CX Cloud Agent Overview v2.4

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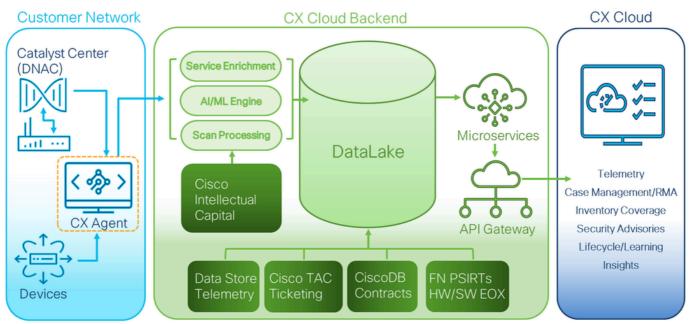
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Introduction

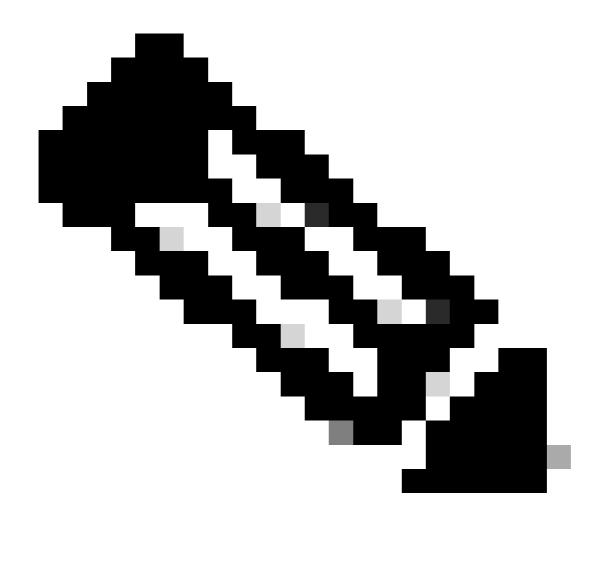
This document describes Cisco's Customer Experience (CX) Cloud Agent. Cisco's CX Cloud Agent is a highly scalable platform that collects telemetry data from customer network devices to deliver actionable insights for customers. CX Cloud Agent enables the Artificial Intelligence (AI)/Machine Learning (ML) transformation of active running configuration data into proactive and predictive insights displayed in CX Cloud.

CX Cloud Architecture



CX Cloud Architecture

This guide is specific to CX Cloud Agent v2.4. Refer to the <u>Cisco CX Cloud Agent</u> page to access prior versions.



Note: Images in this guide are for reference purposes only. Actual content can vary.

Prerequisites

CX Cloud Agent runs as a Virtual Machine (VM) and is available for download as an Open Virtual Appliance (OVA) or a Virtual Hard Disk (VHD).

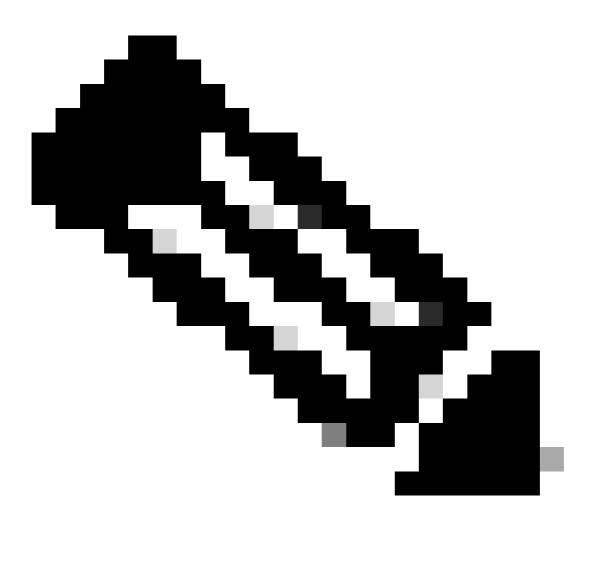
Deployment Requirements

- One of the following hypervisors is required for a new install:
 - VMware ESXi v5.5 or later
 - Oracle Virtual Box v5.2.30 or later
 - Windows Hypervisor version 2012 to 2022
- The configurations in the following table are required for deploying VM:

U	Number of CPU Cores	RAM	Hard Dick	*Maximum number of Assets directly connected to CX Cloud
---	------------------------	-----	-----------	--

				Agent
Small OVA	8C	16GB	200GB	10,000
Medium OVA	16C	32GB	600GB	20,000
Large OVA	32C	64GB	1200GB	50,000 :

*In addition to connecting 20 Cisco Catalyst Center (Catalyst Center) non-clusters or 10 Catalyst Center clusters for each CX Cloud Agent instance.



Note: Flexible OVA/Patch 2.4 for medium and large configurations is available only for the VMware ESXi VMs. The Oracle VirtualBox and Windows Hyper-V cannot be used for medium and large configurations.

• For customers using designated US data centers as the primary data region to store CX Cloud data, the

CX Cloud Agent must be able to connect to the servers shown here, using the Fully Qualified Domain Name (FQDN), and using HTTPS on TCP port 443:

- FQDN: agent.us.csco.cloud
- FQDN: ng.acs.agent.us.csco.cloud
- FQDN: cloudsso.cisco.com
- FQDN: api-cx.cisco.com
- For customers using designated Europe data centers as the primary data region to store CX Cloud data: the CX Cloud Agent must be able to connect to both of the servers shown here, using the FQDN, and using HTTPS on TCP port 443:
 - FQDN: agent.us.csco.cloud
 - FQDN: agent.emea.csco.cloud
 - FQDN: ng.acs.agent.emea.csco.cloud
 - FQDN: cloudsso.cisco.com
 - FQDN: api-cx.cisco.com
- For customers using designated Asia Pacific data centers as the primary data region to store CX Cloud data: the CX Cloud Agent must be able to connect to both of the servers shown here, using the FQDN, and using HTTPS on TCP port 443:
 - FQDN: agent.us.csco.cloud
 - FQDN: agent.apjc.csco.cloud
 - FQDN: ng.acs.agent.apjc.csco.cloud
 - FQDN: cloudsso.cisco.com
 - FQDN: api-cx.cisco.com
- For customers using designated Europe and Asia Pacific data centers as their primary data region, connectivity to FQDN: agent.us.csco.cloud is required only for registering the CX Cloud Agent with CX Cloud during initial setup. After the CX Cloud Agent is successfully registered with CX Cloud, this connection is no longer required.
- For local management of the CX Cloud Agent, port 22 must be accessible.
- The following table provides a summary of the ports and protocols that must be opened and enabled for CX Cloud Agent to function correctly:

CX Cloud Agent Traffic									
Source	Destination	Protocol	Port	Purpose	Туре				
CX Cloud Agent	All regions: cloudsso.cisco.com agent.us.csco.cloud DNA Center <u>AMER region;</u> ng.acs.agent.us.csco.cloud <u>EMEA region;</u> agent.emea.csco.cloud ng.acs.agent.emea.csco.cloud <u>APJC region;</u> agent.apjc.csco.cloud ng.acs.agent.apjc.csco.cloud	HTTPS	TCP/443	Initial configuration Upgrades Inventory & telemetry transfers	Bi-directional to Cisco AWS regional data centers and DNA Center				
CX Cloud Agent	Network Devices	SNMP	UDP/161	Initial discovery Ongoing inventory collections	Outbound to LAN				
CX Cloud Agent	Network Devices	SSH	TCP/22	Collection of telemetry from CLI commands	Outbound to LAN				
CX Cloud Agent	Network Devices	Telnet	TCP/23	Collection of telemetry from CLI commands	Outbound to LAN				
Network Devices	CX Cloud Agent	Syslog	UDP/514	Transfer syslogs for Alert Fault Management	In bound from LAN				
Workstation	CX Cloud Agent	SSH	TCP/22	CX Cloud Agent Maintenance	Inbound from LAN				

- An IP is automatically detected if the Dynamic Host Configuration Protocol (DHCP) is enabled in the VM environment; Otherwise, a free IPv4 address, Subnet mask, Default Gateway IP address, and Domain Name Service (DNS) server IP address must be available.
- Only IPv4 is supported.

- The certified single node and High Availability (HA) Cluster Catalyst Center versions are 2.1.2.x to 2.2.3.x, 2.3.3.x, 2.3.5.x, 2.3.7.x and Catalyst Center Virtual Appliance and Catalyst Center Virtual Appliance.
- If the network has SSL interception, permit-list CX Cloud Agent's IP address.
- For all directly connected assets, SSH privilege level 15 is required.
- Use only the provided hostnames; static IP addresses cannot be used.

Accessing Critical Domains

To start the CX Cloud journey, users require access to the following domains. Use only the hostnames provided; do not use static IP addresses.

Domains Specific to the CX Cloud Agent Portal

Major Domains	Other Domains
csco.cloud	cloudfront.net
	eum-appdynamics.com
split.io	appdynamics.com
	tiqcdn.com
	jquery.com

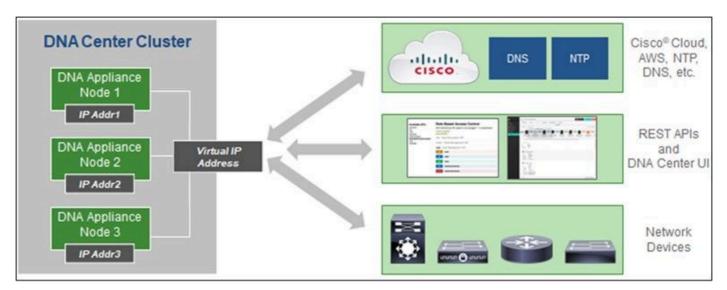
Domains Specific to CX Cloud Agent OVA

AMERICAS	EMEA	АРЈС
cloudsso.cisco.com	cloudsso.cisco.com	cloudsso.cisco.com
api-cx.cisco.com	api-cx.cisco.com	api-cx.cisco.com
agent.us.csco.cloud	agent.us.csco.cloud	agent.us.csco.cloud
	agent.emea.csco.cloud	agent.apjc.csco.cloud
ng.acs.agent.us.csco.cloud	ng.acs.agent.emea.csco.cloud	ng.acs.agent.apjc.csco.cloud

Note: The outbound access must be allowed with redirection enabled on port 443 for the specified FQDN's.

Catalyst Center Supported Version

Supported single node and HA Cluster Catalyst Center versions are 2.1.2.x to 2.2.3.x, 2.3.3.x, 2.3.5.x, 2.3.7.x and Catalyst Center Virtual Appliance and Catalyst Center Virtual Appliance.



Multi-Node HA Cluster Cisco DNA Center

Supported Browsers

For the best experience on Cisco.com, the latest official release of these browsers is recommended:

- Google Chrome
- Microsoft Edge
- Mozilla Firefox

Supported Product List

To view the list of products supported by CX Cloud Agent, refer to the Supported Product List.

Upgrading/Installing CX Cloud Agent v2.4

- Existing customers upgrading to the new version should refer to Upgrade CX Cloud Agent v2.4.
- New customers implementing a fresh flexible OVA v2.4 install should refer to <u>Adding CX Cloud</u> <u>Agent as Data Source</u>.

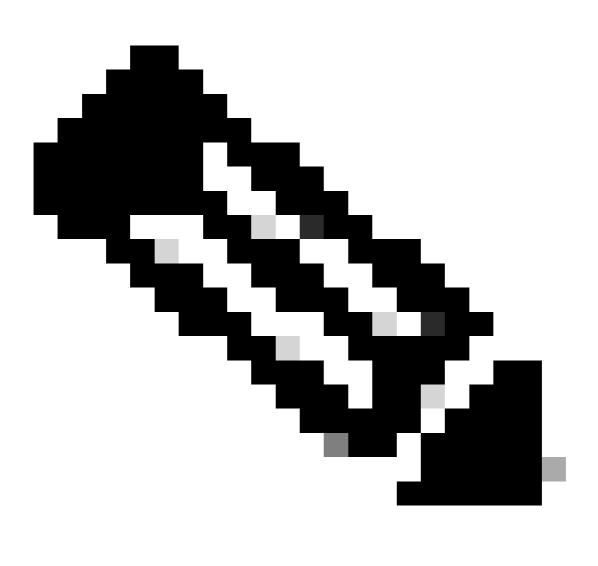
Upgrading Existing VMs to Large and Medium Configuration

Customers can upgrade their existing VM configuration to medium or large using Flexible OVA options based on their network size and complexity.

To upgrade the existing VM configuration from small to medium or large, refer to section <u>Upgrading CX</u> <u>Cloud Agent VMs to medium and large configuration</u>.

Upgrade CX Cloud Agent v2.4

Customers running CX Cloud Agent v2.3.x and above can follow the steps in this section to directly upgrade to v2.4.



Note: Customers on CX Cloud Agent v2.2.x should upgrade to v2.3.x before upgrading to v2.4 or install the v2.4 as fresh OVA install.

To install the CX Cloud Agent upgrade v2.4 from CX Cloud:

1. Log in <u>CX Cloud</u>. The **Home** page displays.

CX Cloud	GINESCHEATH NO, DON, J.1			Search	9 11 9 9 10
My Portfolio: Select	•				
	ssets & Coverage % covered	Adoption Lifecycle Advise 0% adopted 0 active			
Telemeny Net Connected	Officel Security Advicates	Telemetry Not Connected 3 Assets with Telemetry Not Conne	Olad		View All Details
Last Date of Support	Contracts Expiring	Asset Name	Product ID N9K-C93108TC-FX	Product Type Data Center Switches	Location JACKSONVILLE,RL,USA
0 Loss that it months	0 Loss that 5 months	140911870188	N9K-C93108TC-FX	Data Center Switches	JACKSONVILLE, FL, USA
Coverage Expiring O	Assets Not Covered	SMDRECTION	N9K-C83108TC-FX	Data Center Switches	JACKSOWILLE, R., USA

CX Cloud Home Page

2. Click the **Admin Center** icon. The **Data Sources** window opens displaying CX Cloud Agent as an existing data source.

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Back	Data Sources Outs Storage Regi	ion:United States		
Asset Groups	Search data sources Q			Add Data Sou
& Identity & Access	15 data sources Collaboration	Webex	16 hours ago	Last collection succeeded
SP Partner Access		Firewall Management Center		First collection pending
A/P Data Collection	CXAgent-2	CX Cloud Agent v2.4.0	2 minutes ago	Running
Data Sources	CX_Clov_Agent_07252024	CX Cloud Agent v2.4.0	27 days ago	 Not running
ý insights	CXAgent-1	CX Cloud Agent v2.4.0	1 minutes ago	Running
	CX/Agent-5	CX Cloud Agent v2.4.0	1 minutes ago	Running
	CX/Agent-3	CX Cloud Agent v2.4.0	1 minutes ago	Running
	CXAgent-4	CX Cloud Agent v2.4.0	1 minutes ago	Running
	55.1.0.24	Catalyst Center	3 minutes ago	Reachable
	10.122.58.165	Catalyst Center	3 minutes ago	Reachable
	CXAgent-6	CX Cloud Agent v2.4.0	1 minutes ago	Running

Data Sources

3. Click the CX Cloud Agent data source. The CX Cloud Agent details window opens.

(E) Jean Graupe					• having X
S. Kleriky LAccess	Widele situation Collaboration	Waters.	16 heart ago	• Last collection races	CXAgent-1
Statur Acom		Prevail Waraperant Cantar		• Pri clede pede	Robust Land (%)
2/2 Bata Collection	OUque-2	OX Oned Agent v2.4.8	2 minutes age	+ having	Seed File Outsignt Cestions Software
B Ents Sources	01_01a_laped_0222008	Cir Claud Agent +2.4.8	2P days ago	• Screening	• 41 starts resultation
d nam	Ol/geri-1	Cit Claud Agent v2.4.0	1 minutes age	• fuering	Constant and a second and
	Olligeri 3	CR Clear Agent +C.4.3	1 minutes age	• furing	Due # 00.00.00 P01
	OUgent-3	OK Owell Agent +2.4.8	1 minutes age	• furing	You seed the is taking larger than expected to process. There may be something enough the can by exploring it, or spon a support case for here.
	Olyant-4	Ot Oracl Agent (2.4.2	1 employ age	• having	
	15.1.5.36	Carladyan Carefort	2 minutes sign	 feachers 	
	10.122.58.195	Cutation Currow	2 minutus age	 headware 	
	OUque-8	CX Clearly Agent 42.4.0	1 minutes age	hering	

Data Sources Detail View

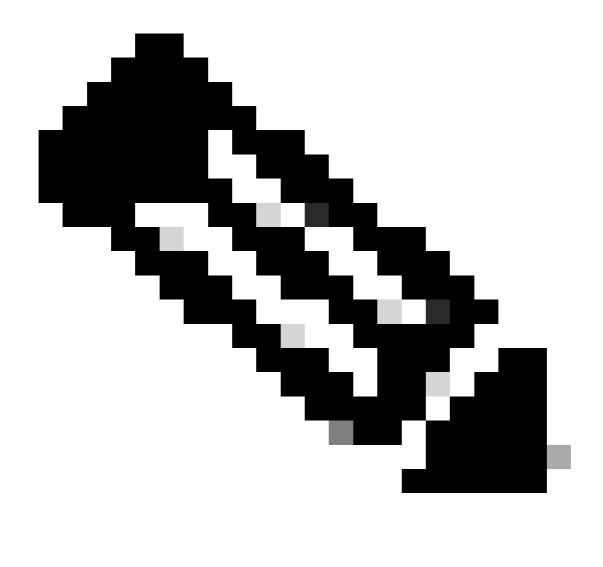
4. Click the **Software** tab.

C Back Data Sources two thorape hepport/letted tates	cisce CX Cloud error	-			• Not running CX Cloud Agent 1	×
Instruction Instruction </th <th>(Back</th> <th>Data Sources Des Store</th> <th>age Region-United States</th> <th></th> <th></th> <th>Replace Seed File</th>	(Back	Data Sources Des Store	age Region-United States			Replace Seed File
Normal Type Data La 2.4.0 View release notes the second sec	Asset Groups	Search data sources	a		Seed File Catalyst Centers Software	
Contract Contract Assets with coverage N7 days Data Contern Networking Intensight B hourse Manaki Menaki 10 hourse Manaki Menaki - Catalyat Centern 233 dayse			Туре	Data Las		 View obtains rollers
Evela Sources Deta Center Compute Intensight 10 hours Insights Monaki Monaki - Cetu/pd Center 233 days		Contract	Assets with coverage	17 days i	Install Now	
Monski Monski - Catulyot Center 233 days	Data Sources	Data Center Networking	Intensight	8 hours a	Install Updale	
Menski Menski - - Custaljut Center 233 day	di mata	Deta Center Compute	Intensight	10 hours		
Cutatyst Center 233 days		Moraki	Moraiki			
CK Dovid Agent 1 CK Dovid Agent v2.3.0 233 days			Catalyst Center	233 days		
		CX Cloud Agent 1	CX Cloud Agent v2.3.0	233 days		

CX Cloud Agent Detail View

5. Select the software version **2.4.0** from **Choose a software version to update to** drop-down.

6. Click Install Update to install CX Cloud Agent v2.4.0.

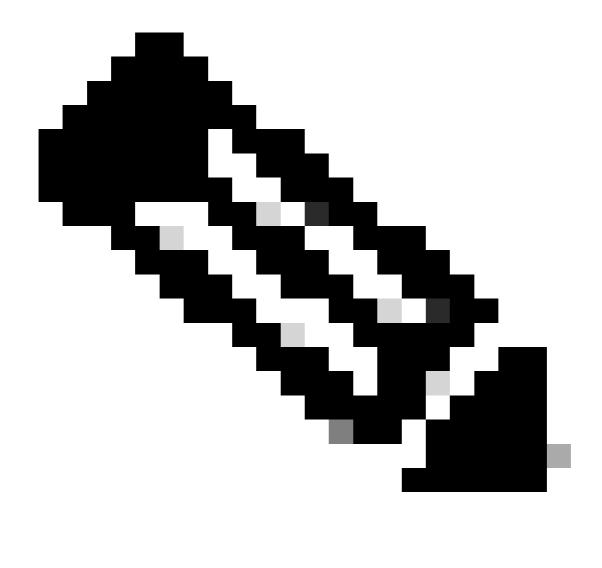


Note: Customers can schedule the update for later by clearing the **Install Now** check box which displays scheduling options.

Adding CX Cloud Agent

Customers can add up to twenty (20) CX Cloud Agent instances in CX Cloud.

To add a CX Cloud Agent:



Note: Repeat the following steps to add additional CX Cloud Agent instances as a data source.

1. Log in to <u>CX Cloud</u>. The **Home** page displays.

CX Cloud	MINE NOLIGINE HOLDINE CO				II O 📲 O 🕸 🤇
My Portfolio: Select +					
		Adoption Lifecycle Adviso 54% adopted 14 active			
Customize		Telemetry Not Connected			(Vew At Details) II • I
Televery Not Connected	Ortical Faults	10882 Assets with Telemetry Not Co	onnected		
10002	Last 2 days	Asset Name	Product ID	Product Type	Location
Crashed Assets	Ortical Security Advisories	003011866766	CS-DESKMINI-K9	Collaboration Endpoints	LITHIA SPRINGS, GA, USA
0	1	003411866767	CS-DESKMINI-K9	Collaboration Endpoints	LITHIA SPRINGS.GA,USA
Last.7 days		003611866768	CS-DESKMINI-K9	Collaboration Endpoints	LITHIA SPRINCS, GA, USA
High Crosh Risk Assets	Hardware Last Date of Support	003711866769	CS-DESIONN-K9	Collaboration Endpoints	LITHIA SPRINGS,GA,USA
0	407	003811866770	CS-DESKMINI-K9	Collaboration Endpoints	LITHA SPRINGS, GA, USA
	Less than 6 months	005811476828	C9200L-48P-4X	Switches	SAN FRANCISCO.CA.USA
Software Last Date of Support	Contracts Expering	005811476820	C9200L-48P-4X	Switches	SAN FRANCISCO CA USA
8 Less than 6 months	1 Less than it months				
Cases	Open Case	Adoption Lifecycle			
My open cases	1935	Service Provider Networking SR-MPLS Enabled Network	0% complete	Onboard Stope	Next task Learn about SR-MPLS benefits and network simplification
View all open cases (231					Next task
		Service Provider Network SRv6 Enabled Network	0% complete	Onboard Stope	Learn about SRv6 benefits and network simplification
		Go to Adoption Lifecycle >			

CX Cloud Home Page

2. Select the Admin Center icon. The Data Sources window opens.

dualia CX Cloud are	NUMOTELO CALIGI GUO.			= • *** • =
Back	Data Sources Data Storage R	legion:United States		
Asset Groups	Search data sources Q			Add Data Source
lidentity & Access	16 data sources Collaboration	Webex	16 hours ago	Last collection succeeded
Partner Access		Firewall Management Center		First collection pending
A ² Data Collection	CKAgent-2	CX Cloud Agent v2.4.0	2 minutes ago	Running
Data Sources	CX_Clox_Agent_07252024	CX Cloud Agent v2.4.0	27 days ago	Not running
insights	CXAgent-1	CX Cloud Agent v2.4.0	1 minutes ago	Running
	ClAgent-5	CX Cloud Agent v2.4.0	1 minutes ago	Running
	CXAgent-3	CX Cloud Agent v2.4.0	1 minutes ago	Running
	CKAgent-4	CX Cloud Agent v2.4.0	1 minutes ago	Running
	55.1.0.24	Catalyst Center	3 minutes ago	Reachable
	10.122.58.165	Catalyst Center	3 minutes ago	Reachable
	CXAgent-6	CX Cloud Agent v2.4.0	1 minutes ago	Running

Data Sources

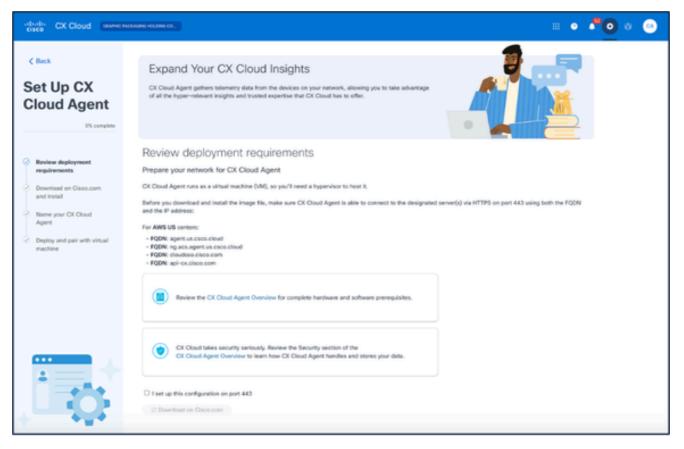
3. Click **Add Data Source**. The **Add Data Source** window opens. The options displayed vary based on customer subscriptions.

Add Data Source

sarch dat	a sources	
	Catalyst Center Uses CK Cloud Agent to support the Success Tracks for Campus Network and WAN (supported asset types)	Add Data Source
	Cisco Catalyst SD-WAN Manager Supports the Success Track for WAN	Add Data Source
1	Contracts Supports assets associated with a contract	Add Data Source
æ.	CX Cloud Agent Add up to 20 CX Cloud Agents to your network to support a variety of Success Tracks	Add Data Source
•	Firewall Management Center Supports Cisco Secure Firewall	Add Data Source
0	Intersight Supports the Data Center Compute and Data Center Networking Success Tracks	Add Data Source
8	Other Assets by IP Ranges Uses CX Cloud Agent to support the Success Track for Campus Network (automated method recommended for larger networks)	Add Data Source
	Other Assets by Seed File Uses CX Cloud Agent to support the Success Track for Campus Network (manual method recommended for smaller networks)	Add Data Source

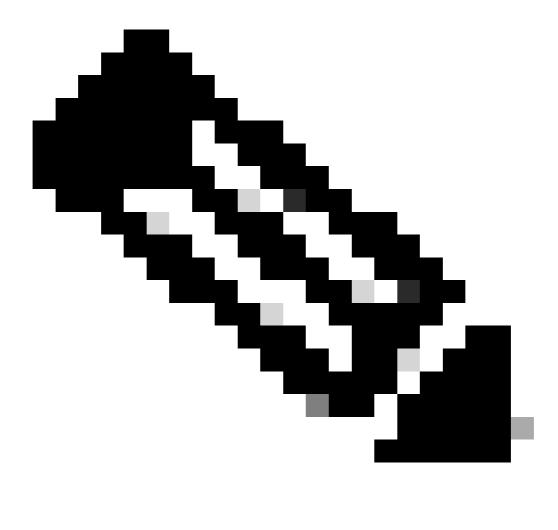
Add Data Source

4. Click Add Data Source from the CX Cloud Agent option. The Set Up CX Cloud Agent window opens.



Set Up CX Cloud Agent

- 5. Review the **Review deployment requirements** section and select the **I set up this configuration on port 443** check box.
- 6. Click Download on Cisco.com. The Software Download page opens.
- 7. Download the CX Cloud Agent v2.4 OVA file.



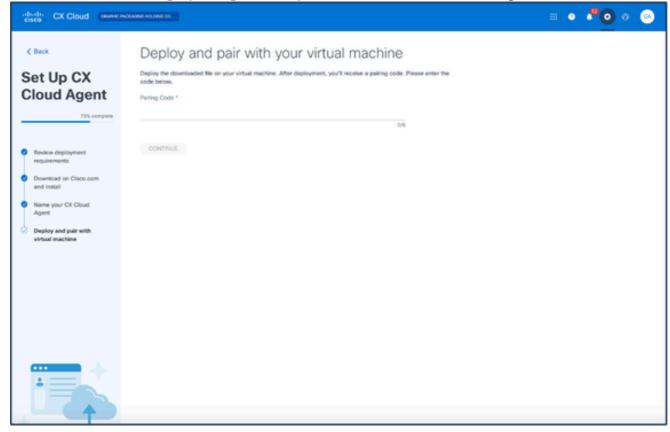
Note: A Pairing Code, required to complete the setup of the CX Cloud Agent, is generated after deploying the OVA file.

8. Enter the CX Cloud Agent name in the Name Your CX Cloud Agent field.

cisco CX Cloud sweet	NCKABMS HOLDING (B).	=• * 0 • 😁
 Clear Control Control	Name Your CX Cloud Agent Late use the ranke is uringe, so you can find it take. CX Agent @	

Name Your CX Cloud Agent

9. Click Continue. The Deploy and pair with your virtual machine window opens.



Deploy and Pair with Your Virtual Machine

10. Enter the Pairing Code received after deployment of the downloaded OVA file.

11. Click **Continue**. The registration progress displays, followed by a confirmation.

Adding Catalyst Center as Data Source

To add Catalyst Center as data source:

1. Click Add Data Source in the Admin Center > Data Sources window.

Add Data Source

arch dat	a sources	
	Catalyst Center Uses CK Cloud Agent to support the Success Tracks for Campus Network and WAN (supported asset types)	Add Data Source
	Cisco Catalyst SD-WAN Manager Supports the Success Track for WAN	Add Data Source
1	Contracts Supports assets associated with a contract	Add Data Source
tê.	CX Cloud Agent Add up to 20 CX Cloud Agents to your network to support a variety of Success Tracks	Add Data Source
6	Firewall Management Center Supports Cisco Secure Firewall	Add Data Source
0	Intersight Supports the Data Center Compute and Data Center Networking Success Tracks	Add Data Source
8	Other Assets by IP Ranges Uses CX Cloud Agent to support the Success Track for Campus Network (automated method recommended for larger networks)	Add Data Source
	Other Assets by Seed File Uses CX Cloud Agent to support the Success Track for Campus Network (manual method recommended for smaller networks)	Add Data Source

Add Data Source

2. Click Add Data Source from the Catalyst Center option.

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+ ***

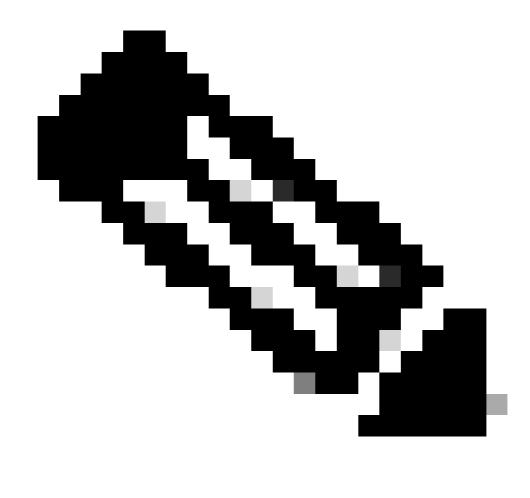
Select CX Cloud Agent

- 3. Select the CX Cloud Agent from the **Which CX Cloud Agent Do You Want to Connect to** dropdown list.
- 4. Click **Continue**. The **Connect to CX Cloud** window opens.

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< Back			
	Connect to CX Cloud		
	IP Address or FQON *	City* Select option	
	Usename *	Password *	
	Schedule inventory collection		
	Prequency Select time Frequ	Time Zone America/New_York (UTC ~	
	Run the first collection now (this may take up to 75 million)	Centura	
	Connect		



- 5. Enter the following details:
 - Virtual IP Address or FQDN (i.e., Catalyst Center IP Address),
 - City (i.e., Catalyst Center's location),
 - Username
 - Password
 - Frequency, Time, and Time Zone to indicate how often the CX Cloud Agent should perform network scans in Schedule Inventory Collection sections



Note:Select Run the first collection now checkbox to run the collection now.

6. Click **Connect**. A confirmation displays with the Catalyst Center IP Address.

Adding Other Assets as Data Sources

Telemetry collection has been extended to devices not managed by the Catalyst Center, enabling customers to view and interact with telemetry-derived insights and analytics for a broader range of devices. After the initial CX Cloud Agent setup, users have the option to configure CX Cloud Agent to connect to 20 additional Catalyst Centers within the infrastructure monitored by CX Cloud.

Users can identify devices to incorporate into CX Cloud by uniquely identifying such devices using a seed file or by specifying an IP range, which can be scanned by CX Cloud Agent. Both approaches rely on Simple Network Management Protocol (SNMP) for the purpose of discovery (SNMP) and on Secure Shell (SSH) for connectivity. These must be properly configured to enable successful telemetry collection.

To add other assets as data sources:

- Upload a seed file using a seed file template.
- Provide an IP address range.

Discovery Protocols

Both seed file-based direct device discovery and IP range-based discovery rely on SNMP as the discovery protocol. Different versions of SNMP exist, but CX Cloud Agent supports SNMPV2c and SNMP V3 and either or both versions can be configured. The same information, described next in complete detail, must be provided by the user to complete configuration and to enable connectivity between the SNMP-managed device and SNMP service manager.

SNMPV2c and SNMPV3 differ in terms of security and remote configuration model. SNMPV3 uses an enhanced cryptographic security system supporting SHA encryption to authenticate messages and ensure their privacy. It is recommended that SNMPv3 be used on all public and internet-facing networks to protect against security risks and threats. On CX Cloud, it is preferred that SNMPv3 be configured and not SNMPv2c, except for older legacy devices that lack built-in support for SNMPv3. If both versions of SNMP are configured by the user, CX Cloud Agent can, by default, attempt to communicate with each respective device using SNMPv3 and revert to SNMPv2c if the communication cannot be successfully negotiated.

Connectivity Protocols

As part of the direct device connectivity setup, users must specify details of the device connectivity protocol: SSH (or, alternatively, telnet). SSHv2 can be used, except in the cases of individual legacy assets which lack the appropriate built-in support. Be aware that SSHv1 protocol contains fundamental vulnerabilities. Absent additional security, telemetry data and the underlying assets can be compromised due to these vulnerabilities when relying on SSHv1. Telnet is also insecure. Credential information (usernames and passwords) submitted through telnet are not encrypted and therefore vulnerable to compromise, absent additional security.

Telemtery Processing Limitation for Devices

The following are limitations when processing telemetry data for devices:

- Some devices may show as reachable in the **Collection Summary** but are not visible in the CX Cloud **Assets** page. Device instrumentation limitations prevent the processing of such devices telemetry.
- If a device from the seed file or IP range collections is also part of the Cisco Catalyst Center inventory, the device is reported only once for the Cisco Catalyst Center entry. The respective devices within the seed file/IP range entry are skipped to avoid duplication.

Adding Other Assets Using a Seed File

A seed file is a .csv file where each line represents a system data record. In a seed file, every seed file record corresponds to a unique device from which telemetry can be collected by CX Cloud Agent. All error or information messages for each device entry from the seed file being imported are captured as part of job log details. All devices in a seed file are considered managed devices, even if the devices are unreachable at the time of initial configuration. In the event a new seed file is being uploaded to replace a previous one, the date of last upload is displayed in CX Cloud.

CX Cloud Agent can attempt to connect to the devices but cannot be able to process each one to show in the Assets pages in cases where it is not able to determine the PIDs or Serial Numbers. Any row in the seed file that starts with a semicolon is ignored. The header row in the seed file starts with a semicolon and can be kept as is (recommended option) or deleted while creating the customer seed file.

It is important that the format of the sample seed file, including column headers, not be altered in any way. Click the link provided to view a seed file in PDF format. This PDF is for reference only and can be used to create a seed file that needs to be saved in .csv format.

Click this <u>link</u> to view a seed file that can be used to create a seed file in .csv format.

Note: This PDF is for reference only and can be used to create a seed file that needs to be saved in .csv format.

This table identifies all necessary seed file columns and the data that must be included in each column.

Seed File Column	Column Header / Identifier	Purpose of the Column
А	IP Address or hostname	Provide a valid, unique IP Address or hostname of the device.
В	SNMP protocol version	The SNMP protocol is required by CX Cloud Agent and is used for device discovery within the customer network. Values can be snmpv2c or snmpv3, but snmpv3 is recommended due to security considerations.
С	snmpRo : Mandatory if col#=3 selected as 'snmpv2c'	If the legacy variant of SNMPv2 is selected for a specific device, then snmpRO (read only) credentials for the device SNMP collection must be specified. Otherwise, entry can be blank.
D	snmpv3UserName : Mandatory if col#=3 selected as 'snmpv3'	If SNMPv3 is selected to communicate with a specific device, then the respective login username must be provided.
		SNMPv3 protocol permits Authentication via either the MD5 or SHA Algorithm. If the device is configured with secure Authentication, then the respective Auth Algorithm must be provided.
Е	snmpv3AuthAlgorithm : values can be MD5 or SHA	
		Note : MD5 is considered insecure, and SHA can be used on all devices that

Seed File Column	Column Header / Identifier	Purpose of the Column
		support it.
F	snmpv3AuthPassword : password	If either a MD5 or a SHA cryptographic algorithm is configured on the device, then the relevant Authentication password needs to be provided for device access.
		If the device is configured with the SNMPv3 privacy algorithm (this algorithm is used to encrypt the response), then the respective Algorithm needs to be provided.
G	snmpv3PrivAlgorithm : values can be DES , 3DES	
		Note : 56-bit keys used by DES are considered too short to provide cryptographic security, and that 3DES can be used on all devices that support it.
Н	snmpv3PrivPassword : password	If the SNMPv3 privacy algorithm is configured on the device, then its respective privacy password needs to be provided for device connection.
Ι	snmpv3EngineId : engineID, unique ID representing device, specify engine ID if manually configured on device	The SNMPv3 EngineID is a unique ID representing each device. This engine ID is sent as a reference while collecting the SNMP datasets by CX Cloud Agent. If the customer configures the EngineID manually, then the respective EngineID needs to be provided.

Seed File Column	Column Header / Identifier	Purpose of the Column
J	cliProtocol: values can be 'telnet', 'sshv1', 'sshv2'. If empty can set to 'sshv2' by default	The CLI is intended to interact with the device directly. CX Cloud Agent uses this protocol for CLI collection for a specific device. This CLI collection data is used for Assets and other Insights Reporting within CX Cloud. SSHv2 is recommended; absent other network security measures, in themselves SSHv1 and Telnet protocols do not provide adequate transport security.
К	cliPort : CLI protocol port number	If any CLI Protocol is selected, its respective port number needs to be provided. For example, 22 for SSH and 23 for telnet.
L	cliUser : CLI User name (either CLI username/password or BOTH can be provided, BUT both columns (col#=12 and col#=13) cannot be empty.)	The respective CLI username of the device needs to be provided. This is used by CX Cloud Agent at the time of connecting to the device during CLI collection.
М	cliPassword : CLI user password (either CLI username/password or BOTH can be provided, BUT both columns (col#=12 and col#=13) cannot be empty.)	The respective CLI password of the device needs to be provided. This is used by CX Cloud Agent at the time of connecting to the device during CLI collection.
N	cliEnableUser	If enable is configured on the device, then the device's enableUsername value needs to be provided.
0	cliEnablePassword	If enable is configured on the device, then the device's enablePassword value needs to be provided.
Р	Future Support (No Inputs required)	Reserved for Future Use
Q	Future Support (No Inputs required)	Reserved for Future Use
R	Future Support (No Inputs required)	Reserved for Future Use

Seed File Column	Column Header / Identifier	Purpose of the Column
	Future Support (No Inputs required)	Reserved for Future Use

Add Other Assets Using a New Seed File

To add other assets using a new seed file:

1. Click Add Data Source in the Admin Center > Data Sources window.

Add Data Source

arch dat	a sources	
	Catalyst Center Uses CX Cloud Agent to support the Success Tracks for Campus Network and WAN (supported asset types)	Add Data Source
	Cisco Catalyst SD-WAN Manager Supports the Success Track for WAN	Add Data Source
Ţ	Contracts Supports assets associated with a contract	Add Data Source
tê.	CX Cloud Agent Add up to 20 CX Cloud Agents to your network to support a variety of Success Tracks	Add Data Source
•	Firewall Management Center Supports Cisco Secure Firewall	Add Data Source
0	Intersight Supports the Data Center Compute and Data Center Networking Success Tracks	Add Data Source
	Other Assets by IP Ranges Uses CX Cloud Agent to support the Success Track for Campus Network (automated method recommended for larger networks)	Add Data Source
	Other Assets by Seed File Uses CX Cloud Agent to support the Success Track for Campus Network (manual method recommended for smaller networks)	Add Data Source

Add Data Source

2. Click Add Data Source from the Other Assets by Seed File option.

ant to Connect t	to?
~	cisco E
	+

Select CX Cloud Agent

3. Select the CX Cloud Agent from the **Which CX Cloud Agent Do You Want to Connect to** dropdown list.

Which CX Cloud Agent Do Yo	u Want to Connect to?	?
OIC_Team_test_CXCAgent_IP_104	~	
Cancel Continue		+ +

Continue

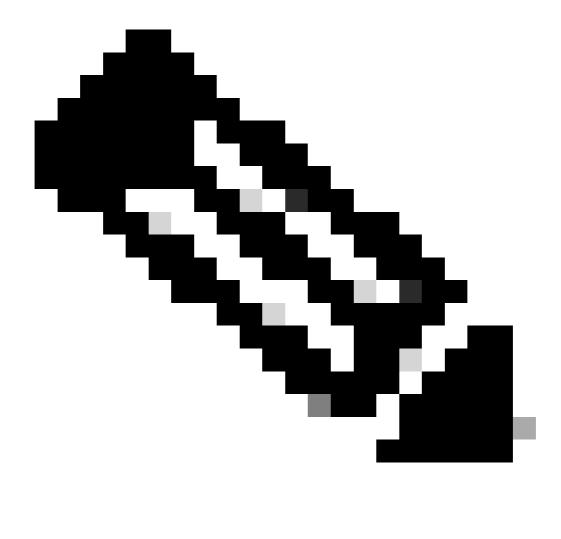
4. Click Continue. The Upload Your Seed File page displays.

Upload	vour	seed	file

Download the seed file template and add your device information. Then attach the file below.

Upload Your Seed File

- 5. Click the hyperlinked **seed file template** to download the template.
- 6. Manually enter or import data into the file. Once complete, save the template as a .csv file to import the file into CX Cloud Agent.
- 7. Drag-and-drop or click **browse files** to upload the .csv file.
- 8. Complete the **Schedule inventory collection** section.



Note: Before initial configuration of CX Cloud is completed, CX Cloud Agent must perform the first telemetry collection by processing the seed file and establishing connection with all identified devices. Collection can be initiated on-demand or run according to a schedule defined here. Users can perform the first telemetry connection by selecting the Run the first collection now check box. Depending on the number of entries specified in the seed file and other factors, this process can take a considerable amount of time.

9. Click Connect. The Data Sources window opens, displaying a confirmation message.

Add Other Assets Using a Modified Seed File

To add, modify, or delete devices using the current seed file:

1. **Open** the previously created seed file, make required changes, and **save** the file.

Note: To add assets to the seed file, append those assets to the previously created seed file and reload the file. This is necessary since uploading a new seed file replaces the current seed file. Only the latest uploaded seed file is used for discovery and collection.

2. From the **Data Sources** page, click the CX Cloud Agent data source that requires an updated seed file. The **CX Cloud Agent** details window opens.

cisco CX Cloud mit	A COMPORATION	
C Back	Data Sources Data Storage Region:United States	
Asset Groups	Search data sources Q	
& Identity & Access	11 data sources	
Partner Access	Name	Type
AP Data Collection	Contract	Assets with cov
Data Sources	Cloud Network	Intersight
	10.126.77.62	Cisco DNA Cen
Insights	10.126.77.62	Cisco DNA Cen
	CX Cloud Agent1	CX Cloud Agen
	Agent 1_adhdhand_2.4-b37_smail_207	CX Cloud Agent
	Agent 2_adhdhand_2.4-b07_large_208	CX Cloud Agen
	10.126.77.65	Cisco DNA Cen
	OIC_Team_test_CNCAgent_IP_104	CX Cloud Agent
	CXCA-B37-vishnu-agent-10.126.77.209	CX Cloud Agent

 Not running 	
CX Cloud Agent1	
	Replace Seed File
	Perpusce Service Pere
Seed File Software	
 0 assets reachable 	
0 assets unreachable	
Collection Schedule	
Monthly on the 2nd at 12:00 AM PDT	
Your seed file is taking longer than expected to process. There	may be something wrong. You can by replacing
or open a support case for help.	

CX Cloud Agent Details window

3. Click Replace Seed File.

cisco CX Cloud mit	R DOMPONANCH		Not running CX Cloud Agent1
C Back	Data Sources Data Storage Region United States		Project Seed File
Asset Groups	Search data sources Q		Seed File Software
adentity & Access	11 data sources Name	Туре	O assets reachable O assets unreachable
Partner Access ∧P Data Collection	Contract	Assets with cov	Collection Schedule Monthly on the 2nd at 12:00 AM PDT
Data Sources	Cloud Network	Intersight	Your seed file is taking longer than expected to process. There may be something wrong. You can by replacin or open a support care for help.
i inights	10.126.77.62	Cisco DNA Cent	en uppert e angipuer uname her renge
100	CX Cloud Agent1	CX Cloud Agent	A
	Agent 1_adhdhand_2.4-b37_small_207	CX Cloud Agent	Drag and drop or browse files
	Agent 2_adhdhand_2.4-b37_large_208	CX Cloud Agent	Supports CDV files only. Max the size 5 MB.
	10.126.77.65	Cisco DNA Cent	Cancel Upload
	OIC_Team_test_CXICAgent_IP_104	CX Cloud Agent	
	AmitTestAgent1	CX Cloud Agent	
250	10.126.77.62	Cisco DNA Cent	

- CX Cloud Agent window
- 4. Drag-and-drop or click **browse files** to upload the modified seed file.
- 5. Click Upload.

Add Other Assets Using IP Ranges

IP ranges allow users to identify hardware assets and, subsequently, collect telemetry from those devices based on IP addresses. The devices for telemetry collection can be uniquely identified by specifying a single network-level IP range, which can be scanned by CX Cloud Agent using the SNMP protocol. If the IP range is chosen to identify a directly connected device, the IP addresses that are referenced can be as restrictive as possible, while allowing coverage for all required assets.

• Specific IPs can be provided, or wildcards can be used to replace octets of an IP to create a range.

- If a specific IP address is not included in the IP range identified during setup, CX Cloud Agent does not attempt to communicate with a device that has such an IP address, nor does it collect telemetry from such a device.
- Entering *.*.* allows CX Cloud Agent to use the user-supplied credential with any IP. For example: 172.16.*.* allows the credentials to be used for all devices in the 172.16.0.0/16 subnet.
- If there are any changes to the network or Installed Base (IB), the IP range can be modified. Refer to section Editing IP Ranges

CX Cloud Agent will attempt to connect to the devices but may not be able to process each one to show in the **Assets** view in cases where it is not able to determine the PIDs or Serial Numbers.

Notes:

Clicking **Edit IP** Address **Range** initiates on-demand device discovery. When any new device is added or deleted (within or outside) to a specified IP-range, customer must always click **Edit IP** Address **Range** (refer to section <u>Editing IP Ranges</u>) and complete the steps required for initiating the on-demand device discovery to include any newly added device to the CX Cloud Agent collection inventory.

Adding devices using an IP range requires users to specify all applicable credentials through the configuration UI. The fields visible vary depending on the protocols selected on the previous windows. If multiple selections are made for the same protocol, for example, selecting both SNMPv2c and SNMPv3 or selecting both SSHv2 and SSHv1, CX Cloud Agent automatically auto-negotiates the protocol selection based on the individual device capabilities.

When connecting devices using IP addresses, customer should ensure all relevant protocols in the IP range along with SSH versions and Telnet credentials are valid or the connections will fail.

Adding Other Assets by IP Ranges

To add devices using the IP range:

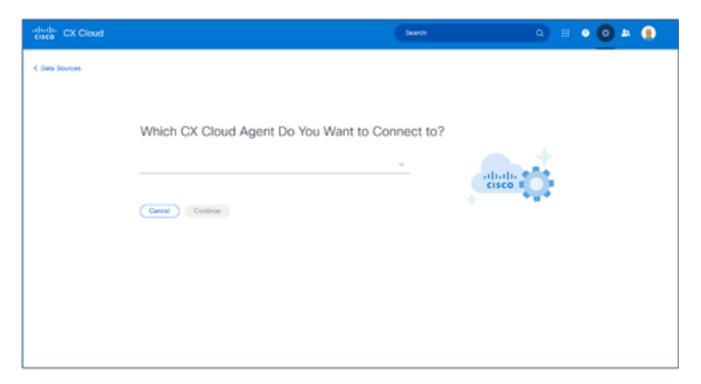
1. Click Add Data Source in the Admin Center > Data Sources window.

Add Data Source

earch dat	a sources	
	Catalyst Center Uses CX Cloud Agent to support the Success Tracks for Campus Network and WAN (supported asset types)	Add Data Source
	Cisco Catalyst SD-WAN Manager Supports the Success Track for WAN	Add Data Source
1	Contracts Supports associated with a contract	Add Data Source
L	CX Cloud Agent Add up to 20 CX Cloud Agents to your network to support a variety of Success Tracks	Add Data Source
•	Firewall Management Center Supports Cisco Secure Firewall	Add Data Source
0	Intersight Supports the Data Center Compute and Data Center Networking Success Tracks	Add Data Source
8	Other Assets by IP Ranges Uses CX Cloud Agent to support the Success Track for Campus Network (automated method recommended for larger networks)	Add Data Source
	Other Assets by Seed File Uses CX Cloud Agent to support the Success Track for Campus Network (manual method recommended for smaller networks)	Add Data Source

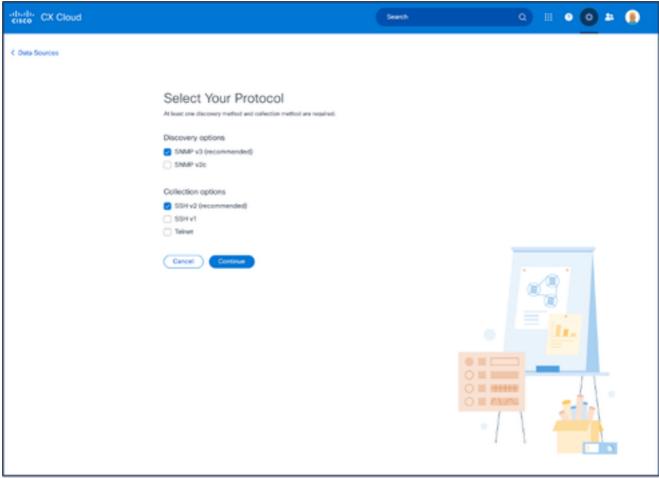
Add Data Sources

2. Click Add Data Source in the Other Assets by IP Ranges option.



Select CX Cloud Agent

- 3. Select the CX Cloud Agent from the **Which CX Cloud Agent Do You Want to Connect to** dropdown list.
- 4. Click Continue. The Select Your Protocol window opens.



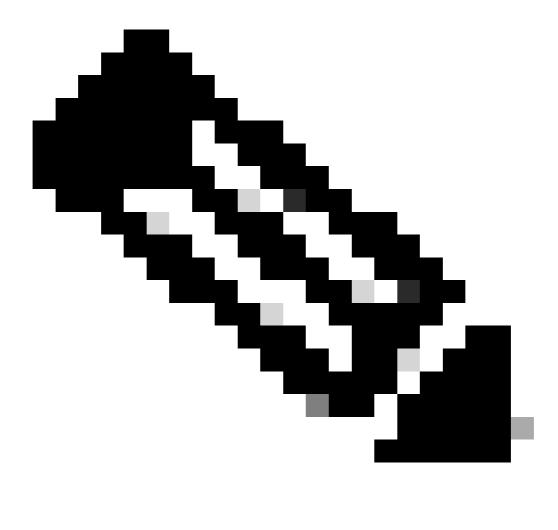
5. Select the applicable check boxes for **Discovery options** and **Collection options**.

6. Click Continue.

diada CX Cloud		Search	Q = • 🙆 + 🔋
C Data Sources			
	Provide Discovery Details		
	 In 1995 Constitution of the state of the sta		
	Starting IP address	Entry P address	
	198.89.09.2	198.89.09.10	
	SNMP v3 credentials		
	Usemane	Engine ID	
	Margnet1505	1uto50102	
	Authorization algorithm	Authorization password	
	MDS V		
	Privocy algorithm	Authorization password	
	065 V		
	SSH v2 credentials Usename	Enable username (optional)	
	Margnet1505	10050102	
	Password	Enable possword (optional)	
	MDS		
	Cabadula Investory Calles	ting	
	Schedule Inventory Collec	UON Day	
	Weekly v 12:00 AM Pt		= in
	Run the first collection now (may take up to 75 n	ninutes)	
	Add Another IP Range Complete Setup	Delete this P range	
	,		

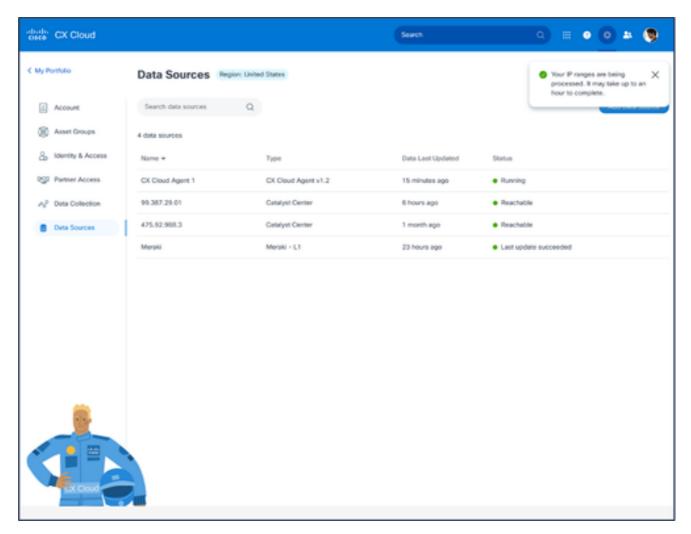
Provide Discovery Details and Schedule Inventory Collection Sections

7. Enter the required details in the **Provide Discovery Details** and **Schedule Inventory Collection** sections.



Note: To add another IP range for the selected CX Cloud Agent, click Add Another IP Range to navigate back to the Set Your Protocol window and repeat the steps in this section.

8. Click Complete Setup. A confirmation displays upon successful deployment.



Confirmation Message

Editing IP Ranges

To edit an IP range:

- 1. Navigate to the **Data Sources** window.
- 2. Click the CX Cloud Agent that requires IP range edit in **Data Sources**. The details window opens.

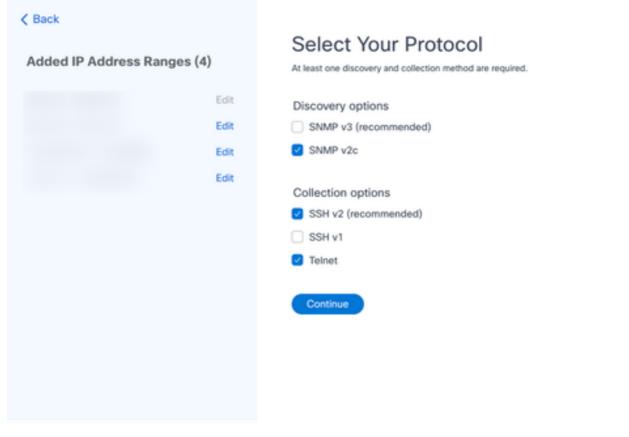
Circe CX Clobb -			Agent		
Back	Data Sources Data Storage Region:United States			Download	Report Edit IP Ranges
Asset Groups	Search data sources Q		P Address Ranges Claco DNA	Centers Software	
So Mently & Access	11 data sources		10010 assets reachable		Show errors (
S Partner Access	Name	Type Assets with cov	P Ranga	Collection Schedule	Last Discovered
AP Data Collection				Daily at 10:00 PM IST	Rediscover IP range
Data Sources	Cloud Network	Intersight		Daily at 09:00 AM IST	Rediscover IP range
i inigen	10.126.77.42	Cisco DNA Cert		Mondays at 08:00 AM IST	Reducever IP range
	CIICA-037-visitmu-agent-10.126.77.209	CX Cloud Agent			
	CK Ooud Agent1	CX Cloud Agent		Mondays at 04.00 AM IST	Rediscover IP range
	Agent 1_adhdhand_2.4-b27_smail_207	CX Cloud Agent			
	Agent 2_adhdhand_2.4-b27_3ege_208	CX Cloud Agent			
	10.126.77.65	Cisco DNA Cent			
	OIC_Team_test_CRCAgent_P_104	CK Cloud Agent			
1	10.126.77.62	Cisco DNA Cent			

3. Click Edit IP Address Range. The Connect to CX Cloud window opens.

< Back	Provide Discovery Details	Edit the protocols
Added IP Address Ranges (4)		
Edit	Starting IP Address	Ending IP Address
Edit	5.0.1.71	5.0.1.72
Edit	SNMP V2c credentials Read Community	
	SSHV2 credentials	Enable Username (Optional)
	cxsuper2020@gmail.com	followert
	Password	Enable Password (Optional)
	Telnet credentials	
	Usemame	Enable Username (Optional)
	cxsuper2020@gmail.com	
	Password	Enable Password (Optional)
	Delete this IP range Add Another IP Ra	nge Complete Setup

Provide Discovery Details

4. Click Edit the protocols. The Select Your Protocol window opens.



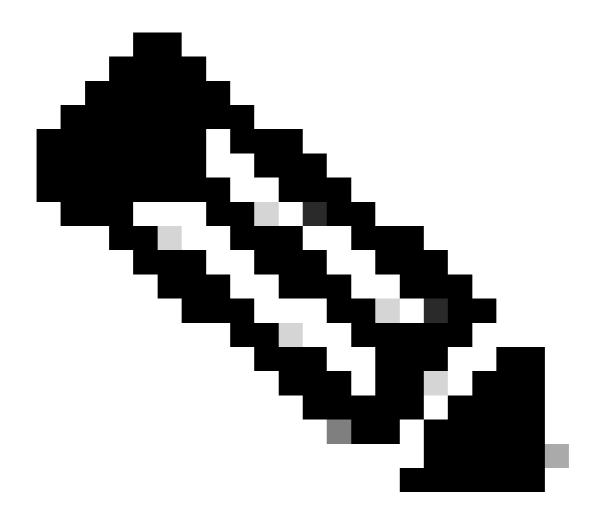
Select Your Protocol

5. Select the appropriate check boxes to choose applicable protocols and click **Continue** to navigate back to the **Provide Discovery Details** window.

< Back	Provide Discovery Details	Edit the protocols
Added IP Address Ranges (4) Edit Edit Edit Edit Edit	Starting IP Address 5.0.1.71 SNMP V2c credentials Read Community	Ending IP Address 5.0.1.72
	SSHV2 credentials Usemame cxsuper2020@gmail.com Password	Enable Username (Optional) Enable Password (Optional)
	Teinet credentials Usemame cxsuper2020@gmail.com Password	Enable Username (Optional) Enable Password (Optional)
	Delete this IP range Add Another IP Ra	nge Complete Setup

Provide Discovery Details

6. Edit the details as required and click **Complete Setup**. The **Data Sources** window opens, displaying a message confirming the addition of newly added IP Address range(s).



Note: This confirmation message does not verify whether devices within the modified range are reachable or if their credentials are accepted. This confirmation occurs when the customer initiates the discovery process.

CX Cloud HERCHETS TINTE		Search	😏 P address range updated	×
Data Sources				×
Data Storage Region: United States				
Add A Data Source			Search data sources	Q
4 Total Data Sources				
Name	Тури	Data Last Updated	Status	
CX Cloud Agent	CX Cloud Agent v2.2.3	3 minutes ago	 Running 	
Other assets collected by CX Cloud Agent	IP address range	3 minutes ago	1 unreachable	
Data Center Compute	Intensight		🗧 First Collection Pending 🚳	
Cloud Network	Intensight		😑 First Collection Pending 🚳	
	Data Sources Des Storage Region: United States Add A Date Source 4 Total Date Sources Name CK Cloud Agent Other asserts collected by CK Cloud Agent	Data Sources Deta Storage Region: United States Add A Data Source 4 Total Data Sources Name Type CK Cloud Agent CK Cloud Agent v2.2.3 Other assets collected by CK Cloud Agent. IP address range Data Center Compute intensigit	Data Sources Deter Storage Region: United States At Data Sources * Total Data Sources A Total Data Sources Name Type Other assets collected by CK Cloud Agent CK Cloud Agent v2.2.3 3 minutes age Other assets collected by CK Cloud Agent Pradmess range 3 minutes age	Data Sources Dess Storage Report United States ASSA Data Source ASSA Data Source Inter Storage Report United States ASSA Data Source Inter Storage Report Inter Storage Report

Deleting IP Range

To delete an IP range:

- 1. Navigate to the **Data Sources** window.
- 2. Select the respective CX Cloud Agent with the IP range that needs to be deleted. The details window opens.

cisce CX Cloud me			Agent		
(Back	Data Sources Data Storage Region United States			Operational	Report Edit IP Ranges
Asset Groups	Search data sources Q		P Address Ranges Claco DNA	Centers Software	
Sa Identity & Access	11 data sources		 10010 assets reachable 		Show errors
S Partner Access	Name	Type	Plana	Collection Schedule	Last Discovered
AP Data Collection	Contract	Assets with cov	e sage	Daily at 10:00 PM IST	Rediscover P range
Data Sources	Cloud Network	Intersight			
di mayo	10.126.77.42	Cieco DNA Cent		Daily at 09:00 AM IST	Reductiver IP range
	CRCA-837-visiteu-agent-10.126.77.209	CX Cloud Agent		Mondays at 08:00 AM IST	Rediscover IP range
	CK Cloud Agent1	CX Cloud Agent		Mondays at 54:00 AM IST	Rediscover IP range
	Agent 1_adhdhand_2.4-037_small_207	CX Cloud Agent			
	Agent 2_adhdhand_2.4-037_large_208	CX Cloud Agent			
	10.126.377.65	Cisco DNA Cert			
	OIC_Team_test_CIICAgent_IP_104	CX Cloud Agent			
R .	10.126.77.62	Cisco DNA Cett			

Data Sources

3. Click Edit IP Ranges. The Provide Discovery Details window opens.

< Back Added IP Address Ranges (4)	Provide Discovery Details	Edit the protocols
Added IP Address Ranges (4) Edit Edit Edit Edit	Starting IP Address 5.0.1.71 SNMP V2c credentials Read Community	Ending IP Address 5.0.1.72
	SSHV2 credentials Username cxsuper2020@gmail.com Password	Enable Username (Optional) Enable Password (Optional)
	Telnet credentials Usemarne cxsuper2020@gmail.com Password Delete this IP range Add Another IP Ra	Enable Username (Optional) Enable Password (Optional) ange Complete Setup



4. Click the **Delete this IP range** link. The confirmation message displays.

Delete This IP Range	\boxtimes
Any edits you've made won't be saved.	
Continue Editing Delete	



5. Click Delete.

officials CX Cloud mon-comparison	a = • 💑 • 😑
Cleak Added IP Address Ranges (11) Con	Provide Discovery Details
Gan Gan	Your IP Range is Being Processed for Deletion
# 18 🖉 🚺 🗔 🗖	x @ • = = = = = = = = = = = = = = = = = =

IP Range Delete

6. Click **Save**. The processing message displays.

cloud CX Cloud	Search	٩	··· • • • •
Clata Sources			
	Processing Your IP Ranges		
	Open a Case to Delete Assets One or more of your IP samples are in the process of being deleted. To complete the process, please open a case to delete the assets associated with the IP sample.	Open a Case	

7. Click **Open a Case** to create a case to delete the assets associated with the IP range. The **Data Sources** window opens, displaying a confirmation message.

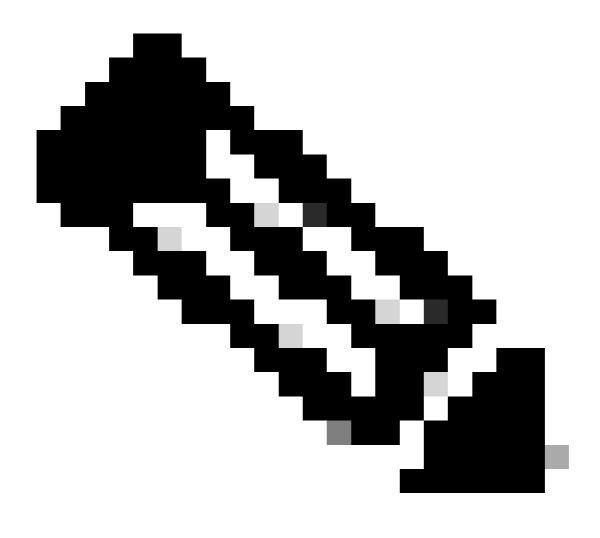
About Devices Discovered from Multiple Controllers

It is possible that some devices could be discovered by both the Cisco Catalyst Center and direct device connection to CX Cloud Agent causing duplicate data to be collected from those devices. To avoid collecting duplicate data and having only one controller manage the devices, a precedence for which CX Cloud Agent manages the devices needs to be determined.

- If a device is first discovered by Cisco Catalyst Center and then rediscovered by direct device connection (using a seed file or an IP range), Cisco Catalyst Center takes precedence in controlling the device.
- If a device is first discovered by direct device connection to CX Cloud Agent and then rediscovered by Cisco Catalyst Center, Cisco Catalyst Center takes precedence in controlling the device.

Scheduling Diagnostics Scans

Customers can schedule on demand diagnostic scans in CX Cloud.



Note: Cisco recommends scheduling diagnostic scans or initiating on-demand scans at least 6-7 hours apart from inventory collection schedules so they do not overlap. Executing multiple diagnostic scans simultaneously can slow the scanning process and potentially result in scan failures.

To schedule diagnostic scans:

- 1. On the **Home** page, click the **Settings** (gear) icon.
- 2. On the **Data Sources** page, select **Data Collection** in the left pane.
- 3. Click Schedule Scan.

Data Collection

Diagnostic Scans		Schedule Scan		<		Octo	ber 2	022		>
				Dan	Mon	Tue	Wed	Thu	54	Get
										1
No Diag	nostic Scans Found			2	3	4	5	6	7	8
No Diag				9	10	11	12	13	14	15
				16	17	18	19	20	21	22
				23	24	25	26	27	28	29
Inventory Collection				30	31					
3 Collections										
Source	Schedule			Rapid	Problem	Resoluti	on			
Other assets collected by CX Cloud Agent	Monthly on the 30th at 05:30 PM EDT		1	is open	ate data ci red. This h ms faster.					
10.197.238.127	Monthly on the 30th at 05:00 PM EDT		1	-	Enable	for Camp	us Netwo	rk		
22.1.90.1	Monthly on the 30th at 09:00 PM EDT		1							

```
Data Collection
```

4. Configure a schedule for this scan.

chedule Hi	story					
Weekly	∼ on	Sunday	∼ at	12:00 am	✓ EDT	
reated: Oct :	3, 2022					



5. In the devices list, select all devices for the scan and click Add.

New Scheduled Scan

Data S	ources		Schedule					
Other	assets collected by CX Cloud	Agent ×	Frequency V	at Time V t	Save Change			
Descript	tion (Optional)							
	Device	Source IP	IP Address			Device	Source IP	IP Address
	Device_22_0_2_1	10.127.249.156	22.0.2.1					
	Device_22_0_32_1	10.127.249.156	22.0.32.1	C Remo	ME			
	Device_22_0_36_1	10.127.249.156	22.0.36.1					
	Device_22_0_41_1	10.127.249.156	22.0.41.1					
	Device_22_0_51_1	10.127.249.156	22.0.51.1				Devices are part of selected list	
	Device_22_0_55_1	10.127.249.156	22.0.55.1					
	Device_22_0_61_1	10.127.249.156	22.0.61.1					
	Device_22_0_63_1	10.127.249.156	22.0.63.1					
	Device_22_0_64_1	10.127.249.156	22.0.64.1					
	Device_22_0_70_1	10.127.249.156	22.0.70.1					
			1 2	Next				

Schedule a Scan

6. Click Save Changes when the scheduling is complete.

The Diagnostic Scans and the Inventory Collection schedules can be edited and deleted from the Data Collection page.

Diagnostic Scans 📀 2 Scans			Schedule Scan		<		Octo	ober 2	2022		>
Asset Count	Source	Schedule			Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	10.127.249.152	Not scannable	į								1
10	10.127.249.152	Daily at 07:00 PM IST		Edit Sche	edule	3	4	5	6	7	8
				Delete S	chedule	10	11	12	13	14	15
					16	17	18	19	20	21	22
					23	24	25	26	27	28	29
					30	31					
Inventory Collection	0				Rapid P	roblem	Resoluti	on			
8 Collections							ollection				
Source		Schedule			is opener problems		helps Cisc	o experts	diagnos	e and trou	bleshoo
Other assets collected i	by CX Cloud Agent	Daily at 04:00 AM IST	:		-	Enable	for Camp	us Netwo	ork		
		Daily at 12:30 AM IST	:		Rapid Prot	olem Res	olution for (Cloud Netw	ork and Da	ta Center (Compute
172.20.224.70/live.cisc	o.com	Monthly on the 9th at 11:30 PM IST	:				ght. Enable Success Tr		ech suppo	rt bundle o	ollection
10.127.249.152		Daily at 02:00 AM IST	:		View detai						

Data Collection with Edit and Delete Schedule Options

Upgrading CX Cloud Agent VMs to Medium and Large Configurations

Once VMs are upgraded, it is not possible to:

- Downscale from a large or medium to a small configuration
- Downscale from a large to medium configuration
- Upgrade from a medium to large configuration

Prior to upgrading the VM, Cisco recommends taking a snapshot for the purpose of recovery in case of failure. Refer to <u>Backing Up and Restoring the CX Cloud VM</u> for more details.

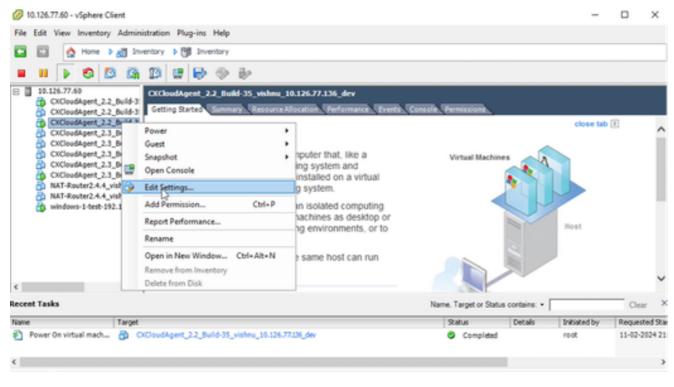
Reconfiguring Using VMware vSphere Thick Client

To upgrade the VM configuration using existing VMware vSphere Thick Client:

🖉 VMware vSphere Client	×
vmware VMware vSphere ^{**} Client	
available only throug vSphere Client will co feature set as vSphe To directly manage a singl	e host, enter the IP address or host name.
To manage multiple hosts, vCenter Server.	enter the IP address or name of a
IP address / Name:	1
User name:	
Password:	
	Use Windows session credentials
	Login Close

vSphere Client

1. Log in to the VMware vSphere Client. The Home page displays a list of VMs.



Edit Settings

2. Right-click the target VM and select **Edit Settings** from the menu. The **VM Properties** window opens.

CXCloudAgent_2.2_Build-3	5_vishnu_10.126.77.136_dev - Virt	ual Machine Prop	perties – 🗆 X
Hardware Options Resources			Virtual Machine Version: 8
Show All Devices	Add Remove	Memory Conf	figuration Memory Size: 16 + G8
Hardware	Summary	í II.	
Memory	16384 MB	512 GB	 Maximum Hot-Add Memory for this power on: 256 G8.
CPUs Video card	8 Video card	256 GB -4	
SCSI controller 0	Restricted LSI Logic Parallel	128 GB-	- Current configuration value: 16 GB.
Hard disk 1 Floppy drive 1	Virtual Disk Client Device	64 GB	
Network adapter 1	VM Network	32 GB-	
R		16 GB - ◀ 8 GB -	
		4 GB	
		1 GB	
		512 MB	The second s
		256 MB	This setting is restricted because the virtual machine is powered on.
		128 MB	
Help			OK Cancel

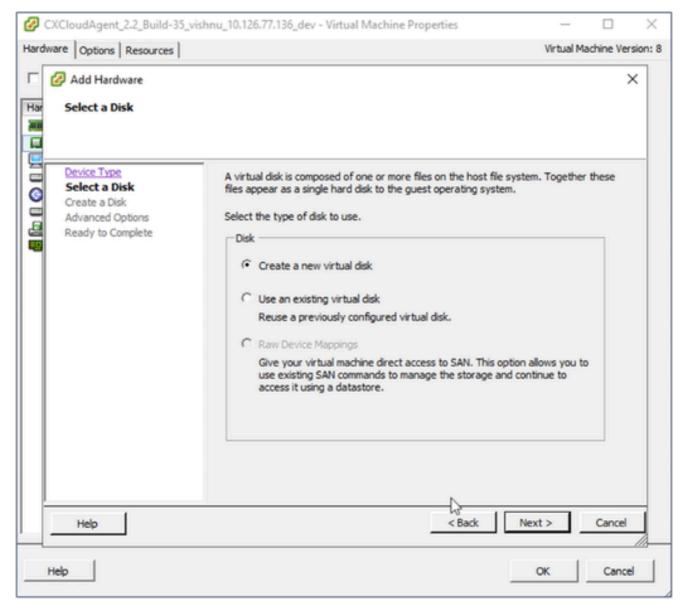
VM Properties

- Update the Memory Size values as specified: Medium: 32 GB (32768 MB) Large: 64 GB (65536 MB)
 Select CPUs and update the values as specified:
- 4. Select CPUs and update the values as specified: Medium: 16 core (8 sockets *2 core/socket) Large: 32 core (16 sockets *2 core/socket)
- 5. Click Add. The Add Hardware window opens.

CXCloudAgent_2.2_Bui	ld-35_vishnu_10.126.77.136_dev - Virtual N	fachine Properties	- 🗆 🛛
Hardware Options Resour	ces		Virtual Machine Version: 8
	rice do you wish to add to your virtual machine		×
	Choose the type of device you w Serial Port (unavailable) Parallel Port (unavailable) Floppy Drive (unavailable) CD/DVD Drive (unavailable) USB Controller USB Device (unavailable) Ethernet Adapter Hard Disk SCSI Device (unavailable) SCSI Device (unavailable)	Information	
Help		< Back	Next > Cancel
Help			OK Cancel

Device Type

- 6. Select Hard Disk as the Device Type.7. Click Next.



Select Disk

8. Select the Create a new virtual disk radio button and click Next.

CXCloudAgent_2.2_Build-35_v	/ishnu_10.126.77.136_dev - Virtual Machine Properties	– 🗆 🗙
Hardware Options Resources		Virtual Machine Version: 8
Add Hardware Ha Create a Disk Specify the virtual disk s Device Type Select a Disk Create a Disk Advanced Options Ready to Complete	ize and provisioning policy Capacity Disk Size: 400 G8 Disk Provisioning C Thick Provision Lazy Zeroed	×
	C Thick Provision Eager Zeroed Thin Provision Location Store with the virtual machine Specify a datastore or datastore duster:	
Help	< Back	Net Cancel
Help		OK Cancel

Create Disk

9. Update the **Capacity** > **Disk Size** as specified:

Small to Medium: 400 GB, (Initial size 200 GB, increasing total space to 600 GB) Small to Large: 1000 GB, (Initial size 200 GB, increasing total space to 1200 GB) 10. Select the **Thin Provision** radio button for **Disk Provisioning**.

- 11. Click Next. The Advanced Options window displays.

CXCloudAgent_2.2_Build-35_v	ishnu_10.126.77.136_dev - Virtual Machine Properties	-		×
Hardware Options Resources		Virtual Mac	thine Vers	ion: 8
Add Hardware Har Advanced Options These advanced options Device Type Select a Disk Create a Disk Advanced Options Ready to Complete	do not usually need to be changed. Specify the advanced options for this virtual disk. These options do r to be changed. Virtual Device Node SCSI (0:1)	not normally	>	c.
Evenue to Complete	Mode Mode Independent Independent Independent disks are not affected by snapshots. Persistent Changes are immediately and permanently written to the dis Nonpersistent Changes to this disk are discarded when you power off or re snapshot.			
Help	< Back Net	>	Cancel	
Help		ок	Cancel	

Advanced Options

12. Do not make changes. Click **Next** to continue.

CXCloudAgent_2.2_Build-35_v	ishnu_10.126.77.136_dev - Virtual Machine	Properties – 🗆 🗙
Hardware Options Resources		Virtual Machine Version: 8
Add Hardware Hat Ready to Complete Review the selected opt Device Type	ons and click Finish to add the hardware.	×
Review the selected opt	Hardware type: Hard Disk Create disk: New virtual disk Disk capacity: 400 GB Disk provisioning: Thin Provision Datastore: datastore1 (11) Virtual Device Node: SCSI (0:1) Disk mode: Persistent	
Help		< Back Finish Cancel
Help		OK Cancel

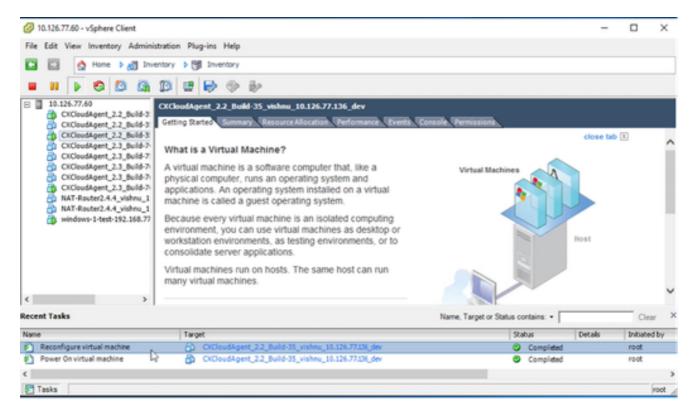
Ready to Complete

13. Click Finish.

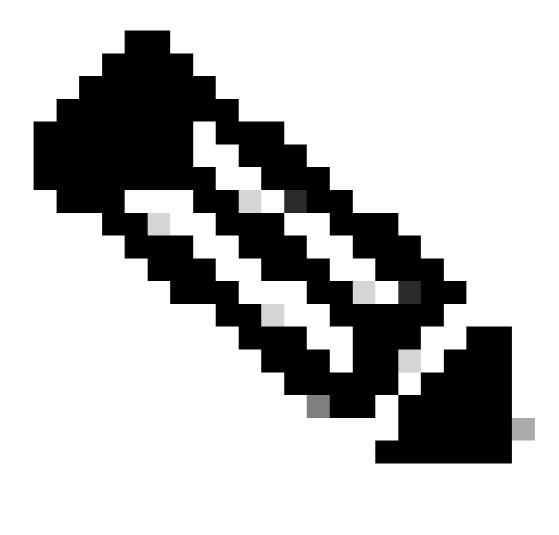
CXCloudAgent_2.2_Build-35_v	ishnu_10.126.77.136_dev - Virtu	al Machine Properties	– 🗆 🗙
Hardware Options Resources			Virtual Machine Version: 8
Show All Devices	Add Remove	Disk File	
Hardware Hardware CPUs (edited) Video card VMCI device SCSI controller 0 Hard disk 1 Floppy drive 1 Network adapter 1 New Hard Disk (adding)	Summary 32768 MB 16 Video card Restricted LSI Logic Parallel Virtual Disk Client Device VM Network Virtual Disk	the disk. C Nonpersistent	ely and permanently written to e discarded when you power
Help			OK Cancel

Hardware

14. Click **OK** to complete the reconfiguration. The completed reconfiguration displays in the **Recent Tasks** panel.



Recent Tasks



Note: Configuration changes take approximately five minutes to complete.

Reconfiguring Using Web Client ESXi v6.0

To update VM configurations using Web Client ESXi v6.0:

vm ware ESXi Host Client™	
User name Password	
LOGIN	

ESXi Client

1. Log in to the VMware ESXi Client. The Home page displays.

ESXi Host Client				NAME DE TRA - No	and the second
Webcome to localhood locald	terate conta				
ment Mariage Montor Vidual Machines 1 Disruge 1 Networking 3	Contraction of the second seco	Constructing stars: VM Op_ Bhat down Op_ Bhatest IC Bodiest caldornalin 7.0 Upstate 3 Aurora (partnershed to «Center Server at 10:06:07:54) 2.88 days	er O Artises	UNU VIENDI 1.5 UNU VIENDI 2.5 UNI 4. UNICO 1.47 TB	Créarius rue Mais fai Crearius Bris Crearius Bris Mais Base Crearius Bris Mais Bris
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	- @ heterohing		Cuterfores on head Install date	Tuesday, June 25, 2018, 16-41-43 UTC	
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ESXi Home Page

2. Click Virtual Machine to display a list of VMs.

-	Create / Register VM Constant Present on O						Q Search
	THE RECENT	Status 1	- Used space		Head marrie	- Heat CPU	· Not namery
	A.Windows, VM, 82 (08.77.290	C horned	323.07.08	Moroault Windows 10 (04 64)	DESKTOP NEVERS	2.844	8.35.08
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List of VMs

3. Select the target VM.

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Monitor	 Virtual machine 	v Status v Used space v	Guest 05 v Host name	 Itel DV v Ret namey
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	State 1922	No		1.84 GB 4
	Land Land Land Land Land	8 16 GB		STORAGE .
	Mamory	16.00		22.76 0.8
	c c			

Target VM

4. Click Actions and select Edit Settings. The Edit Settings window opens.

ESXi Host Client				10001038.07.N + 190	 Q term
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			C ^R Open VM in new window		



Virtual Hardware VM Optio	ns etwork adapter 🛛 😰 Add other device	
	8 ¥ 0	
> 洒 Memory 🔔	16 GB ~	
> 🖂 Hard disk 1 🛕	200 GB ~	×
> 🗘 SCSI Controller 0	LSI Logic Parallel	~
> 10, Network Adapter 1	VM Network	✓ Connect ×
> 🖹 Floppy drive 1		×
> 📮 Video Card	Specify custom settings	~
		CANCEL

- 5. Update the **CPU** value as specified: Medium: 16 core (8 sockets *2 core/socket) Large: 32 core (16 sockets *2 core/socket)
- Update the Memory value as specified: Medium: 32 GB Large: 64 GB
- 7. Click Add hard disk > New standard hard disk. The new hard disk entry displays in the Edit settings window.

Virtual Hardware VM Options]	
Add hard disk S. Add netw		
> 💭 CPU 📐	16 🗡 📵	
> 🕾 Memory 🛕	32 GB ~	
> 🖂 Hard disk 1 🔔	200 GB ~	×
> 🖂 New Hard disk 🛕	16 J GB ~	×
> 🔆 SCSI Controller 0	LSI Logic Parallel	¥
> ' <u>D</u> , Network Adapter 1	VM Network	✓ Connect X
> 🖹 Floppy drive 1		×
> 🖵 Video Card	Specify custom settings	¥
		CANCEL

- 8. Update New Hard disk values as specified: Small to Medium: 400 GB, (Initial size 200 GB, increasing total space to 600 GB) Small to Large: 1000 GB, (Initial size 200 GB, increasing total space to 1200 GB)
- 9. Click the arrow to expand **New Hard disk**. The properties display.

Bedit settings - CXCloudAgent_	2.2_Build-DEV-build-7-10.126.77.243 (ESXi 5.0 virtual machi	ne)
Virtual Hardware VM Options	k adapter 📳 Add other device	-1
> () CPU 🛕	16 ~ ()	
> 🗃 Memory 🛕	32 GB ~	
> 🖂 Hard disk 1 🔺	200 GB ~	×
V 🖨 New Hard disk 🛕	400 GB ~	×
Maximum Size	2.88 TB	
Location	[datastore1] CXCloudAgent_2.2_Build-DEV-build-	
Disk Provisioning	Thin provisioned Thick provisioned, lazily zeroed Thick provisioned, eagerly zeroed	
Shares	Normal V 1000 V	
Limit - IOPs	Unlimited ~	
	CANCEL	SAVE

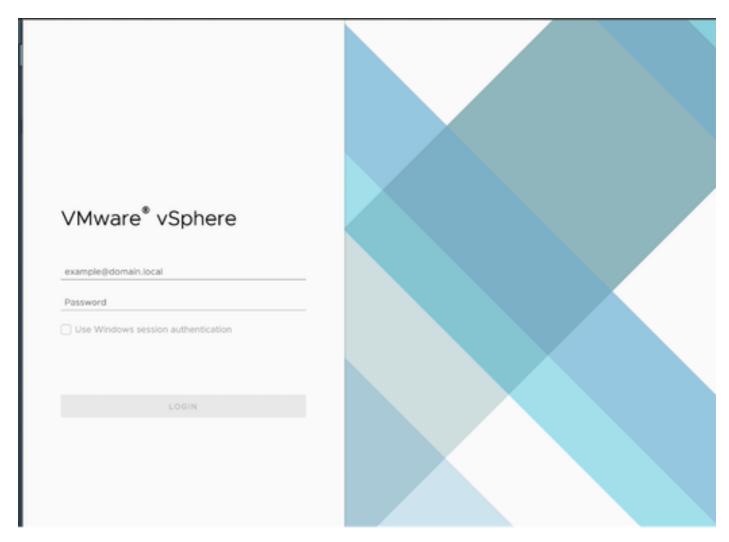
- 10. Select the **Thin provisioned** radio button.11. Click **Save** to complete the configuration. The configuration update displays in the **Recent tasks**.

Market Nature Nate Nature Nature	Head Nonege	12 Create / Register VM E Canada P Press on 10	Person off	II Suspend C Subush	Actions			Q, Search
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		C Reset Late	. 10	ter v Gaust	- Santar	· Post -		- Gampielael *

Recent Tasks

Reconfiguring Using Web Client vCenter

To update the VM configurations using the Web Client vCenter:



vCenter

1. Log in to vCenter. The **Home** page displays.

0 8 8 9	Actions - CXCloudAgent_2.2_Build-DEV-build-7-10	Permissions Datastores Networks Shapshots	
10.126.77.54 CommonPool D HCL_Team Performance	Power Guest OS Snapshots I Open Remote Console	> > st OS: Ubuntu Linux (64-bit) patibility: ESXi 5.0 and later (VM version 8) vare Tools: Not running, not installed	
 Automation 10.126.77.96 CXCloudAgent_1.12_Build 	(2), Migrate Clone	MORE INFO Name: 5dresses: 10.126.77.16	
CXCloudAgent_112_Build- CXCloudAgent_17_Build-	Fault Tolerance	>	
CXCloudAgent_2.2_Build CXCloudAgent_2.2_Build CXCloudAgent_2.2_Build CA_Windows_VM_30.126. Windows_Server_2012_10 Windows_server_2019_VI Security Build-Server DNAC Security Tools	VM Policies	> s virtual machine.	
	Template	,	
	Compatibility	>	
	Export System Logs	8 CPU(s)	
	D Edit Settings	200 GB	
	Move to folder	VM Network (connected)	
	Rename Edit Notes	Disconnected	
	Tags & Custom Attributes	> 4 MB	
	Add Permission	Device on the virtual machine PCI bus that provides support for the virtual machine communication interface >	
	Alarms	Additional Hardware	
	Remove from Inventory Delete from Disk	ESXI 5.0 and later (VM version 8)	

List of VMs

2. Right-click the target VM and select Edit Settings from the menu. The Edit Settings window opens.

Edit Settings CXCloudAgent_2.2_Build-DEV-build-7-10.126.77.243

	GB ∨	٩
Hard disk 1 200		
	GB v	
SCSI controller 0 LSI Logic Pa		
	allel	
Network adapter 1 VM Network	· 🖉	Connected
Video card Specify cus	om settings 👻	
VMCI device		
Other Additional H	rdware	

Edit Settings

- 3. Update the **CPU** values as specified: Medium: 16 core (8 sockets *2 core/socket) Large: 32 core (16 sockets *2 core/socket)
- 4. Update the Memory values as specified: Medium: 32 GB Large: 64 GB

sks, Drives and Storag Hard Disk
0
Existing Hard Disk
RDM Disk
Host USB Device
CD/DVD Drive
ntrollers NVMe Controller
SATA Controller
SCSI Controller
USB Controller
her Devices
PCI Device
Serial Port
rtwork
Network Adapter

5. Click Add New Device and select Hard Disk. The New Hard disk entry is added.

	ADD	NEW DEVICE
CPU *	<u>16 ~</u>	٩
Memory *	32 × GB ×	
Hard disk 1	200 GB 🗸	
New Hard disk *	<u> </u>	
Maximum Size	3.02 TB	
VM storage policy	Datastore Default ~	
Location	Store with the virtual machine $ \sim $	
Disk Provisioning	Thick Provision Lazy Zeroed \sim	
Sharing	Unspecified ~	
Shares	Normal V 1000 V	
Limit - IOPs	Unlimited ~	
Disk Mode	Dependent v	
Virtual Device Node	SCSI controller 0 $ \lor $ SCSI(0:1) New Hard disk $ \lor $	
SCSI controller 0	LSI Logic Parallel	
Network adapter 1	VM Network ~	Connected

6. Update New Hard disk memory as specified: Small to Medium: 400 GB, (Initial size 200 GB, increasing total space to 600 GB) Small to Large: 1000 GB, (Initial size 200 GB, increasing total space to 1200 GB)

Edit Settings CXCloudAgent_2.2_Build-DEV-build-7-10.126.77.243

		ADD NEW DEVICE
CPU *	16 V	٩
Memory *	32 ~	GB v
Hard disk 1	200 GB ~	
New Hard disk *	400 <u>GB ~</u>	
Maximum Size	3.02 TB	
VM storage policy	Datastore Default ~	
Location	Store with the virtual machine ${\scriptstyle\checkmark}$	
Disk Provisioning	Thin Provision ~	
Sharing	Unspecified ~	
Shares	Normal V 1000	~
Limit - IOPs	Unlimited ~	
Disk Mode	Dependent ~	
Virtual Device Node	SCSI controller 0 v SCSI(0:1)	New Hard disk $ \smallsetminus $
SCSI controller 0	LSI Logic Parallel	
Network adapter 1	VM Network ~	Connected

Edit Settings

- 7. Select Thin Provision from the Disk Provisioning drop-down list.
- 8. Click **OK** to complete the upgrade.

Deployment and Network Configuration

Select any of these options to deploy the CX Cloud Agent:

- <u>VMware vSphere/vCenter Thick Client ESXi 5.5/6.0</u>
- <u>VMware vSphere/vCenter Web Client ESXi 6.0</u> or <u>Web Client vCenter Installation</u>
- Oracle Virtual Box 7.0.12
- Microsoft Hyper-V Installation

OVA Deployment

Thick Client ESXi 5.5/6.0 Installation

This client allows deployment of CX Cloud Agent OVA by use of the vSphere thick client.

X

1. After downloading the image, launch the VMware vSphere Client and log in.

🚱 VMware vSphere Client 🛛 🗙
vmware [*] VMware vSphere [*] Client
All vSphere features introduced in vSphere 5.5 and beyond are available only through the vSphere Web Client. The traditional vSphere Client will continue to operate, supporting the same feature set as vSphere 5.0.
To directly manage a single host, enter the IP address or host name. To manage multiple hosts, enter the IP address or name of a vCenter Server.
IP address / Name: 10.126.77.60 User name: root Password: *****
Use Windows session credentials

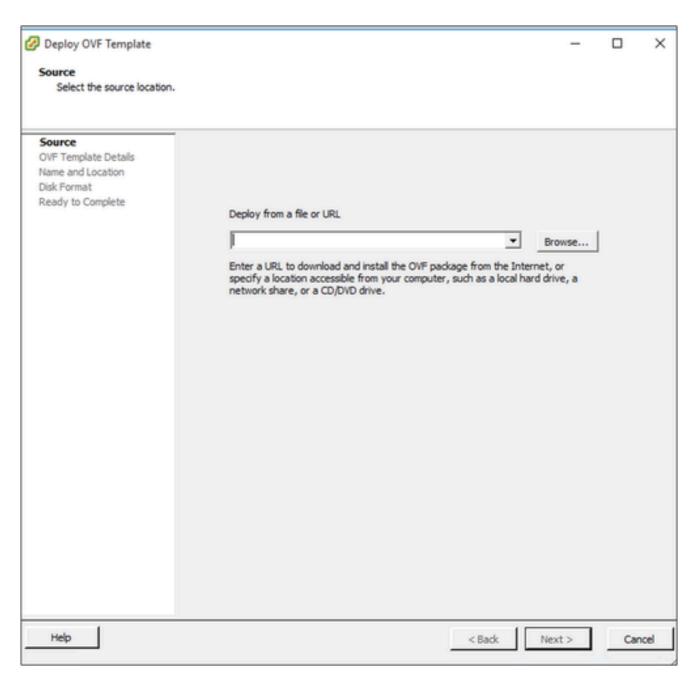
Login

2. From the menu, select **File > Deploy OVF Template**.

16		tory \$ 58 Inventory					
D	ploy OVF Template						
6	en bog	1					
	eot +		Incollect Incoldomain Wieners II	05 1.5.0.1623307			
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- 8	CiCoudApert,2.0,8x18137			adda as A	Real Hanagement		
	andra .	,	Common As				Name, Target or Status contains

vSphere Client

3. Browse to select the **OVA file** and click **Next**.



OVA Path

4. Verify the **OVF Details** and click **Next**.

🕢 Deploy OVF Template

OVF Template Details

Verify OVF template details.

OVF Template Details				
Name and Location	Products	CtCloudAgent_2.0_Build-144		
Disk Format Network Mapping	Version:	2.0		
Ready to Complete	Vendor:	Cisco Systems, Inc		
	Publisher:	CISCO SYSTEMS, INC.		
	Download size:	1.1 G8		
	Size on disk:	3.1 GB (thin provisioned) 200.0 GB (thick provisioned)		
	Description:	ClCloudAgent_2.0_Build-144		
Help			< Back N	ext > Cancel

Template Details

5. Enter a Unique Name and click Next.



Name and Location

Specify a name and location for the deployed template

Source	Name:
	CXCloudAgent_2.0_Build-144_DEMO
OVF Template Details Name and Location Disk Format Network Mapping Ready to Complete	CXCloudAgent_2.0_Build-144
Help	< Back Next > Cancel

Name and Location

6. Select a **Disk Format** and click **Next** (Thin Provision is recommended).

Deploy OVF Template				_		×
Disk Format In which format do you	want to store the virtual disks?					
Source OVF Template Details Name and Location Disk Format	Datastore: Available space (GB):	datastore1 (11) 973.1				
Network Mapping Ready to Complete	Thick Provision Lazy Z Thick Provision Eager Thin Provision					
	se minimutati					
Help			< Back Ne	ext >	Can	cel

Disk Format

7. Select the **Power on after deployment** check box and click **Close**.



- 0

 \times

Ready to Complete

Are these the options you want to use?

ame and Location isk Format	Deployment settings: OVF file: C:\Users\cxcadmin\Downloads\OVA\CXCloudAcert								
etwork Mapping		C:\Users\oxcadmin\Downloads\OVA\CXCloudAgent_2.0_							
eady to Complete	Download size:	1.1 GB							
	Size on disk:	3.1 GB							
	Name:	CXCloudAgent_2.0_Build-144_DBMO localhost. datastore1 (11) Thin Provision							
	Host/Cluster:								
	Datastore:								
	Disk provisioning:								
	Network Mapping:	"VM Network" to "VM Network"							
	Power on after deployment								

Ready to Complete

Deployment can take several minutes. Confirmation displays upon successful deployment.

Deployment Completed Successfully	-		\times
Deploying CXCloudAgent_2.0_Build-144_DEMO			
Completed Successfully			
		Close	2

Deployment Complete

8. Select the deployed VM, open the console, and go to <u>Network Configuration</u> to proceed with the next steps.

Web Client ESXi 6.0 Installation

This client deploys CX Cloud Agent OVA by use of the vSphere web.

1. Log in to the VMWare UI with the ESXi/hypervisor credentials used for deploying VM.

vm war	.e.	
User Name not	vmware' esxi'	
Passed -		

VMWare ESXi Login

2. Select Virtual Machine > Create / Register VM.

Iocalhost.localdomain - VMwarr ×	🐸 New Tab X +
e → C	○ 🔒 ⊶ https://10.126.77.20/ui/#/host
vmware: esxi"	
Ta Navigator	localhost.localdomain
Host Manage Monitor Orivial Machines Storage Storage Networking	Uptime: 182.07 days

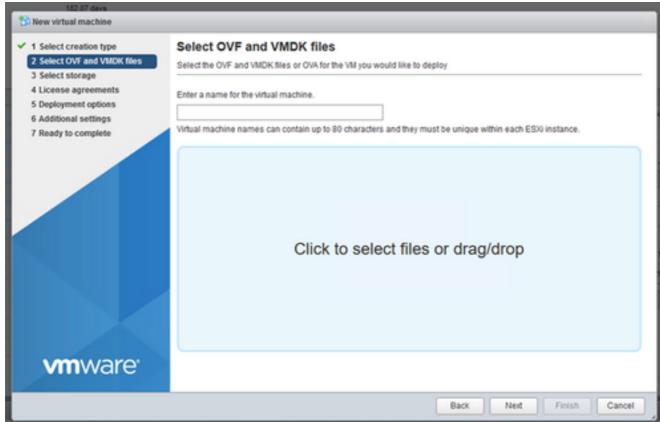
Create VM

3. Select **Deploy a virtual machine from an OVF or OVA file** and click **Next**.

Belect creation type How would you like to create a Virtual Machine?							
Create a new virtual machine Deploy a virtual machine from an OVF or OVA file Register an existing virtual machine		This option guides you through the process of creating a virtual machine from an OVF and VMDK files.					
	v	Back Next Finish Cancel					
	How would you like to create a Virtual Machine? Create a new virtual machine Deploy a virtual machine from an OVP or OVA file	How would you like to create a Virtual Machine? Create a new virtual machine Deploy a virtual machine from an OVF or OVA file Register an existing virtual machine					

Select Creation Type

- 4. Enter the name of the VM, browse to select the file, or drag-and-drop the downloaded OVA file.
- 5. Click Next.



OVA Selection

6. Select **Standard** storage and click **Next**.

1 New virtual machine - CX Cloud Agrn	t 2.0 DEMO										
 1 Select creation type 2 Select OVF and VMDIK files 3 Select storage 4 License agreements 5 Deployment options 6 Additional settings 7 Ready to complete 	Select storage Select the storage type and datastore Standard Persistent Memory Select a datastore for the virtual machine	50	onfiguration	n file	is and all o	115	virtual dis	а.			
	Name	÷	Capacity	v	Free	v	Type	v	Thin pro ~	Access	~
	datastore1		4.35 TB		3.57 TB		VMFS5		Supported	Single	0
										11	tems
vm ware											
						Ba	ck 🗌	Ne	at Finis	h C	ancel

Select Storage

7. Select the appropriate **Deployment options** and click **Next**.

 1 Select creation type 	Deployment options	
2 Select OVF and VMDK files	Select deployment options	
3 Select storage 4 Deployment options		
5 Ready to complete	Network mappings	VM Network VM Corporate Network ~
	Disk provisioning	Thin () Thick
	Power on automatically	
vm ware [.]		
		Back Next Finish Cancel

Deployment Options

8. Review the settings and click **Finish**.

1 New virtual machine - CX Cloud Agrnt 2.0 DEMO

- ✓ 1 Select creation type
- 2 Select OVF and VMDK files
- 3 Select storage
 4 Deployment options

5 Ready to complete

Ready to complete

Review your settings selection before finishing the wizard

Product	CXCloudAgent_2.0_Build-144
VM Name	CX Cloud Agmt 2.0 DEMO
Disks	CXCloudAgent_2.0_Build-144-1_signed-sha1-disk1.vmdk
Datastore	datastore1
Provisioning type	Thin
Network mappings	VM Network: VM Corporate Network
Guest OS Name	Unknown



Do not refresh your browser while this VM is being deployed.

	Back	Next	Finish	Cancel

Ready to Complete

vmware

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Successful Completion

9. Select the VM just deployed and select **Console > Open browser console**.

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Console

10. Navigate to <u>Network Configuration</u> to proceed with the next steps.

Web Client vCenter Installation

Perform these steps:

1. Log into vCenter Client using ESXi/hypervisor credentials.



Log In

2. From the Home page, click Hosts and Clusters.

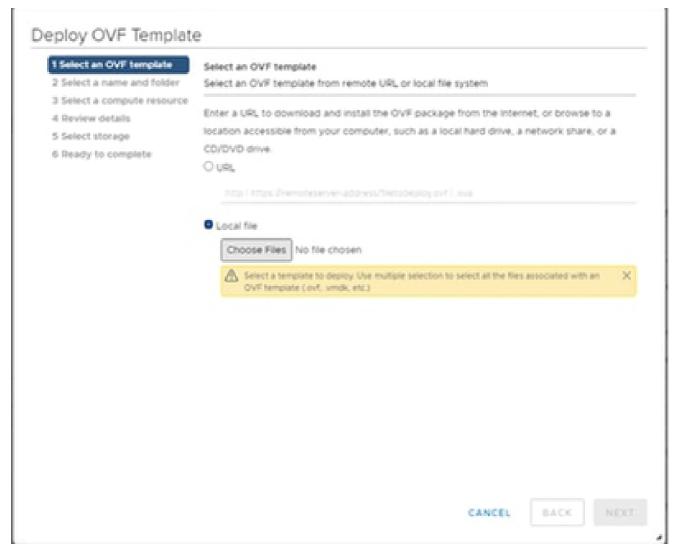
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Home Page

3. Select the VM and click **Action > Deploy OVF Template**.

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								March 1994

Actions



Select Template

- 4. Add the URL directly or browse to select the OVA file and click Next.
- 5. Enter a unique name and browse to the location if required.
- 6. Click Next.

Deploy OVF Template

1 Select an OVF template 2 Select a name and folder	Select a name and fold Specify a unique name				
3 Select a compute resource 4 Review details 5 Select storage	Virtual machine name:	CXCloudAgent_2.0_Build-144-d	emo		_
6 Ready to complete	Select a location for th Select a location for th CommonPool Delete Performance Performance Build-Server Build-Server Build-Server Security Security Tools	el			
			CANCEL	BACK	NEXT

Name and Folder

7. Select a compute resource and click **Next**.

1 Select an OVF template 2 Select a name and folder	Select a compute resource Select the destination compute resource for this ope	ration
3 Select a compute resource		
4 Review details	V Di Security	
5 Select storage 6 Ready to complete	> 10.126.77.51	
in control for the strong to be grapped on		
	Compatibility	
	 Compatibility checks succeeded. 	

Select Computer Resource

8. Review the details and click **Next**.

Deploy OVF Template

- ✓ 1 Select an OVF template
- 2 Select a name and folder
 3 Select a compute resource

Review details

Verify the template details.

4 Review details

- 5 Select storage
- 6 Select networks
- 7 Ready to complete

Publisher	DigiCert SHA2 Assured ID Code Signing CA (Trusted certificate)
Product	CXCloudAgent_2.0_Build-144
Version	2.0
Vendor	Cisco Systems, Inc
Description	CXCloudAgent_2.0_Build-144
Download size	1108
Size on disk	3.1 GB (thin provisioned)
	200.0 GB (thick provisioned)

CANCEL BACK

NEXT

a.

Review Details

9. Select the virtual disk format and click Next.

1 New virtual machine - CX Cloud Ager	I 2.0 DEMO						
 1 Select creation type 2 Select OVF and VMDK files 3 Select storage 4 License agreements 5 Deployment options 6 Additional settings 7 Ready to complete 	Select storage Select the storage type and datastore Standard Persistent Memory Select a datastore for the virtual machine	's configuration (fies and all of its	'wMual disks.			
	Name	Capacity v	Free v	Type v	Thin pro	Access	÷
	datastore1	4.35 TB	3.57 TB	VMP85	Supported	Single	\$
						18	lems
vmware [,]							
			0	ick Nie	d. Finis	h (ancel

Select Storage

10. Click Next.

Deploy OVF Template

- ✓ 1 Select an OVF template
- 2 Select a name and folder
 3 Select a compute resource

Review details

Verify the template details.

4 Review details

- 5 Select storage
- 6 Select networks
- 7 Ready to complete

Publisher	DigiCert SHA2 Assured ID Code Signing CA (Trusted certificate)
Product	CXCloudAgent_2.0_Build-144
Version	2.0
Vendor	Cisco Systems, Inc
Description	CXCloudAgent_2.0_Build-144
Download size	11.08
Size on disk	3.1 GB (thin provisioned)
	200.0 GB (thick provisioned)

CANCEL BACK

NEXT

a.

Select Network

11. Click Finish.

Deploy OVF Template

- ✓ 1 Select an OVF template
- ✓ 2 Select a name and folder
- ✓ 3 Select a compute resource
- ✓ 4 Review details
- ✓ 5 Select storage
- ✓ 6 Select networks

7 Ready to complete

We wanted as	10 met	and the second second second second
second Sec.	596	complete

Click Finish to start creation.

Provisioning type	Deploy from template
Name	CXCloudAgent_2.0_Build-144-demo
Template name	CitCloudAgent_2.0_Build-144-1_signed-sha1
Download size	1108
Size on disk	3.1.68
Folder	Security
Resource	10.126.77.51
Storage mapping	1
All disks	Datastore: datastore1 (23): Format: Thin provision
Network mapping	1
VM Network	VM Network
IP allocation settings	
IP protocol	IPV4
IP allocation	Static - Manual



FINISH

аŝ

Ready to Complete

12. Click the name of the newly added VM to view the status.

0 0 2		8 CKCoudAgent	2.0_Build 144-d	emo + +	e o o lacense				
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VM Added

13. Once installed, power on the VM and open the console.

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Open Console

14. Navigate to <u>Network Configuration</u> to proceed with the next steps.

Oracle Virtual Box 5.2.30 Installation

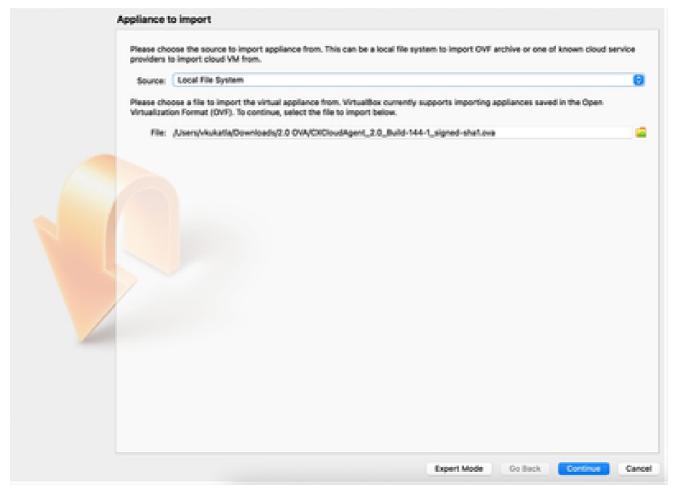
This client deploys CX Cloud Agent OVA though the Oracle Virtual Box.

1. Open the Oracle VM UI and select File> Import Appliance.



Oracle VM

2. Browse to import the OVA file.



Select File

3. Click Import.

	change many of the properties sh	own by double-clicking on the items and disable others using the check boxes below.	
1	rintual System 1		
	🚖 Name	ac	
	Product	CXCloudAgent_2.0_Build-144	
	🗭 Vendor	Cisco Systems, Inc	
	Vendor-URL	http://www.cisco.com	
	Version	2.0	
1	Description	CXCloudAgent_2.0_Build-144	
1	Suest OS Type	💑 Ubuntu (64-bit)	
	CPU		
	E RAM	16384 MB	
	📇 Порру	0	
5	al Network Adapter	Intel PRQ1000 MT Desktop (82540EM)	
	👌 Storage Controller (IDE)	P1064	
	🔅 Storage Controller (DE)	P004	
	farnings:		
	No trusted certificate paths		
	lachine Base Folder: 🛅 /Jsers/	Wukatla/Virtualition Write	
	AC Address Policy Include on	ly NAT network adapter NAC addresses	
	Additional Options: 🔁 Import h	and drives as VDI	
	everified signature by CISCO \$75	Constant and a	

Import File

4. Select the VM just deployed and click Start.

• • •	Oracle VM VirtualBox Manager
Tools	New Settings Discard Start
CXC Powered Off CXC Powered Off since 3:24	CXC Operating System: Ubuntu (64-bit)
Session unlocked	System Base Memory: 16384 MB Processors: 8 Boot Order: Floppy, Optical, Hard Disk Acceleration: VT-x,IAMD-V, Nested Paging, PAE/NX, KVM Paravirtualization
	Cisplay
	Video Memory: 16 MB Graphics Controller: VBoxVGA Remote Desktop Server: Disabled Recording: Disabled
	Storage
	Controller: IDE Controller: SCSI SCSI Port 0: CXCloudAgent_2.0_Build-144-1_signed-sha1-disk1.vdi (Normal, 200.00 G8 Controller: Floppy Floppy Device 0: Empty
	🕪 Audio
	Host Driver: CoreAudio Controller: ICH AC97

Appliance settings		
	ntained in the appliance and the suggested settings of the imported VirtualBox machines. You ca own by double-clicking on the items and disable others using the check boxes below.	n
Wrtuel System 1		
🌸 Name	CIC	
Product	CXCloudAgent_2.0_Build-144	
A few seconds re	disk image 'CXCloudAgent_2.0_Build-144-1_signed-sha1-disk1.vmdk' (2/2) 0 maining	
Ouest OS Type	1 Ubuntu (64-bit)	
OV	8	
RAM RAM	16384 MB	
E Ploppy	2	
📲 Network Adapter	Intel PRO/1000 MT Desktop (835406M)	
👌 Storage Controller (DE)	P004	
Storage Controller (DE)	P004	
Warnings:		
- No trusted certificate paths		
Machine Base Folder: 🚞 /Users/	visukatia/VirtuelBox VMs	÷
MAC Address Policy: Include on	ly NAT network adapter MAC addresses	0
Additional Options: 🗸 Import h	ard drives as VDI	
Unverified signature by CISCO 5Y5	ITEMS, INC.I	
	Restore Defaults Go Back Import	Cancel

Import in Progress

5. Power on the VM. The console displays.

• • •	CXC [Running]	
The Virtual Machine reports that	t the guest OS does not support mouse pointer integration in the current vide mode.	S 20
		🖉 💽 Left 🗶

6. Navigate to <u>Network Configuration</u> to proceed with the next steps.

Microsoft Hyper-V Installation

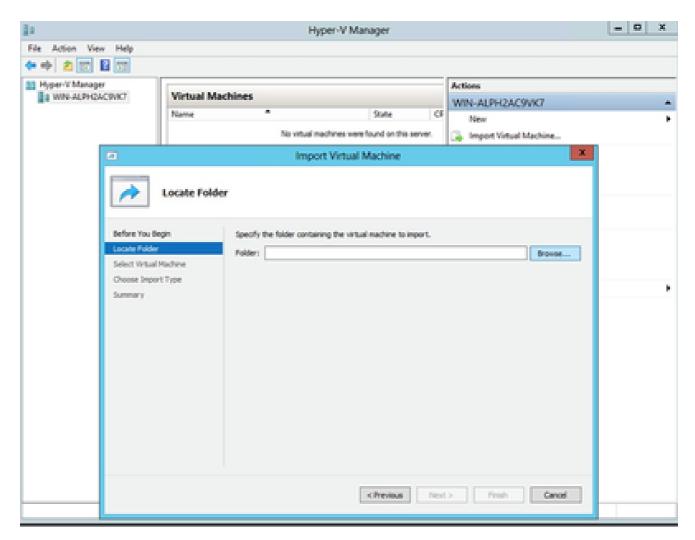
Perform these steps:

1. Select Import Virtual Machine.

2a	Hyper-V Manager		×
File Action View Help			
++ 200 B 00			
Hyper-V Manager		Actions	
WIN-ALPHOACON" New P		WIN-ALPH2AC9VK7	
Import Virtual Machine	State CF	New	
Hyper-V Settings	No vitual machines were found on this server.	🙀 Import Virtual Machine	
Virtual Switch Manager		Hyper-V Settings	
Virtual SAM Manager		👯 Virtual Switch Manager	
Edit Disk		2 Virtual SAN Manager	
Inspect Disk		phi Edit Disk	
Stop Service		A Inspect Disk	
Remove Server		Stop Service	
Refresh		X Remove Server	
View +		G Refresh	
Help		View	
		🛐 Help	
<	-		
Snapshots			
Details			
	No ten selected.		
c	5		
Displays the Import Wisard.	,		

Hyper V Manager

- 2. Browse and select the **download folder**.
- 3. Click Next.



Folder to Import

4. Select the VM and click Next.

2	Import Virt	ual Machine	×
Select Virtual	Machine		
Before You Begin	Select the virtual machine to impo	rt:	
Locate Folder	Name	*	Date Created
Select Virtual Machine Choose Import Type	Cl:CloudAgent_2.0_Build-144		3/3/2022 9:29:22 PM
Summary			
		< Previous Next >	Prish Cancel

Select VM

5. Select the Copy the virtual machine (create a new unique ID) radio button and click Next.

æ	Import Virtual Machine	×
Choose In	port Type	
Before You Begin Locate Folder Select Virtual Machine Choose Import Type Summary	Choose the type of import to perform: Choose the virtual machine in-place (use the existing unique ID) Restore the virtual machine (use the existing unique ID) Copy the virtual machine (create a new unique ID)	
	< Previous Next > Pinish Cano	đ

Import Type

6. Browse to select the folder for VM files. It is recommended to use the default paths.

7. Click Next.

a	Import Virtual Machine	x
Choose Fo	Iders for Virtual Machine Files	
Before You Begin Locate Folder Select Virtual Machine Choose Import Type	You can specify new or existing folders to store the virtual machine files. Otherwise, the wizard imports the files to default Hyper-V folders on this computer, or to folders specified in the virtual machine configuration. Store the virtual machine in a different location Virtual machine configuration folder:	
Choose Destination Choose Storage Folders Summary	C:\ProgramData\Hicrosoft\Windows\Hyper-V\ Browse. Snapshot store: C:\ProgramData\Hicrosoft\Windows\Hyper-V Browse. Smart Paging folder: C:\ProgramData\Hicrosoft\Windows\Hyper-V Browse.	
	< Previous Next > Finish Cence	1

Choose Folders for Virtual Machine Files

Browse and select the folder to store the VM hard disk. It is recommended to use default paths.
 Click Next.

•	Import Virtual Machine	X
Choose Fold	ers to Store Virtual Hard Disks	
Before You Begin Locate Folder Select Virtual Machine Choose Import Type Choose Destination Choose Storage Folders Summary	Where do you want to store the imported virtual hard disks for this virtual machine? Browser Location: Classes Public Documents Hyper Vivr buil Hard Docks Browser	
	< Previous Next > Finish Cancel	

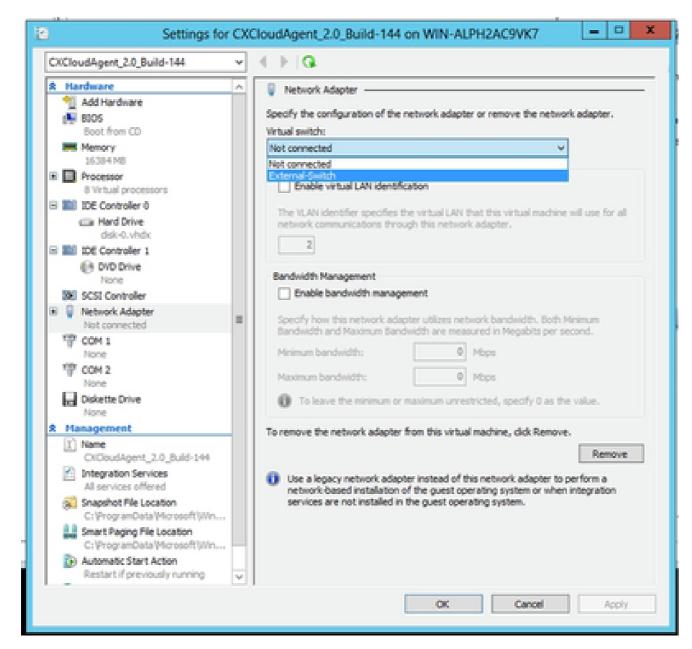
Folder to Store the Virtual Hard Disks

10. The VM summary displays. Verify all inputs and click Finish.

	Import Virtual I	Machine X
Completing	Import Wizard	
Before You Begin Locate Folder	You are about to perform the following Description:	operation.
Select Virtual Machine Choose Import Type Choose Destination Choose Storage Folders Summary	Virtual Machine: Import file: Import Type: Virtual machine configuration folder: Snapshot folder: Smart Paging file store: Virtual hard disk destination folder:	CXCloudAgent_2.0_Build-144 C:\Users\vishnu\Downloads\2.0\CXCloudAgent_2.0_Build-144¥ Copy (generate new ID) C:\ProgramData\Wicrosoft\Windows\Hyper-V\ C:\ProgramData\Wicrosoft\Windows\Hyper-V C:\ProgramData\Wicrosoft\Windows\Hyper-V C:\Users\Public\Documents\Hyper-V\Wirtual Hard Disks\
	C III	vizard, dick Finish.
	[< Previous Next > Finish Cancel

Summary

- 11. Once the import is completed successfully, a new VM is created on Hyper-V. Open the VM setting.
- 12. Select the **network adaptor** on the left pane and choose the available **Virtual Switch** from the dropdown.



Virtual Switch

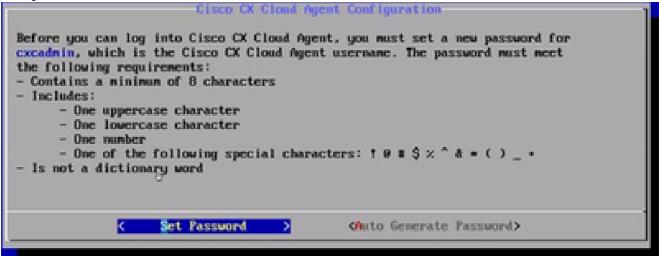
13. Select Connect to start the VM.

1		Hyper-V I	Manager				*		
le Action View Help									
• 🔶 🙇 📰 📓 📩									
Hyper-Y Manager	Virtual Machines						Actions		
WIN-AUHOACINKT						WIN-ALPH2AC9VK7			
	DiDruckgent 20.04		State	CPU Usage	Assigned Merr	New	•		
	a protocol de la color	Connect	L			🔓 Import Virtual Machine			
		Settings.				🖄 Hyper-V Settings			
		Start				👯 Virtual Switch Manager			
		Snapsho	e .			🤰 Virtual SAN Manager			
		Meve-				💰 Edit Dia			
		bpot				📇 Inspect Disk			
		Rename	-			Stop Service			
		Delete-				X Remove Server			
		Enable R	vplication			G Refresh			
		Help				View	٠		
						📔 Help			
	<	<							
	Snapshots	Snapshots 💿							
	CXCloudAgent_2.0_Build-144					 Settings Start 			
Created: 3/11/2022 2:50:41 PM Clastered: No						By Snapshot			
				Move					
	Notes: None			a toport.					
					Ename_				
						Delete			
	Summary Memory Net	working Replication				Enable Replication			
	1				1.5	Helo			

14. Navigate to <u>Network Configuration</u> to proceed with the next steps.

Network Configuration

1. Click **Set Password** to add a new password for cxcadmin OR click **Auto Generate Password** to get a new password.



Set Password

2. If **Set Password** is selected, enter the password for cxcadmin and confirm it. Click **Set Password** and go to Step 3.

Starting VM

cxcadmin. When you are	Set Password onfirm Password fields, enter and confirm a new password for e finished, select Set Password Down Arrow keys to navigate between fields. select Set Password.)
Usernane:	cxcadmin
Password :	
Confirm Password:	
	(Set Password)

New Password

OR

If **Auto Generate Password** is selected, copy the password generated and store it for future use. Click **Save Password** and go to Step 4.

Autogenerated Passwo	rd
Password: \$CX HANNEXMEN	
Make sure to store this password in a safe place. T into Cisco CX Cloud Agent.	his password is required to log
After you have stored the password in a safe place, to the previous screen, select Cancel.	select Save Password. To return
(Save Password) <	Cancel >

Auto Generated Password

3. Click **Save Password** to use it for authentication.

Password St	ength
The strength of the new password is Medium.	
To save the password, select Save Password. To select Cancel to return to the Set Password s	
(Save Password)	< Cancel >

Save Password

4. Enter the IP Address, Subnet Mask, Gateway, and DNS Server and click Continue.

Network Configuration
Please enter an IPv4 address and corresponding network configuration for the appliance.
(Use Up/Down keys to navigate to next field. Press Tab to jump to Continue button)
IP Address:
Subnet Mask:
Gateway:
DNS Servers: #Maximum 3 IPs with comma separator.
<continue></continue>

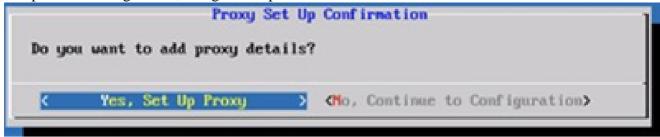
Network Configuration

5. Confirm the entries and click **Yes**, **Continue**.

Confirm	ation	1
Are these entries correct?		
IP Address: Subnet Mask: Gateway: DNS:		
(Yes, Continue)	♦ No, Go Back >	

Configuration

6. To set the proxy details, click **Yes, Set Up Proxy** or click **No, Continue to Configuration** to complete the configuration, and go to Step 8.



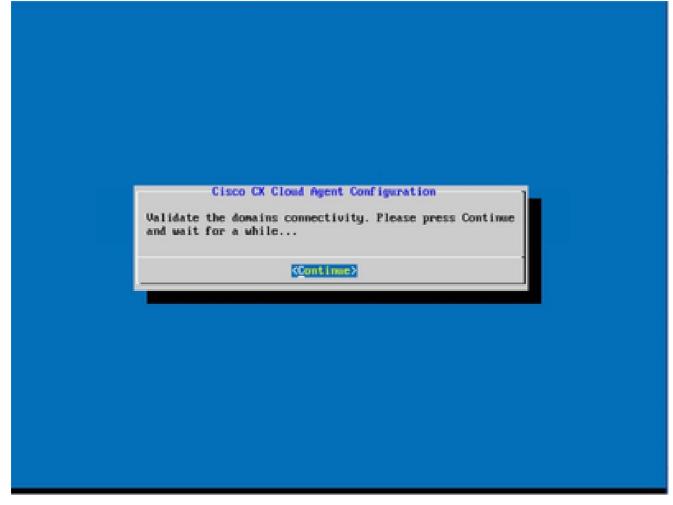
Proxy Setup

7. Enter the Proxy Address, Port Number, Username, and Password.

Pro	oxy Config	jurat	ion				Ţ
Please enter proxy details for the network.							
(Use Up/Down keys to navigat	te to next	t fie	ld. Pre	ess Tab	to iumo	to Setur	
Proxy button)	00 00 HOX				eo Janp	to octop	
Proxy Address:						1	
Fort Number:							
						_	
Usernane:						_	
Password :							
Begin Configurat	ion>	<	No, Go	Back	>		

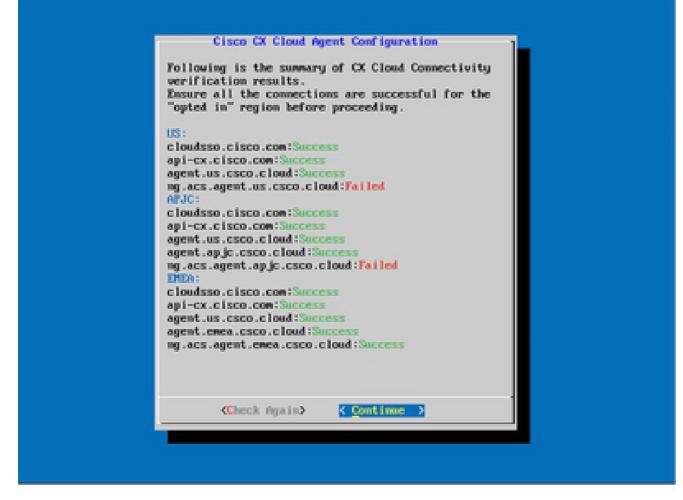
Proxy Configuration

8. Click Begin Configuration.



Begin Configuration

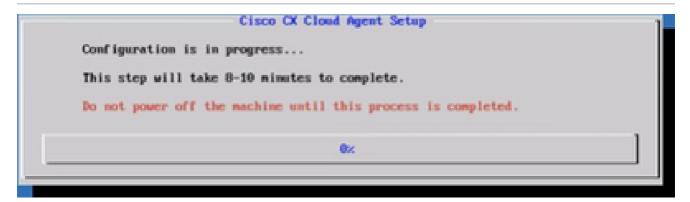
9. Click Continue.



Configuration Continues

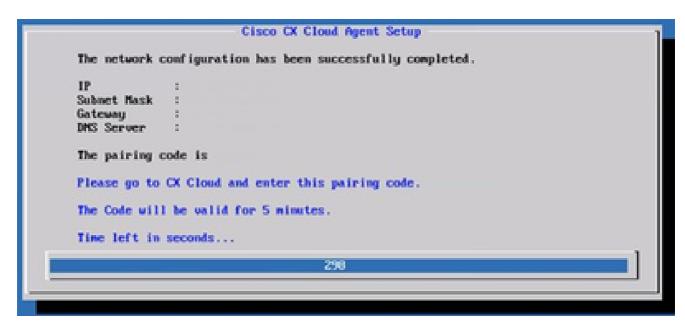
10. Click **Continue** to proceed with the configuration for successful domain reach. The configuration can take several minutes to complete.

Note: If the domains cannot be reached successfully, the customer must fix domain reachability by making changes in their firewall to ensure that domains are reachable. Click **Check Again** once the domains reachability issue is resolved.



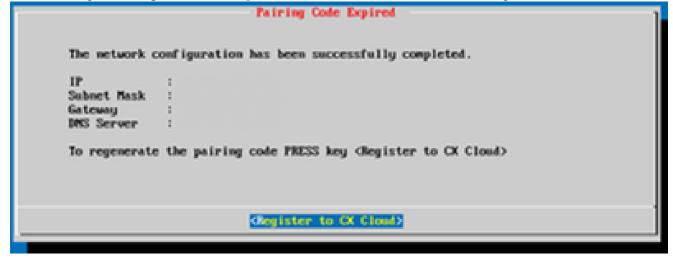
Configuration in Progress

11. Copy the **Pairing Code** and return to CX Cloud to continue the setup.



Pairing Code

12. If the Pairing Code expires, click **Register to CX Cloud** to obtain the code again.



Code Expired

13. Click OK.



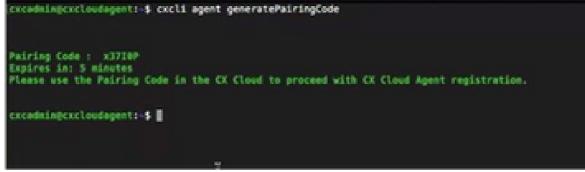
Registration Successful

Alternative Approach to Generate Pairing Code Using CLI

Users can also generate a pairing code by using CLI options.

To generate a pairing code using CLI:

- 1. Log in to the Cloud Agent via SSH using the cxcadmin user credential.
- 2. Generate the pairing code using the command cxcli agent generatePairingCode.



Generate Pairing Code CLI

3. Copy the Pairing Code and return to CX Cloud to continue the setup.

Configure Cisco Catalyst Center To Forward Syslog to CX Cloud Agent

Prerequisites

Supported Cisco Catalyst Center versions are 2.1.2.0 to 2.2.3.5, 2.3.3.4 to 2.3.3.6, 2.3.5.0, and Cisco Catalyst Center Virtual Appliance

Configure Syslog Forward Setting

To configure Syslog Forwarding to CX Cloud Agent in the Cisco Catalyst Center, perform these steps:

- 1. Launch Cisco Catalyst Center.
- 2. Go to **Design > Network Settings >Network**.
- 3. For each site, add the CX Cloud Agent IP as the Syslog Server.

Cisco DNA Cer	iber beside	POLICY	PROVISION	ASSURANCE	PLATFORM	
Network Hierarchy	Network Settings	Image R	epository	Network Profiles	Auth Template	
IQ. Find Herarchy		Network	Device Cred	ientials IP Address	Pools SP Profiles Wireles	15
→ @ Global → @ Bangatore ¥8904.16				ke AAA, NTP; Syslog, Tra r will deploy using these	p and NetFlow using the * Add Server settings.	s" link. Once devices
			G Server			
		5×5L05 172.23.183	1.190	+		

Syslog Server

Note: Once configured, all devices associated with that site are configured to send syslog with level critical to CX Cloud Agent. Devices must be associated to a site for enabling the syslog forwarding from the device to CX Cloud Agent. When a syslog server setting is updated, all devices associated with that site are automatically set to default critical level.

Configure Other Assets to Forward Syslog to CX Cloud Agent

Devices must be configured to send Syslog messages to the CX Cloud Agent to use the Fault Management feature of CX Cloud.

Note: Only Campus Success Track Level 2 devices are eligible to configure other assets to forward syslog.

Existing Syslog Servers with Forward Capability

Perform the configuration instructions for the syslog server software and add the CX Cloud Agent IP Address as a new destination.

Note: When forwarding syslogs, ensure that the source IP address of the original syslog message is preserved.

Existing Syslog Servers without Forward Capability OR without Syslog Server

Configure each device to send syslogs directly to the CX Cloud Agent IP Address. Refer to this documentation for specific configuration steps.

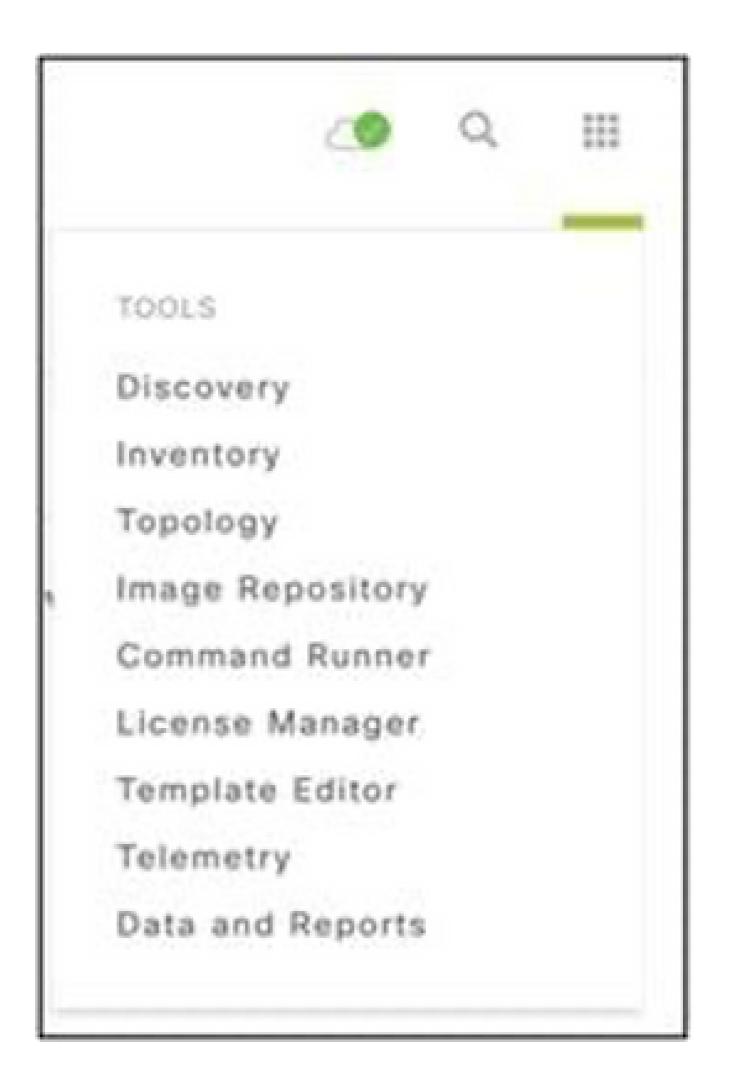
Cisco IOS® XE Configuration Guide

AireOS Wireless Controller Configuration Guide

Enable Information Level Syslog Settings

To make Syslog Information level visible, perform these steps:

1. Navigate to **Tools>Telemetry**.



Tools Menu

2. Select and expand the **Site View** and select a **site** from site hierarchy.

Cisco DNA Center	Telemetry					0 Q		0	0	
Telemetry Assessment and Config	guration									
Site View Profile View										
Sites Hierarchy ~ Global	~	ctions 🛩 O					Show	AI		~
> Bangalore		Device Name -	Address	Туре	Family	Version		Profi	le .	
		513E-A-25-C9606R-1	10.201.183.90	Cisco Catalyst 9606	Switches and Hubs	36313		Disab	ie Teler	why

Site View

- 3. Select the required site and select all devices using the **Device name** check box.
- 4. Select Optimal Visibility from the Actions drop-down.



Actions

Back Up and Restore the CX Cloud VM

It is recommended to preserve the state and data of a CX Cloud Agent VM at a specific point in time using the snapshot feature. This feature facilitates CX Cloud VM restoration to the specific time that the snapshot is taken.

Back Up

To back up the CX Cloud VM:

1. Right-click the VM and select Snapshot > Take Snapshot. The Take Virtual Machine Snapshot window opens.

CXCIOUGAGENT_2.2_BUIIG-35_10.126.	//.229 environment, you c	an use vinual machines as desktop of
CXCloudAgent_2.2_Build-35_12 CXCloudAgent_2.2_Build-35_Ad	Power +	hents, as testing environments, or to pplications.
CXCloudAgent_2.2_Build-35_Bo	Guest •	
CXCloudAgent_2.2_Build-4_Bob	Snapshot 🕨	🔯 Take Snapshot
CXCloudAgent_2.2_Build-4_Cha	Open Console	Revert to Current Snapshot
CXCloudAgent_2.2_Build-7_Cha	Edit Settings	🚺 Snapshot Manager
CXCloudAgent_2.2_Build-7_Niti	Add Permission Ctrl+P	Consolidate
CXCloudAgent_2.2_Build-7_Niti CXCloudAgent_2.2_Build-8_Bot	Report Performance	-
CXCloudAgent_2.2_Build-8_Cha	Rename	virtual machine
CXCloudAgent_2.2_Build-8_Niti CXCloudAgent_2.2_Build-8_niti	Kename	virtual machine
CXCloudAgent_2.2_Build-8_nu	Open in New Window Ctrl+Alt+N	
CXCloudAgent_2.2_Build-9_10.	Remove from Inventory	chine settings
CXCloudAgent_2.2_Build-9_10.	Delete from Disk	
1 CXCloud∆aent 2.2 Build-9 Nitin 10	126.77.119	

Select VM

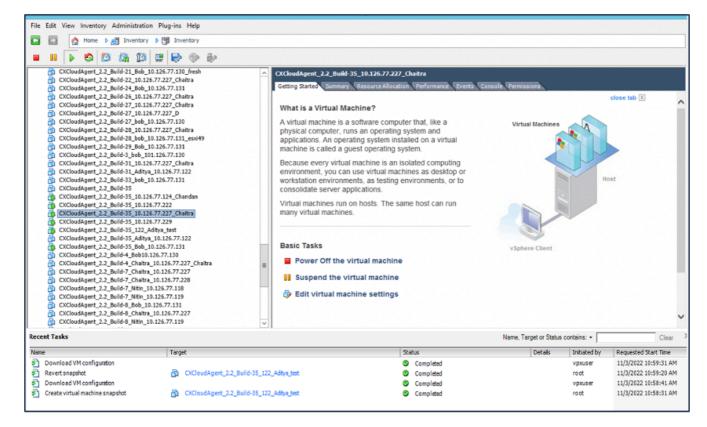
🖉 Take Virtual Machine Snapsh 🗕 🗖 🗙
Name
Snapshot_Name <provide_snapshot_name></provide_snapshot_name>
Description
<description for="" ref=""></description>
Snapshot the virtual machine's memory
Quiesce guest file system (Needs VMware Tools installed)
OK Cancel



2. Enter Name and Description.

Note: Verify that the Snapshot the virtual machine's memory check box is cleared.

3. Click **OK**. The **Create virtual machine snapshot** status displays as **Completed** in the Recent Tasks list.



Recent Tasks

Restore

To restore the CX Cloud VM:

1. Right-click the VM and select Snapshot > Snapshot Manager. The Snapshots of the VM window opens.

Build-?	1		ronments, as testing environments,				
Build-1	Power		er applications.				
Build-3	Guest	Þ.	er appreatorio.				
_Build-4	Snapshot	Þ.	🔯 Take Snapshot				
_Build-	Open Console		Revert to Current Snapshot				
_Build-1 🌍	Edit Settings		Snapshot Manager				
_Build-1 _Build-1	Add Permission Ctrl+P		Consolidate				
_Build-8 _Build-8	Report Performance		the virtual machine				
Build-8	Rename		he virtual machine				
_Build-8 _Build-8	Open in New Window Ctrl+Alt+N						
Build-S	Remove from Inventory		I machine settings				
_Build-1	Delete from Disk]				

Select VM window

Snapshots for CXCloudAgent_2.2_E	Build-35_122_Aditya_test 📃 🗖 🗙
CXCloudAgent_2.2_Build-35_122_Aditya_test 2.2.1 Snapshot_Name <provide_snapshot_name are="" here<="" td="" you=""><td>Name Snapshot_Name <provide_snapshot_name> Description <description for="" ref=""></description></provide_snapshot_name></td></provide_snapshot_name>	Name Snapshot_Name <provide_snapshot_name> Description <description for="" ref=""></description></provide_snapshot_name>
Go to Delete Delete All	Edit
	Close

Snapshots Window

2. Click **Go to**. The **Confirm** window opens.

[Description <description for="" ref=""></description>	Host
	Current state of the Virtual Machine will be lost unless it i in a snapshot. Revert to snapshot 'Snapshot_Name <provide_snapshot_name>'?</provide_snapshot_name>	has been saved
	Yes	No
ill	Delete Al Edit	

Confirm Window

3. Click Yes. The Revert snapshot status displays as Completed in the Recent Tasks list.

File Edit View Inventory Administration Pr	rg-ins Melp					
🖬 🖬 🧑 time 1 🚮 investory 1 (\$ inventory					
	₽ ⊕ ₽					
 C.S.Contiger, J. J. Mol. O., M. J. M.J. C.S.Contiger, J. J. Juli G. J. M.J. T.J. C.S.Contiger, J. J. Juli G. Juli J.T. T.J. C.S.Contiger, J. J. Juli G. Juli J. M. H.J. Juli J. M. J. S. J. M.J. C.S.Contiger, J. J. Juli G. Juli J. Juli J. M. J. S. J. M.J. G. Juli J. Juli J.	17, Sadina 17, Sa	What is a Virtual Machine A virtual machine is a softwa physical computer, runs an applications. An operating or machine is called a guest op Decause every virtual machi	P re computer that, like a percenting system and othern installed on a withus enting system. In the same installed computing fruar machines as develop or is setting environments, or to res. In The same installed computing machine machine			
lacent Taska				Name, Target or Datas	contains +	Clear
New Contract/Monfigures	Tarpi		9.44	Detab	Initiated by	Reparted Stat Tex 12/3/2022 10:59 21 AV
Reventenced of control particular	@ 00000000.32,00000.32	Address Text	Completed Completed		100	TATIVATE STATE OF AN
P Download (* configuration	C. Constanting and and and and	Suma Sum	Consider		100.04	11/3/2022 10:50-41 4/4
Create virtual machine snapshat	B consequential particular	Ada par	Completed		1948	123/2022 10:50:51 64

Recent Tasks

4. Right-click the VM and select **Power > Power On** to power on the VM.

	`				
CXCloudAgent_2.2_Build-35_			an use virtual ma		
CXCloudAgent_2.2_Build-35		eviror	ments, as testing	n environr	nents,
CXCloudAgent_2.2_Buil	Power •		Power On	Ctrl+8	
CXCloudAgent_2.2_Buil	Guest •		Power Off	Ctrl+E	an n
CXCloudAgent_2.2_Buil CXCloudAgent_2.2_Buil	Snapshot •		Suspend	Ctrl+Z	diri
CXCloudAgent_2.2_Buil	Open Console		Reset	Ctrl+T	
CXCloudAgent_2.2_Buil	Edit Settings		Shut Down Guest	Ctrl+D	
CXCloudAgent_2.2_Buil CXCloudAgent_2.2_Buil	Upgrade Virtual Hardware		Restart Guest	Ctrl+R	
CXCloudAgent_2.2_Buil	Add Permission Ctrl+P	h the	virtual machin		
CXCloudAgent_2.2_Buil CXCloudAgent_2.2_Buil	Report Performance				
CXCloudAgent_2.2_Buil	Rename	hal m	achine setting:	5	
CXCloudAgent_2.2_Buil CXCloudAgent_2.2_Buil	Open in New Window Ctrl+Alt+N				
CXCloudAgent_2.2_Buil	Remove from Inventory				
CXCloudAgent_2.2_Buil	Delete from Disk				
CXCloudAgent_2.2_Buil DHCP_SERVER_DND		1			

Security

CX Cloud Agent assures the customer of end-to-end security. The connection between CX Cloud and CX Cloud Agent is TLS secured. Cloud Agent's default SSH user is limited to perform only basic operations.

Physical Security

Deploy CX Cloud Agent OVA image in a secured VMware server firm. The OVA is shared securely through Cisco software download center. Bootloader (single user mode) password is set with a randomly unique password. Users must refer to this FAQ to set this bootloader (single-user mode) password.

Account Security

During deployment, the cxcadmin user account is created. Users are forced to set a password during the initial configuration. cxcadmin user/credentials are used to access both the CX Cloud Agent APIs and to connect to the appliance over SSH.

cxcadmin users have restricted access with the least privileges. The cxcadmin password follows the security policy and is one-way hashed with an expiry period of 90 days. cxcadmin users can create a cxcroot user using the utility called remoteaccount. cxcroot users can gain root privileges.

Network Security

The CX Cloud Agent VM can be accessed using SSH with excadmin user credentials. Incoming ports are restricted to 22 (SSH), 514(Syslog).

Authentication

Password based authentication: Appliance maintains a single user (cxcadmin) which enables the user to authenticate and communicate with the CX Cloud Agent.

• Root privileged actions on the appliance using SSH.

cxcadmin users can create cxcroot user using a utility called remoteaccount. This utility displays an RSA/ECB/PKCS1v1_5 encrypted password which can be decrypted only from the SWIM portal (<u>DECRYPT Request Form</u>). Only authorized personnel have access to this portal. cxcroot users can gain root privileges using this decrypted password. Passphrase is valid only for two days. cxcadmin users must recreate the account and obtain the password from the SWIM portal post password expiry.

Hardening

CX Cloud Agent appliance follows Center of Internet Security hardening standards.

Data Security

CX Cloud Agent appliance does not store any customer personal information. Device credential application (running as one of the pods) stores encrypted server credentials inside secured database. The collected data is not stored in any form inside the appliance except temporarily when it is being processed. Telemetry data is uploaded to CX Cloud as soon as possible after the collection is complete and is promptly deleted from local storage after it is confirmed that the upload was successful.

Data Transmission

The registration package contains the required unique $\underline{X.509}$ device certificate and keys to establish secure connection with Iot Core. Using that agent establishes a secure connection using Message Queuing Telemetry Transport (MQTT) over Transport Layer Security (TLS) v1.2

Logs and Monitoring

Logs do not contain any form of Personal Identifiable Information (PII) data. Audit logs capture all securitysensitive actions performed on the CX Cloud Agent appliance.

Cisco Telemetry Commands

CX Cloud retrieves asset telemetry using the APIs and commands listed in the <u>Cisco Telemetry Commands</u>. This document categorizes commands based on their applicability to the Cisco Catalyst Center inventory,

Diagnostic Bridge, Intersight, Compliance Insights, Faults, and all other sources of telemetry collected by the CX Cloud Agent.

Sensitive information within asset telemetry is masked before being transmitted to the cloud. The CX Cloud Agent masks sensitive data for all the collected assets that send telemetry directly to the CX Cloud Agent. This includes passwords, keys, community strings, usernames, and so on. Controllers provide data masking for all controller-managed assets before transferring this information to the CX Cloud Agent. In some instances, controller-managed assets telemetry can be anonymized further. Refer to the corresponding product support documentation to learn more about anonymizing the telemetry (for example, the <u>Anonymize Data</u> section of the Cisco Catalyst Center Administrator Guide).

While the list of telemetry commands cannot be customized and the data masking rules cannot be modified, customers can control which assets' telemetry CX Cloud accesses by specifying data sources as discussed in the <u>product support documentation</u> for controller-managed devices or the Connecting Data Sources section of this document (for Other assets collected by CX Cloud Agent).

Security Summary

Security Features	Description
Bootloader Password	Bootloader (Single user mode) password is set with a randomly unique password. Users must refer to <u>FAQ</u> to set his bootloader (single user mode) password.
User Access	 SSH: Access to appliance using cxcadmin user requires credentials created during installation. Access to appliance using cxcroot user requires credentials to be decrypted using SWIM portal by authorized personnel.
User Accounts	 cxcadmin: default user account created; User can execute CX Cloud Agent application commands using cxcli and has least privileges on the appliance; cxcroot user and its encrypted password is generated using cxcadmin user. cxcroot: cxcadmin can create this user using the utility remoteaccount; User can gain root privileges with this account.
cxcadmin password policy	 Password is one-way hashed using SHA-256 and stored securely. Minimum eight (8) characters, containing three of these categories: uppercase, lowercase, numbers, and special characters.
cxcroot password policy	 cxcroot password is RSA/ECB/PKCS1v1_5 encrypted The passphrase generated needs to be decrypted in SWIM portal. The cxcroot user and password is valid for two days and can be regenerated using cxcadmin user.

policy	 Minimum of eight characters that contains three of these categories: uppercase, lowercase, numbers, and special characters. Five failed log in attempts lock the box for 30 minutes; Password expires in 90 days.
Ports	Open Incoming Ports – 514(Syslog) and 22 (SSH)
Data Security	 No Customer information stored. No Device data stored. Cisco Catalyst Center server credentials encrypted and stored in the database.