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ThinkCentre M58p

Intel Active Management Technology



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ThinkCentre M58p with
Intel Active Management Technology

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About this document

This document provides information about the application of the Intel® Active Management Technology (Intel AMT) for Lenovo® ThinkCentre® M58p desktop computers. It provides a step-by-step approach to successfully use the Intel AMT technology.

This document is intended for trained IT professionals, or those responsible for deploying new computers throughout their organizations. The readers should have basic knowledge of network and computer technology, and be familiar with these terms: TCP/IP, DHCP, IDE, DNS, Subnet Mask, Default Gateway, and Domain Name.

This document provides information about the following topics:

Chapter 1, “Introduction to Intel vPro and Intel AMT technology,” on page 1: This chapter provides a general introduction to the Intel vPro™ technology and Intel AMT technology.

Chapter 2, “Lenovo ThinkCentre computer equipped with Intel AMT technology,” on page 3: This chapter describes the benefits of Intel vPro built-in computers.

Chapter 3, “ISV solution introduction,” on page 5: This chapter provides detailed information on the ISV solution.

Chapter 4, “Main features of computers built with Intel AMT,” on page 7: This chapter provides the main features of Intel vPro built-in computers.

Chapter 5, “Intel AMT setup and configuration based on Lenovo ThinkCentre M58p,” on page 9: This chapter provides detailed instructions on how to configure the settings of Intel AMT.

Chapter 6, “Web user interface,” on page 19: This chapter provides instructions on how to configure Intel AMT through web user interface.

Chapter 1. Introduction to Intel vPro and Intel AMT technology

The Intel vPro™ technology is a business computer platform brand, enabling business computers with enhanced remote management capabilities. For computers built with Intel vPro technology, IT administrators can use a third party software to remotely collect inventory information, diagnose problems, and provide various services regardless of the system power state or operating system condition. Administrators can also isolate and protect individual computers and the network from threats quickly.

The Intel AMT is part of the Intel Management Engine (ME), which is built into computers with Intel vPro technology. It is designed to provide remote management even to computers that are turned off or have an inoperable operating system as long as the system is connected to a power source and a network.

Acronyms

Acronym	Description
AMT	Active Management Technology
ASF	Alert Standard Format
CIRA	Client Initiated Remote Access
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
FQDN	Fully Qualified Domain Name
FW	Firmware
HECI	Host Embedded Controller Interface
ICH	I/O Controller Hub
IDE-R	Integrated Device Electronics Redirection
ISV	Independent Software Vendor
LMS	Local Manageability Service
ME	Management Engine
MEBx	Management Engine BIOS Extension
MEI	Management Engine Interface
NAT	Network Address Translation
NVM	Non-volatile Memory
OEM	Original Equipment Manufacturer
PID/PPS	Provisioning ID and Provisioning Pre-shared Key
PKI	Public Key Infrastructure
PRTC	Protected Real Time Clock
PSK	Pre-shared Key
SMB	Small and Medium Businesses
SOL	Serial-Over-LAN
TCP	Transmission Control Protocol

TLS	Transport Layer Security
UI	User Interface
VLAN	Virtual Local Area Network
ZTC	Zero Touch Configuration

Chapter 2. Lenovo ThinkCentre computer equipped with Intel AMT technology

The following Lenovo business computers support the Intel AMT technology: ThinkCentre M55p, ThinkCentre M57p, and ThinkCentre M58p. ThinkCentre M55p supports Intel AMT 2.X. ThinkCentre M57p supports Intel AMT 3.X, and ThinkCentre M58p supports Intel AMT 5.0.

ThinkCentre M58p computers with Intel AMT technology and supporting infrastructure enable IT administrators to better discover, restore, and protect the computers in order to deliver more efficient helpdesk service with less inconvenience and cost:

- **Discover:** Intel AMT stores hardware and software information in nonvolatile memory. With built-in manageability, Intel AMT allows IT administrators to locate the assets, even when computers are powered off.
- **Restore:** The built-in manageability of Intel AMT provides Out of Band (OOB) management capabilities to allow IT administrators to remotely recover systems even if the operating system is not operable. Alerting and event logging help IT administrators detect problems quickly to reduce downtime.
- **Protect:** The Intel AMT System Defense feature enables better inbound protection by proactively blocking incoming threats, and reactively containing infected clients before they become critical and cause problems.

ThinkCentre M58p also supports the Client Initiated Remote Access (CIRA) function. You can use this function through ISV applications.

Client Initiated Remote Access (CIRA) allows client initiated, secure OOB communication to manageability console, including:

- User initiated Call Home for help
- Scheduled automated Call Home feature (no user input required)
- TLS session established through client initiation

The following table shows the main features and benefits of the Intel AMT technology.

Table 1. Features and Benefit

Features	Benefits
OOB system access	Allows remote management of platforms regardless of system power state or operating system state
Remote troubleshooting and recovery	Significantly reduces desk-side visits, and increases the efficiency of IT technical staff
Proactive alerting	Decreases downtime and minimizes time-to-repair
Remote Hardware asset tracking	Increases speed and accuracy over manual inventory tracking, and reduces asset accounting costs
Third-party nonvolatile storage	Increases speed and accuracy over manual inventory tracking, and reduces asset accounting cost

Chapter 3. ISV solution introduction

Intel AMT is designed as a building block and not a complete solution. This allows Original Equipment Manufacturers (OEMs) to incorporate Intel AMT technology into their client and server hardware platforms. Competent and authorized third-party applications will provide the management and security services that take advantage of the Intel AMT features, such as out-of-band access to asset information, event logs, hardware and software tables, and embedded capabilities.

To ensure the usability and efficiency of our computers, Lenovo, as an OEM, is planning to develop complete solutions with Intel and leading third party security and enterprise management software vendors.

Table 2. List of common third party management software

ISV	Application
Microsoft	Microsoft Systems Management Server 2003
Microsoft	Microsoft System Center Configuration Manager
LANDesk	LANDesk Management Suite
Altiris	Altiris Real-Time System Manager

Chapter 4. Main features of computers built with Intel AMT

Computers built with Intel AMT version 2.0 or later (vPro technology) have the following features and improvements:

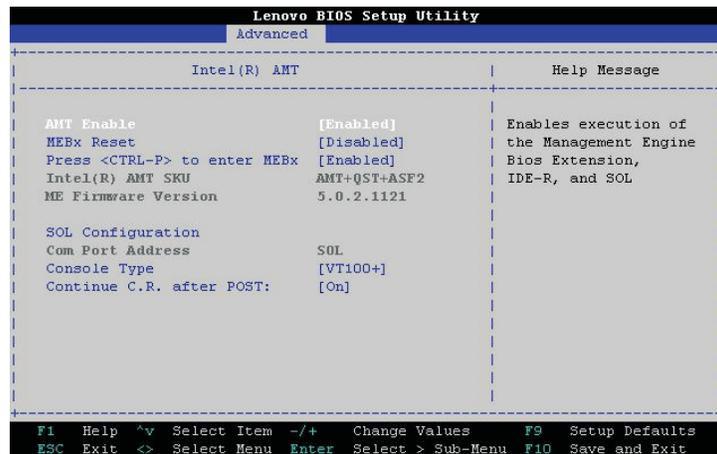
- Remote Power Control
 - Power Down
 - Power Up
 - Power Reset
 - Power Cycle
- Asset Management
 - E-Asset Tag
 - OOB HW Inventory
- Integrated Device Electronics – Redirection (IDE-R)
 - Floppy Redirection
 - CD Redirection
- Serial-Over-LAN (SOL)
 - Screen Redirection Based on Text
 - Keyboard Redirection
 - Network Redirection
- Remote Reboot
 - Reboot from local HD
 - Reboot from local CD/DVD
- Event Management
 - Event Alerting
 - Event Logging
 - Audit Log
- Agent Presence
- System Defense
- Client Initiated Remote Access (CIRA)

Chapter 5. Intel AMT setup and configuration based on Lenovo ThinkCentre M58p

The Management Engine BIOS Extension (MEBx) is a separate BIOS from the normal system BIOS. It is an option ROM module provided by Intel. The MEBx enables you to configure settings that control the operation of the Management Engine (ME) that runs on the Intel AMT client, which must be set up and configured in a system before use. Intel ME is an isolated and protected computing resource. The Intel ME configuration should be completed through MEBx before use. All changes to the ME platform configuration settings are not cached in MEBx. The changes are committed to ME NVM until they exit from MEBx. If MEBx crashes in the process of the configuration, the changes that have been made will not be saved.

Note: To use the CIRA technology, you need not do any additional setup and configuration in MEBx. You only need to configure your computer in MEBx for SMB or Enterprise mode, then use the CIRA through ISV applications.

Associated Intel AMT setup and configuration in BIOS



Press and hold the F1 key during POST to enter the BIOS Setup Utility menu, and then select **Advanced** → **Intel AMT**.

Confirm the default setting of the first option: **AMT Enable = Enabled**

The **AMT Enable** is used to enable or disable the Intel AMT.

Confirm the default setting: **MEBx Reset = Disabled**

This option enables or disables the MEBx settings to restore to the factory state without entering MEBx setup screen.

Press CTRL+P to enter MEBx = Enabled

This option enables or disables the entrance of MEBx setup configuration menu.

Intel MEBx setup and configuration

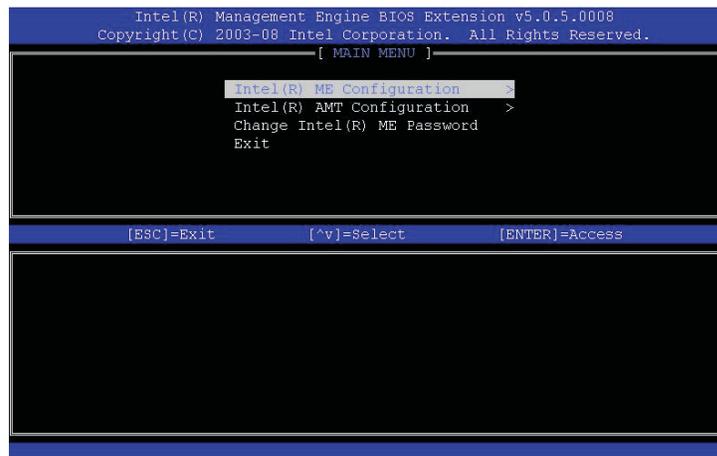
The following section provides a step by step approach to setting up and configuring Intel AMT.

Entering MEBx configuration user interface

Press and hold **Ctrl+P** during POST and select **1** to enter the MEBx of Intel AMT configuration window. You will be prompted to enter the password.

Changing Intel ME password

Type the default password **admin** in the prompted field. The default password *must* be changed before configuring the MEBx menu.



The new password must meet the strong password criteria defined below:

- Have 8-32 characters in length
- Contain at least one alphabetic character, one numeric character, and one symbol
- Have at least one seven-bit ASCII non-alphanumeric character (!, @, #, \$, %, ^, &, *)
- Contain one upper case letter and one lower case letter
- You can also use the space bar and underscore (_)

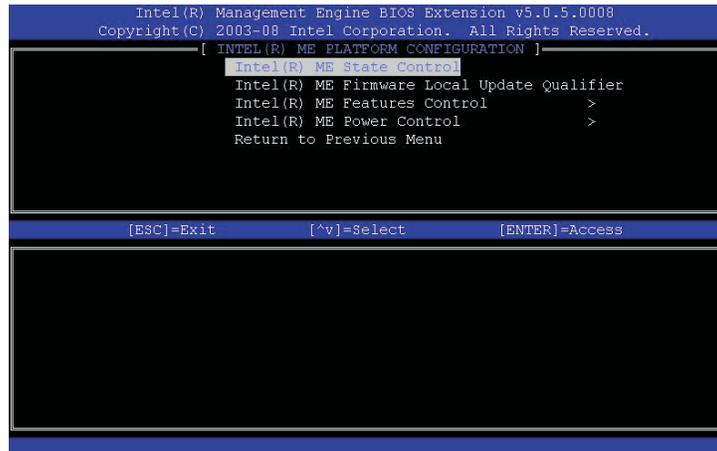
Intel ME configuration

Select **Intel ME Configuration**. A window displays indicating that the system resets after changing configuration settings.

Press **Y**. The Intel ME platform configuration window opens. This window allows you to configure the features of the Intel ME, such as ME state, power control, and so on. Use the default values for the Intel ME configuration.

Intel ME State Control

Select **Intel ME State Control** and then select **Enable**.



The **Intel ME State Control** configuration allows you to disable the Intel ME for debugging purposes.

Enabled = Enable Intel Management Engine on the platform

Disabled = Disable Intel Management Engine on the platform

Note: The option **Disabled** does not “disable” the Intel ME. Actually, disabling the Intel ME through the MEBX only prevents the Intel ME code from executing. The Intel ME code is halted at an early stage of Intel ME booting so that the system has no traffic originating from the Intel ME on any of the busses. This ensures that an IT technician can debug a system problem without any interference from Intel ME.

Intel ME firmware Local Update Qualifier

Select **Intel ME Firmware Local Update Qualifier**, which enables or disables firmware local update in the field. The default value is Always Open.

Always Open = Intel Management Engine FW local update channel is always enabled. Boot cycle will not change “enabled” to “disabled.” Intel Management Engine FW Local Update option can be ignored.

Never = Intel Management Engine FW local update is controlled by Intel ME FW Local Update Option (Enabled/Disabled). Boot cycle will change “enabled” to “disabled.”

Restricted = Intel Management Engine FW local update channel is always enabled only if Intel AMT is in un-provision state. Boot cycle will not change “enabled” to “disabled.”

Intel ME Features Control

Select **Intel ME Features Control**, the ME Features Control window opens. There are three options:

- Manageability Feature Selection
- Intel Quiet System Technology
- Return to Previous Menu

Manageability Feature Selection

Select **Manageability Feature Selection**, the Intel ME manageability feature menu displays. You are able to select any of the following three manageability features:

- **ASF**: Alert Standard Format. ASF is a standardized corporate assets management technology. Intel ICH10 platform supports ASF specification 2.0.
- **Intel AMT**: Intel Active Management Technology. It is an improved corporate assets management technology. Intel ICH10 platform supports Intel AMT 5.0.
- **None**: After you entered the **Intel AMT** and saved the configurations, you will still see these three options: **ASF**, **Intel AMT**, and **None**. If **None** is selected, a warning message will display indicating the Intel AMT will be unprovisioned. There will be no manageability feature provided. The management applications will not be allowed to use the Intel ME, although the Intel ME firmware is still enabled and running.

Intel Quiet System Technology

Intel Quiet System Technology (Intel QST) is the advanced system temperature and fan speed control technology of Intel, which utilizes the internal and external thermal sensors to optimize the acoustic and thermal performance of the system in both steady state and transient power conditions.

Select **Intel Quiet System Technology**. You are able to set the state of Intel QST feature to **Enabled** or **Disabled**.

Enabled = Intel Quiet System Technology is enabled

Disabled = Intel Quiet System Technology is disabled

Return to Previous Menu

Enables you to return to the previous menu.

Intel ME Power Control

Intel ME Power Control menu enables you to configure the ME power control policies. Select **Intel ME Power Control** → **Intel ME ON in Host Sleep States**, the power package selection window displays.

This power package selection will determine when the Intel ME is turned ON. By default the power package turns off the Intel ME in all the Sx (S3/S4/S5) states. You can choose which power package is used depending on your system usage. For details of every power package option, see the following table:

Table 3. Supported Power Packages

Power Package	1	2	3	4	5	6	7
S0	ON	ON	ON	ON	ON	ON	ON
S3	OFF	ON	ON	ME WoL	ME WoL	ON	ME WoL
S4/S5	OFF	OFF	ON	OFF	ME WoL	ON	ME WoL
ME OFF After Power Loss	NO	NO	NO	NO	NO	YES	YES

If set to **OFF After Power Loss**, Intel ME will remain off after returning from a G3 (AC power lost) state. If the power package selected does not indicate **OFF After**

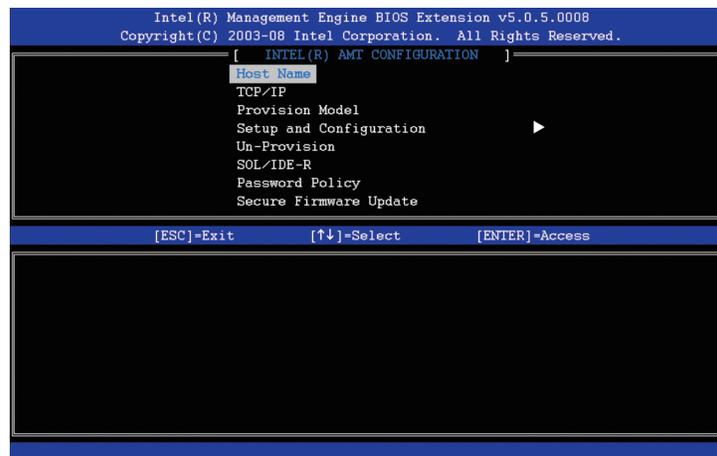
Power Loss, Intel ME will be powered on after returning from a G3 state. For Intel ME to be active in the S5 state, the system needs to be powered on (S0) briefly, then turned off (S5).

Intel AMT setup and configuration

Enter Intel AMT Configuration

The **Intel AMT Configuration** allows you to configure an Intel AMT capable system to support the Intel AMT management features.

Select **Intel AMT Configuration** from MEBx menu, the Intel AMT Configuration menu will be shown:



Host Name

Select **Host Name**, you will be prompted to set up your Intel AMT name.

Note: The host name here must not be the name of the operating system machine name. However, if DHCP is enabled, the host name must be the same with the operating system machine name.

TCP/IP

Select **TCP/IP**, you will see the following TCP/IP configuration menu of Intel AMT. It allows you to change the TCP/IP configuration.

There are two options of DHCP:

DHCP = Enabled

TCP/IP settings will be configured by a DHCP server

DHCP = Disabled

It is required to set up the static TCP/IP settings for Intel AMT. If the system is in static mode, a second IP address is required. This IP address is often called the ME IP address and is different from the host IP address.

- **IP address:** Internet address of the Intel ME.
- **Subnet mask:** The subnet mask is used to determine which subnet IP address the IP address belongs to.
- **Default Gateway address:** The default gateway of the Intel ME.
- **Preferred DNS address:** Preferred Domain name server address.

- **Alternate DNS address:** Alternate Domain name server address.
- **Domain name:** Domain name of the Intel ME.

Provision Mode

There are two provision modes for Intel vPro 5.0: Small Business mode (SMB) and Enterprise mode. The two modes have different setup and configuration procedures.

Setup and Configuration

Select **Setup and Configuration**, the following setup and configuration menu displays. This menu contains the parameters for setup and configuration server. It also contains the security settings for PSK and PKI configurations.

- **Current Provisioning Mode:** Display the current provisioning TLS Mode: None, PKI, or PSK. This configuration will be shown only in the Enterprise Provision Mode.
- **Provisioning Record:** Display the provision PSK/PKI record data of system. If no data has been entered, a message indicating Provision Record not present displays. If the data is entered, the following Provision record displays:
 - TLS provisioning mode – Display the current configuration mode of the system: None, PSK or PKI.
 - Provisioning IP – The IP of the setup and configuration server.
 - Date of Provision – Display the date and time of the provisioning.
 - DNS – Display if Secure DNS is being used or not.
 - Host Initiated – Display if the setup and configuration process was initiated by the host: **No** indicates the setup and configuration process was not host initiated; **Yes** indicates the setup and configuration process was host initiated. (PKI only)
 - Hash Data – Display the 40 character certificate hash data (PKI only).
 - Hash Algorithm – Describe the hash type. Currently only SHA1 is supported. (PKI only)
 - IsDefault Bit – Display **Yes** if the Hash algorithm is the default algorithm selected. Displays **No** if the hash algorithm is not the default algorithm used. (PKI only)
 - FQDN – FQDN of the provisioning server mentioned in certificate (PKI only)
 - Serial Number – The 32 characters that indicate the Certificate Authority serial numbers.
 - Time Validity Pass – Indicate whether the certificate passed the time validity check.
- **Provisioning Server IP:** The IP address and port number (0 – 65535) for an Intel AMT provisioning server. This configuration will only be shown for Enterprise Provision Mode. The default port number is 9971.
- **Provisioning Server FQDN:** You will be prompted to enter the fully qualified domain name (FQDN) of the provisioning server.
- **TLS PSK:** The submenu contains the settings for TLS PSK configuration settings.

Note: This option is only needed for Enterprise mode. If you choose SMB mode, you need not enter this option button. Setting or deleting the PID/PPS will cause a partial unprovision if the setup and configuration is **In-process**.

- Set PID and PPS – Sets the PID and PPS. The PID and PPS should be entered in the dash format. (Ex. PID: 1234-ABCD; PPS: 1234-ABCD-1234-ABCD-1234-ABCD-1234-ABCD)

Note: A PPS value of '0000-0000-0000-0000-0000-0000-0000-0000' will not change the setup configuration state. If this value is used, the setup and configuration state will stay as **Not-started**.

- Delete PID and PPS – Delete the current PID and PPS stored in Intel ME.

Note: Using this option will set the setup and configuration process parameter to **In Process**.

- **TLS PKI:** This menu contains options for the TLS PKI configuration settings. Select **TLS PKI**. The TLS PKI setting menu displays.

Note: This option is also only needed for Enterprise mode. If you choose SMB mode, you need not to enter this option button.

The Remote configuration options are contained under the TLS PKI submenu.

There are four remote configuration items:

- Remote Configuration Enable/Disable

Remote Configuration = Enabled: To enable remote configuration.

Remote Configuration = Disabled: Remote configuration cannot occur. The menu options will be displayed, but cannot be used until remote configuration is enabled.

Note: This option cannot be modified once the setup and configuration procedure is in process. This parameter can only be modified while the system is in unprovisioned state. Enabling/Disabling Remote configuration will cause a partial unprovision if the setup and configuration is "In-process".

- Manage Certificate Hashes

Select **Manage Certificate Hashes** option, the manage certificate hashes menu displays. This option will enable you to enumerate the hashes in the system, and display the Hash Name, the active and default state.

The manage certificate hashes screen has several keyboard controls available to the user to manage the hashes on the system. These keys are valid in the Manage Certificate Hashes menu and listed below:

- [ESC] – To exit from the menu

- [INS] – To add a customized certificate hash to the system. Press [INS], and type the hash name.

The hash name must be a maximum of 32 characters. The Certificate hash value is a 20 byte hexadecimal number. The user must enter the hash data in the correct format. Otherwise, the message prompts, indicating **Invalid Hash Certificate Entered - Try Again**

Upon pressing **Enter** the user is asked about setting the active state of the hash. This query allows for setting the active state of the customized hash.

- **Yes** – The customized hash will be marked as active.
- **No (Default)** – VA_Hash will be maintained within EPS

- [DEL] – To delete the currently selected certificate hash from system. Press [DEL]

- **Yes** – MEBx will send the message to FW to delete the selected hash.
- **No** – MEBx will not delete the selected hash and will return to the remote configuration.

- [+] To change the active state of the currently selected certificate hash. Press + in the Manage Certificate Hash screen, and **Yes** will toggle the active

state of currently selected certificate hash. Setting a hash as active will indicate that the hash is available for use during PSK provisioning.

- [ENTER] To view the details of the currently selected certificate hash. Press **Enter** in the Manage Certificate Hash screen.

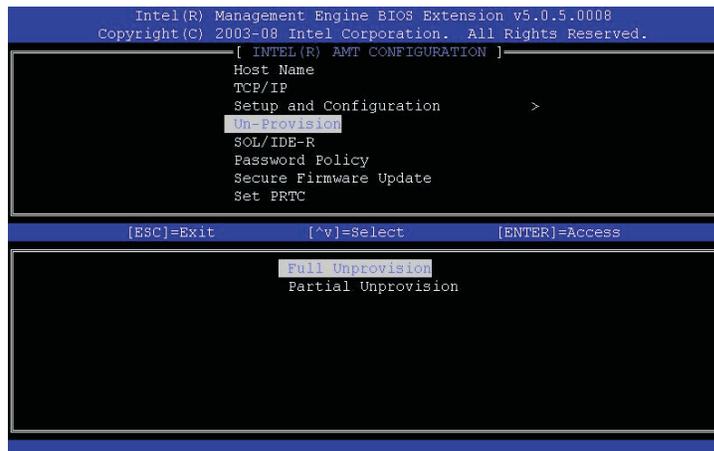
The details of the selected certificate hash are displayed to user including hash name, certificate hash data, and the active and default states.

- Set PKI DNS Suffix

Select **Set PKI DNS**. You will be prompted to enter the PKI DNS Suffix of the Provisioning Server. Key Value will be maintained in EPS.

Unprovision

Select **unprovision** in Intel AMT configuration menu.



This option enables you to reset Intel AMT configuration to factory defaults. There are three ways to do unprovision:

- **Partial unprovision:** This will reset all the Intel AMT settings to their default values except the PID/PPS, the MEBx password, and user entered Hash certificate.
- **Full unprovision:** This will reset all Intel AMT settings to their default values, including the PID/PPS and user entered Hash certificate. But the MEBx password will remain untouched.
- **MEBx Reset:** This option will clear all MEBx parameters to their default values, including the PID/PPS, the MEBx password, and user entered Hash certificate. Also, if USB key and remote configuration data are not their default parameters, this option will make their present values to be default.

Note: **Partial unprovision** and **Full unprovision** are both available in MEBx. And the **MEBx Reset** is available in BIOS. See “Associated Intel AMT setup and configuration in BIOS” on page 9 for reference. The MEBx default password is **admin**.

SOL/IDE-R

Select **SOL/IDE-R** in Intel AMT configuration menu. The three options in SOL/IDE-R display:

- Username & Password - Disabled / Enabled

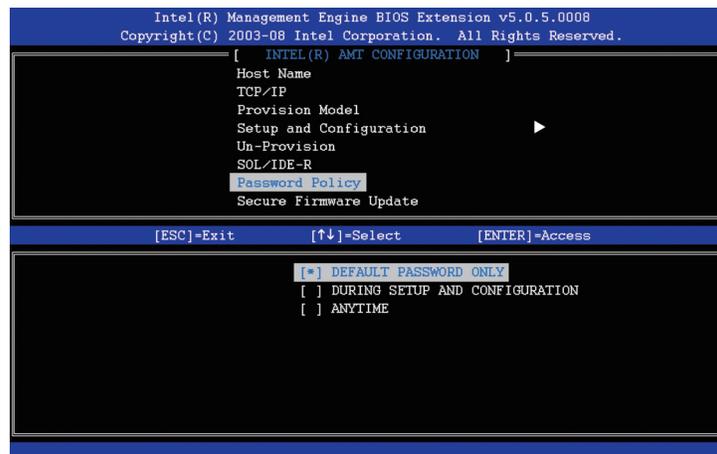
This option will provide you with authentication for SOL/IDE-R session. If Kerberos is used, this option should be set to Disabled. The user authentication is through Kerberos. If Kerberos is not used, you have the choice to enable or disable user authentication on SOL/IDE-R session.

- Serial Over LAN (SOL) - Disabled / Enabled
If **Enabled** is selected, the Intel AMT managed client console input or output can be redirected to management server console.
- IDE Redirection (IDE-R) - Disabled / Enabled
If **Enabled** is selected, the Intel AMT managed client can be booted from remote disk images at management server console.

Password Policy

The **Password Policy** option is used to set up the MEBx password through the network.

Select **Password Policy** in Intel AMT configuration menu, see the following figure:



Three options display:

- Default Password Only – You can change the MEBx password through the network interface, only if the MEBx password has not been modified.
- During Setup and Configuration – You can change the MEBx password through the network interface only during the setup and configuration process. Once the setup and configuration process is completed, you can no longer modify the MEBx password.
- Anytime – You can change the MEBx password through the network interface at anytime.

Secure Firmware Update

Select **Secure Firmware Update** in the Intel AMT configuration menu. This option will allow the user to enable or disable secure firmware updates. Secure firmware updates will pass through the LMS driver.

When secure firmware update feature is enabled, you are able to update the firmware by secure method. If secure and local firmware update is disabled, the user must enable secure firmware update or local firmware update for firmware update.

Note: Secure firmware update requires an administrator user name and password. If the administrator user name and password are not provided, the firmware cannot be updated.

Set PRTC

Select **Set PRTC** in Intel AMT configuration menu. In Set PRTC menu, enter PRTC in GMT (UTC) format (YYYY:MM:DD:HH:MM:SS). Setting PRTC value is used for virtually maintaining PRTC during power off (G3) state.

Idle Timeout

Select **Idle Timeout** in the Intel AMT configuration menu, you will be prompted to input a timeout value in "Idle Timeout" menu. The value should be entered in minutes.

This setting is used to enable or disable Intel ME Wake on LAN feature and define Intel ME idle timeout when ME WoL power policy is selected.

Driver description

Read the following drivers description, if you are going to use the Intel AMT technology in Windows environment.

MEI

The Intel AMT Management Engine Interface (MEI) is the interface between the host and the Intel Management Engine (ME). The Intel AMT MEI is bi-directional, and either the host or the Intel AMT firmware can initiate transactions. In addition, transactions can be completed asynchronously by the Intel AMT ME and then synchronized later.

LMS

Local Manageability Service (LMS) is a service that runs locally (in the user space) in the host operating system. LMS exposes AMT functionality through standard interfaces (for example: general-info interface, firmware update interface, local agent-presence interface, and so on.) LMS is an abstraction that sits on top of the HECI driver (and the ME) that interacts with the ME using standard interfaces.

LMS listens for the request directed to the AMT local host. When an application sends SOAP/HTTP message addressed to the local host, then LMS intercepts the request and routes the request to the Management Engine Interface through the HECI driver.

SOL

Serial Over LAN (SOL) driver is an Intel AMT ME driver. This driver enables the remote display of managed client user interface through management console and emulates serial communication over a standard network connection.

Chapter 6. Web user interface

Besides managing your computers by ISV solution (Management Software), you can also perform some simple management action through Web user interface, such as power controlling and asset inventory.

Intel ME provides a Web user interface, which enables you to check the status of Intel AMT as well. If the Web user interface is not accessible, check your AMT setup and configuration settings.

Access the Web user interface

Provision the Intel AMT system

To access the Web user interface, the AMT system must be configured first. Complete the following steps to finish the configuration:

1. Press **Ctrl+P** to enter Intel MEBx. The default password is **admin**. Change the default password to your own.
2. Select **Intel ME Configuration** → **Intel ME Features Control** → **Manageability Feature Selection** → **Intel AMT**.
3. Select **Intel AMT Confuration** → **Provision Model**. Select **Enterprise** for Enterprise mode or **Small Business** for SMB mode.
4. In the Intel AMT Configuration menu, select **Host Name**. Then input a host name, for example: LenovoM58p.
5. In the Intel AMT Configuration menu, select **TCP/IP**. You will be prompted to choose: **Disable DHCP: (Y/N)**. If there is a DHCP server on the network, you can press **N**, or press **Y** to set a static IP for your AMT machine. When DHCP is enabled, you need to input the domain name as well. If DHCP is disabled, input IP address (for example: 192.168.1.13), Subnet mask, and Default Gateway address if needed.

Notes:

- a. If Enterprise mode is selected, you will have to configure the PKI or the PID/PPS before using the provision server to provision Intel AMT.
- b. If DHCP is enabled, the host operating system of ThinkCentre M58p should also be configured in DHCP mode. Intel AMT will share IP address with the host Windows XP or Windows Vista® operating system. Get IP address from the host operating system.

Logging onto the client system

The client system can be accessed from console on the network that has a supported Web browser.

Open a Web browser on the management console system and type one of the following in the address box:

- For SMB Mode:
http:// IP_Address:16992 (example: http://192.168.1.13:16992)
- For Enterprise (TLS) Mode:
https:// IP_Address:16993 (example: https://192.168.1.13:16993)

Then the browser will display the following Web page.



Click the **Log On** button. A login message box opens.



Enter your user name and password, and click **OK**. You will go to the client Web user interface.

Function in Web user interface

The Web server built into each Intel AMT system enables you to:



- View the system status;
- View the hardware information of AMT computer, including system, processor, memory, and disk;
- View, start, stop, and clear the event log;

- Remote power control, including: turn power off, cycle power off and on, reset, normal boot, boot from local CD/DVD drive, and boot from local hard drive;
- View and manage Intel AMT power policies;
- View and manage Intel AMT network settings;
- View and manage Intel AMT user accounts.

Appendix A. Two examples of Intel AMT setup and configuration: SMB mode and enterprise mode

Intel AMT setup and configuration steps - SMB mode

The following are quick steps for AMT setup and configuration of SMB mode:

1. Access the MEBx by pressing **Ctrl+P** during boot-up process.
2. Enter the default password **admin**. Change the password when you are prompted.

Note: The new password must meet the strong password criteria. See “Changing Intel ME password” on page 10 for the detailed information.

3. Select **Intel(R) ME Configuration → Intel(R) Features Control → Manageability Feature Selection**. Make sure the default setting is as follows: **Manageability Feature Selection = Intel(R) AMT**.
4. Select **Return to Previous Menu**.
5. Select **Intel(R) AMT Configuration**.
 - a. Type a host name.

Note: The host name should be the same as the operating system machine name.

- b. Select **TCP/IP → N/Y**.
 - c. Select **Provision Model → Small Business**.
 - d. Make sure the setting is: **SOL/IDE-R → Y**.
 - e. **Username & Password → Enabled**.
 - f. **Serial Over LAN → Enabled**.
 - g. **IDE Redirection → Enabled**.
6. Generally, use default values for **Intel (R) ME configuration, Password Policy, Secure Firmware Update, Set PRTC, and Idle Timeout**. See Appendix B, “Default configuration values for Intel MEBx,” on page 25 for the detailed information.
 7. Select **Exit** to exit MEBx for saving the settings you have made in MEBx.

Intel AMT setup and configuration steps - Enterprise mode

The following are quick steps for AMT setup and configuration of Enterprise mode.

Note: The following example is for ZTC provisioning. You can also use ISV software to create the USB key to do USB provisioning. For USB provisioning, you must:

- formatting your USB memory key into FAT format.
- using “MEBx Reset” on page 16, restore your AMT configurations to the default values.

1. Access the MEBx by pressing **Ctrl+P** during boot-up process.
2. Enter the default password **admin**. Change the password when you are prompted.

Note: The new password must meet the strong criteria. See “Changing Intel ME password” on page 10 for the detailed information.

3. Select **Intel(R) ME Configuration → Intel(R) Features Control → Manageability Feature Selection**. Make sure the default setting: **Manageability Feature Selection = Intel(R) AMT**.
4. Select **Return to Previous Menu**.
5. Select **Intel(R) AMT Configuration**.
 - a. Select **TCP/IP → N/Y**.
 - b. Select **Provision Model → Enterprise**.
 - c. Select **Setup and Configuration**.
 - 1) Use default values for **Current Provisioning Mode, Provisioning Record, Provisioning Server**, and **TLS PSK**.
 - 2) Select **TLS PKI → Remote Configuration Enable/Disable ** → Enabled**.
 - 3) Select **Manage Certificate Hashes**, and press the Insert key.
 - 4) Enter your certificate hashes in the prompt message box.
 - 5) Use default values for **Set FQDN** and **Set PKI DNS Suffix**.
 - d. Make sure the setting is: **SOL/IDE-R → Y**.
 - e. **Username & Password → Enabled**.
 - f. **Serial Over LAN → Enabled**.
 - g. **IDE Redirection → Enabled**.
6. Use default values for **Intel (R) ME configuration, Password Policy, Secure Firmware Update, Set PRTC**, and **Idle Timeout**
7. Select **Exit** to exit MEBx for saving the settings you have made in MEBx.

Appendix B. Default configuration values for Intel MEBx

This section introduces the default values of configuration settings for the Intel MEBx.

The following table includes the default configuration settings and values for the features in the Intel MEBx settings.

Table 4. Reference of default configuration settings and values

Menu	Default values	Menu	Default values
Intel (R) MEBx default password	admin	Set PID and PPS **	Blank
Intel (R) ME State Control	Enabled	Remote Configuration Enable/Disable **	Enabled
Intel (R) ME Firmware Local Update Qualifier	Always Open	Manage Certificate Hashes	VeriSign Class 3 Primary CA-G1
Manageability Feature Selection	Intel (R) AMT		VeriSign Class 3 Primary CA-G3
Intel (R) Quiet System Technology	Enabled		Go Daddy Class 2 CA
Intel (R) ME ON in Host Sleep States	Desktop: ON in S0, ME Wake in S3		Comodo AAA CA
Host Name	Blank		Starfield Class 2 CA
DHCP	Enabled	Set FQDN	Blank
Domain Name	Blank	Set PKI DNS Suffix	Blank
Provision Model	Enterprise	Unprovision	Full Unprovision
Current Provisioning Mode	Provisioning Mode: PKI	Username & Password	Enabled
Provisioning Record	Provision Record is not present	Serial Over LAN	Enabled
Provisioning Server IP	0.0.0.0	IDE Redirection	Enabled
Port number (0-65535)	0	Password Policy	Default password only
Provisioning Server FQDN	Blank	Secure Firmware Update	Enabled
Timeout Value	1	Set PRTC	Blank

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