



Intel[®] Management and Security Status Application

User's Guide

May 18, 2009

Revision Version: 0.7

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.

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. Setup requires configuration by the purchaser and may require scripting with the management console or further integration into existing security frameworks to enable certain functionality. It may also require modifications of implementation of new business processes. 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 www.intel.com/technology/platform-technology/intel-amt/

The original equipment manufacturer must provide TPM functionality, which requires a TPM-supported BIOS. TPM functionality must be initialized and may not be available in all countries.

No computer system can provide absolute security under all conditions. Intel® Anti-Theft Technology for data protection requires the computer system to have an Intel® AT-enabled chipset, BIOS, and SATA hard disk drive properly connected to the chipset. Intel AT protects the data on the SATA hard drive disk only after that drive is set up for encryption and does not protect any data after it leaves the hard disk drive. Setup requires configuration by the purchaser and may require scripting with the management console or further integration into existing security frameworks. Certain functionality may not be available in all countries.

Systems using Client Initiated Remote Access (CIRA) require wired LAN connectivity and may not be available in public hot spots or "click to accept" locations. For more information on CIRA visit <http://www.intel.com/products/centrino2/vpro/index/htm>

Code names featured are used internally within Intel to identify products that are in development and not yet publicly announced for release. Customers, licensees and other third parties are not authorized by Intel to use code names in advertising, promotion or marketing of any product or services and any such use of Intel's internal code names is at the sole risk of the user.

Intel 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 © 2008, Intel Corporation. All rights reserved.



IMPORTANT—READ BEFORE COPYING, INSTALLING OR USING.

Do not use or load this software or any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.

LICENSE—Subject to the restrictions below, Intel Corporation ("Intel") grants you the following limited, revocable, non-exclusive, non-assignable, royalty-free copyright licenses in the Software.

The Software may contain the software and other property of third party suppliers, some of which may be identified in, and licensed in accordance with, the "license.txt" file or other text or file in the Software:

DEVELOPER TOOLS—including developer documentation, installation or development utilities, and other materials, including documentation. You may use, modify and copy them internally for the purposes of using the Software as herein licensed, but you may not distribute all or any portion of them.

RESTRICTIONS—You will make reasonable efforts to discontinue use of the Software licensed hereunder upon Intel's release of an update, upgrade or new version of the Software.

You shall not reverse-assemble, reverse-compile, or otherwise reverse-engineer all or any portion of the Software.

Use of the Software is also subject to the following limitations:

You,

(i) are solely responsible to your customers for any update or support obligation or other liability which may arise from the distribution of your product(s)

(ii) shall not make any statement that your product is "certified," or that its performance is guaranteed in any way by Intel

(iii) shall not use Intel's name or trademarks to market your product without written permission

(iv) shall prohibit disassembly and reverse engineering, and

(v) shall indemnify, hold harmless, and defend Intel and its suppliers from and against any claims or lawsuits, including attorney's fees, that arise or result from your distribution of any product.

OWNERSHIP OF SOFTWARE AND COPYRIGHTS—Title to all copies of the Software remains with Intel or its suppliers. The Software is copyrighted and protected by the laws of the United States and other countries, and international treaty provisions. You will not remove, alter, deface or obscure any copyright notices in the Software. Intel may make changes to the Software or to items referenced therein at any time without notice, but is not obligated to support or update the Software. Except as otherwise expressly provided, Intel grants no express or implied right under Intel patents, copyrights, trademarks, or other intellectual property rights. You may transfer the Software only if the recipient agrees to be fully bound by these terms and if you retain no copies of the Software.

LIMITED MEDIA WARRANTY—If the Software has been delivered by Intel on physical media, Intel warrants the media to be free from material physical defects for a period of ninety (90) days after delivery by Intel. If such a defect is found, return the media to Intel for replacement or alternate delivery of the Software as Intel may select.

EXCLUSION OF OTHER WARRANTIES—EXCEPT AS PROVIDED ABOVE, THE SOFTWARE IS PROVIDED "AS IS" WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OF ANY KIND INCLUDING WARRANTIES OF MERCHANTABILITY, NONINFRINGEMENT, OR FITNESS FOR A PARTICULAR PURPOSE. Intel or its suppliers do not warrant or assume responsibility for the accuracy or completeness of any information, text, graphics, links or other items contained in the Software.

LIMITATION OF LIABILITY—IN NO EVENT SHALL INTEL OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, LOST PROFITS, BUSINESS INTERRUPTION, OR LOST INFORMATION) ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE, EVEN IF INTEL HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME JURISDICTIONS PROHIBIT EXCLUSION OR LIMITATION OF LIABILITY FOR IMPLIED WARRANTIES OR CONSEQUENTIAL OR INCIDENTAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. YOU MAY ALSO HAVE OTHER LEGAL RIGHTS THAT VARY FROM JURISDICTION TO JURISDICTION.



Contents

1	Introduction	6
2	System Requirements	7
3	Installation	8
	3.1 Installing Microsoft* .NET Framework 3.5	8
	3.2 Installing all SW components.....	9
4	Using the Intel® Management and Security Status Application and Icon.....	14
	4.1 General Tab	14
	4.2 Intel® AMT Tab	16
	4.2.1 Fast Call for Help	17
	4.2.2 Request Assistance section	17
	4.2.3 System Defense State	17
	4.3 Advanced Tab.....	18
	4.3.1 Intel® Management Engine	18
	4.3.2 Secure Output Window Settings	19
	4.3.3 Extended System Details	19
	4.3.4 Network Information	20
	4.4 Exiting the Application	21
5	Advanced Configuration.....	22
	5.1 General tab logo	22
	5.2 Load on Start Up	22
	5.3 'Click here for more details' link	22
6	Troubleshooting Intel® Management and Security Status.....	24
	6.1 Error message appears upon application load	24
	6.2 Application takes a long time to load	24
	6.3 'Information Unavailable' is displayed instead of technology status	25
	6.4 Client Initiated Remote Access Connection failure	25



Revision History

Version	Modification
May 18, 2009	Initial version received from PAE (Lior Moshe)



1 Introduction

This guide describes how to install and use the Intel® Management and Security Status Application, an application that displays information about a platform's Intel® Active Management Technology (Intel® AMT), Intel® Remote PC assist (Intel® RPAT) and Intel standard manageability services.

The Intel® Management and Security Status icon indicates whether Intel® AMT, Intel® RPAT and Intel standard manageability are running on the platform. The icon is located in the notification area. By default, the notification icon is displayed every time Windows* starts.

The Intel® Management and Security Status application has a separate version per every Intel® AMT generation (4.x, 5.x, 6.x). **This User Guide describes the Intel® Management and Security Status application for Intel® AMT generation 6.x.**

Note: The Intel® Management and Security Status icon will be loaded to the notification area only if Intel® AMT, Intel® RPAT or Intel standard manageability is enabled on the platform.

Note: The information displayed in the Intel® Management and Security Status is not shown in real time. The data is refreshed at different intervals.



2 *System Requirements*

To enable installation and use of the Intel® Management and Security Status Application, the following are required on the platform:

- Intel® Active Management Technology (Intel ® AMT) version 6.x
- Windows* XP or Windows Vista* 32/64
- Microsoft* .NET Framework 2.0 or 3.5
- The Intel® MEI driver.
- User Notification Service
- The LMS/SOL driver.

Note: For Intel® AMT versions 6.0 there is a bundled installation package for the following components: Intel® Management and Security Status Application, Intel ® MEI driver and LMS/SOL driver. Please see the Bring-up User Guide for more information.



3 *Installation*

The Intel® Management and Security Status Application is automatically installed with the Intel® MEI and LMS/SOL drivers.

The installation process consists of two steps: Installing the Microsoft* .NET framework (a requirement for running the software); and installing the status application. The order of the steps is imperative (always install the framework before the Intel® AMT applications).

3.1 Installing Microsoft* .NET Framework 3.5

1. Download Microsoft* .NET Framework 3.5 (**dotnetfx35.exe**) from Microsoft's* website. One link to the installer application is <http://download.microsoft.com/download/6/0/f/60fc5854-3cb8-4892-b6db-bd4f42510f28/dotnetfx35.exe>.

Installing the version available in that location ensures that you are using the latest version required by the software package.
The installation process may take several minutes.

Double-click the downloaded application.

2. The installer extracts the contents and displays the **Supplemental License Terms** screen.
3. Read the license content and select the **accept** option to proceed with the installation.
4. When the installer finishes, press the **Finish** button.



3.2 Installing all SW components

1. Double-click **Drivers\MEI_SOLInstaller\Setup.exe** to install the following components:
 - a. Intel ® MEI
 - b. The LMS/SOL driver
 - c. User Notification Service (UNS)
 - d. Intel® Management and Security Status Application.

As a result the Welcome window opens.





2. Click **Next**. The License window opens.





3. Read the license conditions and click **Yes** to accept them.
A Readme file displays system requirements and other information about the application.





4. Read the information in the Readme file and click **Next**. The installation begins, displaying its progress in the window.






5. When the installation is complete, click **Next** in the Setup Progress window, and click **Finish** in the **Setup is Complete** window.





4 *Using the Intel® Management and Security Status Application and Icon*

Whenever either Intel® AMT, Intel® RPAT or Intel standard manageability is enabled, Intel® Management and Security Status icon is loaded into the notification area when Windows* starts. It can also be started using the shortcut located in '**All Programs\Intel\ Intel® Active Management Technology\Intel® Management and Security Status**' in the Windows* Start menu.


While the Intel® Management and Security Status is running, the Intel® Management and Security Status icon is visible in the notification area.  This icon will appear blue if any one of the aforementioned technologies is enabled on the computer. In any other case, the icon will appear gray.

To view the Intel® Management and Security Status Application:

- Double-click the Intel® Management and Security Status icon, or
- Right-click the icon and choose **Open**, or
- Use the shortcut located in '**All Programs\ Intel\ Intel ® Active Management Technology\ Intel® Management and Security Status**' in the Windows* start menu.

To close the Intel® Management and Security Status icon and application:

Right-click the icon and choose **Exit**.

The following sections describe the information available in the application's tabs. More information about the application is available by clicking either the **Learn more** button  or link.

4.1 **General Tab**

The **General** tab provides basic information about the Intel® AMT, Intel® RPAT and Intel Standard Manageability status and events.



Events and some of their details are displayed in the **Event History** section. These can be sorted by clicking on the relevant column header.

The status of Intel® AMT and Intel® RPAT is displayed in the **Service Status** section. The status is one of the following:

- Intel® AMT: Configured / Un configured / Not supported / Information unavailable.
- Intel® RPAT: Enabled / Disabled
- Intel Standard Manageability: Configured / Un configured / Not supported / Information unavailable

Intel Management and Security Status will be available next time I log on to Windows: Checking this box causes the Intel® Management and Security Status Application to be invoked, and the icon to be displayed, whenever you log on to Windows*.

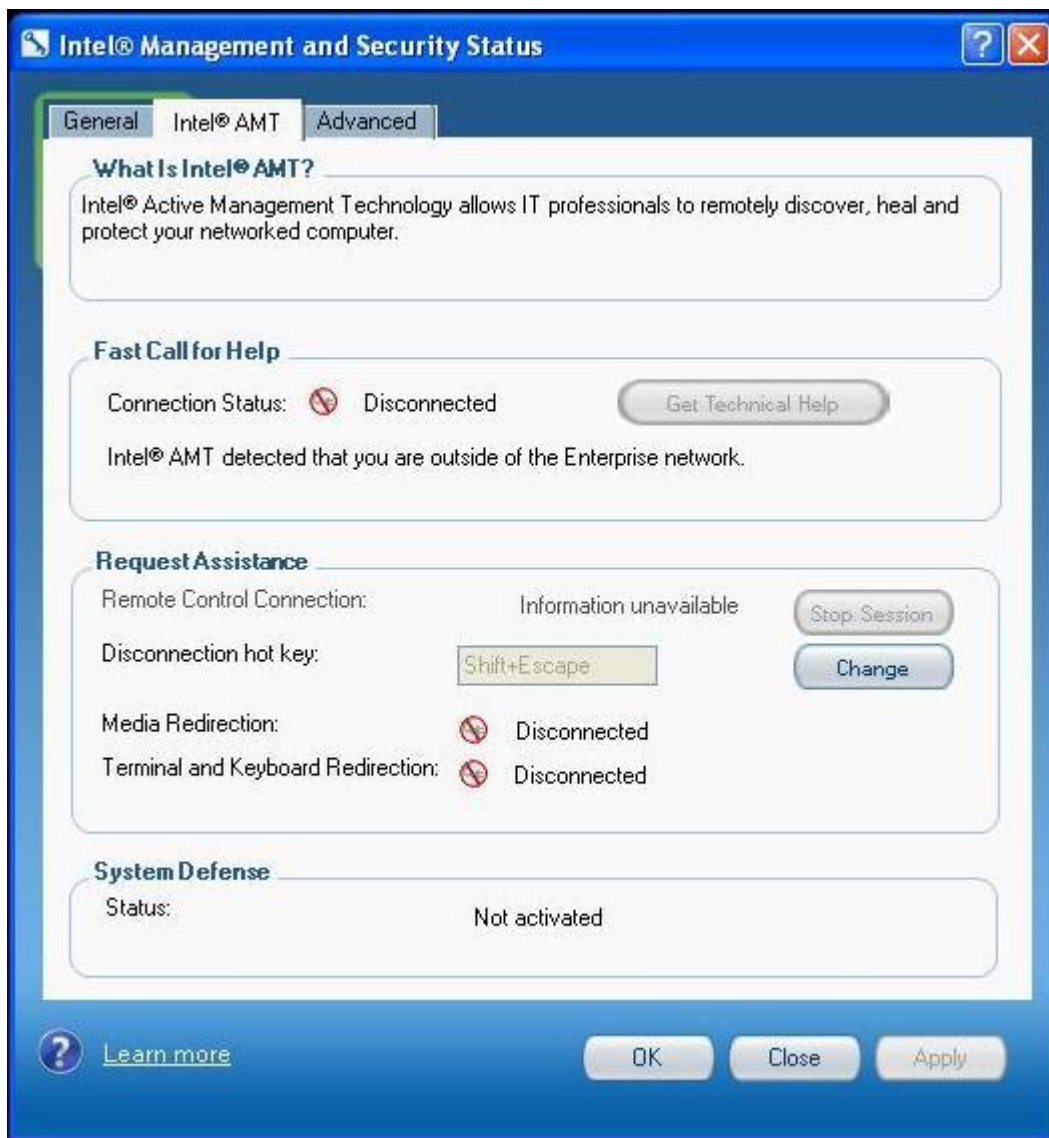
Note: The application does not load automatically with Windows* log-on if all the technologies it displays (Intel® AMT, Intel® RPAT and Intel Standard Manageability) are disabled in the system.



Enable user notification: Allow the Intel® Management and Security Status icon to display notifications in the notification area when one of the technologies is enabled or disabled.

4.2 Intel® AMT Tab

Click the **Intel® AMT** tab to display Intel® AMT information.





4.2.1 Fast Call for Help

The Fast Call for Help section provides CIRA (Client Initiated Remote Access) or CILA (Client Initiated Local Access) capabilities depending on whether the system is connected to the corporate network or not, respectively.

CIRA allows a user to connect the Intel® AMT system to the company's Information Technology network from an external internet connection. Click the **Get Technical Help** button to connect to your Information Technology network for system diagnostics and maintenance. The current connection status is displayed in this section as well.

Starting from Intel® AMT 5.1, CILA (Client Initiated Local Access) feature was added to this section. This feature allows a user connected to the internal corporate network to send a support request to the IT administrator.

Note: The information displayed in the Intel® Management and Security Status, including the Fast Call for Help section, is not shown in real time. The data is refreshed every 10 seconds.

4.2.2 Request Assistance section

The following information is provided:

- **Remote Control Connection**

Indicates whether there is any open KVM (Keyboard, Video & Mouse) Remote Control session.

Click the Stop Session button to close an open Remote control session.

- **Disconnection hot key**

Indicates what is the hot key used to close an open KVM (Keyboard, Video, Mouse) Remote Control session.

Click on the Change button to choose a different hot key for terminating an open KVM Remote control session

- **Media Redirection**

Indicates whether there are any open IDE redirection sessions.
Possible values: IDER activated / Not activated.

- **Terminal/Keyboard Redirection**

Indicates whether there are any open terminal/keyboard redirection sessions.
Possible values: SOL activated / Not activated.

4.2.3 System Defense State

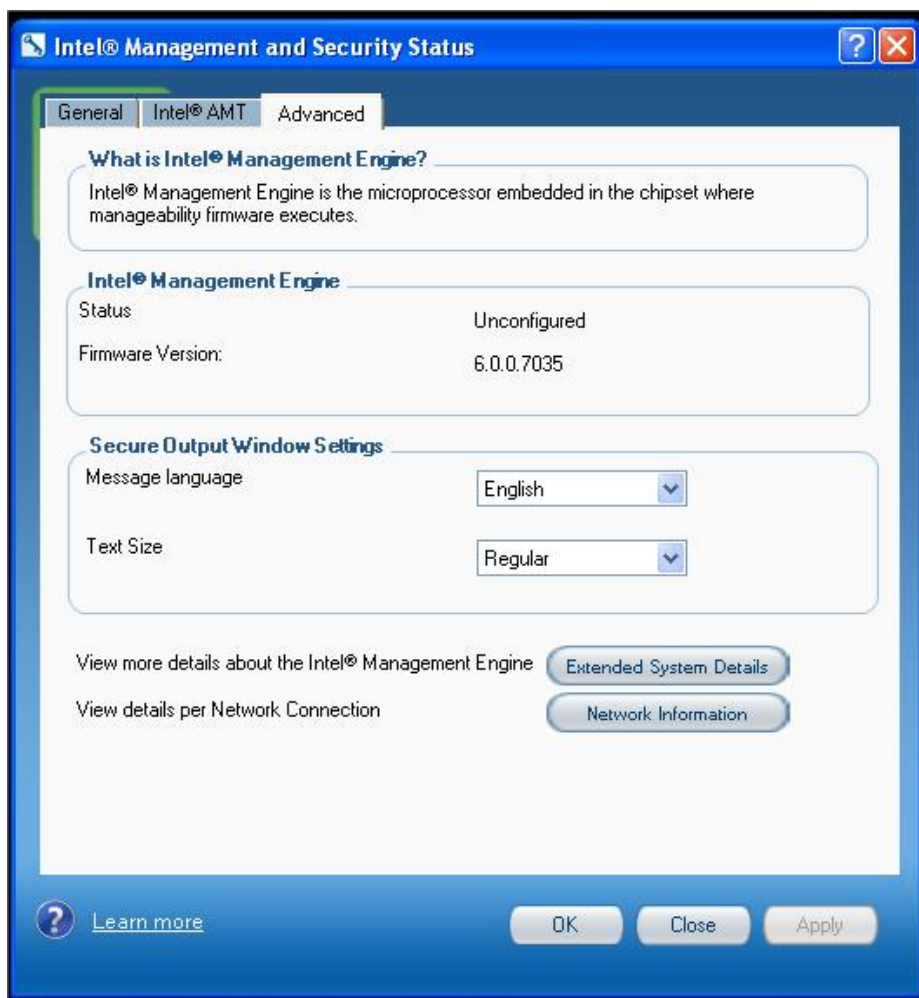
- **System Defense State**



Indicates whether System Defense is currently active.
Possible values: Activated / Not activated.

4.3 Advanced Tab

Click the **Advanced** tab to view additional information.



4.3.1 Intel® Management Engine

The following information is provided:

- **State**

The operational status of Intel® AMT.
Possible values: Configured / Un configured / Not supported / Information unavailable.



- **Firmware Version**

The Intel® AMT firmware version.

4.3.2 Secure Output Window Settings

The following information is provided for the Secure Output feature, currently implemented in KVM (keyboard/video/mouse) redirection:

- **Message Language**

Specifies the language used by the Secure Output feature. Choose one of the following: **English**, **French**, **German**, **Chinese** (traditional), **Japanese**

- **Text Size**

Specifies the font size of messages displayed by Secure Output Feature. Choose one of the following: **Regular** or **Large**

4.3.3 Extended System Details

When you click Extended System Details, the following information is displayed:



- **Intel® MEI Driver**

The version of the Intel® Manageability Engine Interface driver.

- **LMS**

The version of the LMS service.

- **Power Policy**



The power policy which is currently in effect.
States are: ON in S0, or any other power policy supported by the system.

- **Last Intel® ME Reset Reason**

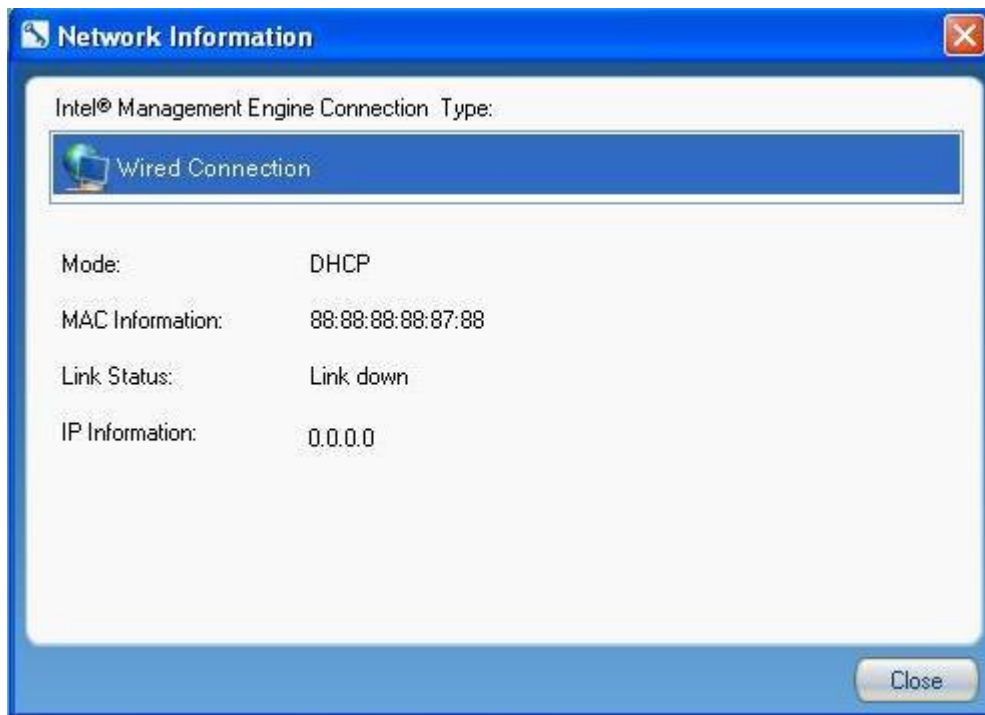
Displays the reason that the Intel® AMT was last reset.
Possible values: Global System / FW reset / Power Up / Unknown cause /
Information unavailable

- **System UUID**

The current System Unique Universal Identification. Standard System UUID presentation, such as, 03000200-0400-0500-0006-000700080009.

4.3.4 Network Information

Click the **Network Information** button to display network details regarding Intel® AMT wireless and wired connectivity.



In the **Interface Type** section, click either **Wireless Connection** or **Wired Connection** to display information on the following items for the selected interface:

- **Mode**

Possible values: Static / DHCP



- **MAC Information**

XX:XX:XX:XX:XX:XX – e.g. 88:88:88:0A:88:87

- **Link Status**

Whether the link is currently active.
Possible values: Link down / Link up

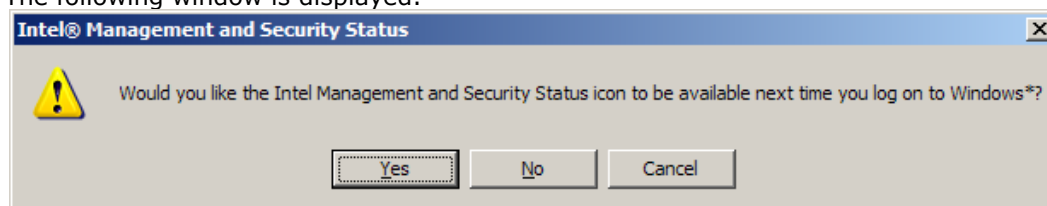
- **IP Information**

X.X.X.X – e.g. 10.102.0.1

4.4 Exiting the Application

To exit the application, right click on the Intel® Management and Security Status Application icon in the notification area and select **Exit**.

The following window is displayed.



Click **Yes** to automatically start the Intel® Management and Security Status application when you next log on.

Note: The application never loads with Windows* log on if all the technologies it displays (Intel® AMT, Intel® RPAT or Intel Standard Manageability) are disabled in the system.



5 *Advanced Configuration*

5.1 General tab logo

The logo displayed in the general tab can be substituted in order to match the visual identity of the computer supplier. For example, a particular manufacturer may prefer to display the company's logo.

To change the logo, add a bitmap file called **oemlogo.bmp** to the Intel® Management and Security Status folder (located at **Program Files\ Intel\ Intel ® Active Management Technology\IMSS**). The default logo will appear if the bitmap file is invalid or absent.

Note: The bitmap dimensions must be 62 (width) by 48 (height), as the logo is not resized to match the logo size in the general tab.

5.2 Load on Start Up

By default, Intel® Management and Security Status loads on windows startup. A user can uncheck the **Intel Management and Security Status will be available next time I log on to Windows** check box to prevent it from happening, or a system setting can be changed to override the user selection and never load the application on startup.

To disable application load on startup for all users, add a value named **disableonstartup** with data **1** to the **HKLM\SOFTWARE\Intel\PIcon\Setting** key in the registry.

To return to the default behavior, change the data of the same value to **0**, or delete the value.

Note: The application will still be available from the Start Menu, regardless of the value in this registry key.

Note: This setting in the registry overrides the user selection in the main tab check box.

5.3 'Click here for more details' link

By default, clicking the '**Click here for more details**' inside the **Learn More** dialog will direct the user to the official Intel Corporation - Privacy website.

The link pointed to by the '**Click here for more details**' text inside the **Learn more** dialog can be modified to point to a page of the manufacturer's choice.

To perform this change, add a value named **HelpURL** with the URL of your choice (e.g. <http://www.intel.com/>) to the **HKLM\SOFTWARE\Intel\PIcon\Setting** key in



the registry.
To return to the default behavior, simply delete the value.



6 *Troubleshooting Intel® Management and Security Status*

6.1 Error message appears upon application load

.NET applications fail when executed in an environment that has no .NET framework installed. Microsoft does not provide a safeguard mechanism in such conditions.

The Intel® Management and Security Status will display the following error message if no .NET framework is present in the system:



To prevent this, install a suitable Microsoft* .NET framework – see section 3 for more details.

6.2 Application takes a long time to load

In Intel® AMT 4.0, if the machine is connected to a network, but without internet access, the status application may take up to 2 minutes to load while the system retrieves the Digital Signature Certificate information (it will not prevent other software from loading or stop the operating system from being operational).

To avoid this situation, please follow one of the options below:

1. Internet Access – Provide Access to the revocation list at VeriSign site by granting an open Internet connection with firewall permissions to access the Verisign query (located at <http://CSC3-2004-crl.verisign.com/CSC3-2004.crl>).
2. Changing Internet explorer settings – This will disable the certificate revocation checking for the entire system: Navigate to **IE -> Tools -> Internet Options-> Advanced** and uncheck the **Check for publisher's certificate revocation** box.



Note: Modifying this Internet Explorer option will disable the certificate revocation checking for the entire system.

3. Unsigned application – use the unsigned version of the executable, available in the kit under the **unsigned_IMSS** folder (just replace one file by the other).
4. .Net framework 3.5 - Install the .Net framework 3.5 and create a file named **PrivacyIconClient.exe.config** alongside the **PrivacyIconClient.exe** with the following content:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <runtime>
    <generatePublisherEvidence enabled="false"/>
  </runtime>
</configuration>
```
5. Manual download of the revocation list – Manually download the Certificate Revocation List from VeriSign at <http://crl.verisign.com> and install it on the system. The CRL is valid for 10-15 days, so this step must be repeated in a frequent base.

6.3 'Information Unavailable' is displayed instead of technology status

The Intel® Management and Security Status icon relies on the User Notification Service, which is installed together with the Intel® Management and Security Status, to obtain information concerning the status of the resident technologies. Please make sure that:

1. The User Notification Service is running and started automatically on Windows* startup. If it is not installed, please reinstall the drivers according to section 3.
2. The Local Manageability Service (LMS) is running and started automatically on Windows* startup. If it is not installed, please reinstall the drivers according to section 3.
3. The Intel® MEI driver is installed, enabled and functioning properly. Please review the Bring Up Guide document for more information concerning this driver.

6.4 Client Initiated Remote Access Connection failure

Failure to connect to the Information Technology network can be caused by the following:

1. The User Notification Service is not running. It can be started through the Services pane in the Computer Management window. If it is not installed, please reinstall the drivers according to section 3.



2. The network cable is disconnected, or the network connection is not configured properly.

If the actions above don't resolve the problem, it is recommended to contact your Information Technology department.