



Intel® Active Management Technology Small Business Configuration User Guide

Version 3.0.3, May 2007

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1 Preface

This document is a user manual for setting up and configuring Intel® Active Management Technology (Intel® AMT) platforms in Small Business operations mode. Small Business operations mode is targeted for use by the IT administrators of small to medium-sized businesses.

Configuration in the past was referred to as provisioning. There are still software development kit (SDK) functions and structures and Intel AMT BIOS extension menu items that use this terminology.

2 Introduction

2.1 What is Intel AMT Setup and Configuration?

Setup and Configuration is the process that populates an Intel AMT-managed platform with the usernames, passwords, and network parameters that enable the platform to be administered remotely.

2.2 Modes of operation

The Intel AMT device has two modes of operations: Enterprise Mode and Small Business (SMB) Mode. An Intel AMT platform in Enterprise Mode is capable of using secure communications via Transport Layer Security (TLS) communication protocols. An Intel AMT platform operating in SMB Mode is not capable of using TLS.

An Original Equipment Manufacturer (OEM) determines the initial Factory Mode setting of either Enterprise or Small Business. This value can be changed during the Setup and Configuration flow process.

3 Small Business Setup and Configuration Flow

The Small Business mode is designed to allow smaller businesses to access the features of an enabled Intel AMT device without depending on a third-party or Independent Software Vendor (ISV)-supplied management console (MC) application. In its most basic form, this mode uses no network infrastructure services. All that is required to configure and deploy an Intel AMT platform in this mode is BIOS support for Intel AMT in the form of the BIOS Extensions Intel AMT configuration screen.

You can change the operating mode from Enterprise to Small Business through the Intel AMT BIOS Extensions configuration screen.

When a new Intel AMT platform arrives, remove the platform from its box; connect the keyboard, video, and mouse cables. The power cord is then connected and the platform is powered up. During power up, the Intel AMT machine will first display the BIOS startup screen, and then the BIOS Extensions will be processed. Entry into the Intel AMT BIOS Extension is BIOS vendor dependent.

Intel AMT reference platforms display a screen prompting you to press <Ctrl+P>. When you press <Ctrl+P> control passes to the Intel® Management Engine BIOS extension (MEBx) Main Menu.

Perform the following steps:

1. Enter the MEBx default password ("admin")
2. Change the default password to a new value (this step is required in order to proceed.) The new value must be a "strong" password: It should contain at least one upper case letter, one lower case letter, one digit and one special character, and be at least eight characters. A

management console application can change the Intel AMT password without modifying the MEBx password.

3. Select ME Platform Configuration
4. A warning message is displayed saying that a reset will occur after configuration is complete. Enter “Y”.
5. Select ME Platform State Control and set the state to “enabled”.
6. Select ME Features Control, and then select Manageability Feature Selection.
7. Select Intel(R) AMT, and return to previous menu.
8. Select the ME Power Control menu
9. (Intel AMT Release 2.0/2.1/2.2) Select the following power control settings
 - a. Intel(R) ME State upon Initial Power-On = ON
 - b. Intel(R) ME ON in Host Sleep States = Always
 - c. Intel(R) ME Visual LED Indicator = ON
10. (Intel AMT Release 2.5)
Select from one of the following choices (OEMs can select which options will be available in this list):

Mobile: On in S0	(The Intel ME and Intel AMT are on only when the host is on—this is the default setting.)
Mobile: On in S0, S3/AC	(The Intel ME and Intel AMT are on when the host is on or when the host is in S3, as long as the platform is connected to AC power.)
Mobile: On in S0, S3/AC, S4-5/AC	(The Intel ME and Intel AMT are on when the host is on or when the host is in S3 to S5, as long as the platform is connected to AC power.)
Mobile: On in S0, ME WoL in S3/AC	(The Intel ME and Intel AMT are on when the host is on. When the host is in S3 and the platform is connected to AC power, the ME will shut down after a defined period of time, but will awaken when it receives a network message – Wake on LAN.)
Mobile: On in S0, WoL in S3/AC S4-5/AC	(The Intel ME and Intel AMT are on when the host is on. When the host is in S3 to S5 and the platform is connected to AC power, the ME will shut down after a defined period of time, but will awaken when it receives a network message – Wake on LAN.)
11. (Intel AMT Release 3.0) Select Desktop: ON in S0, S3, S4 -5.
12. Return to the previous menu.
13. Exit all menus. The computer will restart. Press <Ctrl+P> and enter the Main Menu. Now select “Intel(R) AMT Configuration” and press “Enter”.

The following steps walk through the Intel AMT BIOS Extension menu items to perform an SMB setup:

1. Enter System Host Name of the platform being configured

Note: When Intel AMT is configured for static IP addresses, then two IP address are required, one each for the host CPU and for the Intel AMT device. The host and the Intel AMT device also need different host names. If the IP address is provided by a DHCP server, then the host and Intel AMT share an IP address and a host name.

2. TCP/IP Parameters:

Note: When you select the TCP/IP option, the message “Disable Network Interface Y/N” is displayed. Choose “Y” to disable Intel AMT network capabilities. Choose “N” to leave Intel AMT network capabilities enabled and to continue configuring TCP/IP parameters. If you chose to disable Intel AMT network capabilities, TCP/IP is automatically configured to DHCP disabled

mode with static IP 0.0.0.0. In order to enable Intel AMT network capabilities, return to the TCP/IP menu and select Y in response to the “Enable Network Interface?” message.

DHCP or Static IP mode

Note: The following settings are for Static configuration only

- Static IP for Host System being configured
- IP Mask Address
- Gateway
- Primary DNS
- Secondary DNS
- Domain Name

In DHCP Mode, optionally enter the platform domain name. The domain name, combined with the host name and the DHCP-supplied IP address will be used by the DHCP server to register the platform on the DNS (if this capability is enabled in the DHCP server).

3. Configuration Server Settings:

Since the Small Business mode does not use a Setup and Configuration Server, this setting is skipped.

4. Provision Model should be changed to Small Business if it was not set already. Select Y to change to Small Business Mode. The Intel AMT device will not perform properly if you try to operate it in Enterprise mode without completing the full configuration process.

This menu item also allows selection of Legacy Mode. In Legacy Mode, Intel AMT Releases 2.0 and greater have the capabilities of Intel AMT Release 1.0. This allows use of ISV products developed to run with Intel AMT Release 1.0.

5. Set PID and PPS

Since the Small Business mode does not use Transport Layer Security, this setting is skipped.

6. Un-Provision – this option will return the Intel AMT device to Factory Mode. Please see [Restoring Intel AMT to Factory Mode](#) for more information.
7. The VLAN setting allows the out-of-band traffic targeted to and transmitted from Intel AMT to be assigned to a logical, virtual LAN separate from the in-band communication on the Local Area Network. Enable or Disable this setting depending on the network configuration. Intel AMT can use a VLAN that is different from the host processor, or the host processor can be configured to operate without a VLAN definition.

When the Intel AMT device is configured to share IP addresses with the host processor, using a DHCP-assigned address, both the host and Intel AMT must be configured to use the same VLAN. The DHCP server should be enabled on this VLAN as well.

8. SOL/IDER – used to enable the remote control features of Serial over LAN and/or Integrated Device Electronic Redirection. If SOL and IDE-R are not enabled here, these capabilities cannot be enabled remotely. Selecting the menu item displays three enable/disable selections. The first, to enable/disable username and password, determines whether the redirection interface can use a username and password to authenticate a remote SOL/IDE-R session. The “Disable” options is not valid in small business configurations. The remaining two choices allow enabling/disabling SOL and IDE-R independently.
9. Exit

Note: When working from a localized BIOS, the username, domain name, and host name cannot be changed from the Intel AMT BIOS extension screens. See [Small Business Setup and Configuration with Localized BIOS](#).

Upon exiting the Intel AMT BIOS Extension configuration screens, hardware information will be gathered and stored in the Non-Volatile Memory of the Intel AMT platform. A supported web browser can be used from a remote computer to view and update the Intel AMT platform parameters. An administrator with user rights can remotely connect to the Intel AMT device by entering the IP address and assigned port number 16992 into the address bar of the web browser. Example; <http://134.134.176.1:16992>

The Intel AMT device can also be addressed using the device fully qualified domain name (FQDN).

Example: <http://rjones-workstation.yourbusiness.com:16992>

Using the FQDN requires either that the DHCP server is configured to register the FQDN to a DNS server or the hosts file on the remote computer maps the FQDN to an IP address.

The following web browsers were validated and can be used remotely to connect to any configured Intel AMT system.

- Internet Explorer 6.0 SP1
- Netscape 7.2 for Windows® and Linux®
- Mozilla® Firefox 1.0 for Windows® and Linux®
- Mozilla® 1.7 for Windows® and Linux®

Other browsers may be used; however, they may not be supported by Intel AMT-enabled systems.

The web browser will establish a TCP connection to the Intel AMT platform and access the top-level Intel AMT Configuration web page. To view this information, you will be prompted to authenticate by logging in with the default username: "admin", and with the configured password.

4 Small Business Setup and Configuration with Localized BIOS

Depending on the BIOS vendor, a localized BIOS may not allow configuration of the Domain and Host name of the Intel AMT device. If these parameters cannot be configured from the Intel AMT BIOS extension screens, the parameters will need to be configured using a third-party application for Setup and Configuration to complete successfully.

5 Restoring Intel AMT to Factory Mode

Intel AMT should be returned to Factory Mode whenever its capabilities need to be disabled on a platform or whenever the Intel AMT platform needs to be re-configured.

The following actions take place when the Un-Provisioning option is entered from the Intel AMT BIOS Extension interface.

- Non-volatile memory (NVM) is cleared
- Event log is cleared.
- All Access Control Lists (ACL) assigned by the web browser interface are cleared and the administrator username is set to the default ("admin") and the Intel AMT password is set to the password that was used in the Intel AMT BIOS Extension configuration screen.
- Hardware asset information is erased.
- The Intel AMT network device is reset.

This will put the device back into Factory Mode and the Setup and Configuration flow will start only after the Intel Management Engine BIOS extension is used to modify the configuration parameters as described in the [Small Business Setup and Configuration Flow](#) section.

Note: You are able to change the Provision Model from Small Business to Enterprise or vice versa only when the Intel AMT device is in Factory Mode.

6 Product Requirements

6.1 Configuring Manually

The BIOS on the Intel AMT device must have Intel AMT BIOS Extensions implemented. This allows the Setup and Configuration process to be performed as described in the [Small Business Setup and Configuration Flow](#) section.

6.2 Configuring with WEB Browser

The Intel AMT device has a built-in web interface. This interface cannot be used for setup and configuration. Initial configuration in Small Business Mode must be done via the BIOS extension. The web interface is available only after configuration is complete. Once the initial configuration is complete, the web interface can be used to change configuration parameters.