Automate installation and upgrade workflows of Horizon Connection Server using new LCM REST APIs

This document serves the purpose on how to use LCM REST APIs to in-order to automate connection server installation and upgrade flow from 2406 onwards.

Getting Started

Before you can begin to use the LCM APIs, below are few things to consider:

* Since the APIs are shipped with Connection Server 2406 onwards, Administrators need to install the latest Connection Server (2406 or higher) or upgrade an existing CS to the latest version. Please refer to the Horizon Install and Upgrade documentation.
* WinRM should be configured on the Connection Server machine where API is getting invoked and on the target machine(s) where Install/ Upgrade need to be performed.
* The Horizon Admin account used for new LCM APIs invocation should be a member of Local Administrators Group on the target machine(s) where Install/Upgrade need to be performed.
* Before performing upgrade, Administrator would need to disable the target Connection Server(s).
* After successful upgrade, Administrators would need to enable the Connection Server(s) and begin usage.

Workflow to invoke LCM REST APIs

These are the following steps to run LCM APIs in a target machine to either install or upgrade a connection server:

**1. Create and Assign LCM privilege**

Two new privileges are introduced to execute LCM APIs

* LCM\_VIEW
* LCM\_MANAGEMENT

User must create the required role and assign the privilege to a user.

To create the role:

**Request: [POST] /config/v1/roles**

{

 "description": "Custom LCM role.",

 "name": "LCM",

 "privileges": [

 "LCM\_MANAGEMENT"

 ]

}

To assign the role to a user:

**Request: [POST] /config/v1/permissions**

[{"userOrGroup":"UserOrGroup/Uy0xLTUtMjEtMjMzNzczOTMxMC0yNjQ3NjI3MzY0LTE3NzczMzI0NzktNTAw","role":"Role/NmU4MjgwMmYtMDc4Yi00NGI0LWJiYmEtNGU1MWIxYzNhZWRj/TENN","accessGroup":"AccessGroup/NmU4MjgwMmYtMDc4Yi00NGI0LWJiYmEtNGU1MWIxYzNhZWRj/Um9vdA"}]

**2. Register Connection Server build package**

Once a user has proper LCM privilege, then the user can register specific connection server build.

To register a connection server build:
**Request: [POST] /config/v1/server-installer-packages/action/register**

with exe URL and metadata information

fileUrl: https://10.196.65.127/configs/VMware-Horizon-Connection-Server-x86\_64-8.13.0-8565949332.exe

{

 "build\_number": "8565949332",

 "checksum": "d2f31e1bc6de212f11a34b502ec16d66d5bf896947de3288a337c10df8c5be67",

 "display\_name": "VMware Horizon Connection Server",

 "file\_size\_in\_bytes": 365891976,

 "filename": "VMware-Horizon-Connection-Server-x86\_64-8.13.0-8565949332.exe",

 "version": "8.13.0"

}

User can also view a registered build or list of register builds, and can unregister a build as well using following APIs
**[GET] /config/v1/server-installer-packages**: Lists all server installer packages

**[GET] /config/v1/server-installer-packages/{id}**: Retrieves a server installer package

**[POST] /config/v1/server-installer-packages/{id}/action/unregister**: Unregisters a server installer package

**3. Run Precheck API on target machine**

Before running the install/upgrade commands, user should run pre-check APIs to validate target machine status, Active directory status and Virtual Center status. If the overall results of precheck APIs are good, then install/upgrade commands should be invoked.

**[POST] /config/v1/connection-servers/action/validate-system-requirements**: Validate system requirement for target connection server machine.

**[POST] /config/v1/connection-servers/action/validate-ad-requirements**: Validate Active directory requirements

**[POST] /config/v1/connection-servers/action/validate-virtual-center-requirements**: Validate virtual center requirements.

**4. Invoke Install/upgrade commands**

Once all the precheck APIs results are correct, user can invoke install/upgrade REST APIs. These two REST APIs will need account details (username and password) which will be part of local administrator group of the remote machine and has Horizon Administrator privilege. This account details will be used to schedule install/upgrade task in remote machine.

Upgrade a Connection Server:

Request: **[POST] /config/v1/connection-servers/action/upgrade-connection-server**

Install Connection Server:

Request: **[POST] /config/v1/connection-servers/action/install-connection-server**

**Check remote job status**

After the install/upgrade job is scheduled in remote machine, user can check the remote job status using REST API with target machine FQDN which will return current job status in target machine.

Request: **[POST]**

**/config/v1/connection-servers/action/retrieve-install-status/{id}**