

Intel® vPro™ Technology Use Case Reference Design

EZ Help Desk Permissions Manager

Revision 1.2

January, 2011

Document ID: 1064

Revision History

Revision	Revision History	Date
1.0	Initial release.	November, 2009
1.1	Changed document title.	June 2010
1.2	Updated minimum permission requirements.	January, 2011

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.

EXCLUSION OF OTHER WARRANTIES. THIS DOCUMENT 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 does not warrant or assume responsibility for the accuracy or completeness of any information, text, graphics, links or other items contained within the Software.

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 Intel® Active Management Technology 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.

Copies of documents which have an order number and are referenced in this document, or other Intel literature, may be obtained by calling 1-800-548-4725, or by visiting Intel's Web Site.

Intel® Active Management Technology requires the computer system to have an Intel(R) 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/

Throughout this document Intel ME refers to Intel® Management Engine and Intel® AMT refers to Intel® Active Management Technology.

Intel, the Intel logo, Intel® AMT, and Intel® vPro™ are trademarks or registered trademarks of Intel Corporation in the United States and other countries.

*Other names and brands may be claimed as the property of others.

Copyright © 2009-2011 Intel Corporation. All rights reserved.

Contents

1	Preface	5
1.1	Document Scope and Intended Audience	5
2	Introduction	6
2.1	Prerequisites of Document Example	6
2.2	Process Overview	6
3	Help Desk User Permission Framework Configuration Process	7
3.1	Add an Active Directory Group	7
3.2	Adjust the Intel AMT Profile Settings in ConfigMgr	8
4	Appendix A: Reconfiguring Existing Systems	10
4.1	Reconfigure a Single Managed System	10
4.2	Reconfigure Multiple Managed Systems	10
4.2.1	Create a Collection of Clients with Intel vPro Technology	10
4.2.2	Download the Script	13
4.2.3	Prepare for Software Distribution	13
4.2.4	Create the Package	13
4.2.5	Add a Program to Your Package	14
4.2.6	Add a Distribution Point	15
4.2.7	Advertise the Package	16

Figures

Figure 1:	Adding a New Group	7
Figure 2:	The New Group is Displayed at Right	8
Figure 3:	Query Rules Property Button	11
Figure 4:	New Criteria Button	11
Figure 5:	Collection View Menu	12
Figure 6:	The Copy Package Screen of the Distribution Points Wizard	15
Figure 7:	Security Permissions	17

1 Preface

Intel® Active Management Technology (Intel® AMT) provides many features that can be used by an IT support help desk. For a help desk staffer to take advantage of these features, he or she needs a user account in Intel AMT. This use case reference design puts forth a framework for managing help desk staffer's users and their Intel AMT permissions with Microsoft* Configuration Manager 2007 (ConfigMgr) and Active Directory integration.

1.1 Document Scope and Intended Audience

This document is intended for the IT Administrator planning a deployment of systems with Intel® vPro™ technology for use by the IT help desk staffers. It describes how to configure Active Directory and ConfigMgr so that help desk user accounts and Intel AMT permissions can be managed through Active Directory. It does not cover setup and configuration of Intel AMT or use of Intel AMT by a help desk staffer. For information on that topic, follow the link below.

<http://communities.intel.com/docs/DOC-4309>

2 Introduction

2.1 Prerequisites of Document Example

An example deployment is used to illustrate the process described in this document. The steps outlined in the document example have the following requirements:

ConfigMgr Server	ConfigMgr 2007 Service Pack 1 or 2, configured for use with Intel vPro technology. See the following link: <ul style="list-style-type: none">• http://www.microsoft.com/systemcenter/configurationmanager/en/us/default.aspx
------------------	--

2.2 Process Overview

Deploying Intel vPro technology for help desk use presents some challenges. In the simplest deployment, the help desk's users would have full access to the Management Console, with administrative rights in Intel AMT. However, this is not always possible or desirable. As such, the help desk's staff must be enabled with tools to take advantage of Intel vPro technology. Also, the help desk's user accounts must be managed in the Intel AMT firmware to allow them access to use Intel vPro technology without giving them full administrative rights.

This framework describes the user account management aspect of this problem. By configuring ConfigMgr, Active directory, and Intel AMT in the manner described, the help desk's users can be granted help desk level access to Intel AMT by simply adding them to an Active Directory group.

Phase description	The IT Professional performs tasks to prepare Active Directory, ConfigMgr, and Intel AMT profile settings.
Phase prerequisites	Prerequisites in section 2.1 above are met.
Phase flow	<ol style="list-style-type: none">1. Add an Active Directory group.2. Adjust the Intel AMT Profile settings in ConfigMgr.
Phase outcome	ConfigMgr will set up and configure Intel AMT in such a way that help desk user permissions can be managed using an Active Directory group.

3 Help Desk User Permission Framework Configuration Process

This chapter and its subsections describe the framework's configuration process.

3.1 Add an Active Directory Group

In this section you will add a new group to Active Directory (AD). When Active Directory users are added to this group, they will automatically gain access to Help Desk level permissions in Intel AMT. When you remove a user from the group, that user will lose this access.



NOTE

The following steps were performed on Windows Server 2008 Datacenter, which is shown in the illustrative figures.

On your Domain Controller:

1. Click **Start -> Programs -> Administrative Tools -> Active Directory Users and Computers**.
2. Right-click the desired org unit (in the document example we use **Validation**, as shown in Figure 1) and choose **New -> Group** from the menu.

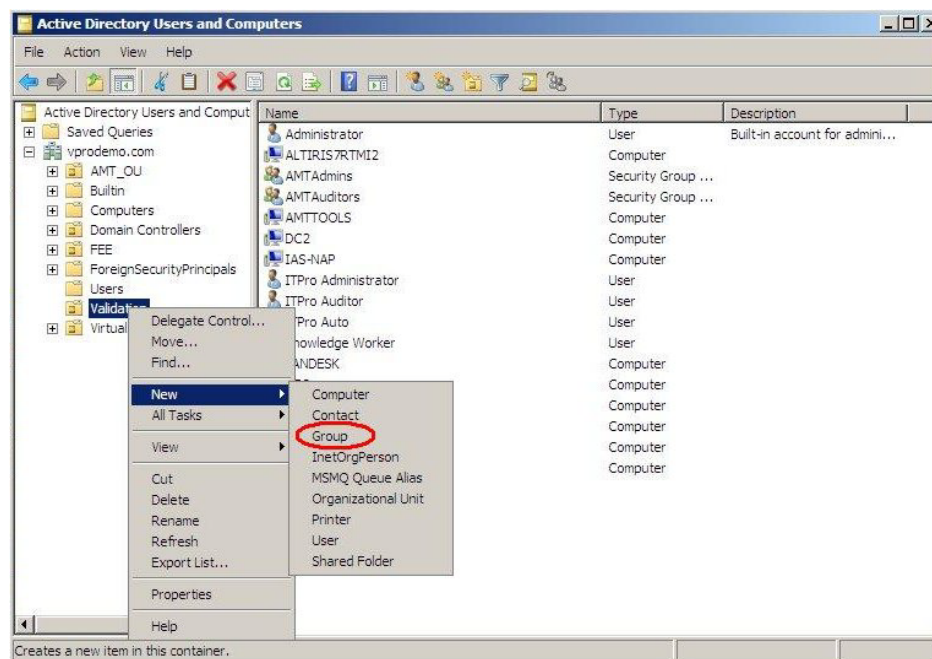


Figure 1: Adding a New Group

3. Enter a name for your group. In this document example we name it **IntelAMTHelpDesk**.
4. Leave the default values for **Group Scope** and **Group Type** and click **OK**. Your new group appears in the right-hand pane, as shown in Figure 2.

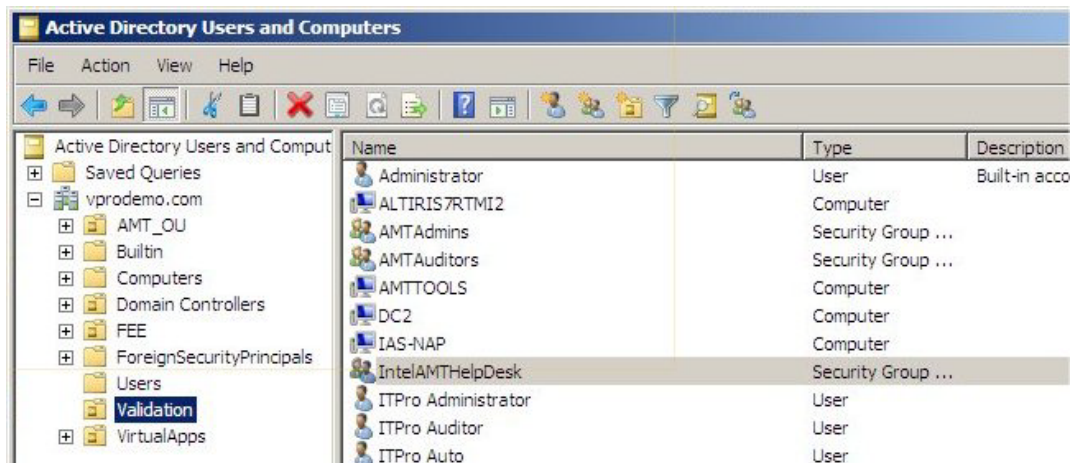


Figure 2: The New Group is Displayed at Right

3.2 Adjust the Intel AMT Profile Settings in ConfigMgr


In this section you will adjust the Intel AMT profile in ConfigMgr to make use of the new AD group you created in the previous section. You will set the appropriate Help Desk level permissions on this group. By adjusting the profile, you are specifying that this new AD group be added at the firmware level whenever Intel AMT is set up and configured. This causes Intel AMT to verify access requests against users in this AD group.



NOTE

If you have systems with Intel vPro technology that are already configured you must reconfigure them to take advantage this new setting. See the Appendix A on page 10 for detailed steps.

On your ConfigMgr console machine, perform the following steps:

1. Open the ConfigMgr console.
2. Navigate to **Site Database -> Site Management -> <your site> -> Site Settings -> Component Configuration**.
3. Double-click **Out of Band Management**.
4. Choose the **AMT Settings** tab.
5. Click the **New** icon () in the **AMT user accounts** section.
6. Click **Browse**.

7. Select the group you added in section 3.1 above and click **OK**.
8. Select the permissions you want your help desk user to have. The recommended minimum is:
 - **Media Redirection** – allows them to perform SOL/IDER and KVM sessions
 - **Remote control** – allows them to reboot the managed client as needed
 - **General Information** - allows them to get Intel AMT version information

In addition, the following permissions may also be useful to a help desk user:

- **Event Log reader** - allows them to read firmware events
 - **Hardware Information** - allows them to get out of band inventory information prior to sending a local technician with proper repair parts
9. When you have selected the desired permissions, click **OK** to save settings and close the AMT User Account Settings dialog.
 10. In the Out of Band Management Properties dialog, click **OK** to save settings and close the dialog.

At this point, whenever systems with Intel vPro technology are initially set up and configured, they will automatically begin using this AD group. To manage your help desk users' permissions, simply add or remove their accounts to and from this group. When a user attempts to access Intel AMT, the firmware will verify the user against the AD group to determine their level of access based on the selections you made above.

If you have existing systems with Intel vPro technology that have already been set up and configured, see the following appendix for information on reconfiguring them so that they, too, will use this new Active Directory group.

4 Appendix A: Reconfiguring Existing Systems

The information in this appendix describes how to reconfigure managed systems with Intel vPro Technology that have already been configured through ConfigMgr prior to creating the help desk permissions framework. By reconfiguring your existing systems, you will enable these systems to be managed using the help desk permissions framework you have created.

4.1 Reconfigure a Single Managed System

Follow the steps below on your ConfigMgr console to reconfigure an existing, previously configured managed system with Intel vPro technology:

1. Expand **System Center Configuration Manager -> Computer Management -> Collections -> All Systems**.
2. Select the system you want to reconfigure, then right-click it.
3. From the menu, select **Out of Band Management -> Update Provisioning Data in Management Controller Memory**.

4.2 Reconfigure Multiple Managed Systems

To reconfigure multiple managed systems, you will need to create and push a software package in ConfigMgr. The package you create will contain a script that will make a WMI call to trigger the reconfiguration action. The following sections lead you through this process.

4.2.1 Create a Collection of Clients with Intel vPro Technology

If you have not already done so, create a ConfigMgr collection of clients with Intel vPro technology by performing the steps in this section.

The first step in reconfiguring multiple managed systems is to identify the PC client manufacturers and models in your IT environment that have Intel vPro technology. In this section you will create a collection of clients that have Intel vPro technology using collection membership rules. Follow the steps below to create a ConfigMgr collection of clients that have Intel vPro technology.

In the ConfigMgr Console, perform the following steps:

1. In the left-hand navigation pane, expand **System Center Configuration Manager -> Site Database > Computer Management -> Collections**.
2. Right-click on **All Systems** and select **Out of Band Management -> Discover Management Controllers**.
3. Right-click on **Collections** and select **New > Collection** from the menu.

4. In the General screen of the New Collections Wizard, enter a name for your collection (in the document example we use "Intel AMT Capable Systems").
5. Click **Next**.
6. Click on the **Query Rules Property button**. The button icon is a yellow data base as shown in Figure 3.

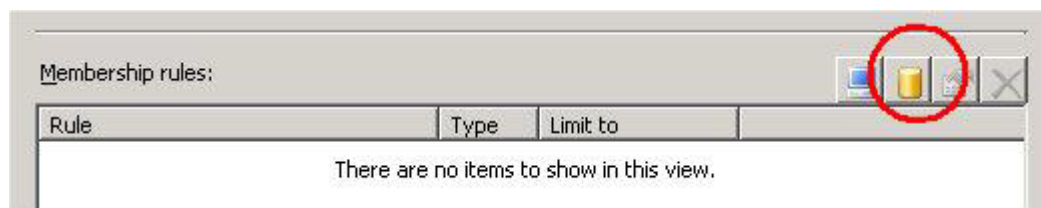


Figure 3: Query Rules Property Button

7. In the Query Rules Properties dialog, enter a name for the Query. In the example we use **Intel AMT Versions**.
8. In the **Resource Class** drop down menu, select **System Resource** (default).
9. Click **Edit Query Statement**.
10. Select the **Criteria** tab.
11. Click the **New Criteria** button as shown in Figure 4 below.

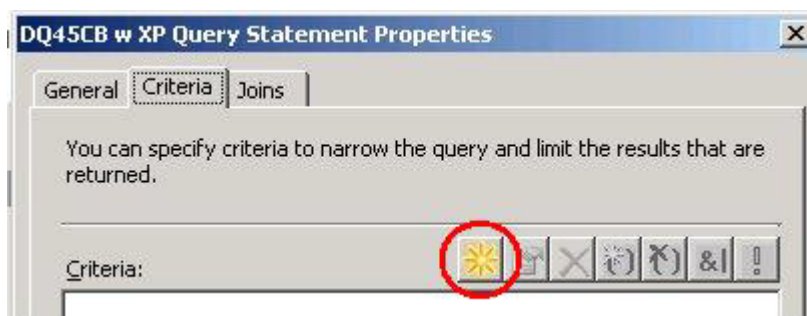


Figure 4: New Criteria Button

12. In the Criterion Properties dialog, select **Null Value** from the **Criterion Type** drop down menu.
13. Click **Select** and enter the following information:
 - **Attribute Class** = AMT Agent
 - **Attribute** = AMT
14. Click **OK**.
15. For the **Operator** field, select **is not NULL** (default) from the drop-down menu and click **OK**.
16. In the Query Statement Properties dialog, click **OK**.
17. In the Query Rules Properties dialog, click **OK**.
18. In the Membership Rules screen, click **Next**.
19. In the Advertisements screen, click **Next**.

20. In the Security screen, click **Next**.
21. In the Confirmation screen, click **Close**.
22. In the left-hand pane of the ConfigMgr Console, right-click on your new collection (**Intel AMT Capable Systems** in the document example) and select **Update Collection Membership** from the menu.
23. Click **OK** in the warning dialog.
24. In the left-hand navigation pane, under **Collections**, select your new collection (**Intel AMT Capable Systems** in the document example).
25. Right-click on the selected collection (**Intel AMT Capable Systems**) and then select **View -> Add/Remove Columns...** from the menu, as shown in Figure 5 below.

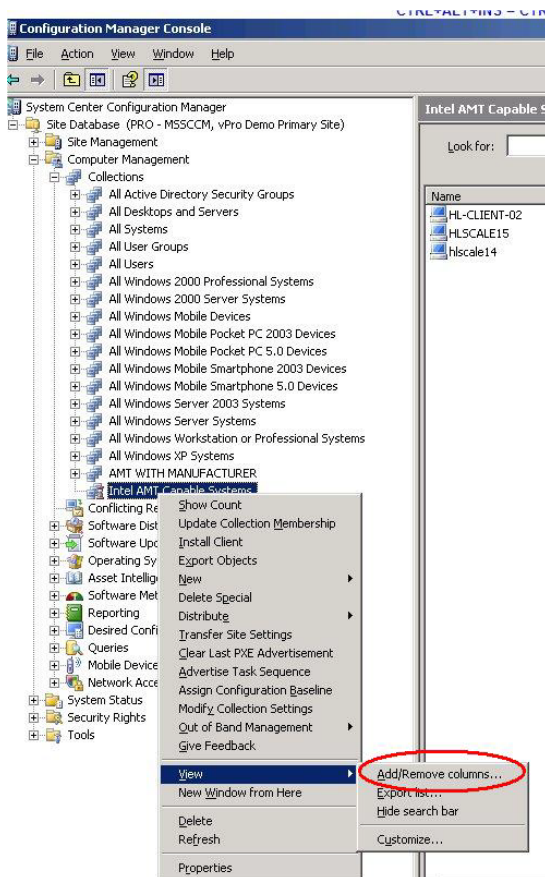


Figure 5: Collection View Menu

26. In the Add/Remove Columns dialog, select **AMT Version** in the left-hand pane and click **Add ->** to add this column to the displayed columns (shown in right-hand pane).
27. Click **OK**.

4.2.2 Download the Script

Download the script used to reconfigure the managed systems with Intel vPro technology.

1. Download <http://communities.intel.com/docs/DOC-3815>.
2. Add permissions for an AD user to run this script on your collection of Intel AMT capable clients. Documentation included with the script describes this process.

4.2.3 Prepare for Software Distribution

Perform the following steps to prepare for software distribution.

1. Open a text editor like Notepad and enter the following lines:

```
@echo off
cscript sccmamtmgnt.vbs /s:<msscmm.vprodemo.com> /c:<PRO> /a:updatemc
/u:<vprodemo\itproadmin> /p:<P@ssw0rd>
```

2. Replace items in <>'s with your information (**Note:** do not include the <>'s):
 - <msscmm.vprodemo.com> = FQDN of your ConfigMgr server
 - <PRO> = Your ConfigMgr site code
 - <vprodemo\itproadmin> = the Active Directory user you granted access to in the step above
 - <P@ssw0rd> = the above user's password
3. Save the file as **re_cfg.bat**.
4. Copy **re_cfg.bat** and **sccmamtmgnt.vbs** to a network share that ConfigMgr can access. In the document example we use **\\dc1\public\re_cfg**.

4.2.4 Create the Package

In the ConfigMgr Console, perform the following steps:

1. In the left-hand navigation pane, expand **System Center Configuration Manager -> Site Database > Computer Management -> Software Distribution -> Packages**.
2. Right-click **Packages** and select **New-> Package** from the menu.
3. In the General screen of the New Package Wizard, enter a name for the package (in the document example we use "Reconfigure Intel vPro").
4. Enter information for Version, Manufacturer, Language, and Comment, then click **Next**.
5. In the Data Source screen, select **This package contains source files**.
6. Under Source Version, click **Set** to set the source directory.
7. In the Set Source Directory dialog, leave **Network Path (UNC Name)** selected and enter the source directory (in the document example we use **\\dc1\public\re_cfg**). Or, click **Browse** to navigate to the desired source

directory. Once the source directory is set, click **OK** to close the Set Source Directory dialog.

8. Ensure **Always obtain files from the source directory** is selected (default).
9. Click **Next**.
10. In the Data Access screen, leave the default values and click **Next**.
11. In the Distribution Settings screen, leave the default values and click **Next**.
12. In the Reporting screen, leave the default values and click **Next**.
13. In the Security screen, ensure that the security rights are correct for your PC clients, then click **Next**.
14. In the Summary screen, review the package details and click **Next**.
15. In the Wizard Completed screen, click **Close**.

4.2.5 Add a Program to Your Package

Follow the steps below to add a program to your package.

1. Launch the Configuration Manager Console if it is not already running.
2. In the left-hand navigation panel, expand **System Center Configuration Manager -> Site Database -> Computer Management -> Software Distribution -> Packages -> Your Package Name -> Programs** (in the example, the package name is "Reconfigure Intel vPro").
3. Right-click **Programs** and select **New -> Program** from the menu.
4. In the General screen of the New Program Wizard, enter a name for the program in the **Name** field (in the example we call it "Reconfigure Intel vPro").
5. Click **Browse** and select **re_cfg.bat**.
6. For the **Run:** field, select **Normal** from the drop-down menu.
7. For the **After running:** field, select **No Action Required** from the drop-down menu.
8. Click **Next**.
9. In the Requirements screen, leave **Estimated disk space** as **Unknown** (default).
10. Leave **Maximum allowed run time** at **120**.
11. Select **This program can run on any platform**.
12. In the Environment screen, select **Whether or not a user is logged on** for the **Program can run:** field.
13. Under Run Mode, select **Run with administrative rights** (default).
14. DO NOT select **Allow users to interact with this program**. This ensures that the VBscript console window is hidden.
15. Under **Drive Mode**, leave **Runs with UNC name** selected, then click **Next**.
16. In the Advanced screen, leave the default values and click **Next**.
17. In the Windows Installer screen, leave the default values and click **Next**.
18. In the MOM Maintenance Mode screen, leave the default values and click **Next**.
19. In the Summary screen, review the program details and click **Next**.
20. In the Wizard Completed screen, click **Close**.

4.2.6 Add a Distribution Point

Follow the steps below to add a distribution point for your new package.

1. Launch the Configuration Manager Console if it is not already running.
2. In the left-hand navigation panel, expand **System Center Configuration Manager -> Site Database -> Computer Management -> Software Distribution -> Packages -> Your Package Name -> Distribution Points** (in the example, the package name is "Reconfigure Intel vPro".)
3. Right-click **Distribution Points** and select **New Distribution Points** from the menu.
4. In the Welcome screen of the New Distribution Points Wizard, click **Next**.
5. In the Copy Package screen, select the Distribution Points that you want the package to be copied (in the example, the Distribution Point is the server MSSCCM).

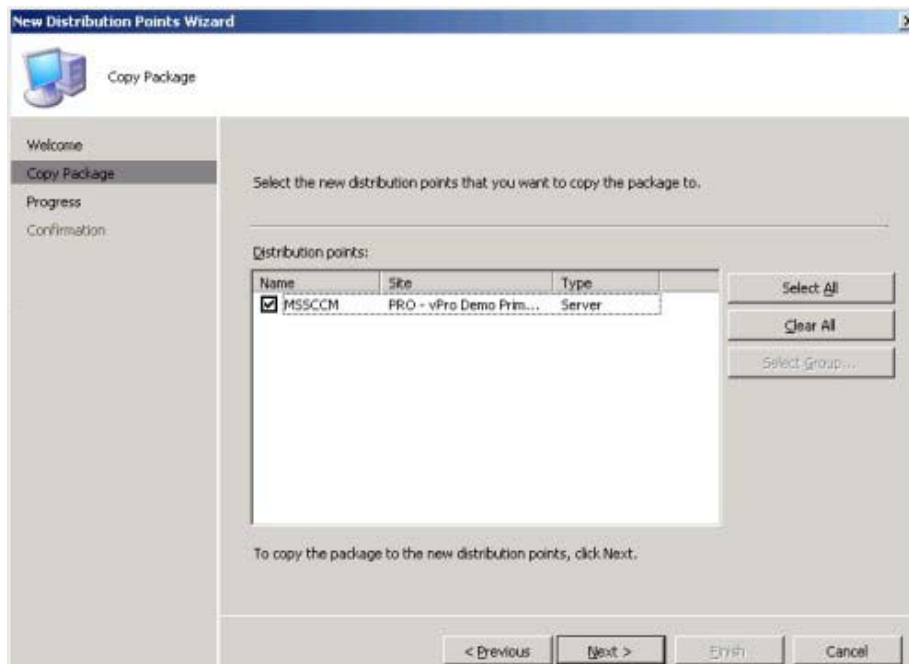


Figure 6: The Copy Package Screen of the Distribution Points Wizard

6. Click **Next**.
7. In the Wizard Completed screen, click **Close**.
8. In the left-hand pane, under the package you created, right-click on **Distribution Points** and select **Update Distribution Points** from the menu.
9. Click **Yes** in the warning dialog.

4.2.7 Advertise the Package

Follow the steps below to advertise your new package to your clients with Intel vPro technology.

1. Launch the Configuration Manager Console if it is not already running.
2. In the left-hand navigation panel, expand **System Center Configuration Manager -> Site Database -> Computer Management -> Software Distribution -> Advertisements**.
3. Right-click **Advertisements** and select **New -> Advertisement** from the menu.
4. In the General screen of the New Advertisement Wizard, enter a name for the Advertisement in the Name field (in the example we use "Reconfigure Intel vPro").
5. For the Package field, click **Browse**, then select your package (**Intel AMT Firmware Update Package** in the document example) in the Select a Package dialog and click **OK**.
6. For the Program field, ensure that your program ("Reconfigure vPro" in the document example) is selected.
7. For the Collection field, click **Browse**.
8. In the Browse Collection dialog, select the collection that you created containing clients with Intel vPro technology (**Intel AMT Capable Systems** in the document example) and click **OK**.
9. Click **Next**.
10. In the Schedule screen, configure the Advertisement start time and click **Next**.
11. In the Distribution Points screen, under **When a client is connected within a fast (LAN) network boundary:**, select **Download content from distribution point and run locally**.
12. Under **When a client is connected within a slow or unreliable network boundary:** select **Download content from distribution point and run locally**.
13. Leave **Allow clients to fall back...** selected (default).
14. Click **Next**.
15. In the Interaction screen, leave default values and click **Next**.

16. In the Security screen, ensure that the program has administrator privileges when executed, including Read, Modify, and Delete (see Figure 7 below).

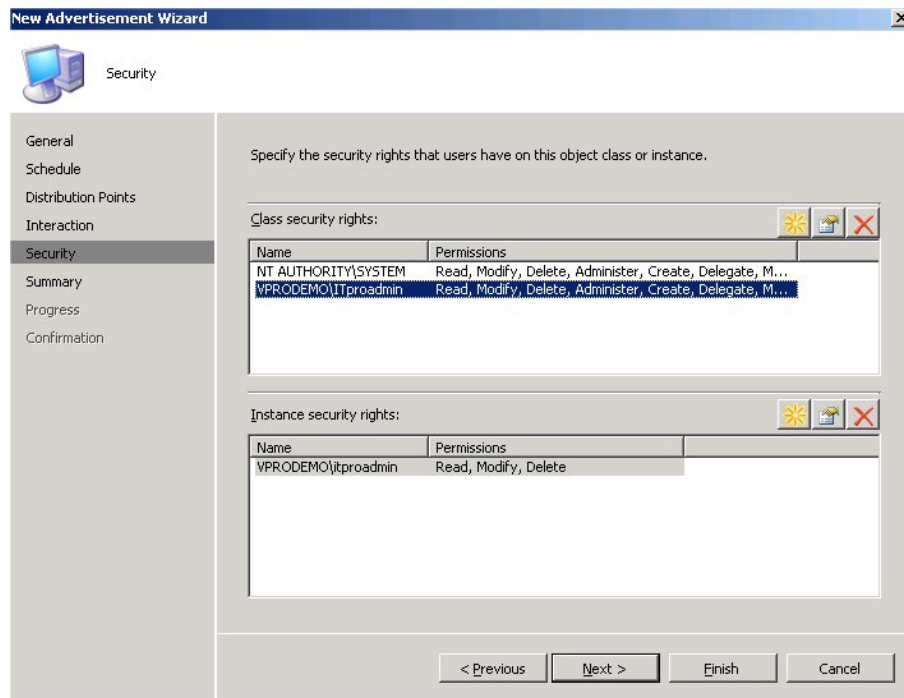


Figure 7: Security Permissions

17. Click **Next**.
18. In the Summary screen, click **Next**.
19. In the Wizard Completed screen, click **Close**.

And that's it. You're done. The script will be delivered to your systems with Intel vPro Technology. When they execute it they will receive your new configuration.