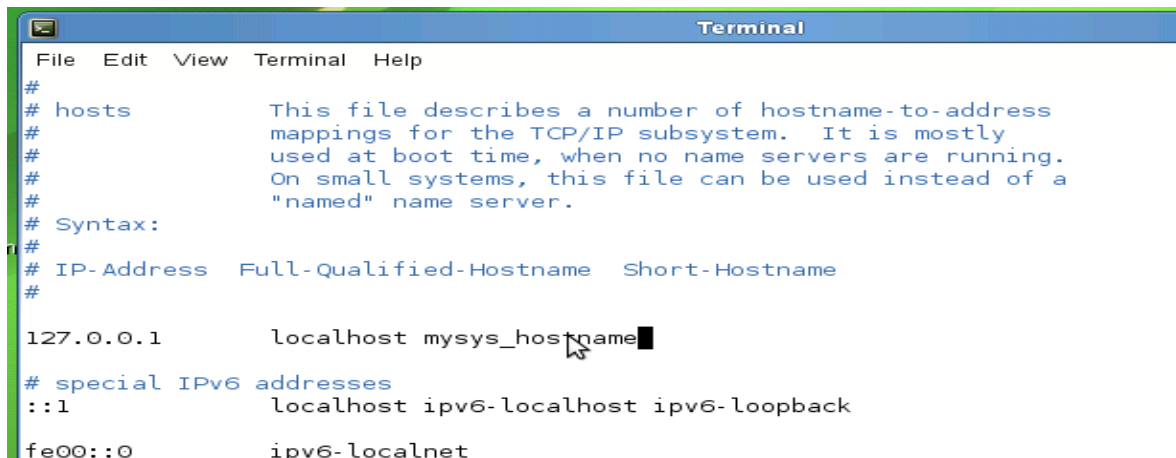


Figure 28. SuSE shell script

6.3 Known Informational Irregularities and Issues

- Part of system sensor information, such as on Memory and Processor, are not available in Intel® Active System Console that installed on system with GPT volume (e.g., for UEFI boot mode).
- Sensor Events are generated by Intel® Active System Console only if the sensor is functional and providing analyzable reading; sensors which are showing *NOT_AVAILABLE* state are not used in system health calculation, e.g., PCIe Corr sensor.
- When a CD/DVD is inserted to the system, Intel® Active System Console® would show “0MB space left” and generates a Critical warning. Once the CD/DVD is removed from system, Intel® Active System Console® returns to Healthy state.
- Intel® Active System Console may not able to comprehend FRUSDR details which have special characters such as “&,*,#”, thus blank values may be shown.
- Intel® Active System Console is not supported on Virtual Environment and Non-BMC Server Board.
- SOL BAUD Rate configuration is not available for Intel® Server S1200RP product family.
- HSC FW version for Intel® Server S1200RP product family is shown in unseparated format on screen.
- Boot order changes might not be successful if “syscfg /bbo” command is being used before using Intel® Active System Console to change the boot order. Use BIOS F2 setup page, press F9 to load BIOS default settings & reconfigure the boot order if this issue occurs.
- Intel® Active System Console may not display the Serial number and Model number of the configured RAID volumes and it may display *NOT_AVAILABLE* in Model number and Serial Number columns of Storage information.
- Intel® Active System Console may not display the Serial number and Model number of the USB drives if the firmware is not available for the devices and it may display *NOT_AVAILABLE* in Model number and Serial number columns for storage information.
- Intel® Active System Console may not display proper build version in some Linux Operating System due to browser limitations, which is due to taking data from stored cache on the hard drive. It is required to clear browser cache to display proper Intel® Active System Console build version in Linux.