

Region Expansion

Cloud Execution Environment

OPERATING INSTRUCTIONS

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1 Introduction

The document provides instructions on how to expand the Cloud Execution Environment (CEE) with one or more Compute hosts. Throughout this document Compute host hardware is referred to as server.

1.1 Scope

This document describes how to add one or more new servers to the CEE certified hardware configurations.

The document does not include the steps for expanding the configuration outside the limits of the already deployed switches.

This document is only applicable for the following hardware configurations:

- Systems using Extreme switches configured dynamically by CEE.
- Systems using manually configured switches. In this case, the correct configuration of the switches is the responsibility of the user.

Refer to the *Configuration File Guide* for more information about the CEE configuration types.

Note: Systems with user-specific Neutron configuration are outside the scope of this document.

1.2 Prerequisites

This section provides information on the documents, tools, and conditions that apply to the procedure.

1.2.1 Documents

Before starting this procedure, ensure that the following documents have been read and understood:

- *Personal Health and Safety Information*
- *System Safety Information*

The following documents are referred and used in this procedure:

- Depending on the used hardware environment, use the relevant document from the ones referred in Section 2.1 on page 4. The documents contain further prerequisites.



- *Configuration File Guide*
- *Data Collection Guideline*
- *Extreme X670V Configuration or Extreme X770 Configuration*
- *HP c7000 HW Installation*
- *BSP Hardware Installation, Reference [2]*
- *Dell PowerEdge R630 HW Installation*
- *Dell PowerEdge R630 Server Configuration*
- *Dell PowerEdge R630 Server BIOS Configuration for CEE*

1.2.2 Tools

The following tools are needed:

- An Electrostatic Discharge (ESD) wrist strap (part number LYB 250 01/14)
- A computer with the ability to do a Secure Shell (SSH) logon to the CEE virtual Cloud Infrastructure Controller (vCIC)

1.2.3 Data

A site-specific *IP and VLAN plan* is required.

The address variables used in the document *IP and VLAN plan* are used throughout this document, and are summarized in the following table.

Table 1 IP Variables Based on the IP and VLAN Plan

VLAN	Variable Name	Factory Default IP Address Allocation
fuel_ctrl_sp	<vFuel (static)>	192.168.0.11

Other site-specific data is listed in the following table:

Table 2 Other Variables Used

Resource	Variable Name
External vCIC IP address	<vcic_address>
Personal username to the vCIC	<personal-user>
Password for the personal username to the vCIC	
Password for the root user on vFuel	



1.2.4 Conditions and Limitations

During the region expansion process the CICs go into maintenance mode.

Before starting this procedure, ensure that the following conditions are met:

- A work order for the expansion is received or the document is referred from another procedure.
- Verify that there are enough unused slots for each new server, including whether there is a need for adding new enclosures, subracks, or cabinets.
 - If a new enclosure needs to be added, and is available, verify visually that it is undamaged. Follow the instructions in *HP c7000 HW Installation* to add the new enclosure.
 - If a new subrack or cabinet needs to be added, and is available, verify visually that it is undamaged. Follow the instructions in *BSP Cabinet Management*, Reference [1], to add the new subrack or cabinet.
- The new server or servers are available and it has been verified visually that the new server or servers are undamaged.
- Cabling is done for the slot or slots in the existing enclosures to be used for the new server or servers according to the document *HP c7000 HW Installation*.
- The IP addresses and credentials for SSH connections to the following devices are known. See also Section 1.2.3 on page 2.
 - vCIC
 - vFuel
- If the system contains manually configured switches, connectivity for the new server or servers is configured by the user.
- All keys to the site are available and site access is granted.

2 Procedure

This procedure describes how to add one or more servers.

The procedure contains the following activities:



1. Hardware installation of the new server or servers, see Section 2.1 on page 4.
2. Executing the installation command, see Section 2.2 on page 4.
3. Backup of vFuel, see Section 2.3 on page 5.
4. Concluding Routine, see Section 2.4 on page 6.

Start the procedure with Section 2.1 on page 4.

2.1 Hardware Installation and Configuration of the Server

Perform the following steps:

1. Depending on the used HW infrastructure, refer to the relevant instruction indicated below and perform the steps provided for hardware installation of the server including BIOS configuration:
 - HP-based systems: *HP c7000 Server HW Expansion*
 - BSP-based systems: CPI documentation of the Blade Server Platform (BSP). Use the instruction *Increase BSP Tenant Capacity*, Reference [4].
 - Dell-based systems:
 - *Dell PowerEdge R630 HW Installation*
 - *Dell PowerEdge R630 Server Configuration*
 - *Dell PowerEdge R630 Server BIOS Configuration for CEE*
 - HDS-based systems: *Hyperscale Datacenter System 8000 Customer Documentation*, Reference [3]
 - Other HW: documentation provided by the manufacturer.

Note: In the case of unmanaged servers, before the execution of the installation command, the new server needs to be discovered in vFuel. After the new server has been configured, do the following:

 - 1 Set the boot device to PXE.
 - 2 Force restart the server.
 - 3 Verify in vFuel that the new server has been discovered.
2. Continue with Section 2.2 on page 4.



2.2 Executing the Installation Command

Perform the following steps:

1. Log on to the vCIC by using SSH:

```
ssh <personal-user>@<vcic_address>
```

Example:

```
ssh <personal-user>@10.0.22.10
```

2. If prompted, provide the user password.
3. Log on to vFuel by using SSH:

```
ssh root@<vFuel (static)>
```

Example:

```
ssh root@192.168.0.11
```

4. If prompted, provide the user password.

Perform the following steps at the vFuel node:

5. Add the new server or servers in the `/mnt/cee_config/config.yaml` file. Refer to the *Configuration File Guide* for more information.
6. Use the **expandcee** command to start the installation.

This command causes reconfiguration of the switches.

Note: Verification of the functions of the newly added server or servers is also performed by the command.

7. Do the relevant action:
 - If the installation ends without issues, continue with Step 11.
 - If the command execution fails, continue with Step 8.
8. Collect the console printout.
9. Collect all logs by referring to *Data Collection Guideline*.
10. Consult the next level of maintenance support. Further actions are outside the scope of this instruction.
11. Log out from vFuel:

```
exit
```



2.3 Fuel Synchronization

In order to backup vFuel, follow the instructions in *Fuel Synchronization*.

Continue with Section 2.4 on page 6.

2.4 Concluding Routine

Do the following:

12. Collect all tools and equipment.
13. Report that the new compute host or hosts have been added.
14. Carry out any remaining actions according to the work order, if applicable.
15. The job is completed.



Reference List

- [1] *BSP Cabinet Management*, 1553-CRA 119 1772
- [2] *BSP Hardware Installation*, 1/1531-CRA 119 1772
- [3] *Hyperscale Datacenter System 8000 Customer Documentation*, 2/1551-LZN 901 5032
- [4] *Increase BSP Tenant Capacity*, 12/1543-APP 111 01