IaaS Integration for BMC BladeLogic

vRealize Automation 7.2

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IaaS Integration for BMC BladeLogic

IaaS Integration for BMC BladeLogic provides information about integrating BMC BladeLogic Configuration Manager with VMware vRealize ™ Automation.

This documentation provides information on how you can enable deployment of BMC BladeLogic software jobs on machines provisioned by vRealize Automation.

Note   Not all features and capabilities of vRealize Automation are available in all editions. For a comparison of feature sets in each edition, see https://www.vmware.com/products/vrealize-automation/.

Intended Audience

This information is intended for system administrators, tenant administrators, fabric administrators, and business group managers of vRealize Automation. This content is written for experienced Windows or Linux system administrators who are familiar with virtualization technology and the basic concepts described in *Foundations and Concepts*.

VMware Technical Publications Glossary

VMware Technical Publications provides a glossary of terms that might be unfamiliar to you. For definitions of terms as they are used in VMware technical documentation, go to http://www.vmware.com/support/pubs.

Updated Information

This *IaaS Integration for BMC BladeLogic* is updated with each release of the product or when necessary.

This table provides the update history of the *IaaS Integration for BMC BladeLogic*.

Revision	Description
001843-01	Miscellaneous minor changes.
001843-00	Initial release.

BMC BladeLogic Configuration Manager Overview

1

You can integrate BMC BladeLogic with vRealize Automation to enable deployment of BMC BladeLogic software jobs on machines provisioned by vRealize Automation. Custom properties can be used to specify whether these jobs can be selected by the requesting user on a per-machine basis or applied to all machines provisioned from a particular blueprint.

The following is a high-level overview of the requirements for integrating BMC BladeLogic Configuration Manager with vRealize Automation:

- A system administrator verifies that BMC BladeLogic Operations Manger 7.6.0.115 or BMC Server Automation Console 8.2 is installed on the same host as your external provisioning integration (EPI) agent.

- A system administrator sets the PowerShell execution policy to RemoteSigned. See Chapter 2 Set the PowerShell Execution Policy to RemoteSigned.

- A system administrator installs at least one EPI agent. See Chapter 3 Install an EPI Agent for BMC BladeLogic.

- A system administrator configures how software jobs are deployed. See Chapter 5 Integrate BMC BladeLogic.

- A tenant administrator or a business group manager creates a blueprint that enables the deployment of software jobs. See Chapter 6 Creating BMC BladeLogic Blueprints.

Set the PowerShell Execution Policy to RemoteSigned

2

You must set the PowerShell Execution Policy from Restricted to RemoteSigned or Unrestricted to allow local PowerShell scripts to be run.

Prerequisites

- Log in as a Windows administrator.

- Verify that Microsoft PowerShell is installed on the installation host before agent installation. The version required depends on the operating system of the installation host. See Microsoft Help and Support.

- For more information about PowerShell Execution Policy, run `help about_signing` or `help Set-ExecutionPolicy` at the PowerShell command prompt.

Procedure

1   Select **Start > All Programs > Windows PowerShell version > Windows PowerShell**.

2   For Remote Signed, run `Set-ExecutionPolicy RemoteSigned`.

3   For Unrestricted, run `Set-ExecutionPolicy Unrestricted`.

4   Verify that the command did not produce any errors.

5   Type **Exit** at the PowerShell command prompt.

Install an EPI Agent for BMC BladeLogic 3

A system administrator must install at least one vRealize Automation EPI agent to manage interaction with BMC BladeLogic. The agent can be installed anywhere, but it must be able to communicate with vRealize Automation and BMC BladeLogic Configuration Manager.

Prerequisites

- Verify that BMC BladeLogic Operations Manger 7.6.0.115 or BMC Server Automation Console 8.2 is installed on the same host as your EPI agent.

  If the EPI agent is installed before BMC Operations Manager, the agent service must be restarted after BMC Operations Manager is installed.

- The agent must be installed on Windows Server 2008 SP1, Windows Server 2008 SP2 (32 or 64-bit), Windows Server 2008 R2 system, or Windows 2012 with .NET 4.5.

- The credentials under which the agent runs must have administrative access to all BMC BladeLogic hosts with which the agent interacts.

- Log in to the vRealize Automation console as a **system administrator**.

See *Installing vRealize Automation 7.0* for complete information about installing vRealize Automation agents.

Procedure

1   Select **Component Selection** on the Installation Type page.

2   Accept the root install location or click **Change** and select an installation path.

3   Click **Next**.

4   Log in with **administrator** privileges for the Windows services on the installation machine.

    The service must run on the same installation machine.

5   Click **Next**.

6   Select **EPIPowerShell** from the Agent type list.

7 Enter an identifier for this agent in the **Agent name** text box.

Maintain a record of the agent name, credentials, endpoint name, and platform instance for each agent. You need this information to configure endpoints and to add hosts in the future.

Important Do not duplicate agent names unless you are installing redundant, identically configured agents for high availability.

Option	Description
Redundant agent install	Install redundant agents on different servers, but name and configure them identically to provide high-availability.
Single agent install	Select a unique name for this agent.

8 Configure a connection to the Manager Service component.

Option	Description
If you are using a load balancer	Enter the fully qualified domain name and port number of the load balancer for the Manager Service component. For example, `manager-load-balancer.eng.mycompany.com:443`. IP addresses are not recognized.
With no load balancer	Enter the fully qualified domain name and port number of the machine where you installed the Manager Service component. For example, `manager_service.mycompany.com:443`. IP addresses are not recognized.

The default port is 443.

9 Configure a connection to the Manager Website component.

Option	Description
If you are using a load balancer	Enter the fully qualified domain name and port number of the load balancer for the Manager Website component. For example, `website-load-balancer.eng.mycompany.com:443`. IP addresses are not recognized.
With no load balancer	Enter the fully qualified domain name and port number of the machine where you installed the Manager Website component. For example, `website_component.mycompany.com:443`. IP addresses are not recognized.

The default port is 443.

10 Click **Test** to verify connectivity to each host.

11 Select **BMC** in **EPI Type**.

12 Select the EPI type.

13 Enter the fully qualified domain name of the managed server in the **EPI Server** text box.

14 Click **Add**.

15 Click **Next**.

16 Click **Install** to begin the installation.

After several minutes a success message appears.

17 Click **Next**.

18 Click **Finish**.

What to do next

Extend the Default Software Installation Timeout

4

When you install the software for the integration product, the software might take longer to install than the default 30-minute timeout. You can increase the default timeout to a value that allows the installation to finish.

Procedure

1   Navigate to the Manager Service installation directory. Typically, this is `%System-Drive%\Program Files x86\VMware\vCAC\Server`.

2   Create a backup of the `ManagerService.exe.config` file.

3   Open the `ManagerService.exe.config` file and locate the `workflowTimeoutConfigurationSection` element and increase the value of the `DefaultTimeout` attribute from 30 minutes to your desired limit.

4   Click **Save** and close the file.

5   Select **Start > Administrative Tools > Services**, and restart the vRealize Automation service.

Integrate BMC BladeLogic

<div style="text-align: right">5</div>

If a system from which BMC BladeLogic Configuration Manager deploys software is available on the network and you have installed an EPI agent to interact with it, software can be deployed from it directly to newly provisioned machines. The requesting user can select which software to deploy or the blueprint can contain the specific jobs to be deployed on all machines provisioned from that blueprint.

Prerequisites

- Chapter 3 Install an EPI Agent for BMC BladeLogic.

- Log in to the vRealize Automation EPI/BMC Agent host as a **system administrator**.

- As the **system administrator** under which the EPI agent is running, log in to the BladeLogic console to configure the authentication profile to be used and to accept any BladeLogic security certificates, and then close the console. This prerequisite is required only once.

Procedure

1   Select **Start > Administrative Tools > Services**, and stop the vRealize Automation EPI/BMC Agent service.

2   On the EPI agent installation host, which could be the same as the Manager Service host, change to the EPI agent installation directory, typically `%SystemDrive%\Program Files (x86)\VMware\vCAC Agents\agent_name`.

3   Edit every file in the `Scripts\nsh` folder in the EPI agent directory and under the parameter list section of each `.nsh` file, update the values for the following variables. The description of each variable appears above the variable definitions.

    `USERNAME_USER=BLAdmin`

    `AUTH_TYPE=SRP`

    `PASSWORD_USER=password`

    `APP_SERVER_HOST=bladelogic.dynamicops.local`

    `ROLE_NAME=BLAdmins`

4 Edit the agent configuration file, `VRMAgent.exe.config`, in the EPI agent installation directory and replace `CitrixProvisioningUnregister.ps1` with `DecomMachine.ps1`.

    a   Locate the following line.

```
<DynamicOps.Vrm.Agent.EpiPowerShell
   registerScript="CitrixProvisioningRegister. ps1"
   unregisterScript="CitrixProvisioningUnregister.ps1"/>
```

    b   Change the line to match the following line.

```
<DynamicOps.Vrm.Agent.EpiPowerShell
   registerScript="CitrixProvisioningRegister. ps1"
   unregisterScript="DecomMachine.ps1"/>
```

5 If you intend to provision by cloning with a static IP address assignment, you can enable BMC BladeLogic registration of provisioned machines by IP address rather than by machine name.

    a   Edit the files `InstallSoftware.ps1` and `DecomMachine.ps1` in the`Scripts` folder in the EPI agent directory and change the line `$byip=$false` to `$byip=$true`. edit the files `InstallSoftware.ps1` and `DecomMachine.ps1` in the `Scripts` folder in the EPI agent directory and change the line `$byip=$false` to `$byip=$true`.

    b   If you enable registration by IP address by making the above change, you must provision by using static IP address assignment, otherwise, BMC BladeLogic integration fails.

6 Select **Start > Administrative Tools > Services** to start the EPI/BMC agent service (vRealize Automation Agent – agentname service).

7 Place all the BMC BladeLogic jobs you want available to be selected by machine requestors or specified by blueprint architects under a single location within BMC BladeLogic Configuration Manager, for example, `/Utility`.

8 Prepare a reference machine and convert it to a template for cloning.

    a   Install a BMC BladeLogic agent that points to the server on which BMC BladeLogic Configuration Manager is running.

    b   Verify that you are able to connect to the agent on the guest and successfully execute jobs as expected after provisioning.

Tenant administrators and business group managers can now integrate BMC BladeLogic into clone blueprints. See Add BMC BladeLogic Integration to a Blueprint.

Creating BMC BladeLogic Blueprints

<div style="text-align: right; font-size: 3em;">6</div>

BMC BladeLogic integration is invoked by adding custom properties for any BMC BladeLogic software jobs to be deployed on machines provisioned from a blueprint.

Obtain the following information so that tenant administrators and business group managers can include it in their blueprints:

- The name of the template.

- The name of the customization specification.

- The amount of total storage specified for the template.

- For vCenter Server integrations, the vCenter Server guest operating system version with which vCenter Server is to create the machine.

This chapter includes the following topics:

- Add BMC BladeLogic Integration to a Blueprint

- Custom Properties for BMC BladeLogic Configuration Manager Integration

Add BMC BladeLogic Integration to a Blueprint

To create a blueprint that enables the deployment of BMC BladeLogic Configuration Manager software jobs on machines provisioned from it, a tenant administrator or a business group manager must create a blueprint for provisioning by cloning that includes BMC BladeLogic custom properties.

- Obtain the following information from your fabric administrator:

  - The name of the server that hosts BMC BladeLogic.

  - The name of the default authentication profile on the BMC BladeLogic server.

  - The BMC BladeLogic location of software jobs to be deployed. This must match the appropriate value of `Vrm.Software.IdNNNN`.

Prerequisites

- Log in to the vRealize Automation console as a **tenant administrator** or **business group manager**.

- Create a blueprint for cloning by using the template and customization specification provided to you by your fabric administrator. See *IaaS Configuration for Virtual Platforms*.

  Note   A fabric administrator can create a build profile by using the property set BMCSoftWareProperties. This makes it easier for tenant administrators and business group managers to correctly include this information in their blueprints.

- For a list of all required and common BMC BladeLogic custom properties, see Custom Properties for BMC BladeLogic Configuration Manager Integration.

Procedure

1   Select **Design > Blueprints**.

2   Locate the clone blueprint that you want to integrate with BMC BladeLogic.

3   In the Actions column, click the down arrow and click **Edit**.

4   Click the **Properties** tab.

5   (Optional) Select one or more property groups.

    Property groups contain multiple custom properties.

6   (Optional) Add any custom properties to your machine component.

    a   Click **New Property**.

    b   Enter the custom property in the **Name** text box.

    c   (Optional) Select the **Encrypted** check box to encrypt the custom property in the database.

    d   Enter the value of the custom property in the **Value** text box.

    e   (Optional) Select the **Prompt user** check box to require the user to provide a value when they request a machine.

        If you choose to prompt users for a value, any value you provide for the custom property is presented to them as the default. If you do not provide a default, users cannot continue with the machine request until they provide a value for the custom property.

    f   Click the **Save** icon ( ).

7   Click **OK**.

Your blueprint is saved.

What to do next

Publish your blueprint to make it available as a catalog item. See Chapter 7 Publish a Blueprint.

Custom Properties for BMC BladeLogic Configuration Manager Integration

vRealize Automation includes custom properties that you can use to provide additional controls for BMC BladeLogic Configuration Manager integration.

Table 6-1. **Custom Properties Required for BMC BladeLogic Configuration Manager Integrations**

Custom Property	Description
VirtualMachine.EPI.Type	Specifies the type of external provisioning infrastructure.
VirtualMachine.Admin.Owner	Specifies the user name of the machine owner.
BMC.Software.Install	Set to True to enable BMC BladeLogic Configuration Manager integration.
EPI.Server.Name	Specifies the name of the external provisioning infrastructure server, for example, the name of the server hosting BMC BladeLogic. If at least one general BMC EPI agent was installed without specifying a BMC BladeLogic Configuration Manager host, this value directs the request to the desired server. If only dedicated BMC EPI agents for specific BMC BladeLogic Configuration Manager hosts were installed, this value must exactly match the server name configured for one of these agents.
BMC.Service.Profile	Specifies the name of the default authentication profile on the BMC BladeLogic server.
BMC.Software.BatchLocation	Specifies the location in BMC BladeLogic configuration where software jobs are deployed. This value must match the appropriate value of Vrm.Software.IdNNNN. For example, a valid value could be /Application Deployment.
VMware.VirtualCenter.OperatingSystem	Specifies the vCenter Server guest operating system version (VirtualMachineGuestOsIdentifier) with which vCenter Server creates the machine. This operating system version must match the operating system version to be installed on the provisioned machine. Administrators can create property groups using one of several property sets, for example, VMware[OS_Version]Properties, that are predefined to include the correct VMware.VirtualCenter.OperatingSystem values. This property is for virtual provisioning. For related information, see the enumeration type VirtualMachineGuestOsIdentifier in vSphere API/SDK Documentation. For a list of currently accepted values, see the vCenter Server documentation.

Custom Properties To Make BMC BladeLogic Configuration Manager Software Jobs Available

Configure BMC BladeLogic Configuration Manager jobs for vRealize Automation integrations. Make all software jobs available to machine requesters to select from, or specify a software job to apply to all machines provisioned from the blueprint.

Table 6-2. Custom Properties to Make Software Jobs Available

Custom Property	Description
LoadSoftware	Set to True to enable software install options.

Vrm.Software.Id*NNNN*	Specifies a software job or policy to be applied to all machines provisioned from the blueprint. Set the value to `job_type=job_path`, where `job_type` is the numeral that represents the BMC BladeLogic job type and `job_path` is the location of the job in BMC BladeLogic, for example `4=/Utility/putty`. *NNNN* is a number from 1000 to 1999. The first property must start with 1000 and increment in numerical order for each additional property.
	
	`1 – AuditJob`
	`2 – BatchJob`
	`3 – ComplianceJob`
	`4 – DeployJob`
	`5 – FileDeployJob`
	`6 – NSHScriptJob`
	`7 – PatchAnalysisJob`
	`8 – SnapshotJob`

Optional Custom Properties for BMC BladeLogic Configuration Manager Integrations

You can also use optional custom properties that are commonly used with BMC BladeLogic Configuration Manager blueprints.

Table 6-3. Optional Custom Properties for BMC BladeLogic Configuration Manager Integrations

Property	Definition
BMC.AddServer.Delay	Specifies the number of seconds to wait before adding the machine to BMC BladeLogic Configuration Manager. The default is 30.
BMC.AddServer.Retry	Specifies the number of seconds to wait before retrying if the first attempt to add the machine to BMC BladeLogic Configuration Manager is unsuccessful. The default is 100.

Publish a Blueprint

7

You can publish a blueprint for use in machine provisioning and optionally for reuse in another blueprint. To use the blueprint for requesting machine provisioning, you must entitle the blueprint after publishing it. Blueprints that are consumed as components in other blueprints do not required entitlement.

Prerequisites

- ■ Log in to the vRealize Automation console as an **infrastructure architect**.

- Create a blueprint. See *Checklist for Creating vRealize Automation Blueprints*.

Procedure

1 Click the **Design** tab.

2 Click **Blueprints**.

3 Point to the blueprint to publish and click **Publish**.

4 Click **OK**.

The blueprint is published as a catalog item but you must first entitle it to make it available to users in the service catalog.

What to do next

Add the blueprint to the catalog service and entitle users to request the catalog item for machine provisioning as defined in the blueprint.