



# Intel<sup>®</sup> Active Management Technology Basics

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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, regardless of system state. Even with a crashed hard drive or locked operating system, you can still access the client system to perform basic management tasks.

This guide contains basic system configuration instructions and information on using a web browser to access a client system. The advanced features of Intel AMT are available in software from vendors that support this new management technology. These advanced features are outside the scope of this guide. Please see <http://www.intel.com/technology/manage/iamt/> for more information and a list of software vendors.

## Basic Functions

You can use a web browser to perform basic management tasks. The web server on 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 must be a computer with an Intel® PRO Network Connection that includes Intel AMT. The operating system loaded on the client system does not matter.

### Console System

The console system (i.e., the system you will use to access the client system) must have 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 you configure the client system, have the following available so you can configure Intel AMT properly:

- Computer name  
In Microsoft Windows\*, right-click My Computer, click Properties, and click the Computer Name tab.
- TCP/IP settings  
In Windows, open the Control Panel, open Network Connections, and right click the connection and click Properties. Click TCP/IP and click Properties.
- VLAN settings  
If you have a VLAN set up, you will need the VLAN ID.

### Intel® AMT BIOS Extension Settings

1. Power on the computer and press CTRL-P when prompted. This displays the Intel AMT BIOS Extension Menu.

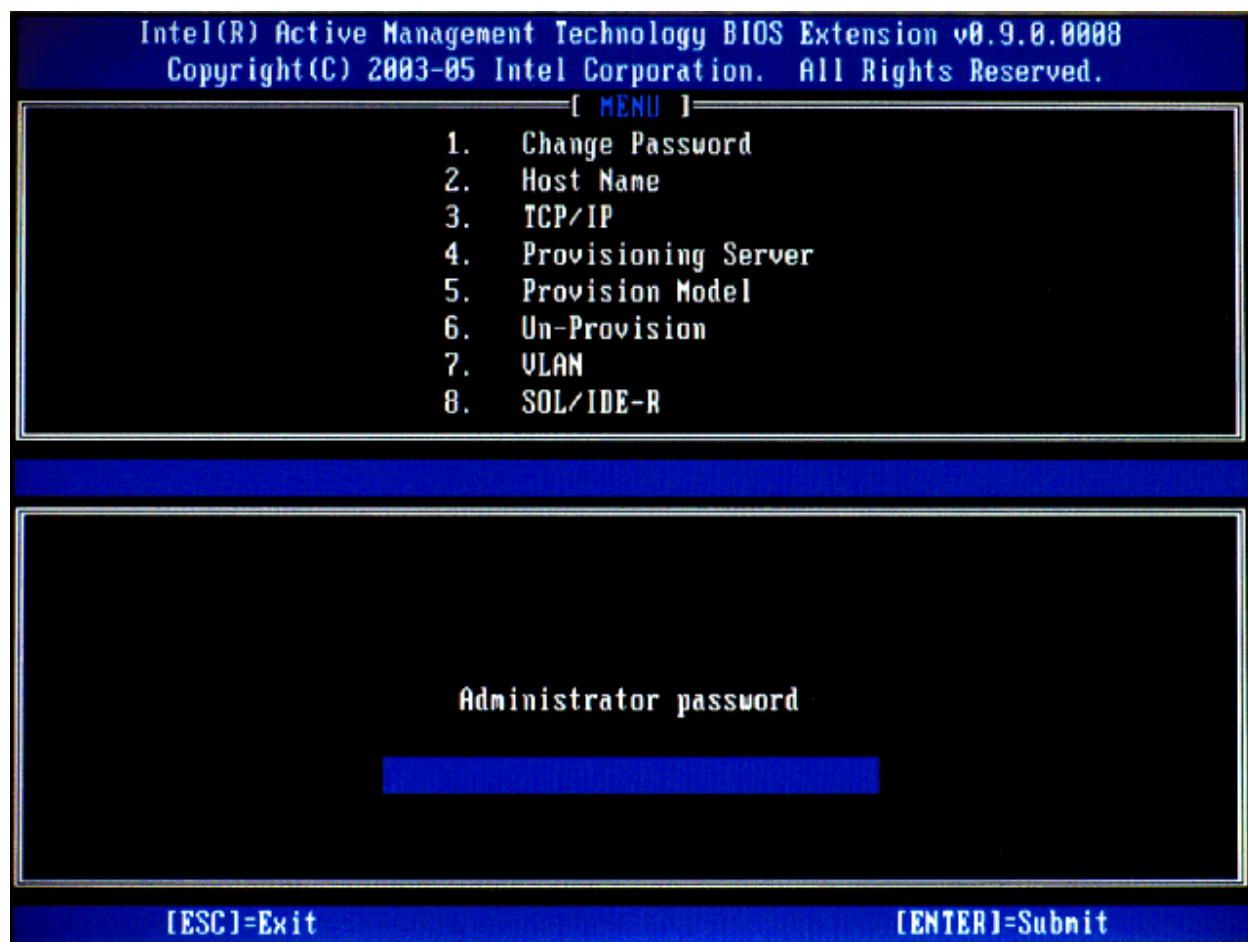



Figure 1. Intel AMT BIOS Extension Menu

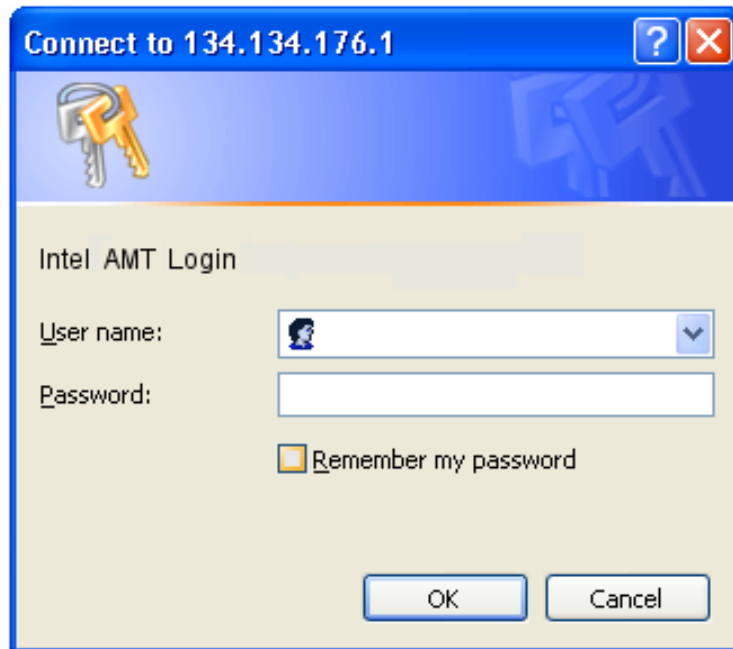
2. Enter “admin” for the Administrator password.

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: !, @, #, \$, %, ^, &, \*).
4. Select Host Name from the menu and type a name for the system. If you want the Intel AMT to use DHCP, use the same name as the one set for the client system's OS computer name. If you want the Intel AMT to use a static IP address, use a name different from the one set for the OS.
5. Select TCP/IP from the menu, and enable or disable DHCP. By default, DHCP is enabled. If you disable DHCP, enter the following TCP/IP settings:
  - IP address: an IP address unique for your network (must be different from the IP address configured for the 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. By default, Enterprise provisioning is selected.
7. Select VLAN from the menu and enable or disable VLANs. This setting must match how the OS is configured.
8. Exit the BIOS Extension and let the operating system load.

## Using the Web Browser Interface

### Logging In From a Remote Console

1. On the remote console, open a web browser and enter the client computer name or IP address, and the port number.
  - Use the following if your network can resolve the client computer name to an IP address:  
`http://host_name:16992`  
Example: `http://TestSystem:16992`
  - You can use the following if you have set a static IP address for the client system:  
`http://ip_address:16992`  
Example: `http://134.134.176.1:16992`





**Figure 2. Login Dialog**

2. Log in using “Admin” for the User name and the password you set in the Intel AMT BIOS Extension.

The Web browser shows the current status of the computer. The computer host name is shown in the top banner.

## 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 rights and attempt to access a page without sufficient user rights, the browser will display a login dialog. If you log in with another account that has sufficient rights, the browser will display the page. To update the display of the padlock icons, click the browser's Refresh button.

## System Status Page

This page displays the power state, IP address, and other basic system information.

Intel® Active Management Technology

Computer: BOB

intel®

System Status

Power	On
IP address	192.168.2.4
System ID	03000200-0400-0500-0006000700080009
Date	5.17.2005
Time	2:22 p.m.

Refresh

Copyright © 2005, Intel Corp. Intel® Active Management Technology firmware version: 1.1.1.14

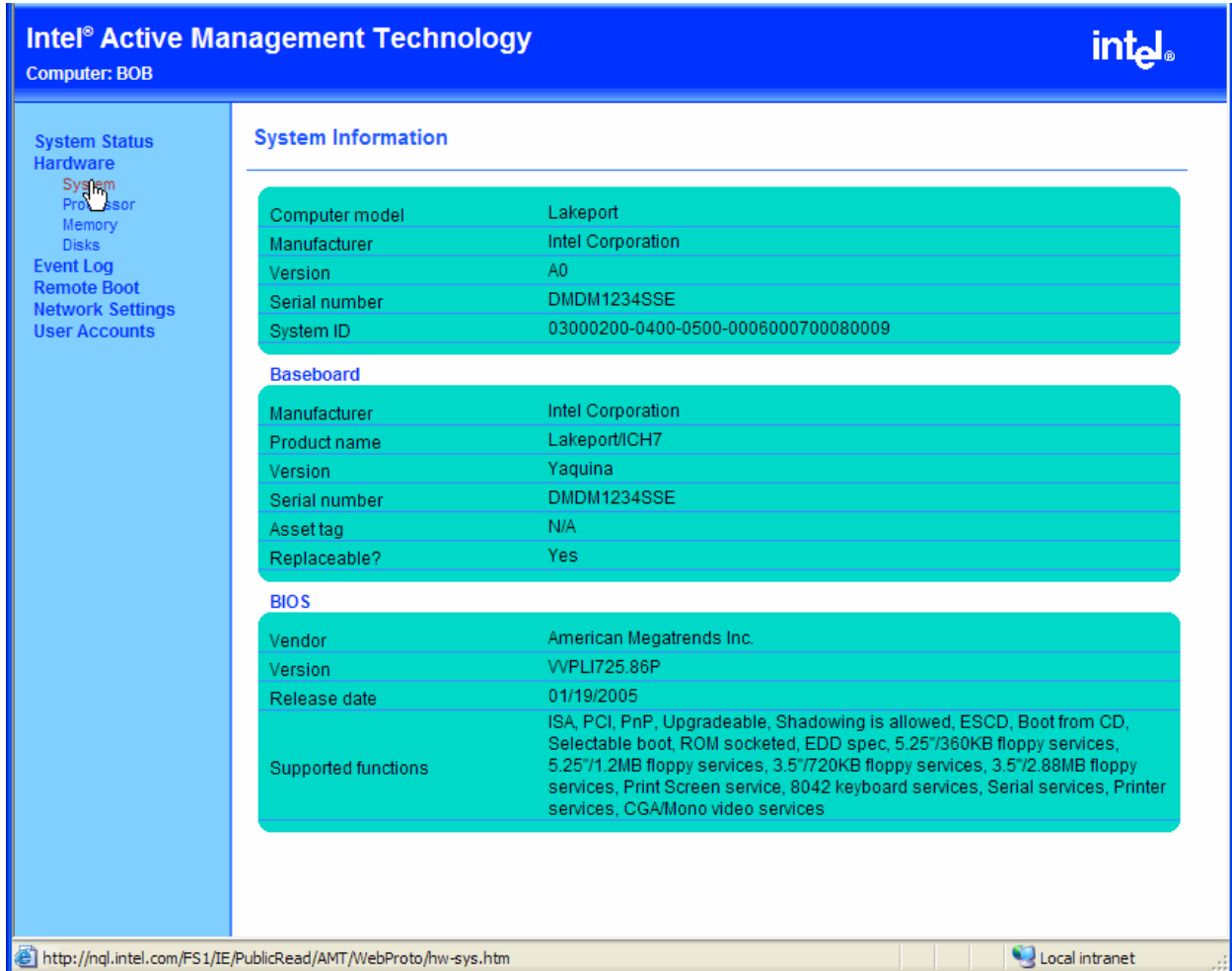
Local intranet

Figure 3. System Status Screen



## Hardware Pages

These pages display information about the hardware installed in the computer. Intel AMT gets this information from the client system's BIOS. Hardware changes will not be shown until after the client system is rebooted.



The screenshot displays the Intel Active Management Technology (AMT) web interface. The top header is blue with the Intel logo and the text "Computer: BOB". A left-hand navigation menu lists various system components. The main content area, titled "System Information", is divided into three sections: "System Information", "Baseboard", and "BIOS". Each section contains a table of hardware details.

System Information	
Computer model	Lakeport
Manufacturer	Intel Corporation
Version	A0
Serial number	DMDM1234SSE
System ID	03000200-0400-0500-0006000700080009

Baseboard	
Manufacturer	Intel Corporation
Product name	Lakeport/ICH7
Version	Yaquina
Serial number	DMDM1234SSE
Asset tag	N/A
Replaceable?	Yes

BIOS	
Vendor	American Megatrends Inc.
Version	VVPLI725.86P
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

The browser's address bar shows the URL: <http://nql.intel.com/FS1/IE/PublicRead/AMT/WebProto/hw-sys.htm>. The status bar indicates "Local intranet".

Figure 4. Hardware Information

## Event Log Page

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

The screenshot displays the Intel Active Management Technology (AMT) Event Log interface. The top header is blue with the Intel logo and the text 'Computer: BOB'. A left sidebar contains navigation links: System Status, Hardware (System, Processor, Memory, Disks), Event Log (selected), Remote Boot, Network Settings, and User Accounts. The main content area is titled 'Event Log' and contains a table with the following data:

Event	Time	Source	Description
1	1.29.04 8:02:03am	[Text from sensor type and #]	[Text for informational event.]
2	1.29.04 8:02:03am	...	[Text for cautionary event: One that may cause a current or future problem.]
3	1.29.04 8:02:04am	...	[Text for an event that prevents normal operation of the computer.]

Below the table, there is an 'Options' section with two buttons: 'Stop Logging' and 'Clear Log'. The bottom status bar shows 'Local intranet'.

Figure 5. Event Log

## Remote Boot Page

The Remote Boot page allows you to power cycle the client system, reset it, and turn it on and off. You can specify options for how the computer boots, for example forcing it to boot from the CD-ROM drive.



**Note:** The options available on this page depend on the abilities of the client system.



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

Intel® Active Management Technology

Computer: BOB

System Status  
Hardware  
System  
Processor  
Memory  
Disks  
Event Log  
Remote Boot  
Network Settings  
User Accounts

Remote Boot

Power state: On

Send a command to this computer:

- Turn power off\*
- Turn power on
- Cycle power off and on\*
- Reset\*

Select a boot option:

- Normal boot
- Boot from local CD/DVD drive
- Boot from local hard drive

\*Caution: These commands may cause data loss.

Send Command

Local intranet

Figure 6. Remote Boot

## Network Settings Page

You can use the Network Settings page to change the network settings made in the client system's BIOS.

Intel® Active Management Technology  
Computer: BOB

System Status  
Hardware  
System  
Processor  
Memory  
Disks  
Event Log  
Remote Boot  
Network Settings  
User Accounts

Network Settings

Configure the network settings used for Intel® Active Management Technology.

Computer host name: BOB

Obtain IP address automatically  
 Use these settings:

IP address:   
Subnet mask:   
Gateway address:   
Domain name:   
Preferred DNS address:   
Alternate DNS address:

Use tagged VLAN  
VLAN ID:

Submit

Local intranet

**Figure 7. Network Settings**

**Computer host name:** The name you can use to browse to this computer. In DHCP mode, use the same name as the one set in the operating system. In static IP mode, use a name different from the one set in the operating system.

After you change the host name, click the Refresh button in your browser to update the name in the banner at the top of the page

**Obtain IP address automatically:** Intel AMT will obtain an IP address from a DHCP server. If you select this option, make sure the OS is set up for DHCP and that your network has a DNS server that can resolve the name.

**Use these settings:** Intel AMT will use the IP settings you specify.

**Preferred and Alternate DNS addresses:** Specify the address of the DNS server that will resolve the 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 1-4094. VLAN ID 1 is often reserved. Check your switch documentation for details.

## User Accounts Page

You can 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.

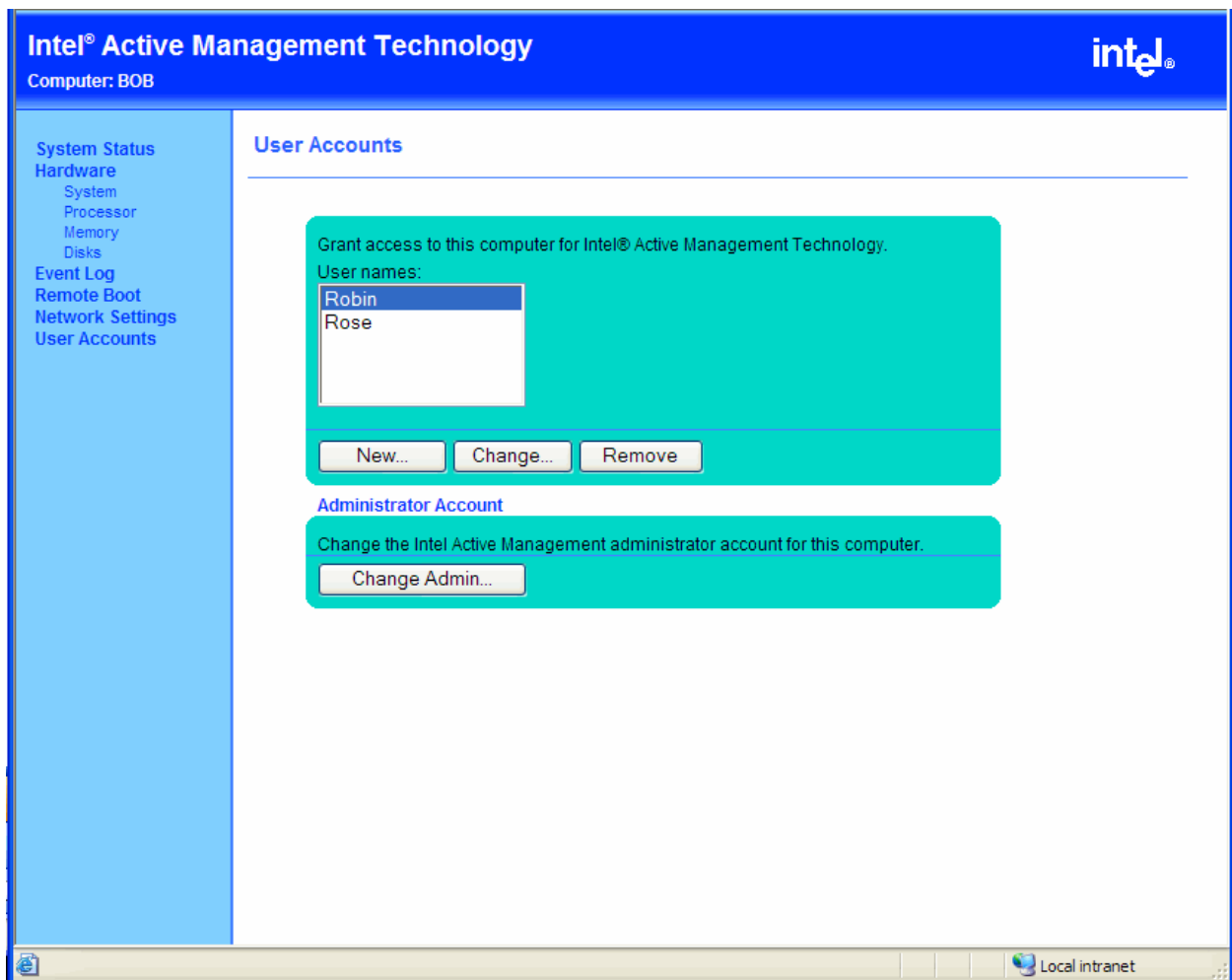


Figure 8. User Accounts

# 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 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.

## **The client system is not reachable over the network**

If the OS is up, 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 to use a static IP, then the Intel AMT device is in effect isolated from 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.