IBM

# IBM Tivoli Service Automation Manager V7.2.2

Deploying virtual machines with IBM Tivoli Monitoring Agents

In this training module, you learn how to configure and deploy a machine with a monitoring agent through Tivoli® Service Automation Manager V7.2.2.

## Objectives

When you have completed this training module, you can accomplish these tasks:

- Give an overview of IBM Tivoli Service Automation Manager V7.2.2 and IBM Tivoli Monitoring Agent integration
- Configure IBM Tivoli Monitoring Agents for provisioning
- Deploy a virtual machine with an IBM Tivoli Monitoring Agent
- View monitoring data in the IBM Tivoli Service Automation Manager V7.2.2 Self-Service User Interface

Deploying virtual machines with IBM Tivoli Monitoring Agents

This training module teaches you how to accomplish virtual machine administrative monitoring tasks with Tivoli Service Automation Manager V7.2.2. After completing the training, you can explain at a high level the integration of IBM Tivoli Service Automation Manager V7.2.2 with the IBM Tivoli Monitoring Agent. The module shows how to configure monitoring agents for provisioning, how to deploy a virtual machine with a monitoring agent, and how to view monitoring data in the IBM Tivoli Service Automation Manager V7.2.2 Self-Service User Interface.
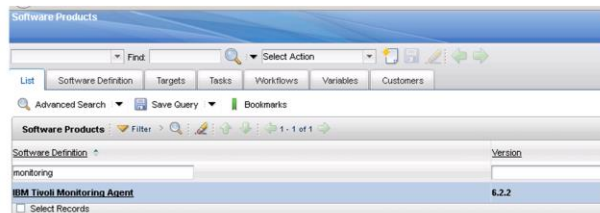
## Role of monitoring in IBM Tivoli Service Automation Manager V7.2.2

- These are the roles of monitoring in IBM Tivoli Service Automation Manager V7.2.2:
- Monitoring virtual machine deployment
- Providing OS-based usage metrics for these hardware resources:
    - Memory
    - Disk
    - Processor

Deploying virtual machines with IBM Tivoli Monitoring Agents

The role of the IBM Tivoli Monitoring Agent integration with IBM Tivoli Service Automation Manager V7.2.2 is to monitor the resources of deployed machines. Having the IBM Tivoli Monitoring Agent installed provides the capability to gather data related to machine Memory, Disk, and processor usage.

deploy_machine_with_itm_agent.ppt

# Defining monitoring agent software definitions for provisioning (1 of 3)

- Allowing IBM Tivoli Service Automation Manager V7.2.2 deployment of machines with IBM Tivoli Monitoring Agents requires IBM Tivoli Monitoring Agent software definition addition to the IBM Tivoli Provisioning Manager software catalog.
- Customizing and creating monitoring agent software definitions requires the Cloud Pool Administration application. It also requires customizing a DCM XML file provided during Tivoli Service Automation Manager installation.
- Note: DCM XML files are at /etc/cloud/install/DCM directory on the Service Automation Manager server.
- Important: If other monitoring agent definitions already exist in the software catalog with the name IBM Tivoli Monitoring Agent but do not match the required customization, they must be either deleted or renamed in Tivoli Provisioning Manager.
- To view software definitions click Go To > IT Infrastructure > Software Catalog > Software Products



Deploying virtual machines with IBM Tivoli Monitoring Agents © 2014 IBM Corporation

Deploying machines with monitoring agents in Tivoli Service Automation Manager V7.2.2 requires adding a monitoring agent software definition to the software catalog. This addition is accomplished by first customizing the IBM Tivoli Service Automation Manager DCM XML file and then importing it through the **Cloud Pool Administration** application. Be sure that there are no other monitoring agent definitions in the software catalog. Other monitoring agent definitions might create a conflict with the one currently needed. First, log in to the Tivoli Process Automation Engine user interface. Next, open the **Software Products** application. In the **Software Products** application you can verify that there are or no other monitoring definitions in the software catalog.

# Defining monitoring agent software definitions for provisioning (2 of 3)

- Depending on whether you are configuring the monitoring agent for one or more operating systems (AIX®, Linux®, Windows®), choose the appropriate DCM XML file to edit:
  - Windows: 41_Cloud_ITM_Agent_Windows.xml
  - Linux: 42_Cloud_ITM_Agent_Linux.xml
  - AIX: 43_Cloud_ITM_Agent_AIX.xml
  - Multiple OSs: 44_Cloud_ITM_Agent_AIX_Linux_Windows.xml

The DCM XML file targeted for customization depends on the OS environment of the machine. There are different XML file options. One option each for Windows, LINUX, AIX and another option called Multiple Operating Systems.

Defining monitoring agent software definitions for provisioning (3 of 3)

In the chosen DCM XML files, customize the section below according to your environment:

1. Customize the Tivoli Monitoring agent software definition and define it in Tivoli Provisioning Manager:
   – In the section of type software-resource-template, with name = "ITM Installation Template - <OS_type>", set the value for the parameters host and port to match the IP address and port number of the Tivoli Monitoring server.
   – Save the file.

2. Import the DCM XML file using the **Cloud Server Pool Administration** application:

   **Go To** > **Service Automation** > **Configuration** > **Cloud Server Pool Administration**
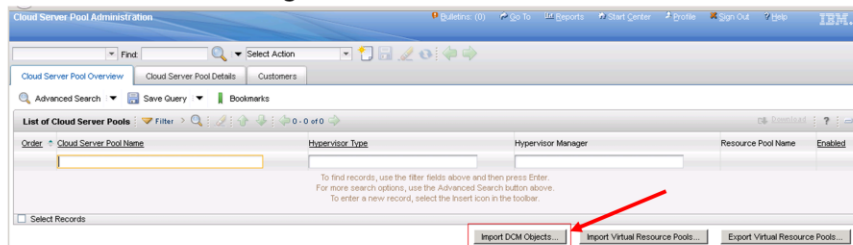
Deploying virtual machines with IBM Tivoli Monitoring Agents    © 2014 IBM Corporation

After identifying the DCM XML file ad-hoc for your OS environment, you need to customize it according to your system definition. For example, in the section **ITM Installation Template**, set the host and port parameters so that they match the IP address and port number of the Tivoli Monitoring Server. Next, customize the DCM XML file and import it  by using the **Cloud Server Pool Administration** application.
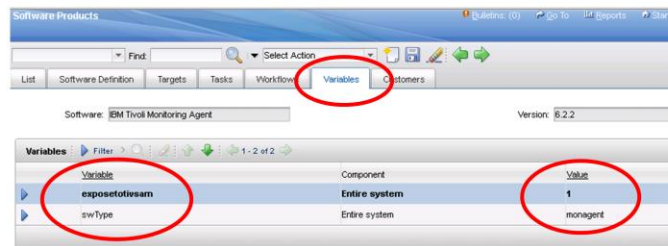
Choosing the monitoring agent

- Log in to administrative user interface as maxadmin
- Click **Go To** -> **IT Infrastracture** -> **Software Catalog** -> **Software Products**
- Filter based on **monitoring** and select the **IBM Tivoli Monitoring Agent** software definition
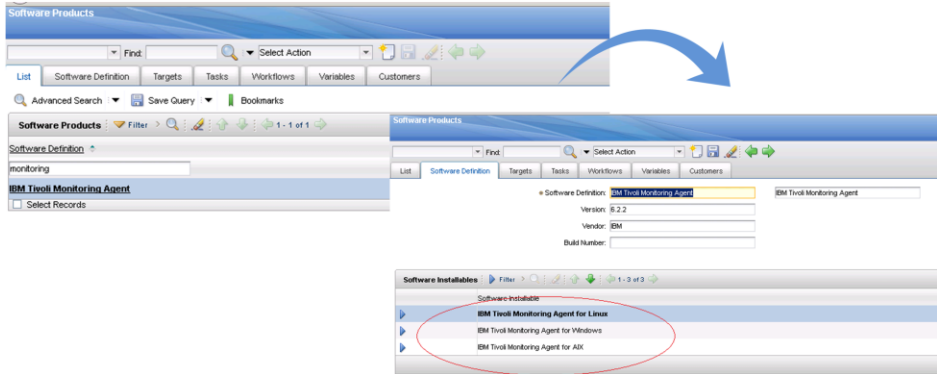
The next step is to evaluate the software stack for the IBM Tivoli Monitoring Agent. In order to do this, access the **Software Products** application from the TPAE user interface. Access **Software Products** from the menu by the path **GoTo**-> **IT Infrastructure**-> **Software Catalog**. After accessing the **Software Products** application, filter the **Software Definition** by entering **monitoring**. Select the **IBM Tivoli Monitoring Agent** software definition. There are three software installables: IBM Tivoli Monitoring Agent for Linux, IBM Tivoli Monitoring Agent for AIX, and IBM Tivoli Monitoring Agent for Windows.

# Configuring the variables

- At the top of the software definition click the Variables tab
- Ensure that you have the exposetotivsam set to one and swType as monagent

In this slide, the **Variables** tab is displayed. Verify that the variable **expostotivsam** is set to a value of one and that the variable **swType** is set to **monagent**.

# Adding the IBM Tivoli Monitoring Agent to the software stack (1 of 2)

- Click to **Go To** -> **IT Infrastracture** -> **Software Catalog** -> **Software Stacks**
- To identify your software stack, **Select Action** -> **Add Stack Entry**
- In the **Software Definition** filter field, type *monitoring* and press **Enter**
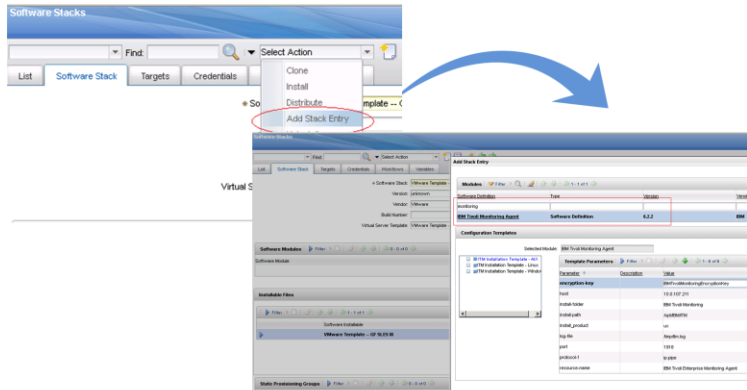
Add the IBM Tivoli Monitoring Agent to the software stack. From the TPAE StartCenter, select **GoTo**-> **IT Infrastracture** -> **Software Catalog**-> **Software Stacks**.

Click the appropriate software stack from the list. For example, if you want the agent to be deployed into a VMware environment configured with defaults, choose the software stack called **ESXPoolStack**. For PowerVM® (if supported), choose the default software stack **ODSDS_PPC_host_stack**. In the **Software Definition** filter field type **monitoring** and press **Enter**.

Adding the IBM Tivoli Monitoring Agent to the software stack (2 of 2)

- Select the IBM Tivoli Monitoring agent entry and click **Submit**
- Click **Yes** to confirm saving the changes
- Save the definition
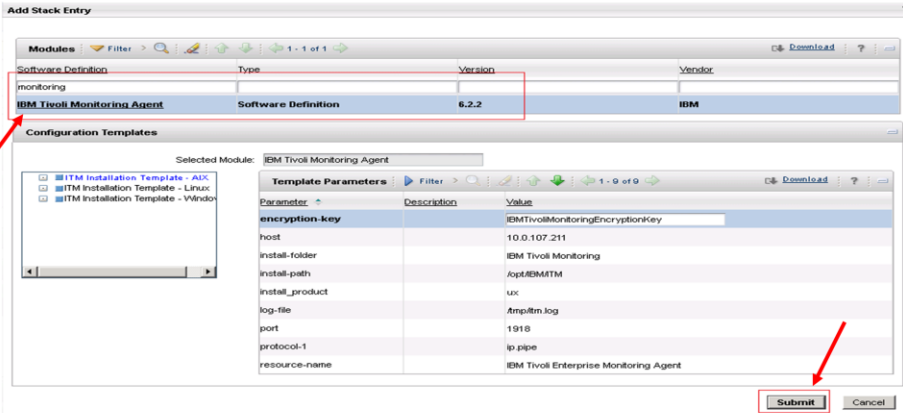
Select the IBM Tivoli Monitoring Agent entry and click the Submit button. Once done, save the updated software stack.

Configuring the Tivoli Monitoring Server endpoint

Configure the Tivoli Monitoring Agent server endpoint. This is done by accessing the End Points application from the TPAE user interface. Select **Go To** -> **Integration** -> **End Points**.

Filter for PMRDPITM to get the ITM endpoints. What you should do is evaluate the property REQUESTURL with the proper value.

Notice the three backslashes in the URL value for REQUESTURL.

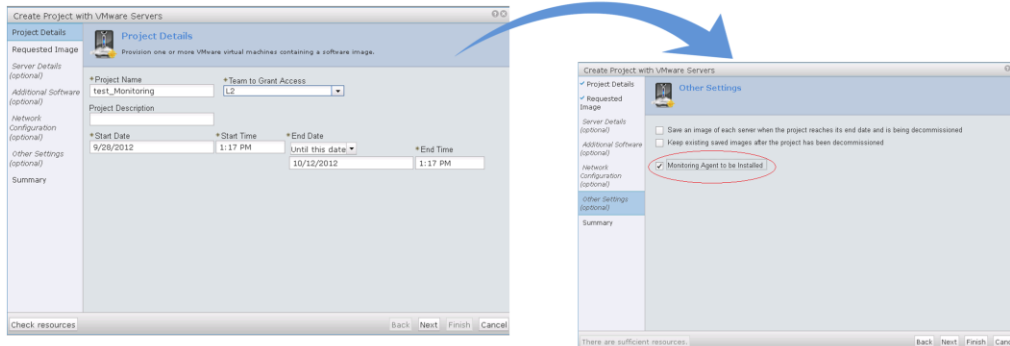## Deploying a machine with IBM Tivoli Monitoring Agent (1 of 2)

- Monitoring agents can be optionally installed as part of the provisioning process by either:
- Selecting the Monitoring Agent to be Installed option in the SimpleSRM interface
- Using silent installation which starts automatically after a virtual machine is deployed and configured

Deploying virtual machines with IBM Tivoli Monitoring Agents

Use IBM Tivoli Service Automation Manager V7.2.2 to deploy a virtual machine with the IBM Tivoli Monitoring Agent installed. The installation of a monitoring agent is optional and can be either controlled by selecting the Monitoring Agent to be Installed check box in the TSAM SimpleSRM interface or through silent installation.

Deploying a machine with IBM Tivoli Monitoring Agent (2 of 2)

From Self Service User Interface:

- **Request a New Service** > **Virtual Server Management** > **Create Project with VMWare Server**
- Fill in required fields as appropriate
- In the **Other Settings** tab decide whether to select the **Monitoring Agent to be Installed** check box

Deploying virtual machines with IBM Tivoli Monitoring Agents © 2014 IBM Corporation

Focus on the IBM Tivoli Service Automation Manager V7.2.2 SimpleSRM user interface. Perform these steps to deploy a virtual machine with an IBM Tivoli Monitoring Agent:

Select Request a New Server -> Virtual Server Management  -> Create Project with VMWare

You can of course choose to Create Project in specific Oss, it is not a problem.

Once you reach the Other Settings tab, select the Monitoring Agent to be Installed check box.

Viewing monitoring data in the self-service user interface

- Tivoli Service Automation Manager self-service interface displays high-level monitoring data about deployed virtual machines.
- Click the project name in the self-service interface under **My Projects**: Memory, processor and Disk percentages display under **Servers**

High-level monitoring data is viewable after the machine with monitoring agent is deployed through the SimpleSRM user interface. Click the Project Name in the SimpleSRM interface under the My Project portlet. The monitoring data is related to memory, processor, and disk usage percentages.

## Summary

- Now that you have completed this training module, you can accomplish these tasks:
  - Give an overview of IBM Tivoli Service Automation Manager V7.2.2 and IBM Tivoli Monitoring Agent integration
  - Configure IBM Tivoli Monitoring Agents for provisioning
  - Deploy a virtual machine with an IBM Tivoli Monitoring Agent
  - View monitoring data in the IBM Tivoli Service Automation Manager V7.2.2 Self-Service User Interface

Now that you have completed this training module, you should be able to accomplish these tasks:

Explain at a high-level the integration of IBM Tivoli Service Automation Manager V7.2.2 with an IBM Tivoli Monitoring Agent

Configure Monitoring Agent for provisioning purposes

Deploy a Machine with ITM Agent

View monitoring data in an IBM Tivoli Service Automation Manager V7.2.2 Self-Service User Interface

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