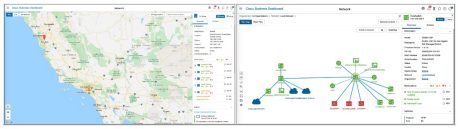
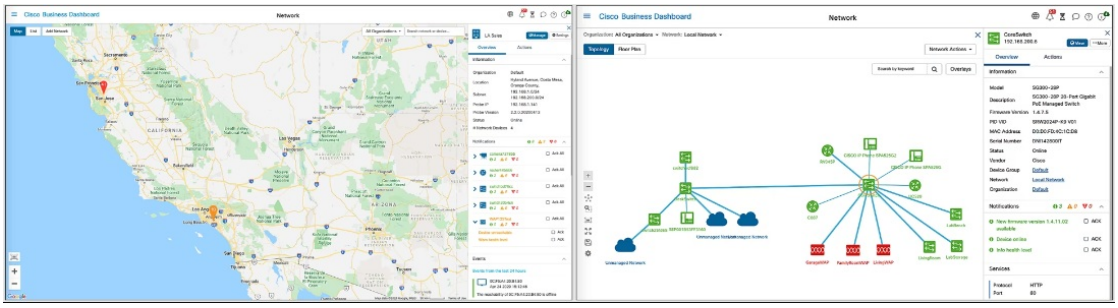


# CISCO Business Dashboard Microsoft Hyper V User Guide



**CISCO Business Dashboard Microsoft Hyper V User Guide**



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## CONTENTS

## Cisco Business Dashboard Overview

**This chapter contains the following sections:**



## About Cisco Business Dashboard

Cisco Business Dashboard provide stools that help you monitor and manage the devices your Cisco Business network. It automatically discovers your network, and allows you to configure and monitor all supported devices such as switches, routers, and wireless access points. It also notifies you about the availability of firmware updates, and about any devices that are no longer under warranty or covered by a support contract.

You can view the application by clicking Request a Demo

Cisco Business Dashboard is a distributed application which is comprised of two separate components or applications as described below:

**The Dashboard**
Cisco Business Dashboard also referred to as the Dashboard, is installed at a convenient location in the network. From the Dashboard user interface, you can get a high-level view of the status of all the sites in your network, or concentrate on a single site or device to see information specific to that site or device.

**The Probe**
Cisco Business Dashboard Probe also referred to as the Probe is installed at each site in the network and associated with the Dashboard. The probe performs network discovery and communicates directly with each managed device on behalf of the Dashboard.

**Note**
Certain network devices support being directly associated with the Dashboard and managed without a probe being present. When network devices are being managed directly in this way, all management functions are available for the device, but the network discovery process may not be as comprehensive as when a probe is present

## Device Management Mode

**Direct Managed**
Certain devices can support direct association with the Dashboard and managed without a probe being present in the network.

In a direct managed network, you will need to connect the first device to the Cisco Business Dashboard manually. Then, this device reports information such as CDP, LLDP, and m DNS (aka Bonjour) to Dashboard. This information is used to identify additional devices in the network, Dashboard then connects these devices to itself automatically hence those devices become manageable, and the process repeats until all devices have been discovered. Depending on the size of your network, this process may take tens of minutes. You may optionally have the dashboard explicitly search the IP address ranges to discover network devices, which can be in other VLANs or subnets.

**Direct managed network is recommended if all your devices support direct management.**

**Probe Managed**
Probe is installed at each site in the network and associated with the Dashboard. The Probe performs network discovery and communicates directly with each managed device on behalf of the Dashboard.

A software Probe is a probe running in a virtual machine or on a Linux host. A software Probe can generally manage up to 50 network devices. Certain devices include the Probe application embedded in the device firmware. An embedded Probe can manage up to 15 network devices.

In one network you should only enable one Probe

**Audience**
This guide is primarily intended for network administrators who are responsible for Cisco Business Dashboard software installation and management. Related Documents The documentation for Cisco Business Dashboard is comprised of a number of separate guides. These include:

## Installation Guides

The following table lists all the installation guides for Dashboard software that can be deployed on different platforms. Refer the path provided in the location column for details:

| Supported Platforms | Location |
|---|---|
| Microsoft Hyper-V | This document. |
| Oracle VirtualBox | Cisco Business Dashboard & Probe Installation Guide for Oracle Virtual Box |
| VMWare vSphere, Workstation and Fusion | Cisco Business Dashboard & Probe Installation Guide for VMWare |
| Amazon Web Services | Cisco Business Dashboard & Probe Installation Guide for Amazon Web Services (AWS) |
| Ubuntu Linux (Dashboard and Probe) and Raspbian Linux(Probe only) | Cisco Business Dashboard & Probe Installation Guide for Linux |

**Quick Start Guide**—This provides details on performing the initial setup for Cisco Business Dashboard using the most commonly selected options. Refer to Cisco Business Dashboard Quick Start Guide.

**Administration Guide—**This is a reference guide that provides details about all the features and options provided by the software and how they may be configured and used. Refer to **https://www.cisco.com/c/en/us/**td/docs/cloud-systems-management/network-automation-and-management/cisco-business-dashboard/qsg/b_CBD_QSG.htmlCisco Business Dashboard Administration Guide.

**Device Support List—**This list provides details of the devices supported by Cisco Business Dashboard and the features available for each device type.For a list of all the devicessupported by Cisco Business Dashboard, refer to Cisco Business Dashboard – Device Support List

## Terminology

| Term | Description |
|---|---|
| Hyper-V | A virtualization platform provided by Microsoft Corporation. |
| Open Virtualization Format (OVF) | A TAR archive containing one or more virtual machines in OVF format. It is a platform-independent method of packaging and distributing Virtual Machines (VMs). |
| Open Virtual Appliance or Application (OVA) file | Package that contains the following files used to describe a virtual machine and saved in a single archive using **.TAR** packaging:• Descriptor file (.OVF)• Manifest (.MF) and certificate files (optional) |
| Raspberry Pi | A very low cost, single board computer developed by the Raspberry Pi Foundation. For more information, see ***https://www.raspberrypi.org/***. |
| Raspberry Pi OS | Formally known as Raspbian, the Raspberry Pi OS is a Debian-based linux distribution optimized for the Raspberry Pi. For more information, see ***https://www.raspberrypi.org/software/***. |
| VirtualBox | A virtualization platform provided by Oracle Corporation. |
| Term | Description |
| Virtual Hard Disk (VHD) | Virtual hard disk is a disk image file format for storing the complete contents of a hard drive. |
| Virtual Machine (VM) | A virtual computing environment in which a guest operating system and associated application software can run. Multiple VMs can operate on the same host system concurrently. |
| • VMWare ESXi• VMWare Fusion• vSphere Server• VMWare Workstation | A virtualization platform provided by VMWare Inc. |
| vSphere Client | User interface that enables users to connect remotely to vCenter Server or ESXi from any Windows PC. You can use the primary interface for vSphere Client to create, manage, and monitor VMs, their resources, and the hosts. It also provides console access to VMs. |
| Hypervisor | Also known as a virtual machine monitor or VMM, is software that creates and runs virtual machines (VMs). A hypervisor allows one host computer to support multiple guest VMs by virtually sharing its resources, such as memory and processing. |
| Amazon Web Services (AWS) | An on-demand cloud computing platform. |
| Micosoft Azure Active Directory | A cloud-based identity and access management service that provides single sign-on and multi-factor authentication to help protect users from 99.9 percent of cybersecurity attacks. |

## System Requirements for Cisco Business Dashboard

Cisco Business Dashboard is distributed as a zipped virtual machine image suitable for use with Microsoft Hyper-V version 10.0 or above. The following table lists the compute resources required for Cisco Business Dashboard based on the number of devices under management.

**Table 1: Cisco Business Dashboard Compute Resource Requirements**

| #Device Supported | # vCPU | RAM | Disk Space |
|---|---|---|---|
| Up to 300 | 2 | 4GB | 60GB |
| Up to 300 and integrated with external applica tions | 4 | 8GB | 60GB |
| Up to 3000 | 16 | 32GB | 60GB |

Cisco Business Dashboard is administered through a web user interface. To use this interface, your browser must be one of the following:

- Apple Safari (macOS only)—2 most recent major versions
- Google Chrome—Latest version
- Microsoft Edge—2 most recent major versions
- Mozilla Firefox—Latest version

**Note**
When using Safari, check that the certificate from Cisco Business Dashboard Probe is set to Always Trust. Otherwise, certain functions that depend on the use of secure we sockets are expected to fail. Thesis a limitation of the Safari web browser.
Your network must allow all instances of Cisco Business Dashboard Probe and directly managed network devices to establish TCP connectivity with Cisco Business Dashboard. For more details on the ports and protocols used, see Frequently Asked Questions in the Cisco Business Dashboard Quick Start Guide.

### System Requirements for Cisco Business Dashboard Probe

Cisco Business Dashboard Probe is distributed as a virtual machine image suitable for use with Microsoft Hyper-V version 10.0 or above. The compute resources required for Cisco Business Dashboard Probe are:

- **CPU:** 1x 64-bit Intel architecture
- **Memory:** 1GB
- **Disk space:** 10GB

Cisco Business Dashboard Probe is administered through a web user interface. To use this interface, your browser must be one of the following:

- Apple Safari (macOS only)—2 most recent major versions
- Google Chrome—Latest version
- Microsoft Edge—2 most recent major versions
- Mozilla Firefox—Latest version

Cisco Business Dashboard Probe monitors and accesses the network devices that meet the following requirements:

- Must be in the same subnet as the PC that is running the Probe, or be directly attached to a managed device and reachable via TCP/IP.
- Must be a Cisco Business or Cisco Small Business 100 to 500 series device.

## Installing Cisco Business Dashboard

**This chapter contains the following sections:**



## Obtaining and Verifying Cisco Business Dashboard Software

Cisco Business Dashboard is distributed as a zipped Microsoft Hyper-V virtual machine. The virtual machine image also contains the Cisco Business Dashboard Probe application, allowing a single VM to act as both Dashboard and Probe for a particular site. To obtain the virtual machine image, navigate to **https://www.cisco.com/go/cbd-sw**.

The virtual machine image has been cryptographically signed by Cisco to ensure that the software has not been tampered with. The Hyper-V virtual machine image format does not provide a mechanism for crytographically signing virtual machines. In order to sign the image, a signature has been generated for the image zip file and is recorded in a file separate to the virtual machine image. The signature file, the virtual machine image, and a number of supporting files have been packaged in to a single zip file. It is this zip file that is downloaded from the CiscoSoftware Center. The contents of this zip file are described in the following table:

| **Filename** | **Description** |
|---|---|
| CISCO_BUSINESS_DASHBOARD_KEY-CCO_RELEASE.cer | The code signing certificate used to sign the virtual machine image |
| Cisco_Business_Dashboard-2.2.0.xxxxxxx.zip | The virtual machine image |
| Cisco_Business_Dashboard-2.2.0.xxxxxxx.zip.signature | A file containing the cryptographic signature for the virtual machine image |
| README.txt | The README file describes the contents of the zip file and how to validate the signature |
| scripts/cisco_x509_verify_release.py | A python script to verify the signature |
| Filename | Description |
| verify.bat | A script to verify the signature in a format suitable for use on Microsoft Windows |
| verify.sh | A script to verify the signature in a format suitable for use on Unix-like operating systems |

**To verify the virtual machine image signature, do the following:**

1. Ensure you have the OpenSSL package and the Python programming language installed on the PC where you will verify the signature.
2. Unzip the file you downloaded from the software center into a convenient location on the PC
3. Validate the signature by running either the verify.bat file or the verify.sh file, depending on the PC operating system. The script will download the Cisco root certificate and intermediate certificate  fromcisco.com, verify that the code signing certificate has not been tampered with, and then validate the signature of the virtual

machine image. The success or failure of the process will be reported in the script output.

### Installing Cisco Business Dashboard with Hyper-V

Once you have obtained and verified the Cisco Business Dashboard software, you may install it using the following steps:

1. Ensure you have a working Microsoft Hyper-V environment available to host the virtual machine. For assistance in setting up your environment, refer the Microsoft Hyper-V documentation. The following links provide a useful starting point:
   - For Windows 10—**https://docs.microsoft.com/en-us/virtualization/#pivot=main&panel=windows**
   - For Windows Server—**https://docs.microsoft.com/en-us/virtualization/#pivot=main&panel=server**
2. Unzip the signed archive file to a convenient location on your PC. Optionally, use the verify.* scripts to validate the cryptographic signature as described above.
3. Unzip the virtual machine image archive to a convenient directory on your PC. Open Hyper-V Manager and select Action > Import Virtual Machine …
4. Follow the prompts and make sure you have selected the directory created when you extracted the archive in step 2. Consider whether you want the VM files to be copied, moved, or left in place when you select the import type.
5. Check that the network adapter is connected to a virtual switch that is mapped to the correct external network on the host machine.
6. Start the virtual machine.

The virtual machine will boot and automatically start the Cisco Business Dashboard application. Refer to the Cisco Business Dashboard and Probe Quick Start Guide for details of how to access the application and perform initial setup

### Installing Cisco Business Dashboard Probe

An instance of Cisco Business Dashboard Probe is required for each site in your network that you want tomanage. The Probe discovers the network, collects performance and configuration data from the discovered devices, and reports that information back to the Dashboard.

**This chapter contains the following sections:**



### Obtaining and Verifying Cisco Business Dashboard Probe Software

Cisco Business Dashboard Probe is distributed as a zipped Microsoft Hyper-V virtual machine. The Probe is also included as part of the Cisco Business Dashboard virtual machine image, allowing a single VM to act as both Dashboard and Probe for a particular site. To obtain the virtual machine image, navigate to **https://www.cisco.com/go/cbd-sw**.

The virtual machine image has been cryptographically signed by Cisco to ensure that the software has not been tampered with. The Hyper-V virtual machine image format does not provide a mechanism for cryptographically signing virtual machines. In order to sign the image, a signature has been generated for the image zip file and is

recorded in a file separate to the virtual machine image. The signature file, the virtual machine image, and a number of supporting files have been packaged in to a single zip file. It is this zip file that is downloaded from the CiscoSoftware Center. The contents of this zip file are described in the following table:

| **Filename** | **Description** |
|---|---|
| CISCO_BUSINESS_DASHBOARD_KEY-CCO_RELEASE.cer | The code signing certificate used to sign the virtual machine image |
| Cisco_Business_Dashboard_Probe-2.2.0.xxxxxxxx.zip | The virtual machine image |
| Cisco_Business_Dashboard_Probe-2.2.0.xxxxxxxx.zip.signature | A file containing the cryptographicsignature for the virtual machine image |
| Filename | Description |
| README.txt | The README file describes the contents of the zip file and how to validate the signature |
| scripts/cisco_x509_verify_release.py | A python script to verify the signature |
| verify.bat | A script to verify the signature in a format suitable for use on Microsoft Windows |
| verify.sh | A script to verify the signature in a format suitable for use on Unix-like operating systems |

**To verify the virtual machine image signature, do the following:**

1. Ensure you have the OpenSSL package and the Python programming language installed on the PC where you will verify the signature.
2. Unzip the file you downloaded from the software center into a convenient location on the PC
3. Validate the signature by running either the verify.bat file or the verify.sh file, depending on the PC operating system. The script will download the Cisco root certificate and intermediate certificate from cisco.com, verify that the code signing certificate has not been tampered with, and then validate the signature of the virtual machine image. The success or failure of the process will be reported in the script output.

### Installing Cisco Business Dashboard Probe with Hyper-V

Once you have obtained and verified the Cisco Business Dashboard Probe software, you may install it using the following steps:

1. Ensure you have a working Microsoft Hyper-V environment available to host the virtual machine. For assistance in setting up your environment, refer the Microsoft Hyper-V documentation. The following links provide a useful starting point:
   - For Windows 10—**https://docs.microsoft.com/en-us/virtualization/#pivot=main&panel=windows**
   - For Windows Server—**https://docs.microsoft.com/en-us/virtualization/#pivot=main&panel=server**
2. Unzip the signed archive file to a convenient location on your PC. Optionally, use the verify.* scripts to validate the cryptographic signature as described above.
3. Unzip the virtual machine image archive to a convenient location on your PC.
4. Open Hyper-V Manager and select Action > Import Virtual Machine …

5. Follow the prompts and make sure you have selected the directory created when you extracted the archive in step 2. Consider whether you want the VM files to be copied, moved, or left in place when you select the import type.
6. Check that the network adapter is connected to a virtual switch that is mapped to the correct external network on the host machine. The network interface of the Cisco Business Dashboard Probe should be connected to a VLAN containing the management interfaces for at least one of the network devices. If the Probe is not directly connected to at least one network device, it may be unable to fully discover the network.
7. Start the virtual machine.
   The virtual machine will boot and automatically start the Probe application. Refer to the Cisco Business Dashboard Quick Start Guide for details on how to access the application and perform the initial setup.

## Documents / Resources

| | |
|---|---|
|  | CISCO Business Dashboard Microsoft Hyper V [pdf] User Guide<br>Business Dashboard Microsoft Hyper V, Dashboard Microsoft Hyper V, Microsoft Hyper V, Hyper V |

## References

- User Manual