



Compatibility Matrix for Cisco UCS Director Express for Big Data, Release 3.7

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Compatibility Matrix

Revision History

Release	Date	Description
3.7	January 9, 2019	Created compatibility Matrix for Cisco UCS Director Express for Big Data, Release 3.7.
Cisco BigData Express Connector Pack, Release 3.7.1.1	May 2, 2019	Updated supported Hadoop distributions
Cisco BigData Express Connector Pack, Release 3.7.2.0	June 14, 2019	Updated supported Hadoop distributions
Cisco BigData Express Connector Pack, Release 3.7.3.1	November 12, 2019	Updated the Cisco Server Support for Big Data Cluster Deployments section.
3.7.4.0	March 9, 2020	Updated the Cisco Server Support for Big Data Cluster Deployments section.

Cisco UCS Director Express for Big Data

Cisco UCS Director Express for Big Data is a single-touch solution within Cisco UCS Director that automates deployment of Big Data infrastructure. Cisco UCS Director Express for Big Data provides a single management pane across physical infrastructure and across Hadoop and Splunk Enterprise software. It supports key Hadoop distributions, including Cloudera, MapR, and Hortonworks.

Cisco UCS Director Express for Big Data delivers end-to-end automation of Hadoop cluster deployment, allowing you to spin up and expand clusters on-demand. The physical infrastructure configuration is handled automatically, with minimal user input. The configuration includes compute, internal storage, network, and installation of operating system, Java packages, and Hadoop, along with the provisioning of Hadoop services. This is achieved through Cisco UCS service profiles wherein both the physical infrastructure and Hadoop configuration are incorporated into a Hadoop cluster deployment profile.

Cisco UCS Director Express for Big Data also delivers end-to-end automation of Splunk cluster deployment, with minimal user input. This is achieved through Cisco UCS service profiles wherein both the physical infrastructure and Splunk configuration are incorporated into a Splunk cluster deployment profile.

Requirements

This section contains the following:

- [Cisco UCS Director Express for Big Data](#)
- [Bare Metal Agent](#)

Cisco UCS Director Express for Big Data

Cisco UCS Director Express for Big Data is a self-contained virtual machine that can be imported into, and run within a VMware vSphere environment. Cisco UCS Director Express for Big Data is packaged and delivered to the end-user in the Open Virtualization Format (OVF) for deployment on VMware vSphere. Depending on the hosting virtualization platform (For example, VMware vSphere), download and import the appropriate Cisco UCS Director Express for Big Data format.

The following table outlines the minimum system requirements for Cisco UCS Director Express for Big Data:

Resources	Minimum Requirements
vCPU	4
Memory	16 GB
Primary Disk (Hard Disk 1)	100 GB
Secondary Disk (Hard Disk 2)	100 GB
Disk Read I/O Bandwidth	4 MBps
Disk Write I/O Bandwidth	4 MBps
Memory Allocated for infrmgr	8 GB

Bare Metal Agent

The Bare Metal Agent (BMA) is a separate virtual machine appliance that works with the Cisco UCS Director Express for Big Data appliance to provide more supporting services necessary in a PXE boot environment. These functions include services such as Dynamic Host Control Protocol (DHCP), Hypertext Transfer Protocol (HTTP), and Trivial File Transfer Protocol (TFTP).

The following table outlines the minimum system requirements for BMA:

Resources	Minimum Requirements
vCPUs	2
Memory	3 GB
Hard Disk	40 GB

Cisco Server Support for Big Data Cluster Deployments

The table shows Cisco UCS Director Express for Big Data compatibility with Cisco UCS hardware and software. This table does not reflect the compatibility between Cisco UCS hardware and software.

For information regarding Cisco UCS compatibility, see the [Cisco UCS Hardware and Software interoperability Matrices](#) for the appropriate releases.



Note All Cisco UCS Director Express for Big Data functionality may not be available across all supported Cisco UCS software versions. Certain features may not be available in older versions of Cisco UCS software.

Software Components	Certified Versions	Supported Versions
Cisco UCS Manager	Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Releases: <ul style="list-style-type: none"> • 4.1(1a) • 4.0(4c) (Cisco UCS Director Express for Big Data is supported with fourth generation fabric interconnect i.e. Cisco UCS 6454.) • 3.2(3a) 	Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Releases: <ul style="list-style-type: none"> • 4.1(x) • 4.0(x) • 3.2(x) • 3.1(x) • 3.0(x) • 2.2(x)
Cisco UCS C-Series Rack-Mount Servers (Managed by Cisco UCS Manager)	Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Release 3.2(2d)	Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Release 3.1(2b), Release 3.1(2f), and Release 3.2(2d) for M3 Rack servers Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Release 3.1(2b), Release 3.1(2f), and Release 3.2(2d) for M4 Rack servers and Storage servers Cisco UCS Infrastructure Bundle and Cisco UCS Manager Software Bundle, Release 3.2(2d) for M5 Rack servers

Supported Cisco UCS C-Series Rack-Mount Servers

Following are the list of models supported by the Cisco UCS C-Series Rack-Mount Servers (managed by Cisco UCS Manager).

- C240 M3 Rack Server

- C240 M4 Rack Server
- C240 M5 Rack Server
- C220 M3 Rack Server
- C220 M4 Rack Server
- C220 M5 Rack Server
- S3260 M4 Storage Server
- S3260 M5 Storage Server

Bare Metal Operating System Support

Cisco UCS Director Express for Big Data with the Bare Metal Agent supports the following operating systems in bare metal provisioning workflows:

Table 1: Certified Versions of Big Data Clusters and Operating Systems

Big Data Cluster	RHEL 7.4	RHEL 7.5	CentOS 7.4	CentOS 7.5	Oracle Enterprise Linux OS 7.4
Cloudera	5.14.0, 6.0.0, and 6.1.0	5.15.0, 6.0.0, and 6.1.0	5.14.0, 6.0.0, and 6.1.0	5.15.0, 6.0.0, and 6.1.0	5.14.0, 6.0.0
Hortonworks	2.6.4, 3.0.0	3.0.0	2.6.4, 3.0.0	3.0.0	2.6.3, 2.6.4, 3.0.0
MapR	5.2.2, 6.0.0, 6.1.0	6.1.0	5.2.2, 6.0.0, 6.1.0	6.1.0	6.0.0, 6.1.0
Splunk	7.0.0, 7.1.3, 7.2.0	7.1.3, 7.2.0	7.0.0, 7.1.3	7.1.3, 7.2.0	7.0.0, 7.2.0



Note Cloudera 6.1.0 is supported in Cisco BigData Express Connector Pack release 3.7.1.1 and Cisco UCS Director Express for Big Data, Release 3.7.2.0.



Note You can login to UCS Hardware and Software Compatibility tool to view and download the drivers. For more information, see [Downloading Cisco UCS Storage and Network Drivers, on page 4](#).

Downloading Cisco UCS Storage and Network Drivers

From Cisco UCS Director, Release 6.6.1.0, we are not packaging the Cisco UCS storage and network drivers along with Cisco UCS Director Express for Big Data. We recommend you to download the relevant drivers using the UCS Hardware and Software Compatibility tool.

Procedure

- Step 1** Go to UCS Hardware and Software Compatibility tool.
<https://ucshcltool.cloudapps.cisco.com/public/>
- Step 2** Click **Search**.
- Step 3** Click the required radio button. For example, click the **Server** radio button to identify the compatible software for the Cisco UCS server.
- Step 4** On the **Search Options** section, choose the required **Server Type**, **Server Model**, **Processor Version**, **Operating System**, and **Operating System Version** from the drop-down menus.
- Step 5** On the **Search Results** section, refine the search results by checking or unchecking checkboxes next to **Product Category** (Adapters) and **UCS Server Firmware** version number
- Step 6** Click **Driver ISO** under **Details** section.
- Note** By clicking the **View Notes** and **Install & Upgrade Guides** links under **Documents**, you can view the note details and install and upgrade details.
- Step 7** Download a compatible Driver ISO file from the **Software Download** window.
- Step 8** Extract the Storage ISO files.
- Note** To extract the ISO files, navigate to `Storage > Intel > C600 > RHEL` or `Storage > LSI > C600 > RHEL` and choose the required OS. For example,
- For M.2 flash/devices—`Storage > Intel > C600 > RHEL > RHEL7.5 > megasr-18.0*.iso`
 - For SAS HDD—`Storage > LSI > UCSC-RAID-M5 > RHEL > RHEL7.5 > megaraid_sas-07.0*.iso`. You need to extract the `iso.gz` file, locate the `.iso` file, and rename the `.iso` file name with `iso.gz` file name.
- Step 9** Extract the Network ISO file.
- Note** To extract the ISO files, navigate to `Network > Cisco > VIC > RHEL` and choose the required OS and copy the `.rpm` file. For example, `Network > Cisco > VIC > RHEL > RHEL7.5`
- Step 10** Login to Bare Metal Agent through VM Console or SSH client to access the CLI.
- Step 11** Create directories for the operating system in the `/opt/cnsaroot/bd-sw-rep` directory of the Bare Metal Agent VM.
- ```
mkdir /opt/cnsaroot/bd-sw-rep/RHEL7.4_MEGARAID_SAS_DRIVERS
mkdir /opt/cnsaroot/bd-sw-rep/RHEL7.4_KMOD_ENIC_DRIVERS
mkdir /opt/cnsaroot/bd-sw-rep/RHEL7.4_MEGASR_DRIVERS
```
- Note** We recommend that you make the directory name descriptive enough that you can identify the operating system of the images within it. For example, we recommend that you name the directory `RHEL7.5_MEGASR_DRIVERS`.

The RHEL7.5\_MEGARAID\_SAS\_DRIVERS, RHEL7.5\_KMOD\_ENIC\_DRIVERS, and RHEL7.5\_MEGASR\_DRIVERS directories are used to store the operating system image files.

**Step 12** Execute `ln -s <<path of the original iso file>> <<target link name>>` to provide links to the ISO images.

For example,

```
ln -s /opt/cnsaroot/bd-sw-rep/RHEL7.4_MEGARAID_SAS/megaraid_sas-07.703.06.00_el7.4-1.x86_64.iso
megaraid_sas_drivers_softlink_to_original.iso
```

```
ln -s /opt/cnsaroot/bd-sw-rep/RHEL7.4_MEGASR_DRIVERS/megasr-18.01.2017.1219-1-rhel74-x86_64.iso
megasr_drivers_softlink_to_original.iso
```

```
ln -s /opt/cnsaroot/bd-sw-rep/RHEL7.4_KMOD_ENIC_DRIVERS/kmod-enic-2.3.0.44-rhel7u4.el7.x86_64.rpm
kmod_enic_drivers_softlink_to_original.rpm
```

**Note** The links to the RHEL7.5\_KMOD\_ENIC\_DRIVERS should refer to the rpm file, and the MEGASR and MEGARAID should refer to the iso files.

**Note** We recommend that you make the directory name based on the operating system used for the cluster deployment. For example, CentOS7.5\_MEGASR\_DRIVERS, CentOS7.5\_MEGARAID\_SAS, and CentOS7.5\_KMOD\_ENIC\_DRIVERS directories are used to store the operating system driver image file. You use the same set of RHEL drivers for CentOS as well.

## Supported Hadoop Distributions

Cisco UCS Director Express for Big Data supports the following Hadoop distributions:

| Hadoop Distribution | Supported Hadoop Distribution Version         |
|---------------------|-----------------------------------------------|
| Cloudera            | 5.14.0, 5.15.0, 6.0.0, and 6.1.0 <sup>1</sup> |
| MapR                | 5.2.2, 6.0.0, and 6.1.0                       |
| Hortonworks         | 2.6.4 and 3.0.0                               |

<sup>1</sup> Supported with Cisco BigData Express Connector Pack release 3.7.1.1



**Note** For more information on the supported JDK versions and upgrade scenarios, see Cloudera, MapR, and Hortonworks sites.



**Important** Upgrade is not supported for the following:

- Cloudera 5.14.0 to Cloudera 6.0
- Cloudera 5.15.0 to Cloudera 6.0
- Hortonworks 2.6.4 to Hortonworks 3.0.0
- MapR 5.2.2 to MapR 6.1.0
- MapR 6.0.0 to MapR 6.1.0

## Supported Splunk Distribution

Cisco UCS Director Express for Big Data supports the following Splunk distribution:

| Splunk Distribution | Supported Splunk Distribution Version |
|---------------------|---------------------------------------|
| Splunk              | 7.0.0, 7.1.3, and 7.2.0               |



**Note** For more information on the upgrade scenarios, see Splunk Enterprise site.



**Important** Upgrade is not supported for the following:

- Splunk 7.0.0 to Splunk 7.2.0
- Splunk 7.1.3 to Splunk 7.2.0

## Supported External Database

MySQL, Oracle 12.1c, and Oracle 12.2c are the external databases supported in Cisco UCS Director Express for Big Data.



**Note** Oracle 12.1c and Oracle 12.2c are supported in Cloudera and Hortonworks.

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[Cisco Bug Search Tool](#) (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.



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