



# **Intel® Active Management Technology**

## **Small Business Administrator's Guide**

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## 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 system state. Even in situations where a system would ordinarily be inaccessible (such as a crashed hard drive or locked operating system), Intel AMT can access a client system to allow performance of basic management tasks.

Intel AMT is designed with a complete set of provisioning and management functions to meet the deployment needs of administrators in both Enterprise and Small Business environments. All provisioning operations are conducted using a combination of the BIOS-based Intel AMT Configuration Screen and the Intel AMT firmware, communicating over the network interface.

This guide explains how to configure client systems and access the Intel AMT web pages from any other system on the network, using the Intel AMT *Small Business* model. Features supported by the advanced *Enterprise* model are available with software provided by vendors who support Intel AMT. For more information about these advanced features, see <http://www.intel.com/technology/manage/iamt/>.

Readers should have a basic understanding of networking and computer technology terms, such as TCP/IP, DHCP, VLAN, IDE, DNS, Subnet Mask, Default Gateway and Domain Name. Explanation of these terms is beyond the scope of this document.

## Basic Functions

You can use a web browser to perform basic management tasks. The web server built into each Intel AMT system enables you to:

- View the system status
- View the hardware installed in the system
- View, start/stop, and clean the Intel AMT event log
- Remotely power the computer on or off (when enabled in the client system BIOS)
- View and manage Intel AMT network parameters
- View and manage Intel AMT user accounts

## System Requirements

### Client System

The client system is the system that you will access using Intel AMT. This system must be equipped with an Intel® PRO Network Connection which incorporates Intel AMT technology.

### Console System

The console system is the system from which you can access the client system using Intel AMT. For Small Business provisioning, the Console System may be any system on the network with one of the following web browsers installed:

- Microsoft\* Internet Explorer 6 SP1 or newer
- Netscape\* Navigator 7.1 or newer
- Mozilla\* Firefox\* 1.0 or newer
- Mozilla Mozilla 1.7 or newer

## Configuring the Client System

Before configuring the client system, you must have access to the following (the instructions below are for Microsoft Windows\* -- for other operating systems, consult your system manual):

- **Computer name.** Right-click *My Computer*, then click *Properties*, then click the *Computer Name* tab.
- **TCP/IP settings.** Open the *Control Panel*, then open *Network Connections*, then right click the network connection and click *Properties*. Then click *TCP/IP* and click *Properties*.
- **VLAN settings.** If you are using VLAN capabilities, you will need the VLAN ID.

## Intel® AMT BIOS Extension Settings

1. The first step in configuring a client system requires access to the Intel AMT BIOS Extension Menu. Displaying this menu is system dependent (for example, by pressing “Ctrl-P” during the startup process). Consult your client system user’s guide for specific details.

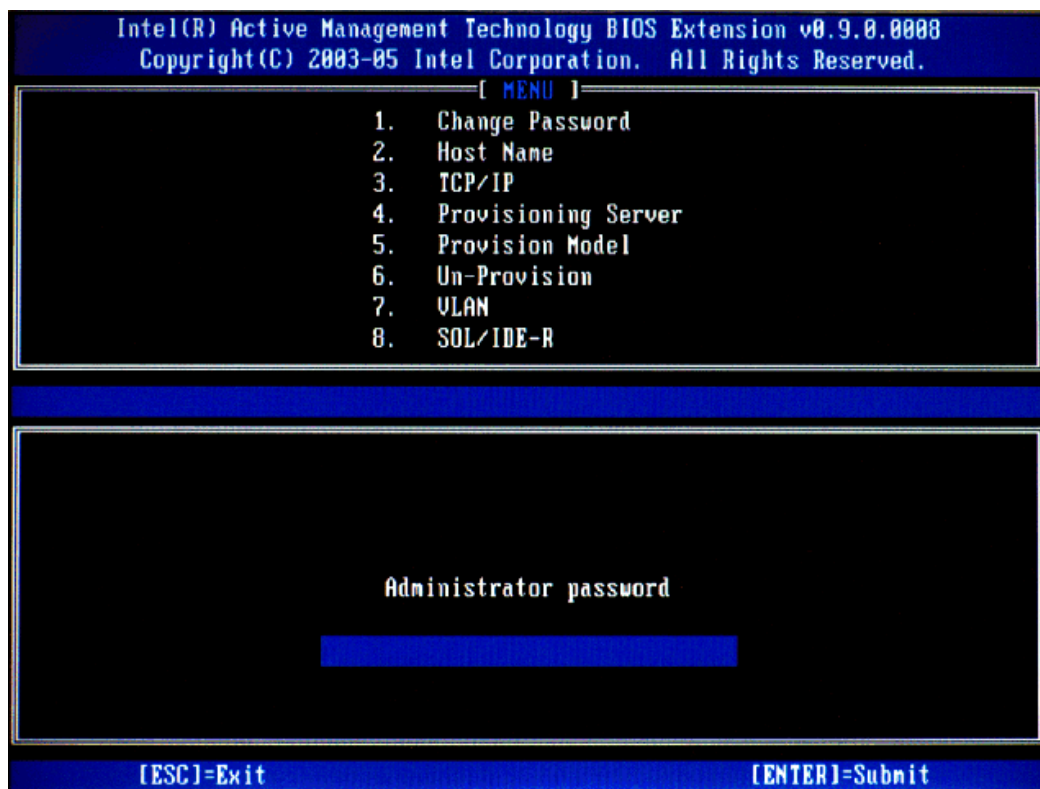


Figure 1. Intel AMT BIOS Extension Menu



**Note:** BIOS options #4 (Provisioning Server), #6 (Un-provision) and #8 (SOL/IDE-R) are only used when provisioning Intel AMT in an *Enterprise* environment. Do not adjust these options unless instructed to do so by your *Enterprise* mode software vendor or OEM.

2. Enter “admin” for the Administrator password (the password is case sensitive).
3. Select Change Password from the Menu and change the Administrator password.

As a security precaution, the client system will not be accessible over the network until you change the default password.



**Note:** You must use a strong password. Strong passwords are between 8 and 32 characters long, have at least one upper case character, one lower case character, one number, and a special character (for example: !, @, #, \$, %, ^, &, \*). Also, you should use a unique password for each provisioned Intel AMT system, to prevent someone from possibly obtaining a master password and compromising the security of the entire network.

4. Select Host Name from the menu and type in a name for the system. If you want Intel AMT to use DHCP to configure the client, use the same name as the client system's Operating System (OS) computer name. If you want the client to use a static IP address, then you must choose a name different from the name selected for the OS.
5. Select TCP/IP from the menu, and enable or disable DHCP. By default, DHCP is enabled. If you disable DHCP, then you must enter the following TCP/IP settings:
  - IP address: an IP address unique for your network (this address must be different from the IP address configured under the client OS).
  - Subnet mask
  - Default Gateway address (optional)
  - Preferred DNS address (optional)
  - Alternate DNS address (optional)
  - Domain name (optional)
6. Select Provisioning Model from the menu and select Small Business (*Enterprise* provisioning is selected by default).
7. Select VLAN from the menu and enable or disable VLAN support as necessary. This setting must match the OS adapter configuration. In Windows, the settings are found on the VLAN tab in the *Adapter Properties*.
8. Exit the BIOS Extension and allow the operating system to load.

## Using the Web Browser Interface

### Logging in from the Console System

You can access a Client System from any other system on the network that has a supported web browser (see the System Requirements section, above).

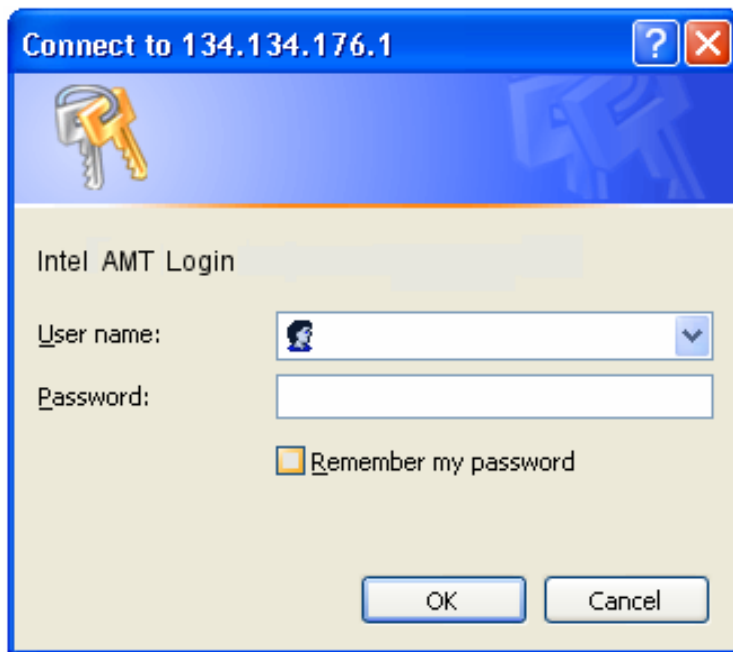
1. Using the console system, open a web browser and in the Address box, enter one of the following:

- If your network can resolve the client computer name to an IP address, then:

`http://host_name:16992` (example: `http://client1:16992`)

- If you have set a static IP address for the client system, then:

`http://ip_address:16992` (example: `http://134.134.176.1:16992`)



**Figure 2. Login Dialog**

2. Log in by entering “admin” (case sensitive) in the *User name* box, and use the same Password that you previously setup in the Intel AMT BIOS Extension.

## Using the Intel AMT Web pages

You can click the links on the left to access the pages available.

[Event Settings](#)  
[Remote Boot](#)  
[Network Settings](#)   
[User Accounts](#)

If you use an account with limited user rights, the browser displays a padlock for links you cannot access. If you attempt to access a page without sufficient access permissions, the browser will display a login dialog. To update the display of the padlock icons, click the browser's *Refresh* button.

## System Status Page

The System Status page displays the power state, IP address, and other basic system information (the client system computer name appears in the top banner section of the web page).

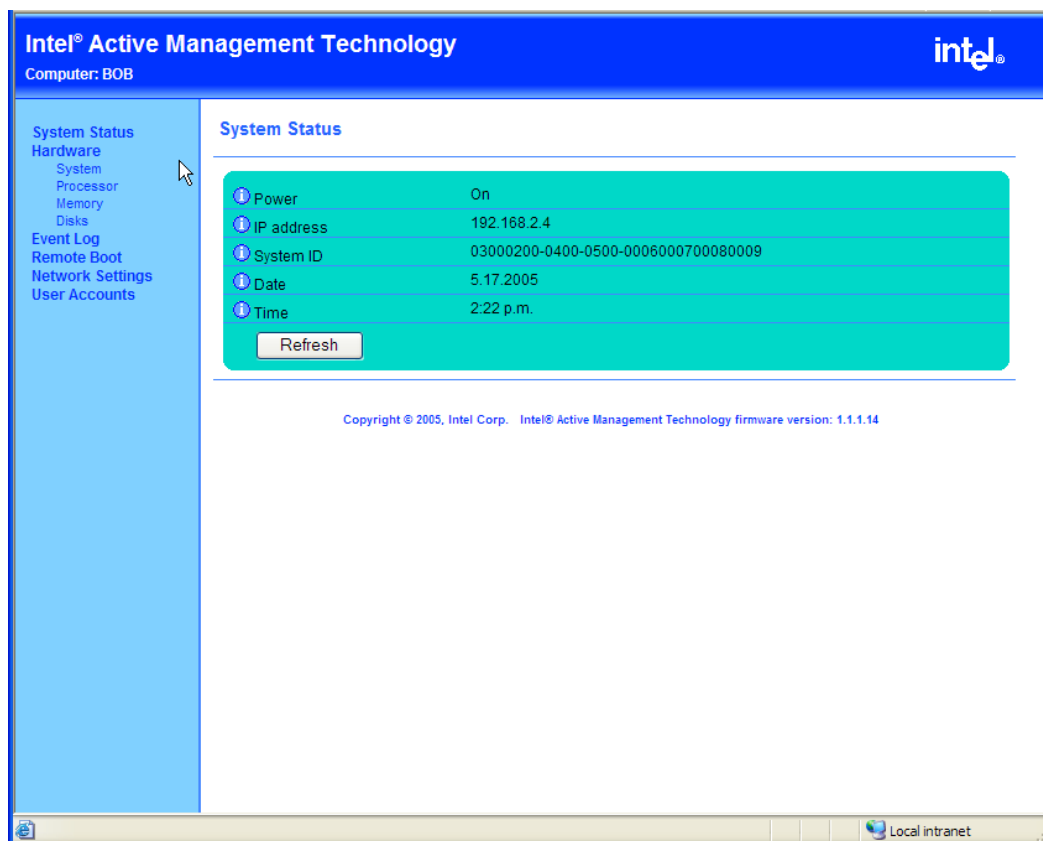


Figure 3. System Status Screen

## Hardware Pages

The Hardware pages display information about hardware installed in the client system. Intel AMT gets this information from the client system BIOS. Any hardware changes made to a client are displayed after a client system reboot.

**Intel® Active Management Technology** intel®

Computer: BOB

**System Status**

Hardware

- System
- Processor
- Memory
- Disks

**Event Log**

Remote Boot

Network Settings

User Accounts

**System Information**

Computer model	123
Manufacturer	ABC
Version	A0
Serial number	12345678
System ID	03000200-0400-0500-0006000700080009

**Baseboard**

Manufacturer	ABC
Product name	456
Version	1.0
Serial number	123456789
Asset tag	N/A
Replaceable?	Yes

**BIOS**

Vendor	ABC BIOS
Version	1.1
Release date	01/19/2005
Supported functions	ISA, PCI, PnP, Upgradeable, Shadowing is allowed, ESCD, Boot from CD, Selectable boot, ROM socketed, EDD spec, 5.25"/360KB floppy services, 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, CGA/Mono video services

http://nql.intel.com/FS1/IE/PublicRead/AMT/WebProto/hw-sys.htm Local intranet

Figure 4. Hardware Information

## Event Log Page

The Event Log page displays the Intel AMT Event Log. You can use the buttons at the bottom of the page to stop and start the Event Log and clear all the events from the log.

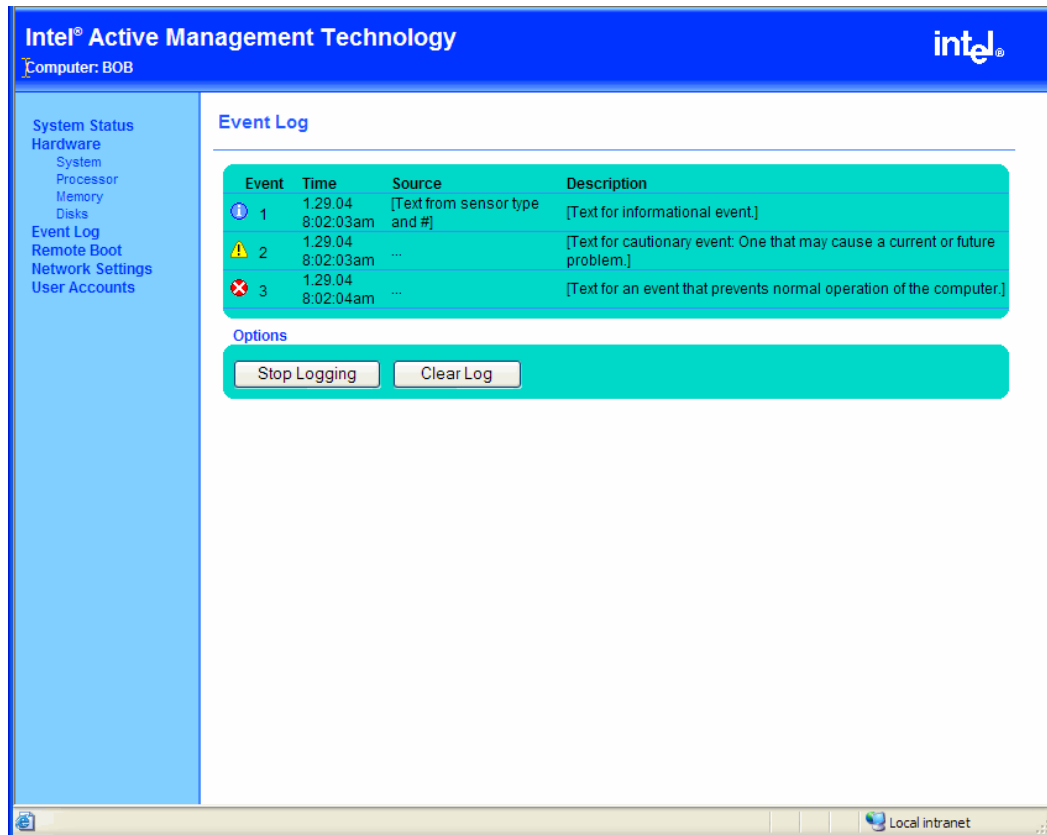


Figure 5. Event Log

## Remote Boot Page

The Remote Boot page allows you to power cycle, reset, and turn a client system on or off. You can specify a boot device, such as a floppy, CD-ROM or hard drive.



**Note:** The available boot options depend on the client system capabilities.



**CAUTION:** These commands may cause data loss. They go directly to the system hardware and do not cause the operating system to shutdown gracefully.

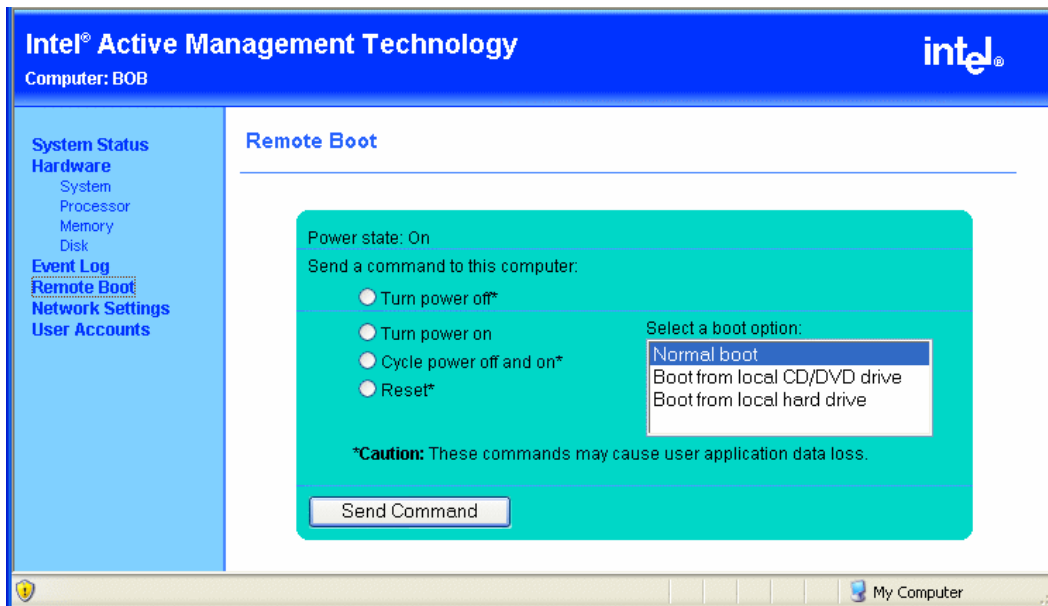
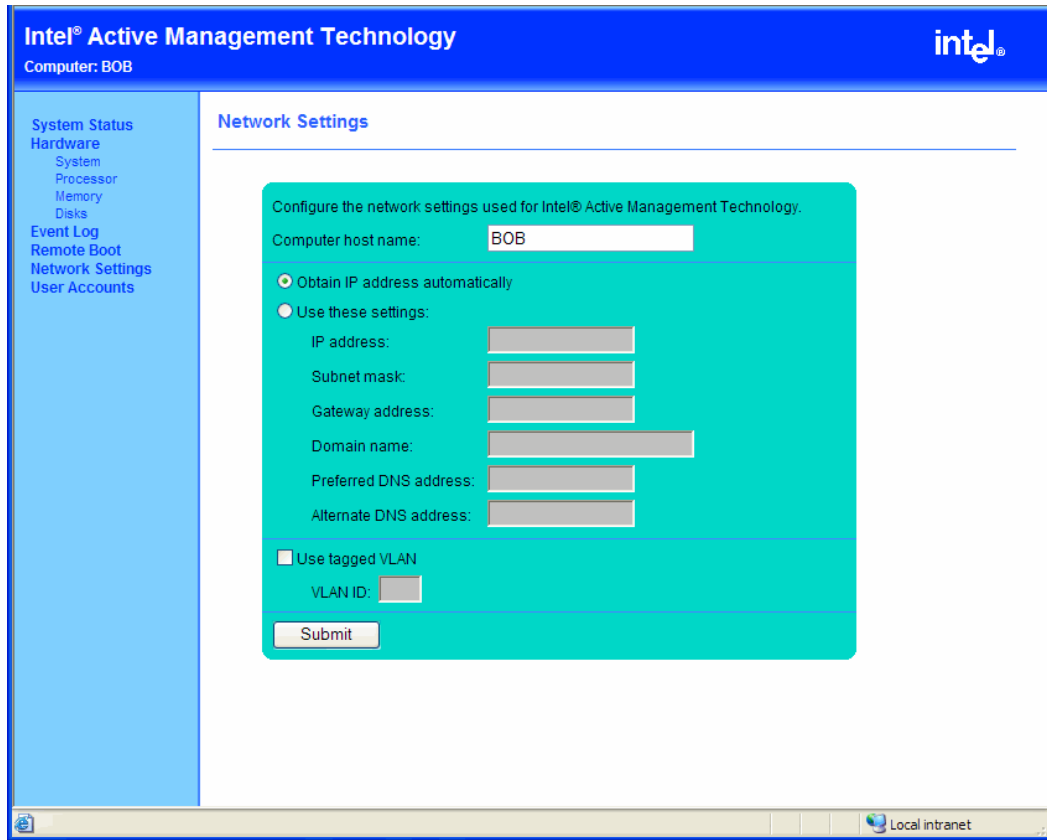


Figure 6. Remote Boot

## Network Settings Page

The Network Settings page allows you to change the client Intel AMT network settings.



**Figure 7. Network Settings**

**Computer host name.** This is the name that is used to browse to the client system. If DHCP mode is selected, this name must be the same as the name set in the operating system. If a static IP address is selected, the Computer host name must be different from the name set in the operating system.

**Obtain IP address automatically.** If this option is selected, Intel AMT will get an IP address from a network DHCP server. This option requires that the client system 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.

**Use these settings.** Selecting this option overrides DHCP usage. Intel AMT will use the IP settings you specify here.

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

**Respond to ping.** Configures Intel AMT to respond to an IP ping. In static IP mode, Intel AMT always responds to a ping. In DHCP mode, Intel AMT will only respond to a ping when the operating system is down.

**Use tagged VLAN.** You can use this option to confine network traffic to a VLAN. The VLAN ID range is 1 to 4094.



**Note:** VLAN ID 1 is frequently reserved by the network switch manufacturer.

## User Accounts Page

The User Accounts page permits you to change the Admin password used to access the Intel AMT Web pages on the client system.

You can also set up user accounts with limited access rights. If you limit access to a user account, that user will see a padlock icon on the links to the pages that the account cannot access.

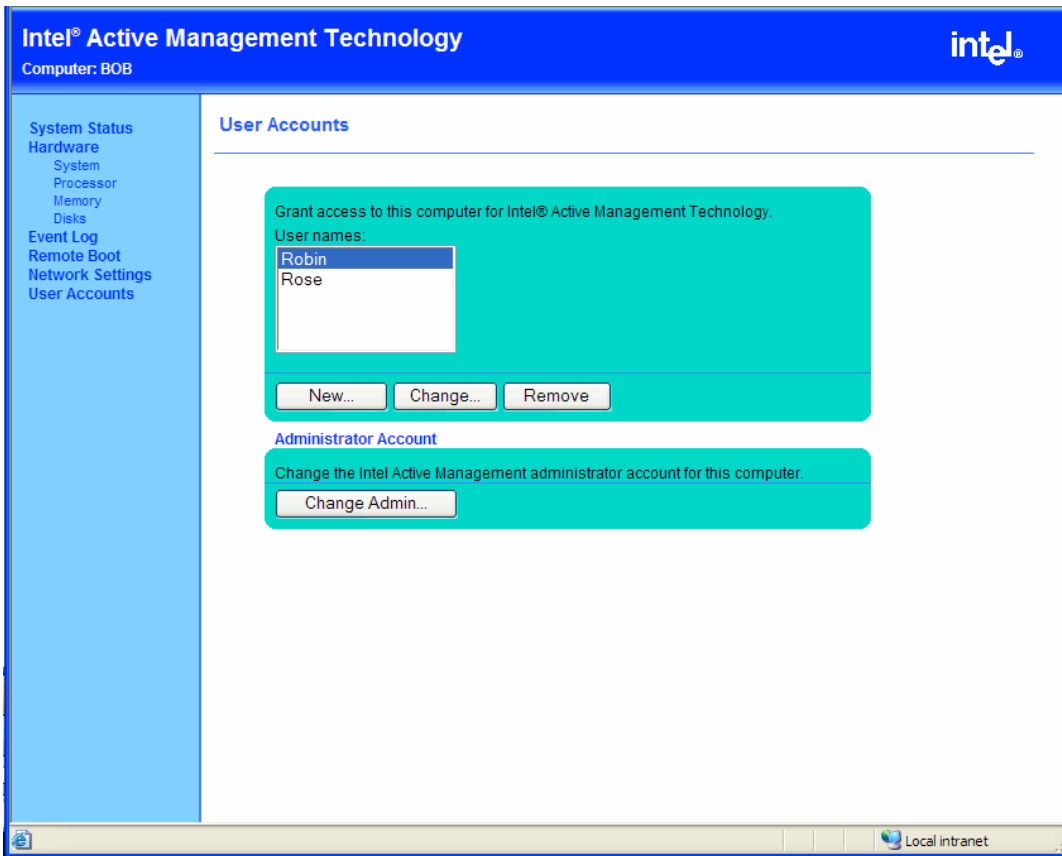


Figure 8. User Accounts

## Troubleshooting

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

- Make sure you changed the client system's default Administrator password in the Intel AMT BIOS.
- Make sure you are using a valid user name and password.
- Make sure that you are connecting to the correct http interface (http, not https) and the correct port (16992).

### **After the client OS loads, I can't connect to the client system**

If you have installed the correct base driver and are working in 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 driver is configured to DHCP and Intel AMT is configured to use a static IP, then the Intel AMT device will not be visible on the network.

### **Login fails after a successful login**

If the link is followed by a padlock icon, the user account you are using does not have rights to access this page. You must log in using an account with sufficient rights.