

Intel[®] Active Management Technology 7.0

OEM Web User Interface Guide

November 2010

Revision 1.0

Intel Confidential



INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL® PRODUCTS. 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.

This document contains information on products in the design phase of development.

All products, platforms, dates, and figures specified are preliminary based on current expectations, and are subject to change without notice. All dates specified are target dates, are provided for planning purposes only and are subject to change.

This document contains information on products in the design phase of development. Do not finalize a design with this information. Revised information will be published when the product is available. Verify with your local sales office that you have the latest datasheet before finalizing a design.

Intel® Active Management Technology requires the computer system to have an Intel® AMT-enabled chipset, network hardware and software, as well as connection with a power source and a corporate network connection. With regard to notebooks, Intel AMT may not be available or certain capabilities may be limited over a host OS-based VPN or when connecting wirelessly, on battery power, sleeping, hibernating or powered off. For more information, see <http://www.intel.com/technology/platform-technology/intel-amt>

Intel, Intel vPro and the Intel logo are trademarks of Intel Corporation in the U.S. and other countries.

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

Copyright © 2007-2010, Intel Corporation. All rights reserved.



Contents

1	Introduction	8
	1.1 Scope of document	8
	1.2 Basic functions	9
	1.3 Terminology	10
2	System requirements	11
	2.1 Client system	11
	2.2 Management console system	11
3	Accessing the WEBUI	13
	3.1 Logging in to the client system	13
4	Navigating the WEB UI	17
5	Hardware Information pages	20
	5.1 System Information page.....	20
	5.2 Processor Information page.....	21
	5.3 Memory Information page.....	22
	5.4 Disk Information page	22
	5.5 Battery Information page.....	23
6	Event Log page	24
7	Remote Control page	25
8	Power Policies Page.....	28
9	Network Settings Page	31
10	Wireless Settings page	33
	10.1 Create a new wireless profile.....	34
	10.2 Delete a new wireless profile	37
	10.3 Wireless Settings	38



11	IPv6 Network Settings.....	39
12	System Name Settings.....	41
13	User Accounts page	43
	13.1 New/Change User Account page	44
	13.2 Remove User Account page.....	45
	13.3 Change Administrator Account page.....	46
	13.4 Configure Endpoint Access Control Anonymous Access	47
14	Troubleshooting.....	48



Figures

Figure 1: Login Screen	15
Figure 2: Login Dialog	15
Figure 3: Unsuccessful login	16
Figure 4: System Status	17
Figure 5: Navigation bar	18
Figure 6: Padlock on links.	18
Figure 7: System Information	21
Figure 8: Processor Information	21
Figure 9: Memory Information.....	22
Figure 10: Disk Information	23
Figure 11. Battery Information	23
Figure 12: Event Log.....	24
Figure 13: Remote Control.....	25
Figure 14: Confirmation before sending the command.....	26
Figure 15: Timer page for Remote boot	27
Figure 16. Power Policies Page	28
Figure 17: Network Settings.....	31
Figure 18. Wireless Settings Page	33
Figure 19. New Wireless Profile	35
Figure 20. Wireless Profile added	36
Figure 21. Wireless Profile Error.....	37
Figure 22. Remove Wireless Profile	38
Figure 23. Wireless Management Settings.....	38
Figure 24: IPv6 Network Settings	39
Figure 25: System Name Settings.....	41
Figure 26: User Accounts.....	43
Figure 27: New User Account	44
Figure 28: Remove User Account	46
Figure 29: Change Administrator Account	46
Figure 30: Anonymous Access	47



Tables

Table 1: Power States Definitions	19
Table 2: Power States	29
Table 3: Intel® ME states.....	29



Revision History

Revision Number	Description	Revision Date
0.7	<ul style="list-style-type: none">Initial Version: Carry over from AMT 6.0 guide; updated for AMT 7.0Resolved Documentation Bugs #3535234, #3535235, and #3535236	April 2010
0.8	Alpha2 Release	May 2010
0.9	Beta Release	August 2010
1.0	Production Candidate Release	November 2010

§



1 Introduction

Intel® Active Management Technology (Intel® AMT) is a hardware-based solution that uses out-of-band communication for management access to client systems independent of the system state. In situations where a system would normally be inaccessible, such as a crashed hard drive or a locked operating system, Intel® AMT will be able to access a client system to allow performing of basic management tasks.

Intel® AMT is designed with a complete set of management functions to meet the deployment needs of administrators. All configuration operations are conducted using a combination of the BIOS-based Intel® AMT Configuration screen (in the Intel® Management Engine BIOS Extension screen) and the Intel® AMT firmware, communicating over the network interface.

1.1 Scope of document

This document explains how to configure client systems and access the Intel® AMT web pages from any other system on the network, using local network provisioning model. Features supported by Remote Configuration model are available with software provided by vendors who support Intel® AMT.

Readers should have a basic understanding of networking and computer technology terms, such as TCP/IP, DHCP, IDE, DNS, Subnet Mask, Default Gateway and Domain Name.

Explanation of these terms is beyond the scope of this document.

Before the Web UI can be used to access the Intel® AMT web pages, the following should be performed on the client system (Intel® AMT system).

1. Create a flash image using the component images (BIOS, Intel® ME and GbE images).
2. Program the flash image into the SPI flash device.
3. BIOS Setup in order to enable Intel® AMT.



4. Load an operating system on the client system
5. Install the drivers required for Intel® AMT

NOTE:

For more details on the above steps, please refer to the document – '**FW Bring up Guide.pdf**', which can be downloaded (along with the Intel ME FW/SW/Tools kit) from VIP: <https://platformsw.intel.com/>

Kerberos* users will not be shown in the Web UI, as the Web UI Guide document is only for local network configuration.

Web UI user settings override the settings made by ISV software (using SOAP and WSMAN) that might not be displayed in the Web UI.

For an Intel® AMT system remotely configured, the WebUI can be disabled. If it is disabled, the WEB UI will not be accessible. For more information on disabling the WEBUI please see the Setup and Configuration document.

1.2 Basic functions

A supported web browser can be used to perform basic management tasks. The web server built into each Intel® AMT system allows to:

- View the system status.
- View the hardware installed in the system.
- View, start/stop, and clear the event log.
- Remotely power the computer on or off.
- View and manage Intel® AMT power policies
- View and manage Intel® AMT network parameters.
- View and manage Intel® AMT FQDN System Name settings.
- View and manage Intel® AMT user accounts.



1.3 Terminology

Term	Description
BIOS	Basic Input Output System
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
FQDN	Fully Qualified Domain Name
FW	Firmware
GbE	Gigabit Ethernet
HW	Hardware
IDE	Integrated Drive Electronics
Intel® AMT	Intel® Active Management Technology
ICC	Intermittent Connection Computing
Intel® ME	Intel® Management Engine
Intel® MEBx	Intel® Management Engine BIOS Extension
IP	Internet Protocol
ISV	Independent Software Vendor
LAN	Local Area Network
OS	Operating system
SOAP	Simple Object Access Protocol
SPI	Serial Peripheral Interface
SW	Software
TCP	Transfer Control Protocol
UI	User Interface
WoL	Wake on LAN



2 System requirements

2.1 Client system

The client system is the system that is managed by Intel® AMT. The client system should:

1. Have a flash image programmed into the SPI flash devices.
2. Enable Intel® AMT on the client system through BIOS settings
3. Operating system loaded on the client system.
4. Required drivers installed on the client system.

NOTE:

- For more details on the client system requirements mentioned above and to have a client system meet the requirements, please refer to the document – '***FW Bring up guide.pdf***'.

2.2 Management console system

The management console system is the system used to access and manage Intel® AMT client systems. Each Intel® AMT client system has a built-in web server that the management console system can access using one of the following web browsers:

Microsoft Internet Explorer* 8 or newer

Mozilla* Firefox* 1.0 or newer

NOTE:

The browsers must be updated with the latest security patches and fixes.



Some Intel® AMT web pages use JavaScript, hence the browser used should be configured with JavaScript enabled.

To display Intel® AMT error pages, **Friendly HTTP error messages** needs to be disabled.

In Microsoft Internet Explorer*, this setting is located in the **Advanced** tab under the **Internet Options** menu.

§



3 Accessing the WEBUI

3.1 Logging in to the client system

The client system can be accessed from the local host and any other system on the network that has a supported web browser (as listed in the **System requirements** section).

1. On the management console system, open a web browser and in the **Address** box, enter one of the following:
 - If the network can resolve the client computer name to an IP address, then:
http://*host_name*:16992 (example: http://client1:16992)
 - If a static IP address has been set for the client system, then:
http://*ip_address*:16992 (example: http://192.168.0.15:16992)
2. Local host connectivity to the Intel® AMT WebUI is a new capability starting with Intel® AMT version 6.1. On the Intel® AMT system (local host), open a web browser and in the **Address** box, enter one of the following:
 - Access via the local host system:
http://localhost:16992
 - Access via the client computer name:
http://*host_name*:16992 (example: http://vpro-pc:16992)
 - Access via the IP address for the local client system:
http://*ip_address*:16992 (example: http://192.168.0.15:16992)

NOTE:

- When the Intel® AMT device is configured in DHCP mode, then the host operating system of the Intel® AMT device should also be configured in DHCP mode.



- When the Intel® AMT device is configured in Static mode, then the IP address of the host operating system must be different from the IP address of the Intel® AMT device.
- The host OS of the Intel® AMT device can be configured to static IP/DHCP mode as follows:

For Windows XP:

- Click on **Start** on the Windows toolbar. Open **Control Panel** then open **Network Connections**.
- Double-click on **Local Area Connection**. Click on **Properties**.
- Select **Internet Protocol (TCP/IP)**. Click on **Properties**.
- If the console has to be configured in static IP mode, then select **Use the following IP address**, and enter values for **IP address** and **Subnet mask**.

For Vista or Win7

- Click on **Start** on the Windows toolbar. Open **Control Panel** then open **View Network Status and Tasks** under Network and Internet.
- Click **Change adaptor settings**
- Double-click on **Local Area Connection**.
- Select **Internet Protocol (TCP/IP)**. Click on **Properties**.
- If the console has to be configured in static IP mode, then select **Use the following IP address**, and enter values for **IP address** and **Subnet mask**.

3. If the console has to be configured in DHCP mode, then select **Obtain an IP address automatically**. When connecting the Intel® AMT system to a Local Area Network (LAN) with multiple Intel® AMT systems on the LAN (**all configured in static IP mode**), ensure that each of the systems has a unique static IP address. In turn, the host IP address of an Intel® AMT system should be different from the Intel® AMT static IP address. When connecting the Intel® AMT system to a Local Area Network (LAN) with multiple Intel® AMT systems on the LAN (**all configured**



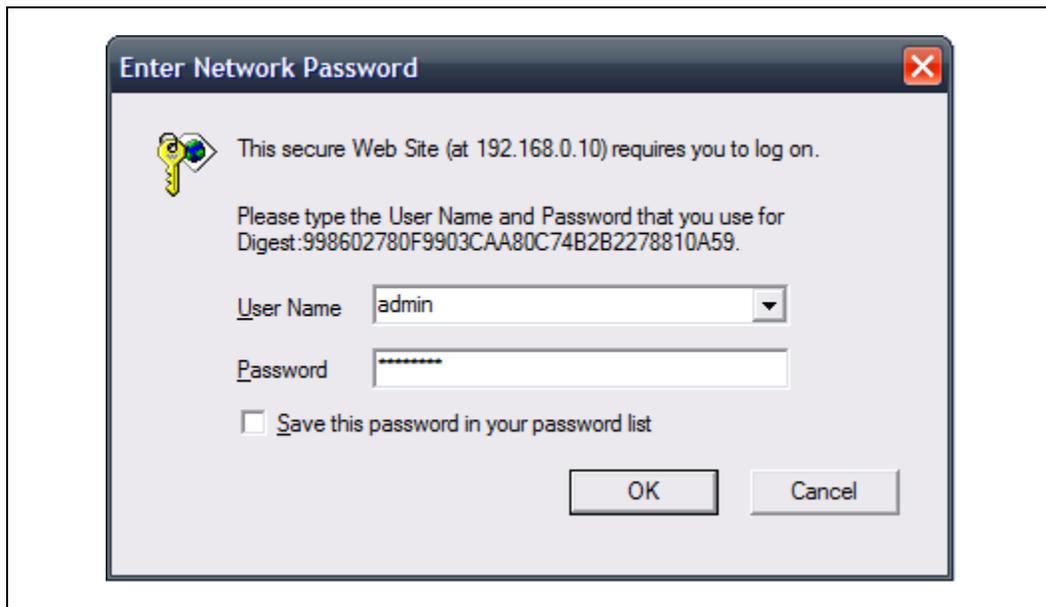
in DHCP mode), ensure that each of the systems has a unique LAN MAC address. The browser displays the following web page. Click on the **Log On...** button.

Figure 1: Login Screen



4. After the Log On... button is clicked, the following login dialog titled – Enter Network Password is displayed by the browser.

Figure 2: Login Dialog





Log in by entering 'admin' (case sensitive) in the **User name** box, and enter the same password in the **Password** box that was previously setup in the Intel® ME BIOS Extension settings. And press on **OK**.

5. If the login has been successful, then the **System Status** page (Figure 4) will be displayed. If the login has not been successful, then the following page will be displayed.

Figure 3: Unsuccessful login

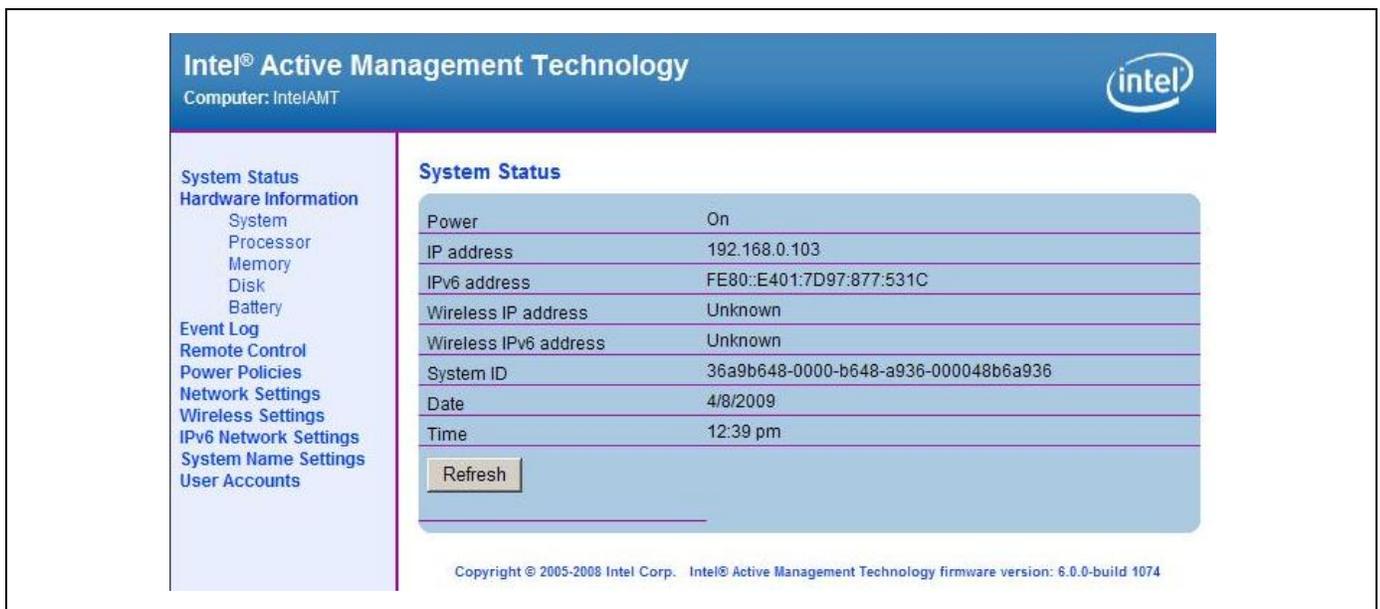




4 Navigating the WEB UI

The **System Status** page is the default page that shows up after successfully logging in using the user name and password.

Figure 4: System Status



The navigation bar, on the left of the web page, provides links that allow navigating to the individual Intel® AMT pages.

Figure 5: Navigation bar



Figure 6: Padlock on links.



NOTE:

When using an account with limited user rights, the browser displays a padlock for links that cannot be accessed. If a web page is accessed without sufficient access permissions, the browser will display a login dialog.

The navigation bar shows this icon after links that the current account cannot access:


Clicking the link for one of these pages displays the login dialog. If logged in using another account, the navigation bar will show the appropriate icons for the new account.

The **System Status** page shows the current status of the client system (Intel® AMT system). This page displays the **Power** state, **IP address** and other basic system



information. The Intel® AMT device **Host Name** appears in the top banner section of the web page under **Computer**. This is set in the Intel® ME BIOS Extensions settings.

Power options

The following table shows the various power states displayed.

Table 1: Power States Definitions

Power state	Text description
S0	On
S1-S3	Standby
S4	Hibernate
S5	Off
Unknown	Unknown

Clicking on the **Refresh** button will reload the current page.

§



5 Hardware Information pages

The **Hardware Information** pages display information on the current hardware installed in the client system. The pages are divided into the categories listed in the navigation bar. Clicking a Hardware sub item in the navigation bar shows the page for that item.

Intel® AMT gets this information from the client system BIOS. Any hardware changes made to a client are displayed after a client system reboot.

NOTE:

The **Hardware Information** item in the navigation bar does not link to a page. The links under it link to each hardware asset page.

5.1 System Information page

The **System Information** page displays client system information on the –

1. **Platform:** The Platform table shows system-wide hardware information, including Computer model, Manufacturer, Version, Serial number, and System ID.
2. **Baseboard:** The Baseboard table section shows Manufacturer, Product name, Version, Serial number, Asset tag and a "Replaceable?" item with Yes or No.
3. **BIOS:** The BIOS table section shows Vendor, Version, Release date and Supported functions. The Supported functions item shows a list of all supported functions.



Figure 7: System Information

System Information	
Platform	
Computer model	SandyBridge Platform
Manufacturer	Intel Corporation
Version	To be filled by O.E.M.
Serial number	To be filled by O.E.M.
System ID	88888888-8887-8888-8888-878888888888
Baseboard	
Manufacturer	To be filled by O.E.M.
Product name	To be filled by O.E.M.
Version	To be filled by O.E.M.
Serial number	To be filled by O.E.M.
Asset tag	To be filled by O.E.M.
Replaceable?	Yes
BIOS	
Vendor	American Megatrends Inc.
Version	ASNBCPT1.86C.0014.B00.1003112225
Release date	03/11/2010
Supported functions	PCI Upgradeable Shadowing is allowed Boot from CD Selectable boot EDD spec 5.25"/1.2MB floppy services 3.5"/720KB floppy services 3.5"/2.88MB floppy services Print Screen service 8042 keyboard services Serial services Printer services

5.2 Processor Information page

The **Processor Information** page shows information about each processor in the system.

Figure 8: Processor Information

Processor Information	
Processor 1	
Manufacturer	Intel
Family	Intel® Core™2 Quad Processor
Socket	CPU 1
Version	Genuine Intel(R) CPU 0 @ 2.20GH
ID	13829424153406604963
Maximum socket speed	4000 MHz
Speed	2200 MHz
Status	Enabled
Upgrade method	Other
Populated?	Yes



Note: Intel® AMT will round the Maximum Socket Speed and Current Speed to the nearest 100 MHz. This is to prevent minor inconsistencies between the value read by Intel® AMT and the value read by the BIOS.

5.3 Memory Information page

The **Memory Information** page displays a Module # heading for each memory module installed in a socket and gives details on that particular memory module, like: Manufacturer, Serial number, Size, Speed, Form factor, Type, Type detail, Asset tag and Part number. Also, for sockets with uninstalled memory, the Module # heading and **'Not Installed'** is displayed.

Figure 9: Memory Information

Memory Information	
Module 1	
Manufacturer	Kinston
Serial number	F53E3822
Size	1024 MB
Speed	1333 MHz
Form factor	SODIMM
Type	DDR3
Type detail	Synchronous
Asset tag	Unknown
Part number	9905417-010.A01LF
Module 2	
Manufacturer	Kinston
Serial number	543ED32D
Size	1024 MB
Speed	1333 MHz
Form factor	SODIMM
Type	DDR3
Type detail	Synchronous
Asset tag	Unknown
Part number	9905417-010.A01LF

5.4 Disk Information page

The **Disk Information** page displays the Model, Serial Number and Size of each installed disk on the client system.



Figure 10: Disk Information

Disk Information	
Disk 1	
Model	HTS721080G9SA00
Serial number	MPDDN7Y4HG240L
Size	76319 MB
Disk 2	
Model	LITE-ON DVDRW LH-20A1S
Serial number	
Size	0 MB

5.5 Battery Information page

The **Battery Information** page displays the device name, manufacturer, manufacture date, serial number, type, location Design Capacity and Design voltage. This page will not display the amount of charge left on the battery

Figure 11. Battery Information

Battery Information	
Battery 1	
Device name	MOLICEL
Manufacturer	E-One Moli Energy
Manufacture date	10/31/2006
Serial number	FSPK50074
Type	Lithium-ion
Location	Real 1
Design capacity	Unknown
Design voltage	Unknown
Battery 2	
Device name	MOLICEL
Manufacturer	E-One Moli Energy
Manufacture date	10/31/2006
Serial number	FSPK50074
Type	Lithium-ion
Location	Real 2
Design capacity	Unknown
Design voltage	Unknown

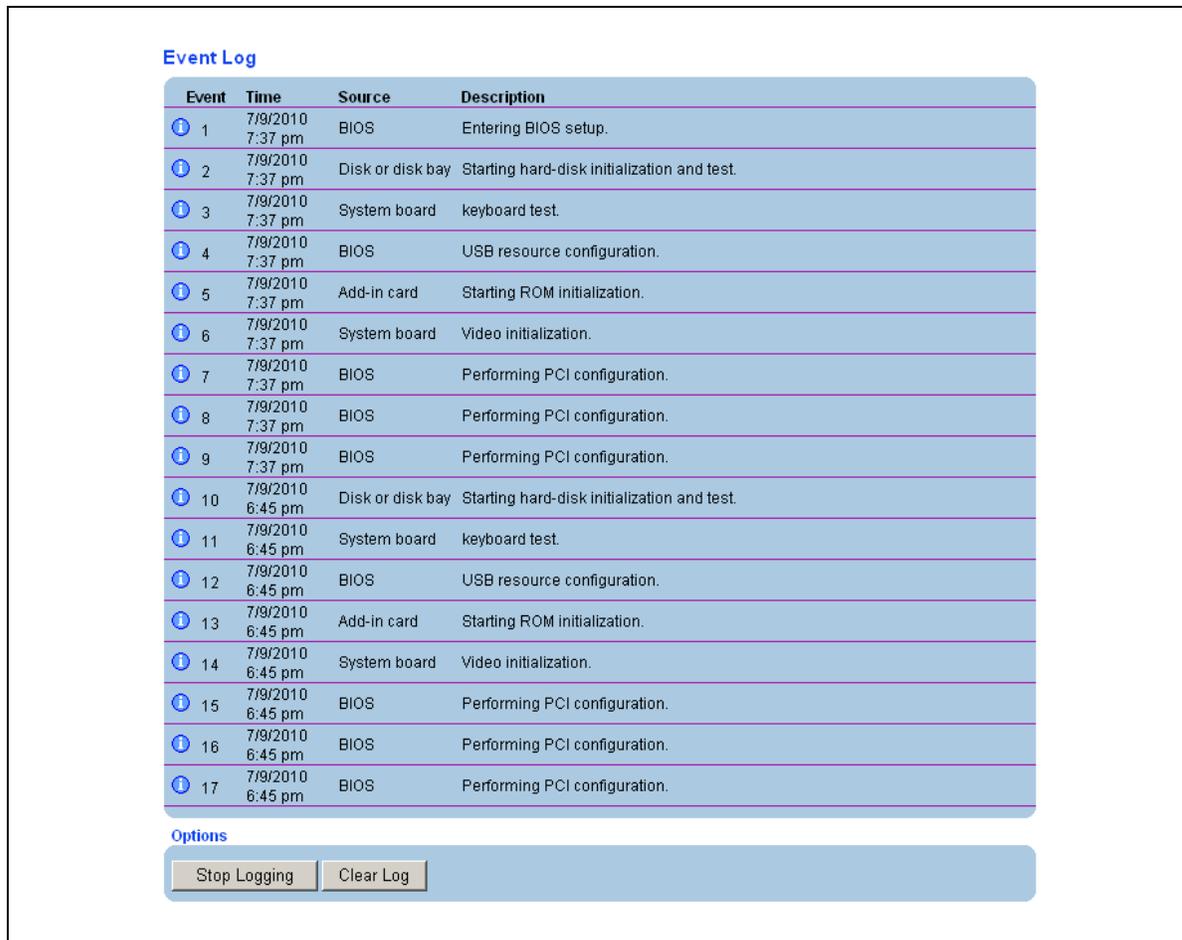
6 Event Log page

The **Event Log** page displays the event log. All the events happening on the client system are logged in to the Event Log.

Start Logging/Stop Logging button: This button starts or stops logging of the events on the client side. The text on this button changes according to the available action.

Clear Log button: This button clears the log entries, and reloads the page with an empty event log followed by the Options table.

Figure 12: Event Log



The screenshot shows the 'Event Log' page with a table of 17 events and an 'Options' section below it. The table has columns for Event, Time, Source, and Description. The events are listed in chronological order, showing various system initialization steps like BIOS setup, disk initialization, keyboard test, USB resource configuration, ROM initialization, video initialization, and PCI configuration. The 'Options' section contains two buttons: 'Stop Logging' and 'Clear Log'.

Event	Time	Source	Description
1	7/9/2010 7:37 pm	BIOS	Entering BIOS setup.
2	7/9/2010 7:37 pm	Disk or disk bay	Starting hard-disk initialization and test.
3	7/9/2010 7:37 pm	System board	keyboard test.
4	7/9/2010 7:37 pm	BIOS	USB resource configuration.
5	7/9/2010 7:37 pm	Add-in card	Starting ROM initialization.
6	7/9/2010 7:37 pm	System board	Video initialization.
7	7/9/2010 7:37 pm	BIOS	Performing PCI configuration.
8	7/9/2010 7:37 pm	BIOS	Performing PCI configuration.
9	7/9/2010 7:37 pm	BIOS	Performing PCI configuration.
10	7/9/2010 6:45 pm	Disk or disk bay	Starting hard-disk initialization and test.
11	7/9/2010 6:45 pm	System board	keyboard test.
12	7/9/2010 6:45 pm	BIOS	USB resource configuration.
13	7/9/2010 6:45 pm	Add-in card	Starting ROM initialization.
14	7/9/2010 6:45 pm	System board	Video initialization.
15	7/9/2010 6:45 pm	BIOS	Performing PCI configuration.
16	7/9/2010 6:45 pm	BIOS	Performing PCI configuration.
17	7/9/2010 6:45 pm	BIOS	Performing PCI configuration.

Options

Stop Logging Clear Log

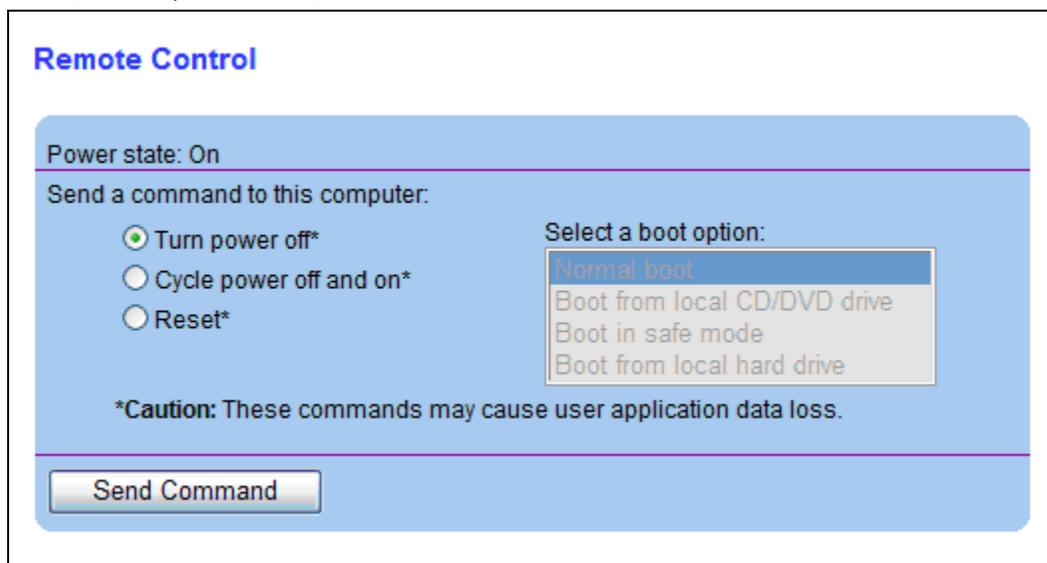


7 Remote Control page

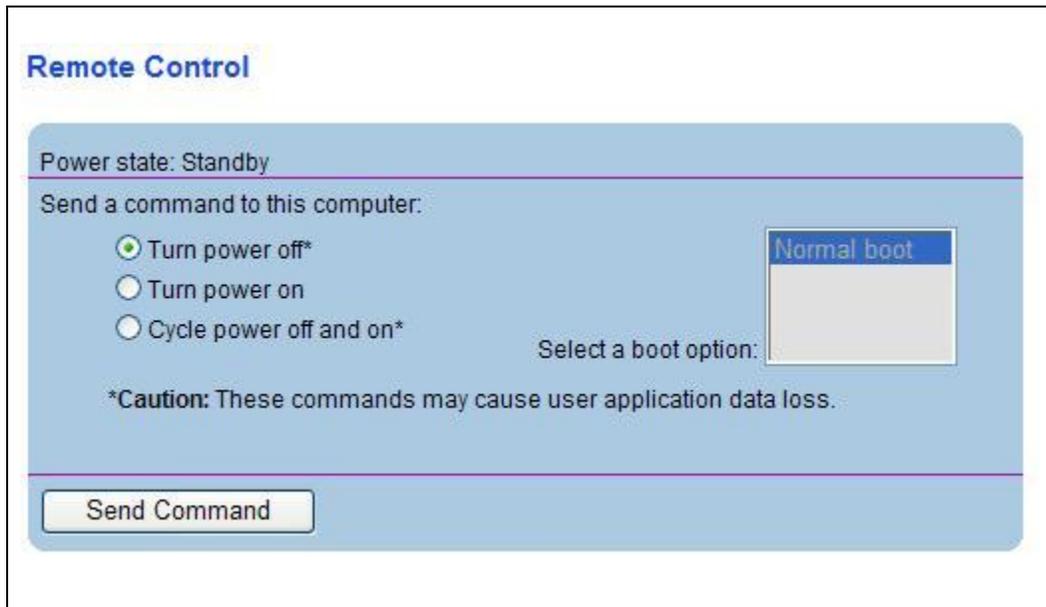
The **Remote Control** page allows the client system to be turned off, to cycle power the system off and on and to reset the client system. A boot option, like: Normal boot, boot from local CD/DVD drive, boot in safe mode or boot from local hard drive, can be selected through which the client system can be booted.

Figure 13: Remote Control

Intel® AMT System in S0/M0 State:



Intel® AMT System in S3/M3 State:



In addition to the above commands in the figures, there is also a **Turn Power on** command, which allows turning the system on when the system is in the off state.

The only valid command for a system in an S4 or S5 state is **Turn Power on**.

Note: The **"*Caution: These commands may cause data loss."** - These commands go directly to the system hardware and do not allow the operating system to shutdown gracefully.

Before sending the boot command to the client system, the browser prompts with the below message to confirm the action.

Figure 14: Confirmation before sending the command



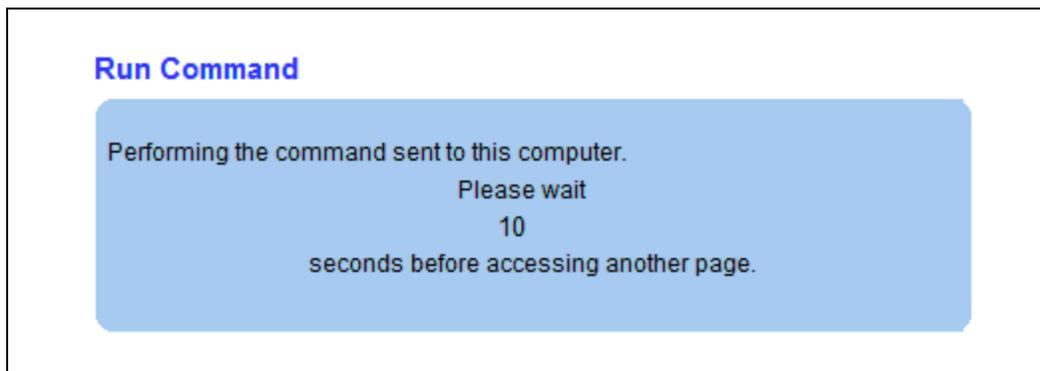
When the **OK** button is clicked, the boot command is sent to the client system.

After the command is sent, if the command requires time before the **System Status** page is updated, the Web server displays the following, indicating the time the



operation will take. When the countdown is finished, the **System Status** page is loaded.

Figure 15: Timer page for Remote boot



NOTE:

The available boot options depend on the client system capabilities.

The remote control interface (all above mentioned remote control commands) is dynamic. Depending on the power state of the host of the Intel® AMT system (Power ON, Power OFF, Standby, Hibernate, etc), the applicable remote control commands will be displayed in the WebUI **Remote Control page**. Example: In **Power OFF** state, only **Turn on** command will be displayed.

Also depending on the remote command selected, the appropriate boot options will be displayed. Example: When the **Turn power off** command is selected, the boot options will be blocked or grayed out, without being able to select any of them.

Local machine refers to the Intel® AMT system

Turn Power off will not work when there is an SOL or an IDER session open. If the user attempts to send the **Turn Power off** command an Invalid remote control error message will be displayed.

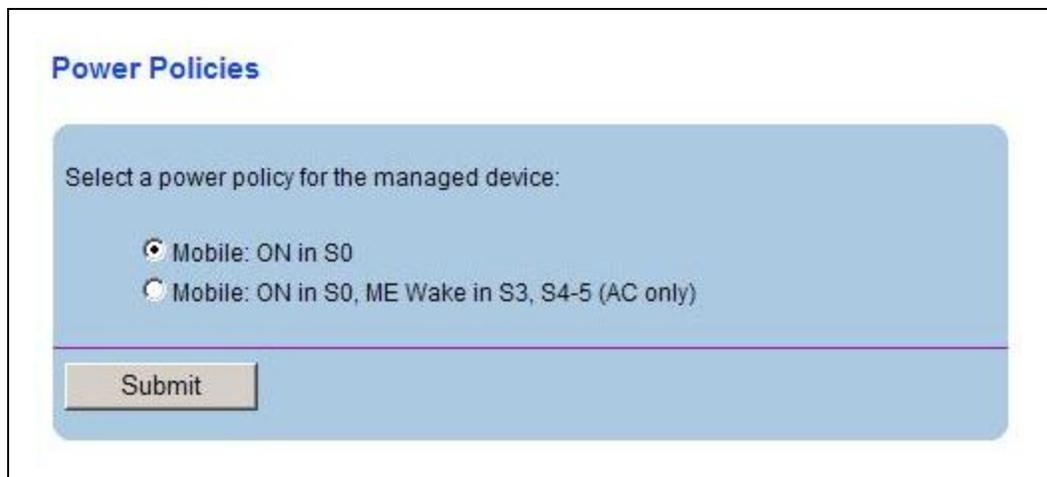
Remote control operations are not available through local interface.

8 Power Policies Page

The **Power Policies Settings** page allows the configuration of the power settings of the management engine on the Intel® AMT system (client system). This will allow the user to determine in which power states the MANAGEMENT ENGINE is turned off.

Figure 16. Power Policies Page

Power Policy page for mobile platforms



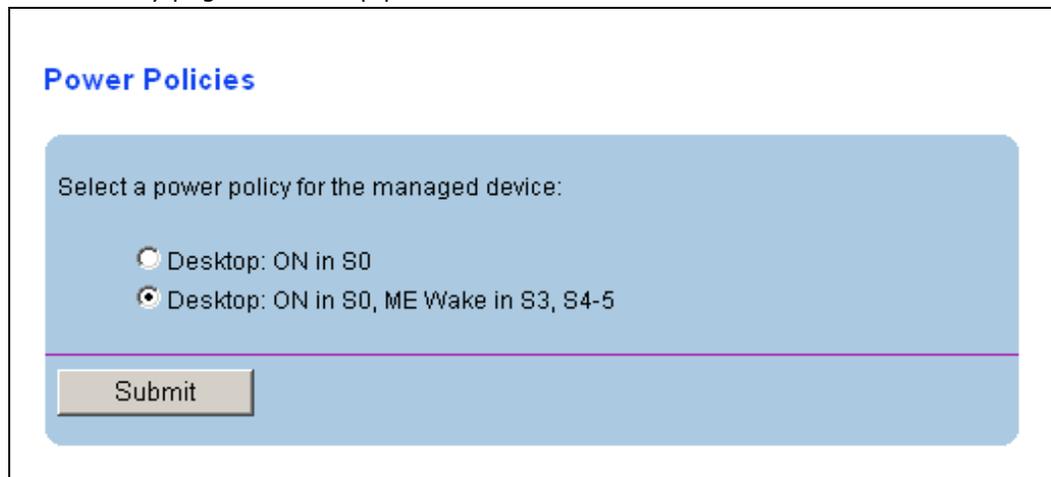
Power Policies

Select a power policy for the managed device:

- Mobile: ON in S0
- Mobile: ON in S0, ME Wake in S3, S4-5 (AC only)

Submit

Power Policy page for desktop platforms



Power Policies

Select a power policy for the managed device:

- Desktop: ON in S0
- Desktop: ON in S0, ME Wake in S3, S4-5

Submit

This page will only display power policies that are supported. Power policies that are not supported will not be displayed and cannot be selected.



Power options

The following table shows the various power states on the power policies page.

Table 2: Power States

Power state	Text description
S0	System is powered On
S3	System is in Standby* mode
S4	System is in Hibernate* mode
S5	System is powered Off but still has an AC connection

Firmware States

The following table describes the various states the management engine.

Table 3: Intel® ME states

Intel® ME state	Text description
M0	Intel® ME operational in S0 state
M3	Intel® ME operational in Sx state
M-Off	Intel® ME is turned off
MEWoL	Intel® ME will go to an M-Off state after it has remained idle for a set time when system is in Sx. After any command is sent, ME will go to an M-3 state and be ready to accept future commands.

The page shown in Figure 16 determines when the Management engine is powered on. For example if “Mobile: ON in S0” is selected, the Intel ME will be powered **OFF** (M-off) when the system is in any Sx state, with or without an AC power source attached. For ME Wakes in S3 (standby), S4 (hibernate) and S5 (powered off) the Intel ME will follow the MEWOL rules.

ME WOL (ME Wake on LAN) - When the Intel ME has been idle while system is in Sx state for a specified time the Intel ME will be powered off (M-Off). The Intel ME



will turn back on (M3) when there is any network activity to the Intel ME such as a ping or an Intel ME command. The length of idle time before the ME turns off can be configured through the MEBX or via SOAP/WS-MAN command from management console. The parameter is labeled "**Idle timeout**". This parameter can also be configured through FITC. The parameter is labeled "**Idle Timeout – Manageability Engine.**" Please see the FW Bringup Guide (included with each FW kit) for more information on the tools and parameters.

§



9 Network Settings Page

The Network Settings page allows the configuration of the IP settings for an Intel[®] AMT system (client system). This IP setting is only for the wired network.

Figure 17: Network Settings

Respond to ping: Configures Intel[®] AMT to respond to an IP ping. If this is unchecked, then Intel[®] AMT system will not respond to ping.

TCP/IP settings for wired connection options

Obtain IP settings automatically: If this option is selected, Intel[®] AMT will get an IP address from a network DHCP server. This option requires that the client’s operating system is configured to use DHCP, and the network has both a DHCP server



to provide the IP address, and a DNS server that can resolve the IP address provided to the client Computer host name. This IP setting is only for the wired network.

Use the following IP settings: Selecting this option overrides DHCP usage. Intel® AMT will use the IP settings (IP address and Subnet mask) specified here. By default, these fields show the current settings (set using the Intel® ME BIOS Extension screen). This IP setting is only for the wired network.

Preferred and Alternate DNS addresses: Specify the address of the DNS server that will resolve the client system Computer host name.

§



10 Wireless Settings page

The wireless settings page allows you to modify and add new wireless profiles. The order of the profiles will determine which profile is used first. The Intel® AMT System will attempt to connect to the wireless profile that appears at the top of the list first.

Figure 18. Wireless Settings Page

Wireless Settings

Band mode capabilities A B G N
Radio state On

Wireless Management:

Disabled
 Enabled in S0
 Enabled in S0, Sx/AC

Submit

Profiles

Connect to wireless networks in the order listed below.

Profile name / Network name (SSID):

AMT / AmtWlanLinksys

Move Up
Move Down

New... Change... Remove

Wireless Information Setting



Band Mode Capabilities – Displays the type of wireless settings that are currently supported

Radio State – Displays the status of the wireless radio

Wireless Management – Displays the status of the wireless management capability

- **Disabled** – Disable wireless management. Note wired management may still be available
- **Enable in S0** – Enable wireless management while system is in S0 or powered ON state
- **Enable in S0, Sx/AC** – Enable wireless management while system is in S0 or in any Sx sleep state while connected to AC power

Profiles Section

Profile Name – The unique name given for each configured wireless network settings. The following error will be displayed for duplicate profile names. **Failed to submit changes: Profile name exists.**

- **Network name (SSID)** – The name of the network as it appears on the network.
- **Move Up button**– Move the selected profile up on the list of wireless profiles
- **Move Down button** – Move the selected profile down on the list of wireless profiles
- **New... button** – Create a new wireless profile.
- **Change... button** – Modify the parameters of the selected profile.
- **Remove button** – Remove the selected profile from the list of wireless profiles

10.1 Create a new wireless profile

To create a new Wireless profile, simply click the “New” button. This will bring the user to a new screen where information about the wireless network can be entered. A wireless profile can NOT be added when Intel® AMT is in Static mode. A wireless



network is not required to be present, but a wireless device must be properly configured before wireless profiles can be added.

Figure 19. New Wireless Profile

New Wireless Profile

Profile name:
AMT

Network name (SSID):
AMTWLANLinksys

Security Settings

Network authentication:
WPA-PSK

Encryption:
TKIP

Pass phrase:
●●●●●●

Confirm pass phrase:
●●●●●●

Submit Cancel

There are two parameters for the security settings authentication and encryption:

The following options are available for authentication:

WPA-PSK (Wi-Fi Protected Access Pre-Shared Key)

RSN-PSK (Robust Security Network Pre-Shared Key)

The following options are available for encryption:

- TKIP (Temporal Key Integrity Protocol)
- CCMP (Counter CBC-MAC Protocol)
- CBC-MAC (Cipher Block Chaining Message Authentication Code)



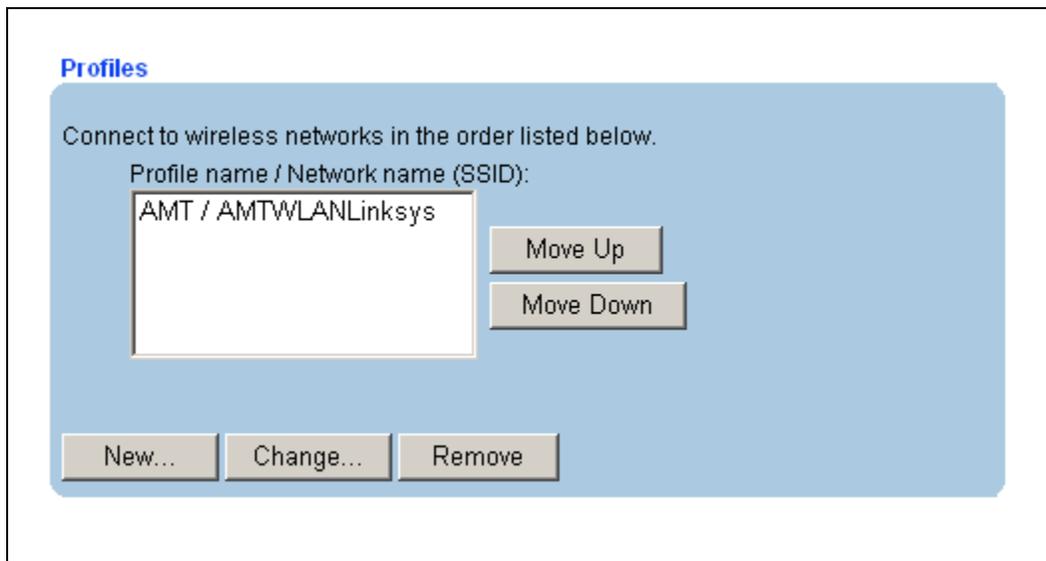
Please choose the correct settings for the wireless network. The following network settings are supported through the WEB UI.

1. WPA-PSK with TKIP
2. WPA-PSK with CCMP
3. RSN-PSK (also referred as WPA2-PSK) with TKIP
4. RSN-PSK (also referred as WPA2-PSK) with CCMP

Note: 802.1x authentication options are supported, but not available through the web UI. Please contact your ISV for 802.1x support options.

After filling in the appropriate fields, clicking on the "Submit" button will add the profile to the bottom of the list and a success message will be displayed.

Figure 20. Wireless Profile added



If incorrect values are entered, an error message will be displayed on the wireless settings page. The previous values will be lost and need to be re-entered.

Note: The number of wireless profiles is limited to 16. The following error will be displayed when trying to add more than 16 profiles. **Failed to submit changes: Profile list is full.**



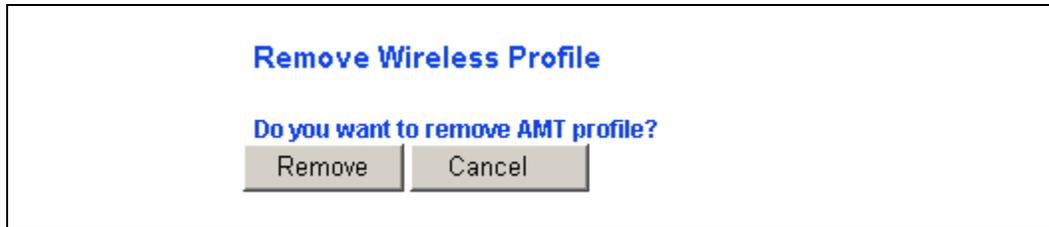
Figure 21. Wireless Profile Error

The screenshot shows the 'Wireless Settings' page with a red error message: 'Failed to submit changes: Profile list is full.' Below the error message, there are settings for 'Band mode capabilities' (A B G N), 'Radio state' (On), and 'Wireless Management' (radio buttons for Disabled, Enabled in S0, and Enabled in S0, Sx/AC). A 'Submit' button is present. Below this is the 'Profiles' section, which contains a list of profiles: 'AMT / AMTWLANLinksys', 'Lab / AMTLab', 'PAE / Scott', 'Office / Floor5', and 'B1 / B1Lab'. There are 'Move Up' and 'Move Down' buttons next to the list. At the bottom of the profiles section are 'New...', 'Change...', and 'Remove' buttons.

10.2 Delete a new wireless profile

To delete a wireless profile select the profile to remove and press the remove button. The Web User Interface will prompt the user to verify the profile to be removed before deleting the profile.

Figure 22. Remove Wireless Profile

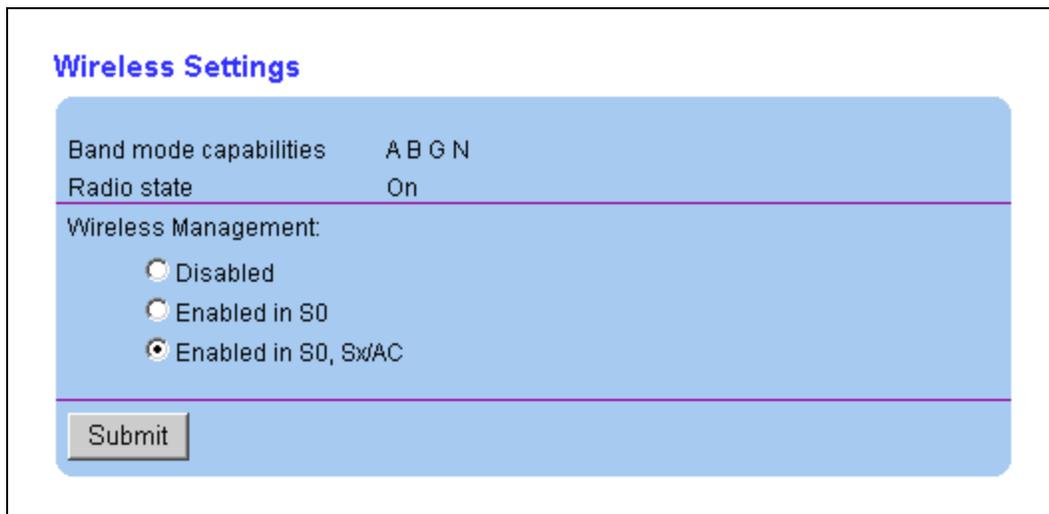


If the cancel button is pressed, the profile and all the values will remain unchanged.

10.3 Wireless Settings

The wireless management capabilities can be turned off through the WEB UI without losing the wireless profiles already entered. When wireless management is disabled, the system the management console will not be able to communicate with the Intel[®] AMT system through a wireless connection. However with wireless management disabled, it is still possible for an Intel[®] AMT system to be managed through a wired connection.

Figure 23. Wireless Management Settings



After the submit button is pressed the page will refresh wireless settings status will be updated.



11 IPv6 Network Settings

Starting with Intel® AMT 6.0, IPv6 network stack is supported. The IPv6 Network Settings page allows the configuration of the IPv6 Network settings for an Intel® AMT system (client system).

Figure 24: IPv6 Network Settings

After the submit button is pressed the page will refresh IPv6 Network settings and System Status will be updated.

Enable IPv6: Option to disable or enable IPv6. If this is unchecked, then Intel® AMT system will not configure IPv6 addresses on any of the network interfaces. The *System Status* page (Figure 4) will reflect *IPv6 address* as “Disabled”.

TCP/IPv6 alternate static configuration options



IPv6 address: Intel® AMT will support manual configuration of a static IPv6 address. This address is configured as an alternative address and may be used in parallel to auto-configured IPv6 addresses. This IP setting is only for the wired network.

Gateway address: Intel® AMT will use the Gateway setting specified here. This setting is only for the wired network.

Preferred and Alternate DNS addresses: Specify the address of the DNS server that will resolve the client system Computer host name. This setting is only for the wired network.



12 System Name Settings

The **System Name Settings** page allows viewing or modifying the Intel® AMT system name.

Figure 25: System Name Settings

System Name Settings

Configure the managed device FQDN settings for this computer.

Computer host name:

Domain name:

Shared FQDN

Use Dynamic DNS update client

Dynamic DNS Update Periodic Update interval:

Computer host name: This is the name that is used to browse to the client system, and is set in the Intel® ME BIOS extension screen.

Domain Name: The domain name of the network that this client will belong to (optional.)

Shared FQDN: Intel® AMT will share FQDN with the host name and domain name.

Shared FQDN Option	Description
Checked (Enabled)	The domain name is shared with the Host



Shared FQDN Option	Description
Unchecked (Disabled)	The domain name is dedicated to ME

Use Dynamic DNS update client: If the *Use Dynamic DNS update client* is enabled, then Intel® ME Dynamic DNS update client guarantees registration of the Intel® ME IP addresses in the DNS server in all system states.

If the *Use Dynamic DNS update client* is disabled, then Intel® AMT will only support updating DNS by using DHCP option 81 (as it has for Pre- Intel® AMT 6 versions). The domain name is shared with the Host.

Note: There is no support for secure DDNS update.

Use Dynamic DNS update client Option	Description
Checked (Enabled)	The Dynamic DNS Update Client in Intel® AMT is enabled.
Unchecked (Disabled)	The Dynamic DNS Update Client in Intel® AMT is disabled.

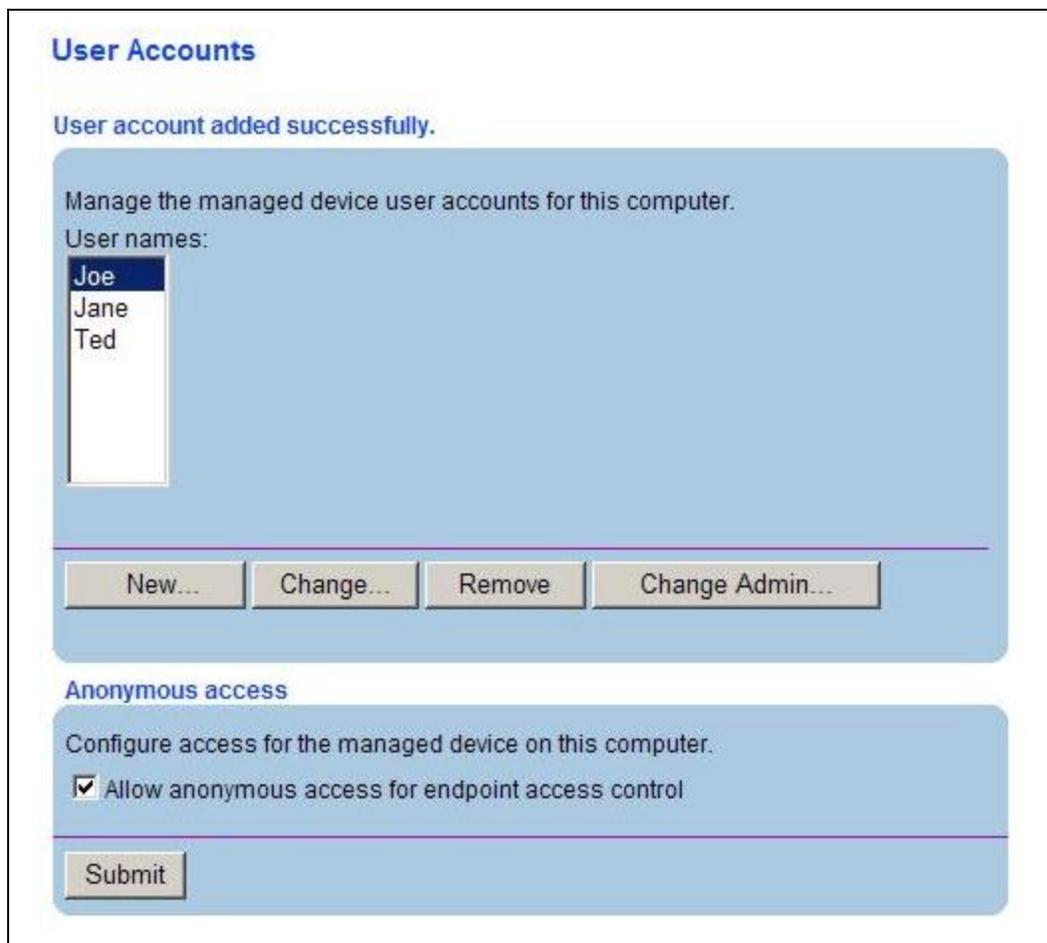


13 User Accounts page

The **User Accounts** page allows creating, modifying and deleting user accounts.

User accounts with limited access rights can be set up using this page. A particular user account can also be given limited access, and such a user will see a padlock icon on the links to the pages that the account cannot access.

Figure 26: User Accounts



User names: Lists the user accounts that have been created by the administrator.

New... button: Loads the New User Account page and allows the administrator to create a new account.

Change... button: Loads the Change User Account page, showing the settings for the selected account.

Remove button: Loads the Remove User Account page, which prompts to remove the selected account.

Change Admin... button: Loads the Change Administrator Account page. This page allows the Administrator's password to be changed.

Submit button: Submits changes for Anonymous access check boxes.

NOTE:

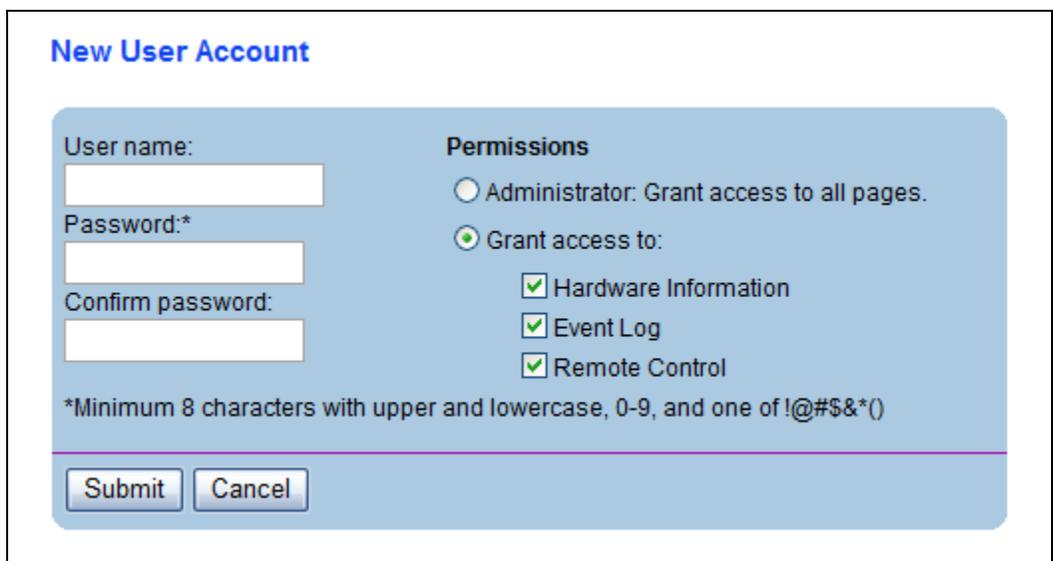
As this document addresses using the local network provisioning model, Kerberos* users will not be shown in the Web UI.

Web UI user settings override settings made by ISV software that might not be displayed in the Web UI.

13.1 New/Change User Account page

The **New/Change User Account** page allows the administrator to add a new account or change an existing account name or permissions.

Figure 27: New User Account



The screenshot shows a web form titled "New User Account". It contains two main sections: "User name:" and "Permissions".

User name: This section includes three input fields: "User name:", "Password:*", and "Confirm password:". The "Password:*" field has a small asterisk indicating a requirement.

Permissions: This section has a radio button for "Administrator: Grant access to all pages." and a radio button for "Grant access to:". Under "Grant access to:", there are three checked checkboxes: "Hardware Information", "Event Log", and "Remote Control".

At the bottom of the form, there is a note: "*Minimum 8 characters with upper and lowercase, 0-9, and one of !@#\$\$&*()". Below the note are two buttons: "Submit" and "Cancel".



The **Permissions** show the various pages a particular user account can access. A particular user account can be either given:

1. Administrator rights – By selecting **Administrator: Grant access to all pages**, where all pages are accessible.
2. Access to restricted pages – By selecting **Grant access to** and checking the boxes for which access is to be given.

NOTE:

The **User name** specified should not have any white space characters in between. If the **User name** contains white space characters, then the new user account will not be created and the following message will be displayed: **Failed to submit changes: Invalid name.**

If the password specified is not a strong password, then the new user account will not be created, and the following message will be displayed: **Failed to submit changes: Invalid password.**

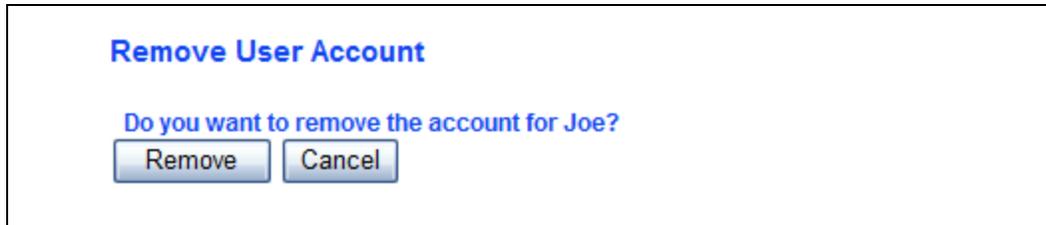
If the username list is full (11 user accounts created), and a new user account is created (12th user account), then the following error message is displayed: **Failed to submit changes: Account list is full.**

Other than the administrator, users may have access only to the Hardware Information page, Event Log page, and Remote Control page.

13.2 Remove User Account page

The **Remove User Account** page allows the administrator to remove an account, and the browser will show the following prompt before an account is removed.

Figure 28: Remove User Account



Remove User Account

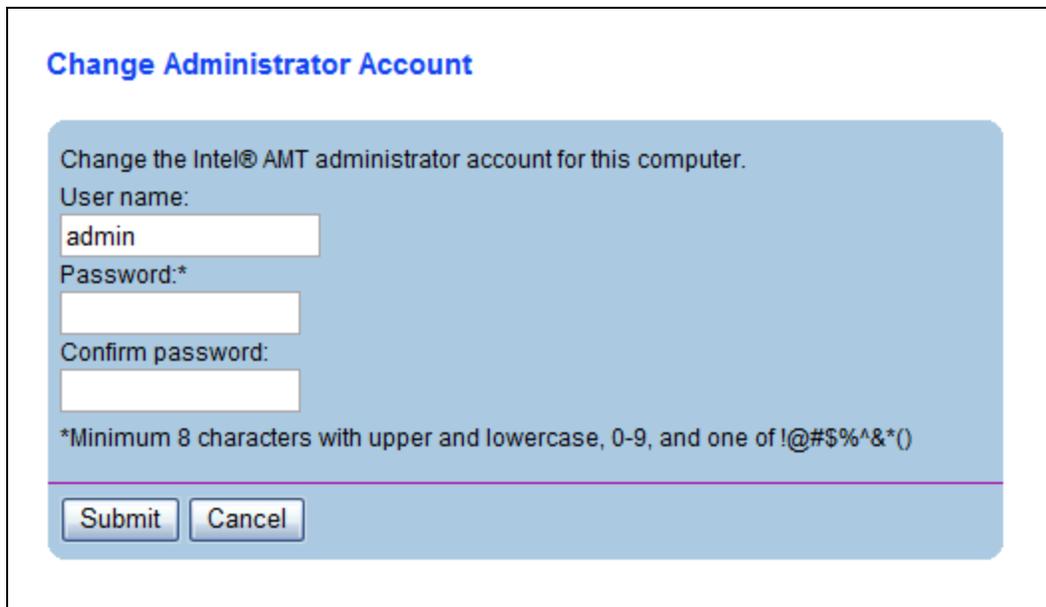
Do you want to remove the account for Joe?

Clicking on **Remove** removes the account and loads the **User Accounts** page with the User Account removed. Clicking on **Cancel** loads the **User Accounts** page without any changes.

13.3 Change Administrator Account page

The **Change Administrator Account** page (click on **Change Admin...** on the **User Accounts** page) allows the administrator to change the name and password for the administrator account.

Figure 29: Change Administrator Account



Change Administrator Account

Change the Intel® AMT administrator account for this computer.

User name:

Password:*

Confirm password:

Minimum 8 characters with upper and lowercase, 0-9, and one of !@#\\$%^&()

Clicking on **Submit** will change the administrator account and load the **User Account** page. Clicking on **Cancel** will load the **User Account** page without any changes.



13.4 Configure Endpoint Access Control Anonymous Access

Allow anonymous access for endpoint access control – This option allows user notification service to get posture without providing a username and password. If the box is not checked a username and password must be supplied to get posture.

Figure 30: Anonymous Access

Anonymous access

Configure access for the managed device on this computer.

Allow anonymous access for endpoint access control

Submit

§



14 Troubleshooting

I can ping the client system, but cannot connect using a web browser

Make sure to use a valid user name and password.

Make sure to connect to the correct http interface (http, not https) and the correct port (16992).

If the Intel® AMT system is configured to use static IP settings, make sure the Intel® AMT IP address is different from the client OS IP address and also different from the management console's IP address.

After the client OS loads, I cannot connect to the client system

If the correct LAN driver has been installed and the client system has been configured to DHCP mode, try to manually renew the DHCP lease directly from the client system.

The client system is not reachable over the network

If the client system OS is functional, make sure that the DHCP/Static IP settings of Intel® AMT and the OS driver are compatible. For example, if the host OS is configured to static IP mode and the Intel® AMT device is configured to DHCP mode, then the Intel® AMT device will not be accessible over the network.

If the client system OS is functional, try accessing the Intel® AMT WebUI locally. Local host connectivity to the Intel® AMT WebUI is a new capability starting with Intel® AMT version 6.1.

Access on the local host system:

`http://localhost:16992`

Local host connectivity to the Intel® AMT WebUI does not work



Make sure MEI driver and LMS are installed and operated correctly on the Operating System of the local system.

Login fails after a successful login

If the link is followed by a padlock icon, the user account being used does not have rights to access this page. Log in using an account with sufficient rights.

Note: if "IPSyncEnabled" is set to true in AMT_EthernetPortSettings via WSMAN commands, it is possible for Intel® AMT and host sharing the same static IP. Also in this mode the static settings in Network Settings of WebUI are not available as shown below.

Network Settings

Configure the managed device network settings for this computer.

Respond to ping

TCP/IP: Intel (R) Active Management Technology is configured to automatically synchronize its IP settings with the Host IP settings. Therefore, manual setup is not allowed.

Please disable IP synchronization using your configuration software to allow manual setup.

Submit

§