DEPLOYING VMWARE TOOLS USING SCCM USER GUIDE

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Intended Audience

This information is intended for administrators or specialists responsible for VMware Tools deployment using SCCM 2016.
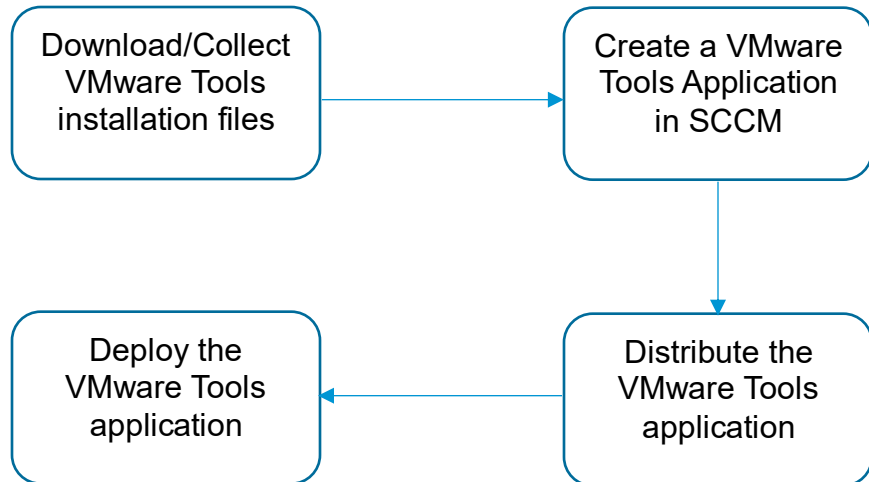
Document conventions

Conventions	Description
Bold	Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text.
	Interface controls (check boxes, push buttons, radio buttons, spin buttons, text boxes, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as Tip and Operating system considerations)
	Keywords and parameters in text.
Italic	Emphasis of words (words as words)
	Variables and values you must provide
`Monospace`	Examples and code examples
	File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
	Message text and prompts addressed to the user
	Text that the user must type
	Values for arguments or command options

Support

To deploy VMware Tools using SCCM and for any troubleshooting queries, contact the support team.

vmware®

Deployment Workflow

```
┌──────────────────────┐          ┌──────────────────────┐
│   Download/Collect    │          │    Create a VMware    │
│    VMware Tools       │ ───────▶ │  Tools Application    │
│   installation files  │          │      in SCCM          │
└──────────────────────┘          └──────────────────────┘
                                              │
                                              ▼
┌──────────────────────┐          ┌──────────────────────┐
│     Deploy the        │          │    Distribute the     │
│    VMware Tools       │ ◀─────── │    VMware Tools       │
│    application        │          │    application        │
└──────────────────────┘          └──────────────────────┘
```

System Requirements

Following are the requirements for deploying VMware Tools using SCCM.

Software requirements

- Windows Server 2016 and SCCM 2016

Supported products and versions

| Environment	Version/Model	Description
VMware vSphere	vSphere 6.5 vSphere 6.0	The vSphere Server which Windows VMs run on
VM Guest OS	Windows Server 2016 Windows 10 Windows Server 2012 Windows Server 2008 Windows 8.1 Windows 7	The Windows Guest OS to deploy VMware Tools to using SCCM 2016
VMware Tools	10.2.0 10.1.15 10.1.10 10.1.7 10.1.5 10.1.0 10.0.9 10.0.8 10.0.6 10.0.0	The VMware Tools to deploy using SCCM 2016

The Deployment Process

Download VMware Tools installation package

The following steps provide details to download VMware Tools installation package.

1. **Download and extract VMware Tools installation files**
   a. Open and login to VMware website
      https://my.vmware.com/web/vmware/downloads
      Note, register an account if don't have one:
      https://my.vmware.com/web/vmware/registration
   b. In the **All Products** - **Datacenter & Cloud Infrastructure** category, click "**Drivers & Tools**" of **VMware vSphere**
   c. In the download page, expand **VMware Tools**, and download the version we want
   d. Extract the downloaded compressed package and windows.iso file, then put the VMware Tools installation files to a location where SCCM can access.
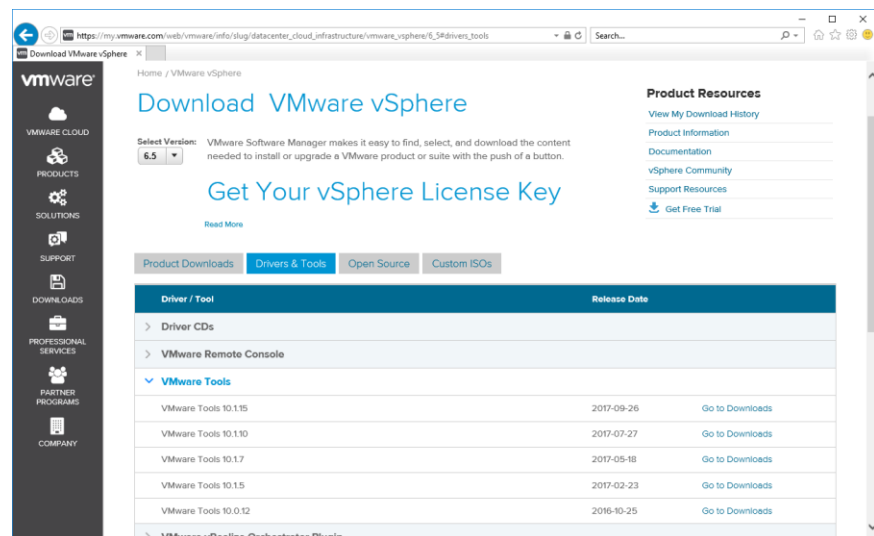
Create a VMware Tools Application

The following steps provide details on how to create the VMware Tools application.

1. **Start the Create Application Wizard**
    a. In the Configuration Manager console, click **Software Library**.
    b. In the **Software Library** workspace, expand **Application Management**, and then click **Applications**.
    c. On the **Home** tab, in the **Create** group, click **Create Application**.
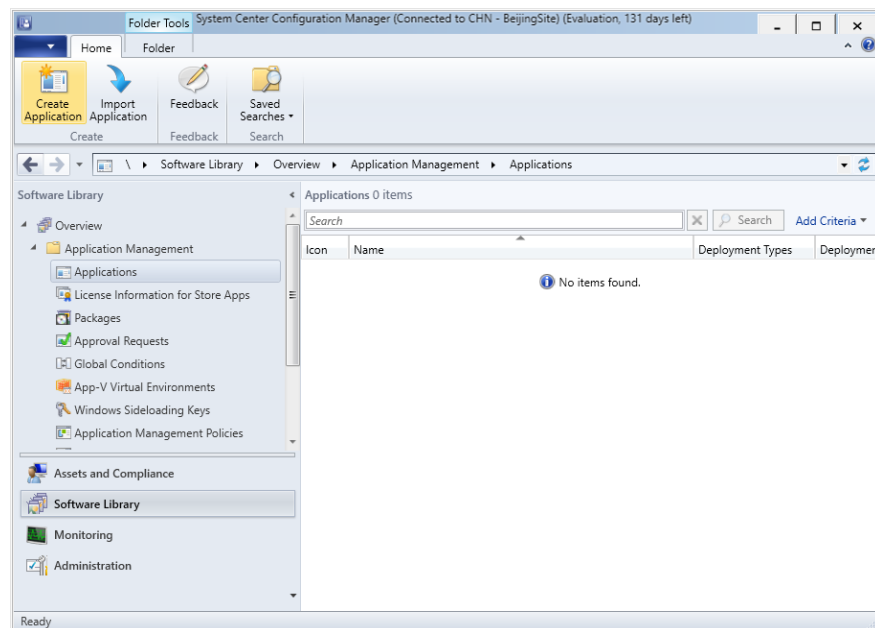
2. **Specify the VMware Tools application information.**
    VMware Tools is to be installed using an executable file (.EXE) and we need to carry out some manual steps to configure the application information. We will also manually configure a deployment type and create the detection method based on the version of a present file.

    a. On the General page of the **Create Application Wizard**, select "Manually specify the application information", and then click **Next**.
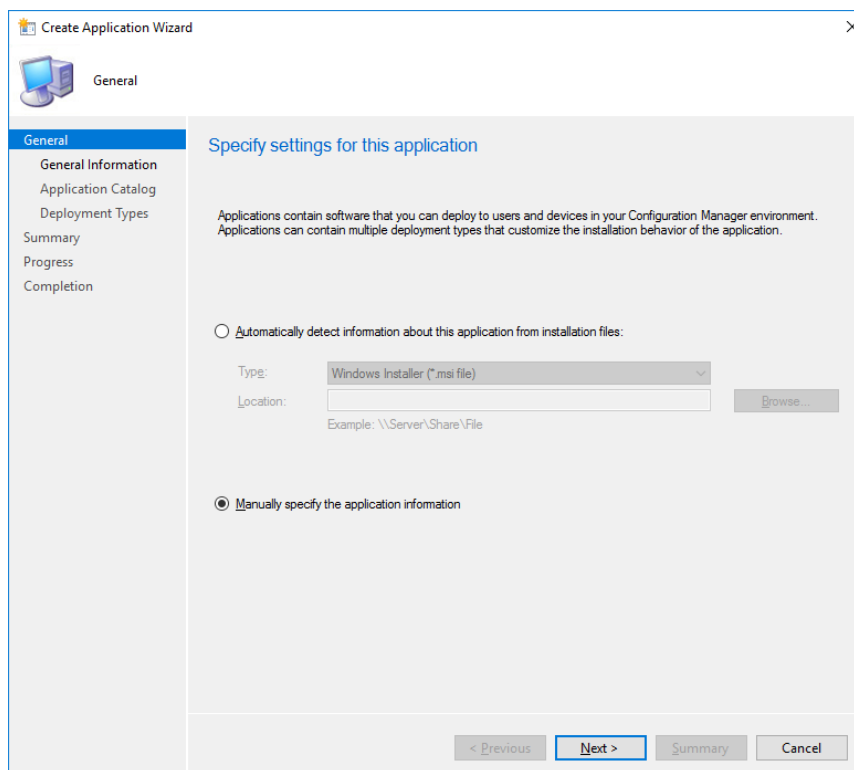
b. Specify the general information, for example **Name** ('VMware Tools 10.2.0'), **Publish** ('VMWare'), **Version** ('10.2.0'), **Comments** and **Owners** etc.

c. Click **Next**.
d. Specify the following information in the **Application Catalog page**(optional):

Selected language, Localized application name, User categories, User documentation, Link text, Privacy URL, Localized description, Keywords, Icon etc.

e. Click **Next**.
f. On the **Deployment Types** page of the Create Application Wizard. We can click **Add** to create a new deployment type or just skip to create it later, refer to step "**Create Deployment Type for VMware Tools Application**" below for details.
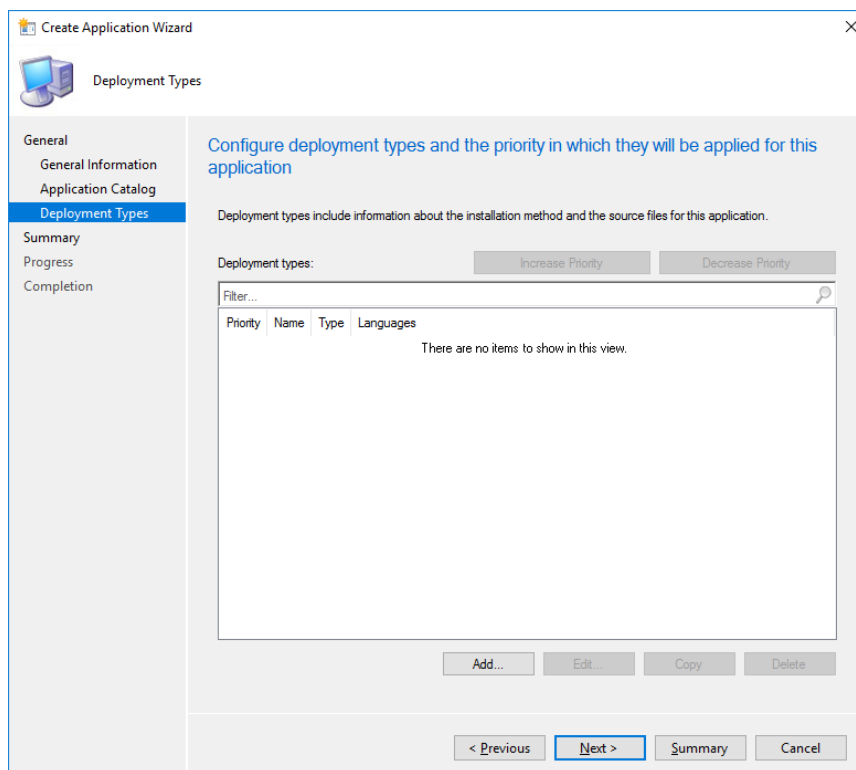
g. Click **Next**, review the application information on the **Summary** page, and then complete the Create Application Wizard.
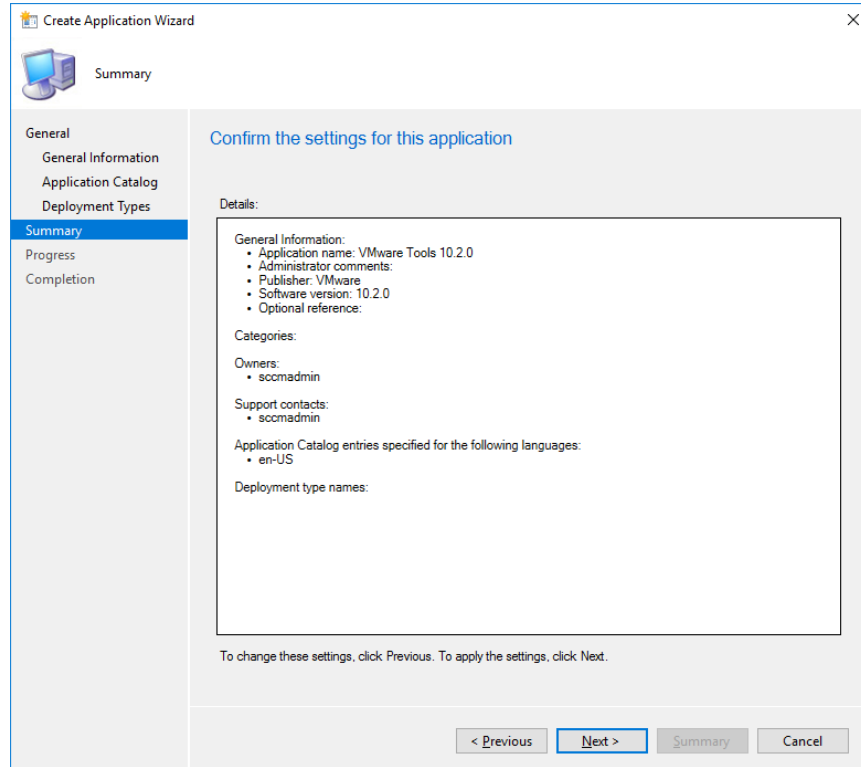
h.   The new VMware Tools application appears in the **Applications** node of the Configuration Manager console.
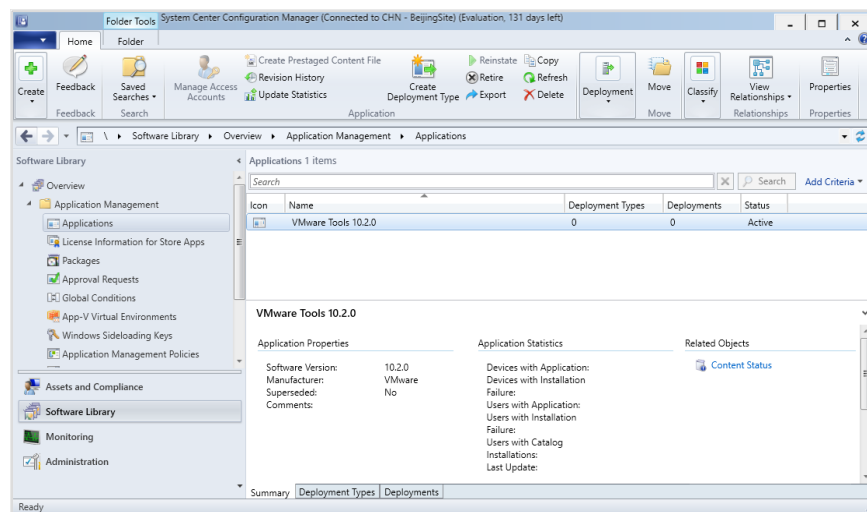

Create Deployment Type for VMware Tools Application

The following steps provide the details on how to create a deployment type for VMware Tools 10.2.0.

1. **Start the Create Deployment Type Wizard**
   a. In the Configuration Manager console, click **Software Library**.
   b. In the Software Library workspace, expand **Application Management**, and then click **Applications**.
   c. Select the VMware Tools application 'VMware Tools 10.2.0' and then, on the **Home** tab, in the **Application** group, click **Create Deployment Type** to create a new deployment type for this application.
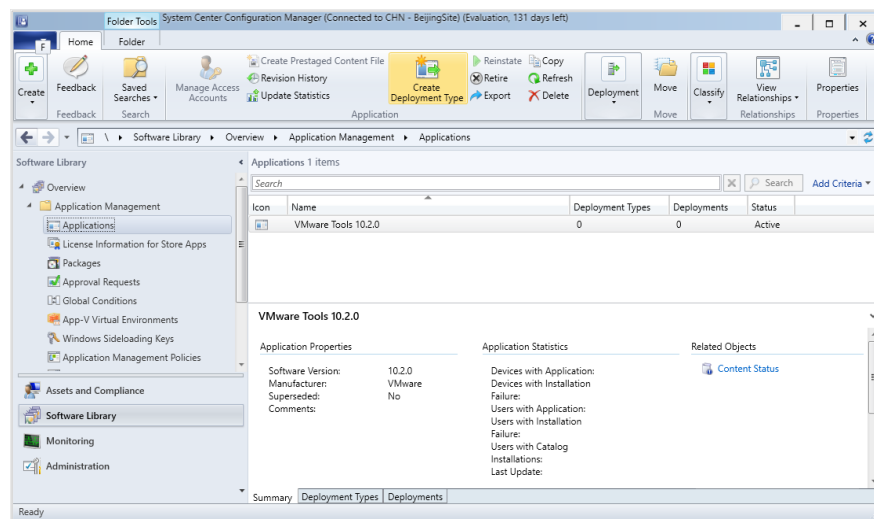
2. **Manually specify the deployment information**
   a. On the General page of the Create Deployment Type Wizard, select "Manually specify the deployment type information".
   b. In the **Type** field, select "Script Installer" from the drop-down list, otherwise the deployment may fail.

      Note, SCCM supports MSI natively, but unfortunately VMware Tools installer is an executable file (.EXE) and we need to use the Script Installer type here.
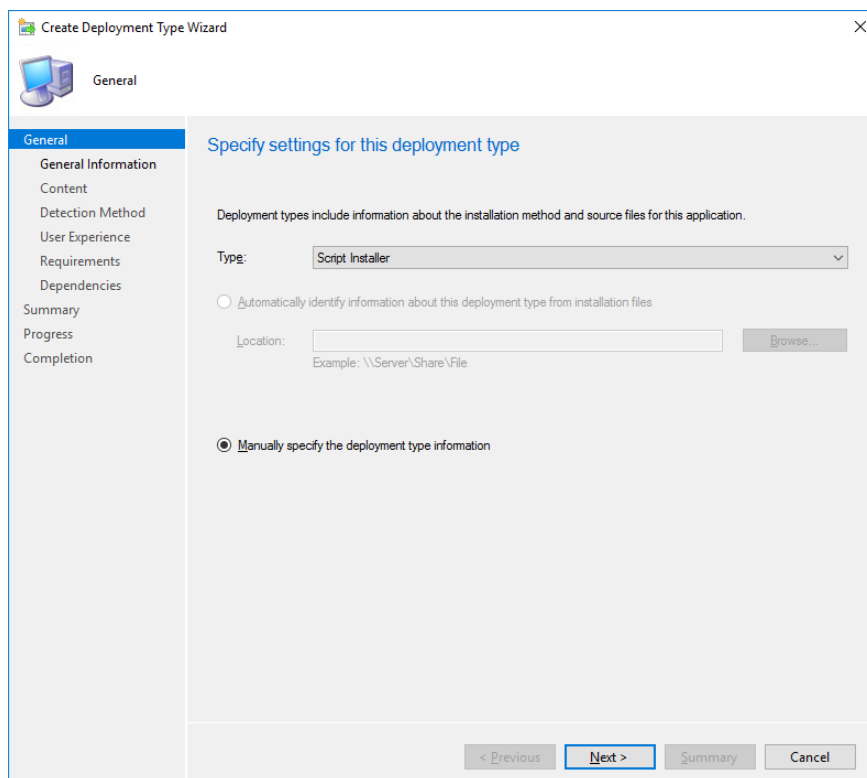
c. Click **Next**.
d. On the General Information page, specify the deployment type **Name** as 'VMTools 10.2.0', an optional description, and the languages, and then click **Next**.

3. **Specify Content for the Deployment Type**
Specify the location of the VMware Tools installation files, along with the installation and uninstallation commands for VMware Tools.
   a. On the Content page of the Create Deployment Type Wizard, specify the following information:
      - **Content location**: Specify the location of VMware Tools installation files, or click Browse to choose the deployment type content folder.
      - Select the check box "Allow clients to share content with other clients on the same subnet"
      - **Installation program**: Specify VMware Tools installation program and parameters, for example: *setup.exe /s /v/qn*
      - **Installation start in**: Leave it empty, this field is optional.
      - **Uninstall program**: This field is also optional. We can specify VMware Tools uninstallation string here, for example "MsiExec.exe /I{766355C9-1851-4890-9C1F-9F043A43AFCE}".

        Note, VMware Tools can be uninstalled in Windows Control Panel/Programs. If we want to uninstall it using Software Center (client agent of SCCM), we

need to configure this item. To get the uninstallation string**,** manually install the VMware Tools on a test machine first, and find the **UninstallString** in output of command:
"reg query HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Uninstall\ /s"

- **Uninstall start in**: Leave it empty, this field is optional.

b. Click **Next**.

4. **Configure Detection Methods to indicate whether the VMware Tools deployment type is already installed.**

a. On the **Detection Method** page of the Create Deployment Type Wizard, select "Configure rules to detect the presence of this deployment type", and then click **Add Clause**.
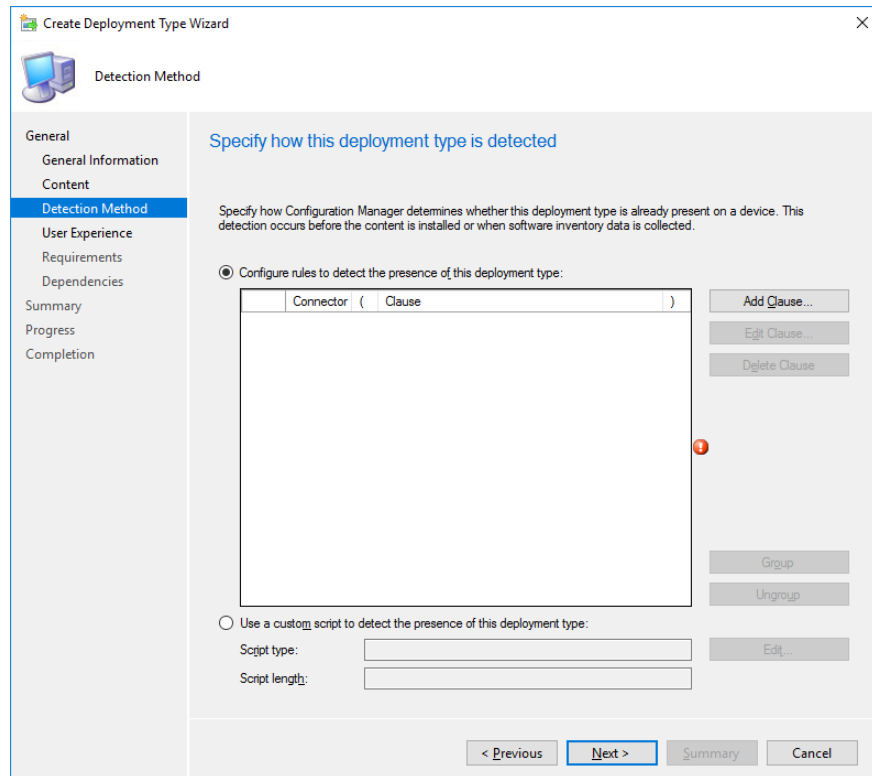
b. In the **Detection Rule** dialog box, in the Setting type drop-down list, select "**File System**"
c. Specify the file details to detect whether VMware Tools 10.2.0 is installed.
- **Type**: select "File"
- **Path**: fill in "%ProgramFiles%\VMWare\VMWare Tools\"
- **File or folder name**: fill in "vmtoolsd.exe"
d. Select the "The file system setting must exist on the target system to indicate presence of this application" check box
- **Property**: select "Version"
- **Operator**: select "Greater than or equal to"
  Note, VMware Tools doesn't support degrading, and we don't select "Equal to" here.
- **Value**: fill in "10.2.0.1608" (right click on the .exe file, click properties->details to get the file version)

       e. Click **Next**.

5. **Specify User Experience Options**
   a. On the User Experience page of the Create Deployment Type Wizard, specify the following information:
   - **Installation behavior**: select "Install for System if resource is device; otherwise install as user"
   - **Logon requirement**: select "Whether or not a user is logged on"
   - **Installation program visibility**: select "Normal"

      b.   Click **Next**.

6. **Specify Requirements for VMware Tools Deployment Type.**
We can specify the conditions (Operating System version, disk space and so on) to install VMware Tools here.

Note, leave it as is unless we do have some special requirements. It may prevent the VMware Tools deployment on some client computers.
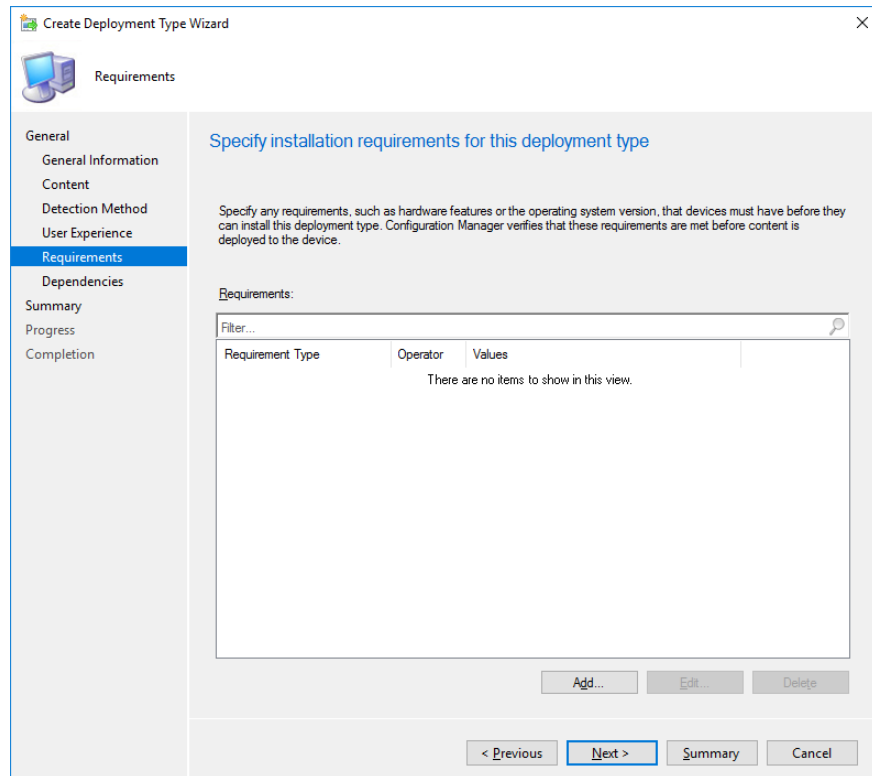
7. **Specify Dependencies for VMware Tools Deployment Type.**
   We can define one or more deployment types from another application that must be installed before VMware Tools deployment type is installed.

   Note, leave it as is unless we do have some special dependencies. The dependencies failure will impact the success of deployment.
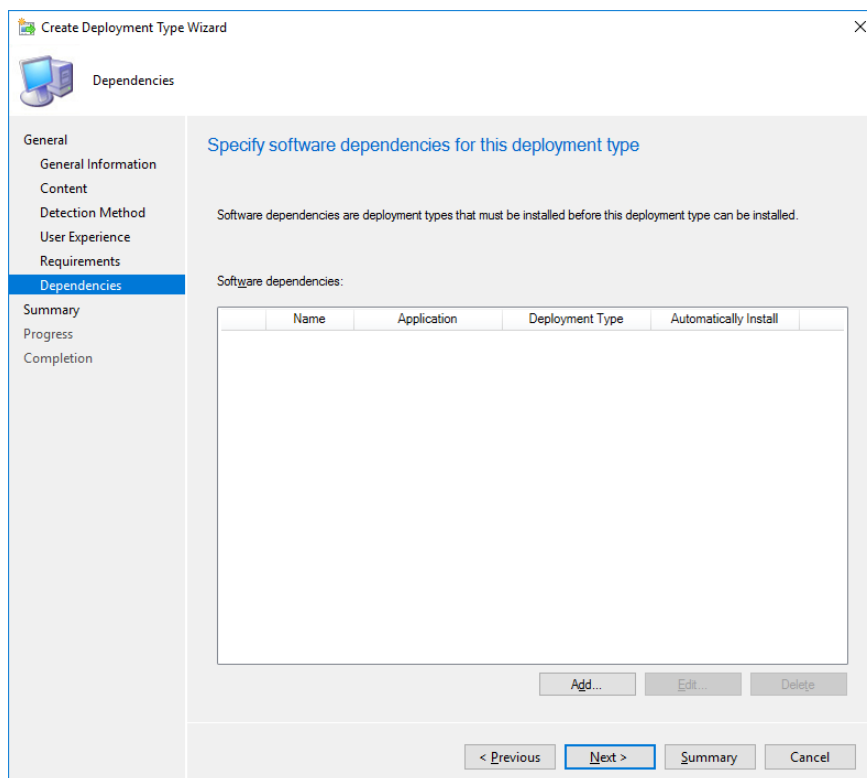
8. **Confirm the VMware Tools Deployment Type Settings and Complete the Wizard**
   a. On the **Summary** page, review the actions that the wizard will take. Click **Next**.
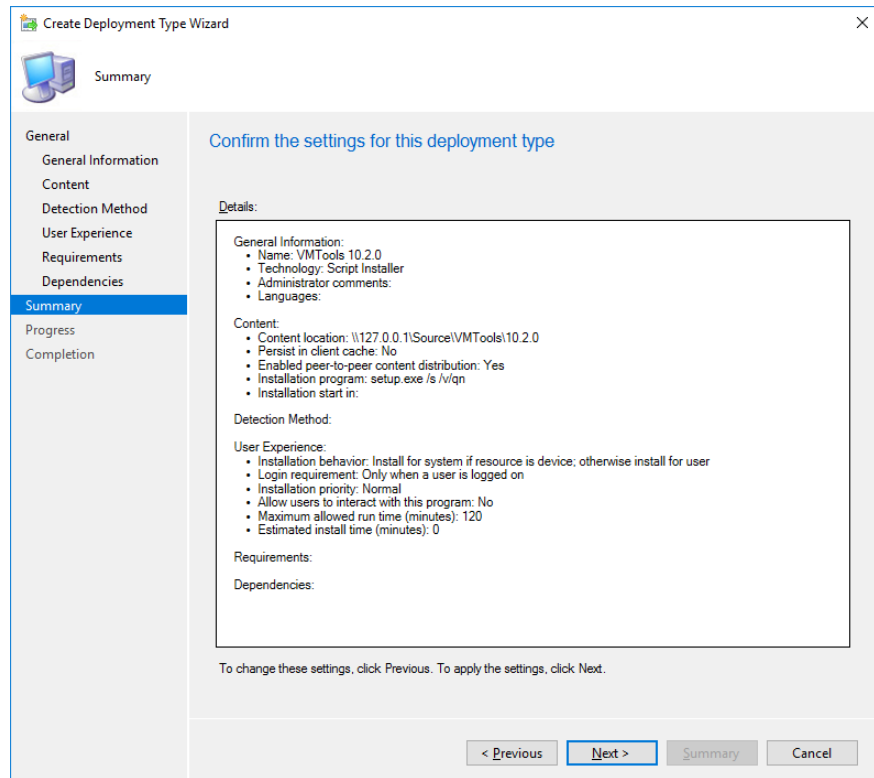
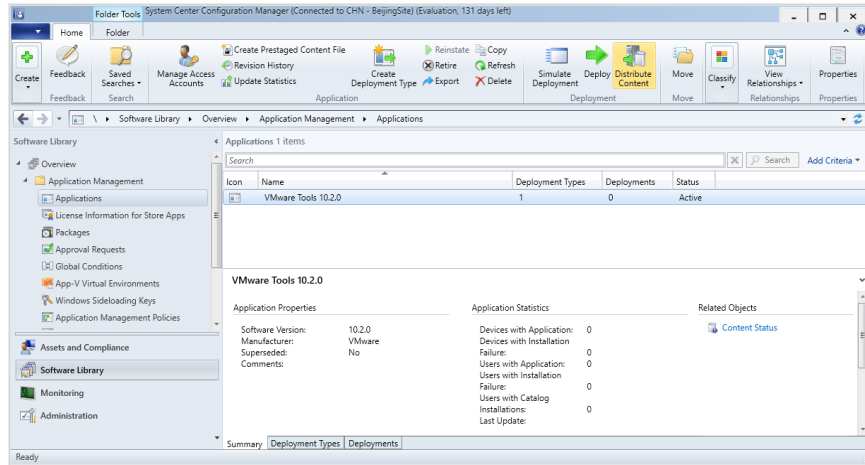b.   After the Progress page of the wizard finishes, review the actions that the wizard took, and then click Close.
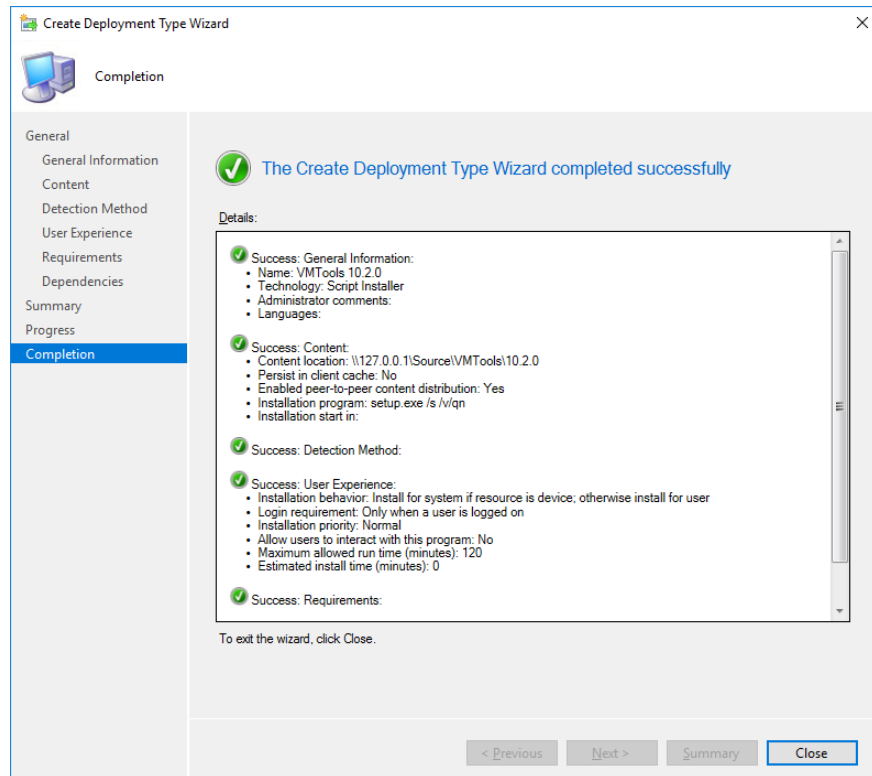
Distribute the VMware Tools Application

The following steps provide details on how to distribute the VMware Tools application.
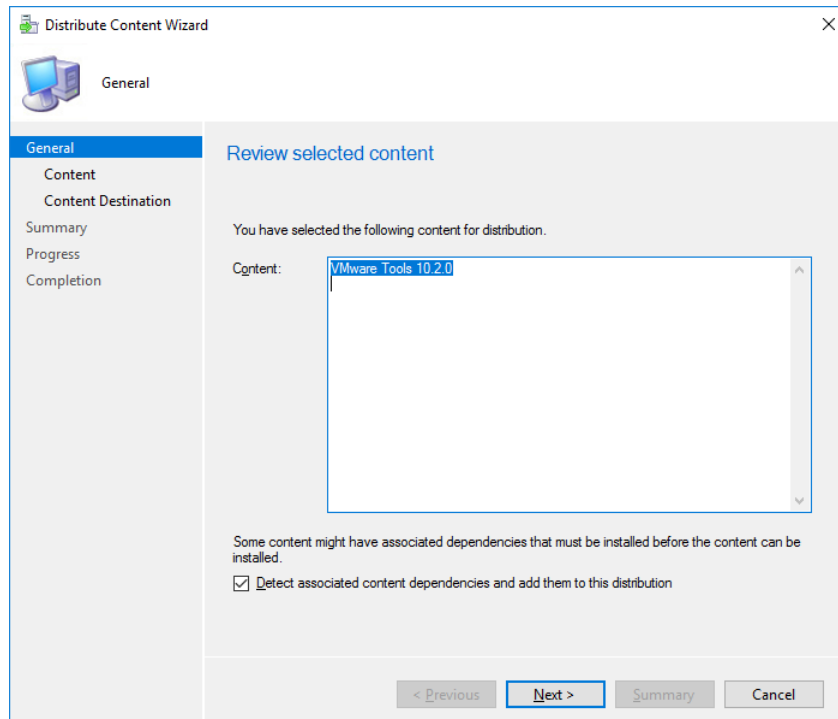
1. **Start the Distribute Content Wizard**
   a. In the Configuration Manager console, click **Software Library**.
   b. In the **Software Library** workspace, expand **Application Management**, and then click **Applications**.
   c. In the Applications list, select the VMware Tools application that you want to deploy. Then, in the **Home** tab, in the **Deployment** group, click **Distribute Content**.
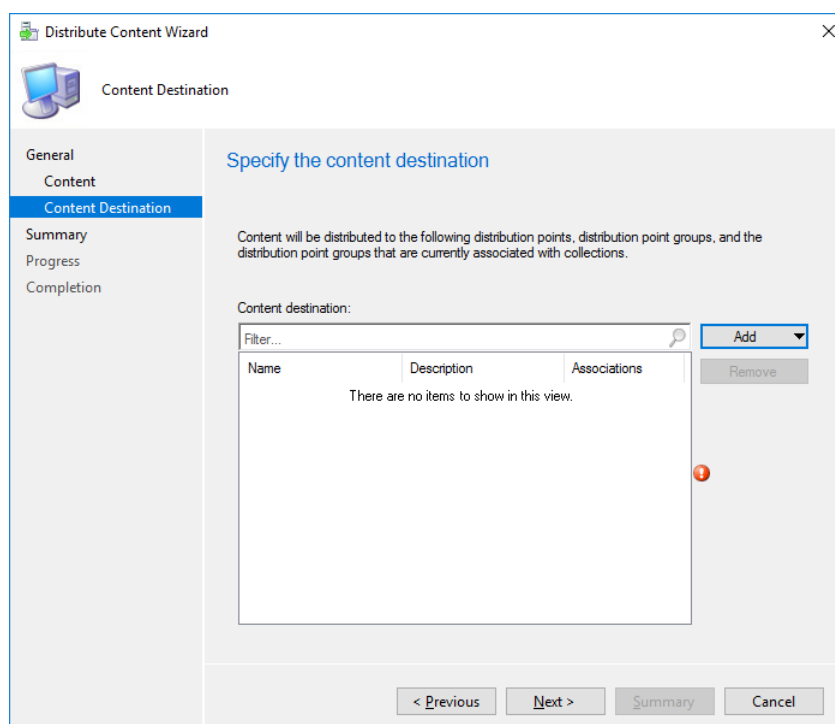
2. **Specify the Distribute Content.**
    a. On the General page of the Distribute Content Wizard, then click **Next**.
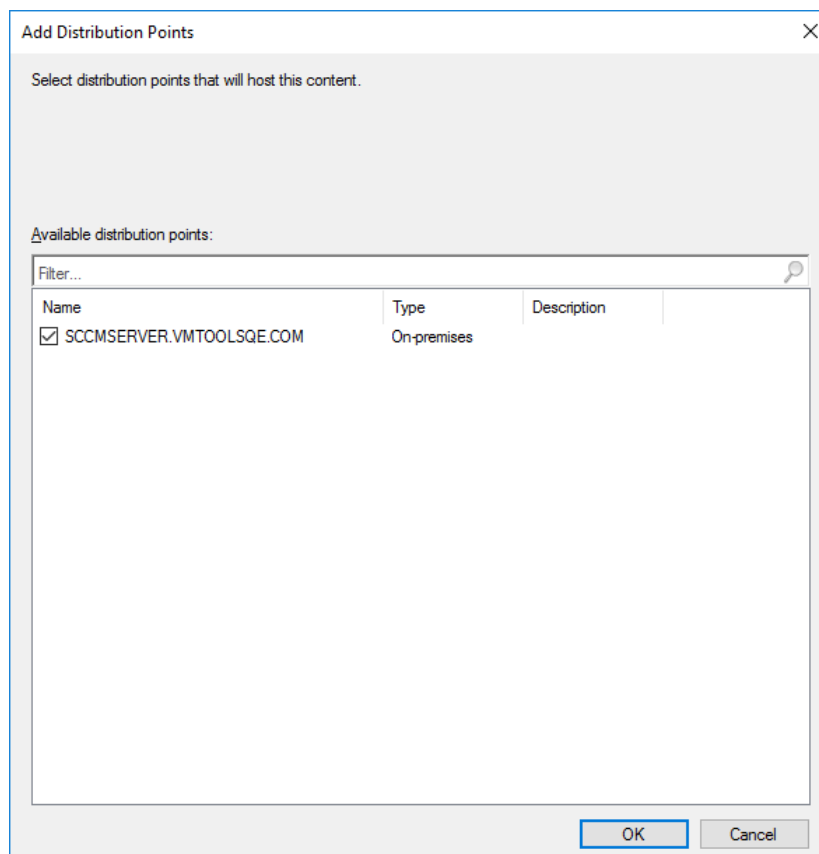   b. Review the content to distribute, and click **Next**.
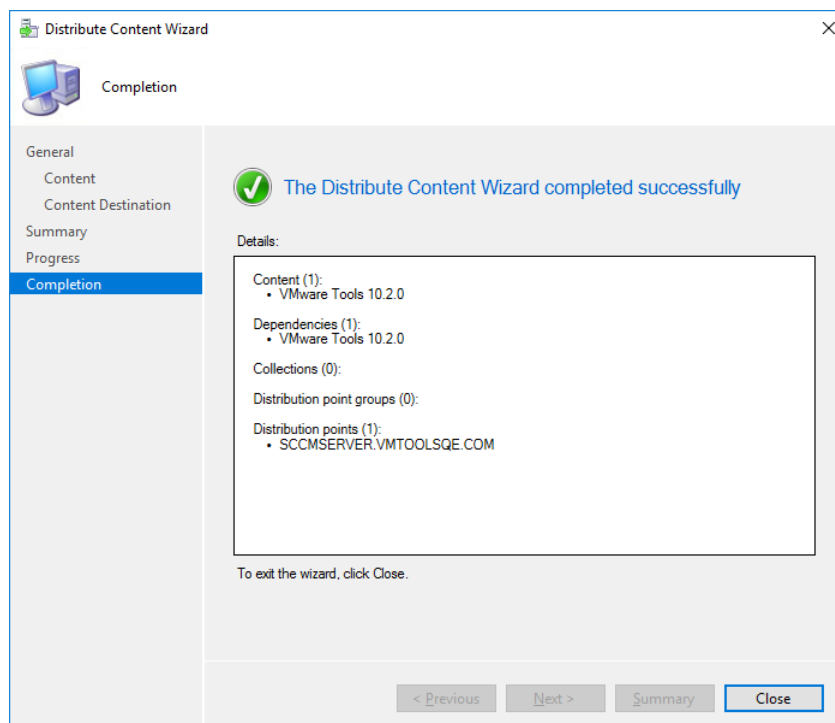

    c. Specify the content destination, click **Add**.

d. On the page of **Add Distribute Points**, choose the Distribute Points which will hold the content. Click **OK**.

e. Click **Next**.
f. On the Summary page, review the setting. Click **Next**.
g. After the Progress page of the wizard finishes, review the actions that the wizard took, and then click **Close**.

Deploy the VMware Tools Application

The following steps provide details on how to deploy the VMware Tools application.
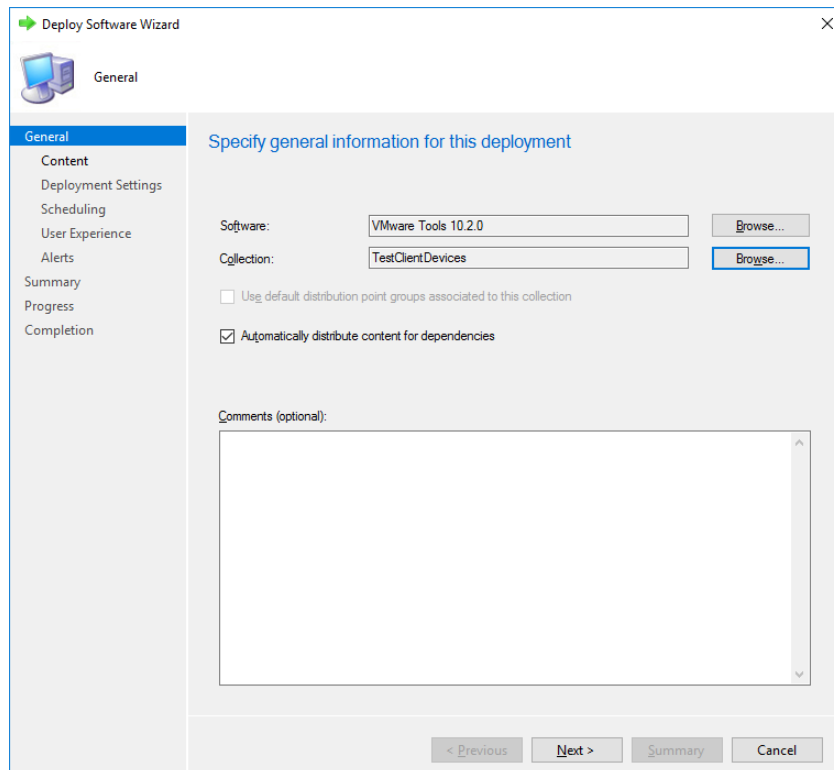
1. **Start the Deploy Software Wizard**
   a. In the Configuration Manager console, click **Software Library**.
   b. In the Software Library workspace, expand Application Management, and then click **Applications**.
   c. In the Applications list, select the "VMware Tools 10.2.0" application. Then, in the **Home** tab, in the **Deployment** group, click **Deploy**.
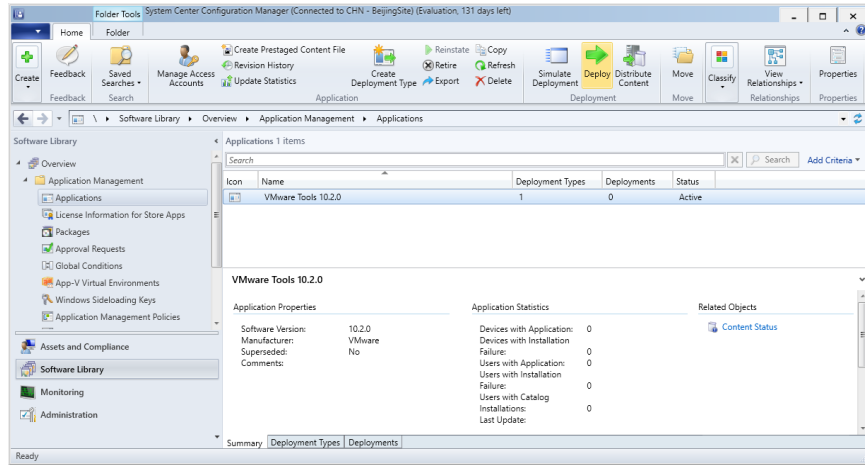
2. **Specify the general information for the deployment**
   a. On the General page of the Deploy Software Wizard, specify the following information, and then click **Next**.
   - **Software**: It displays the VMware Tools 10.2.0 application to deploy by default. We can click **Browse** to change if necessary.
      - **Collection**: Click **Browse** to select the collection to deploy the VMware Tools application to.

b. On the Content page of the Wizard, click **Next**.
c. On the Deployment Settings page of the Deploy Software Wizard, specify the following information, and click **Next**
   - **Action**: select **Install**.
   - **Purpose**: select **Required** if you want VMware Tools deployed automatically, or select **Available** to let client user to install it on demand.
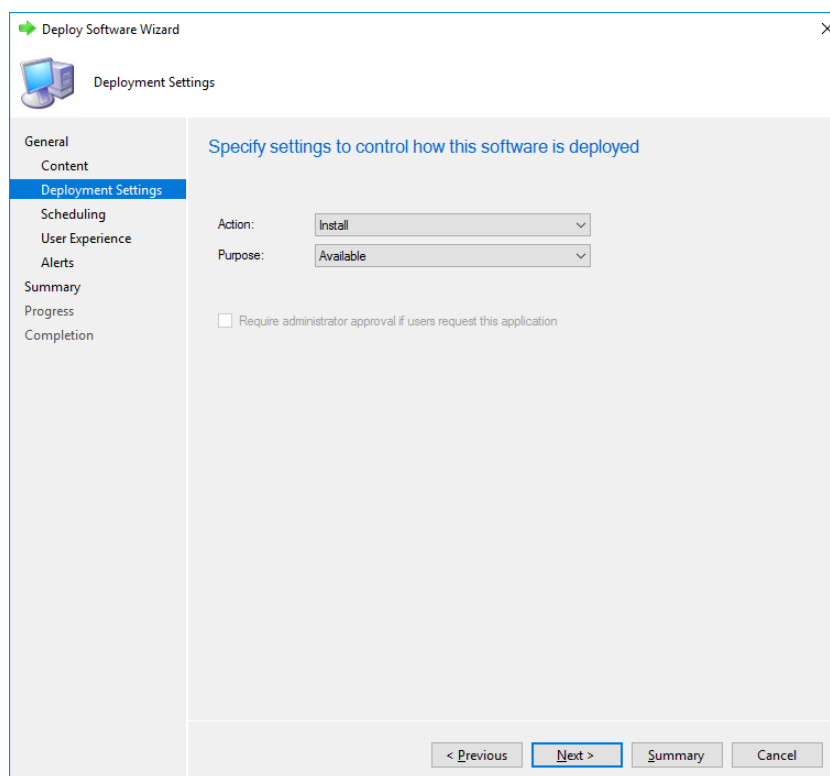
d. On the Scheduling page of the Deploy Software Wizard, configure when VMware Tools will be made available or deployed. And then click **Next**.
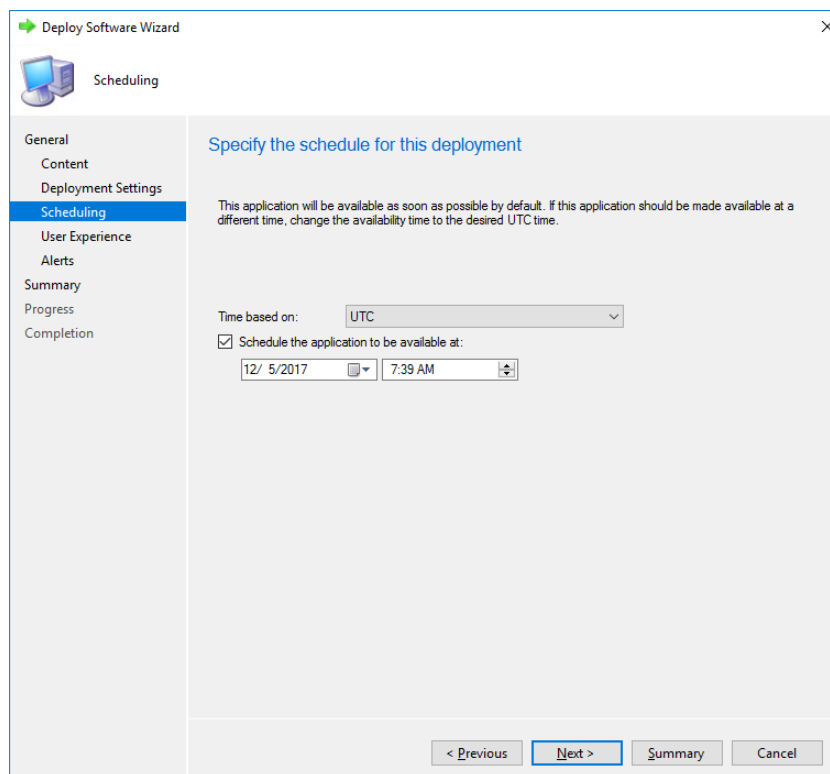
e. On the User Experience page of the Deploy Software Wizard, we can specify information about how users can interact with the application installation. Leave it as is and click **Next**.
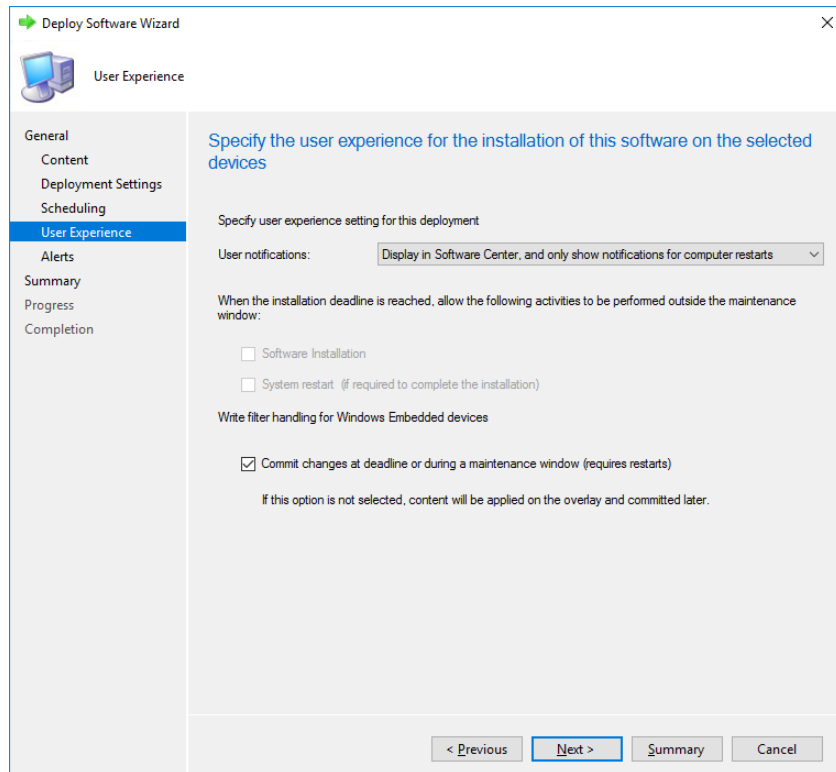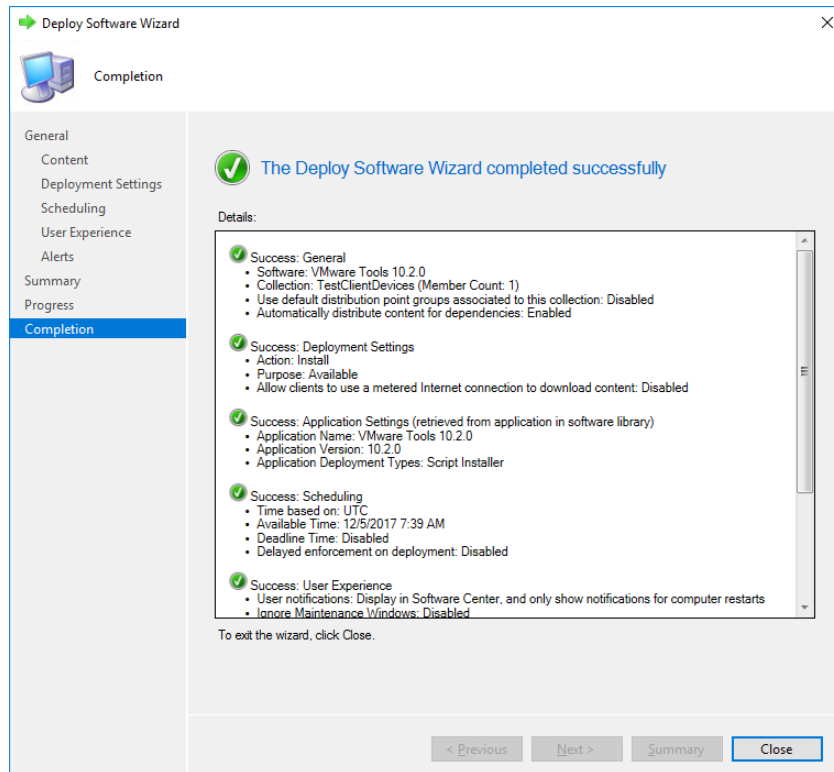
f. Alerts options. Leave it as is. And then click **Next**.

3. **Confirm the VMware Tools Deployment Settings and Complete the Wizard**

   a. On the Summary page of the Deploy Software Wizard, review the actions that will be taken by this deployment, and then click **Next**.
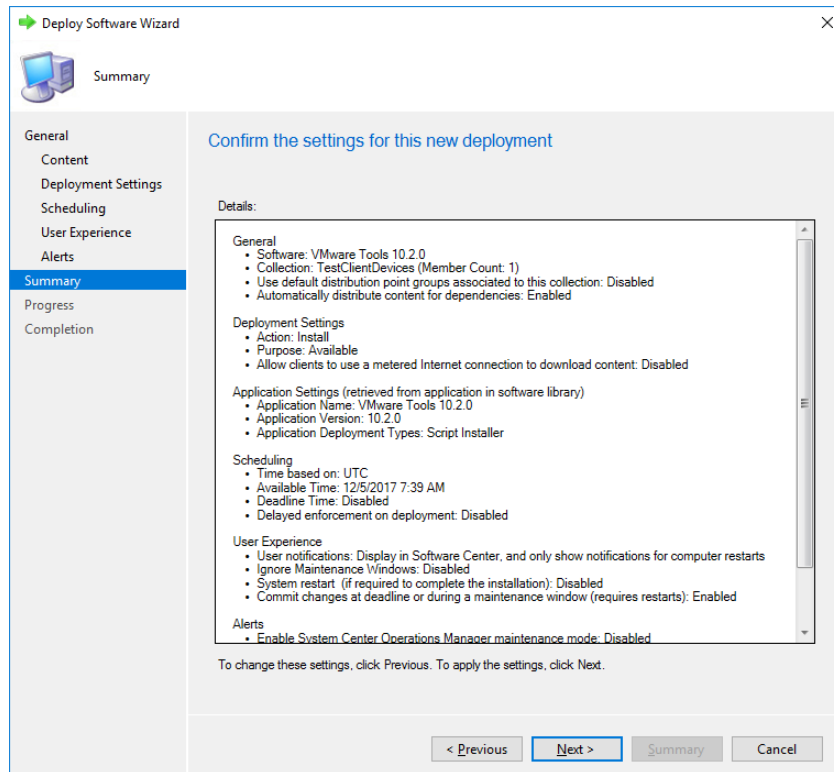
b. After the Progress page of the wizard finishes, review the actions that the wizard took, and then click **Close**.

**VMware Tools deployment on Client Computer**

The following steps provide details to verify the VMware Tools application is deployed to client computers.

1. **Install VMware Tools in the client agent application Software Center**
   a. In the **Software Center** windows, click **Applications**.
   b. Select the software "VMware Tools 10.2.0".
   c. Click **INSTALL** to start VMware Tools installation.
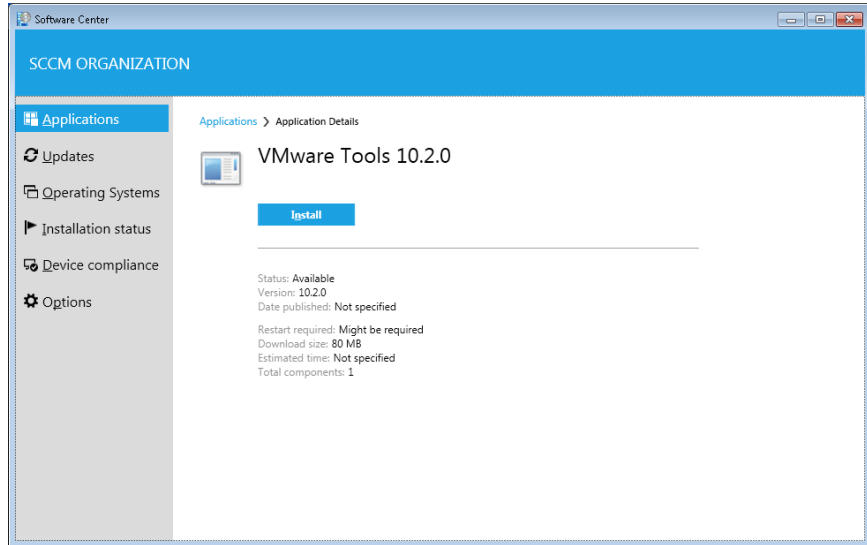
d.   After VMware Tools installation finishes and OS restarts,
     open **Software Center** and click **Installation Status.**
     Verify VMware Tools 10.2.0 is installed.
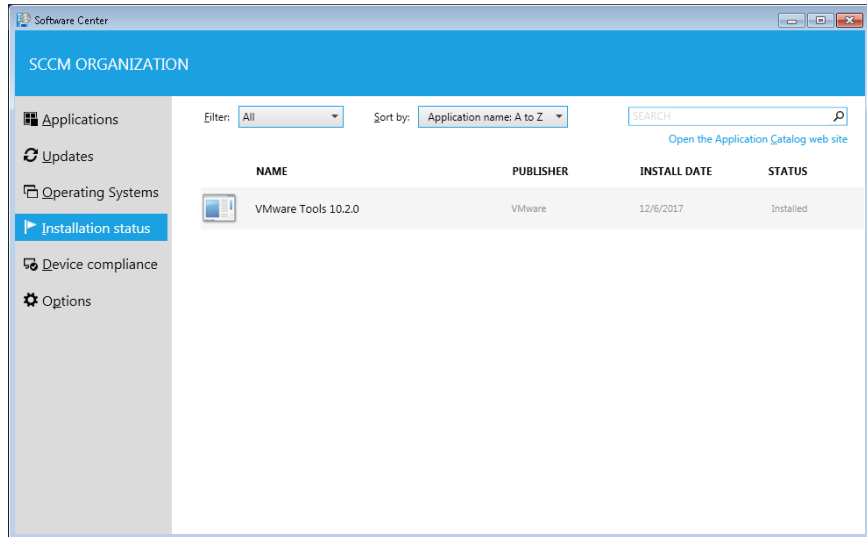
Frequently Asked Questions

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1. How to check if the deployment is completed?

The following steps provide details to check the deployment status:
1) In the Configuration Manager console, click **Monitoring**.
2) In the **Monitoring** workspace, expand **Overview**, and then click **Deployments**.
3) Select the VMware Tools application to view status, and refer to **Completion Statistics** for details.

2. Why is VMware Tools not installed on client computers after deployment?

The following steps provide details for trouble shooting:

1) Ensure the client computers is active
In the Configuration Manager console, click **Asserts and Compliance** -> **Overview** -> **Devices** to check status of client computers

2) Check the schedule setting when the application becomes available.
Refer to step "Specify the general information for the deployment" for details.

3) Check the detection rule setting if the file path and version of vmtoolsd.exe are correct.
Refer to step "Configure Detection Methods to indicate whether the VMware Tools deployment type is already installed" for details.

4) Check the cache directory(C:\Windows\ccmcache) on client computers to ensure the VMware Tools installation files are downloaded to localhost.
   – If yes, check the installation command by executing it on a test computer manually.
   – If not, double check items 1)-3) above.

3. What happens if I deployed multi versions of VMware Tools applications?

The highest version of VMware Tools will be installed finally.