

VMware AirWatch Content Gateway Guide for Linux

For Linux

AirWatch v9.3

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Chapter 1:

Overview

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Introduction to the AirWatch Content Gateway

The AirWatch Content Gateway provides a secure and effective method for end users to access internal repositories. Using the AirWatch Content Gateway with VMware Content Locker provides levels of access to your corporate content. Your end users can remotely access their documentation, financial documents, board books, and more directly from content repositories or internal fileshares. As files are added or updated within your existing content repository, the changes immediately display in VMware Content Locker. Users are granted access to their approved files and folders based on the existing access control lists defined in your internal repository.

Install the latest Content Gateway version to ensure compatibility with the latest AirWatch Console versions. To prevent security vulnerabilities, from AirWatch Console release 9.2, AirWatch Content Gateway on Linux Servers supports only SMBv2.0, and SMBv3.0. The default version is SMBv2.0.

Chapter 2:

Content Gateway Architecture and Security

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Overview of Architecture and Security

You can deploy AirWatch Content Gateway on a physical or virtual appliance using a standalone installer or as a service on the Unified Access Gateway appliance. Deploying the Content Gateway as a service on the Unified Access Gateway eliminates manual configuration and maintenance of Content Gateway using security updates. The Unified Access Gateway appliance platform goes through multiple security audits and patches are provided for security vulnerabilities.

AirWatch Content Gateway offers basic and relay-endpoint architecture models for deployment. Both configurations support load-balancing for high-availability and SSL offloading. Configure your AirWatch Content Gateway deployment in a way that best addresses your security needs and existing setup.

Consider using a load balancer in the DMZ to forward traffic on the configured ports to an AirWatch component. Also, consider using dedicated servers to eliminate the risk of other web applications or services causing performance issues.

Content Gateway with Load Balancing

AirWatch supports integration with a load balancer for improved performance and faster availability. However, successful integration requires some additional client-side configurations.

- Configure the proper network changes for the Content Gateway to access various internal resources over the necessary ports.
- Configure load balancers to persist a connection from a client to the same load balanced node with an algorithm of your selecting. AirWatch supports simple algorithms such as Round Robins and more sophisticated ones such as Least Connections.
- Configure load balancers to **Send Original HTTP Headers** to avoid device connectivity problems. Content Gateway uses information in the request's HTTP header to authenticate devices.

Content Gateway Deployment Models

The AirWatch Content Gateway supports deploying a basic endpoint model or a relay-endpoint model. Use the deployment model that best fits your needs.

Both SaaS and on-premises AirWatch environments support the basic and relay-endpoint deployment models. The AirWatch Content Gateway must have a publicly accessible endpoint for devices to connect to when making a request. Basic deployment models have a single instance of AirWatch Content Gateway configured with a public DNS. Alternatively, for the relay-endpoint deployment model, the public DNS is mapped to the relay server in the DMZ. This server communicates with your API servers. For SaaS deployments, AirWatch hosts the API components in the cloud. For an on-premises environment, the API component is typically installed in the DMZ.

Basic (Endpoint Only) Deployment Model for Content Gateway

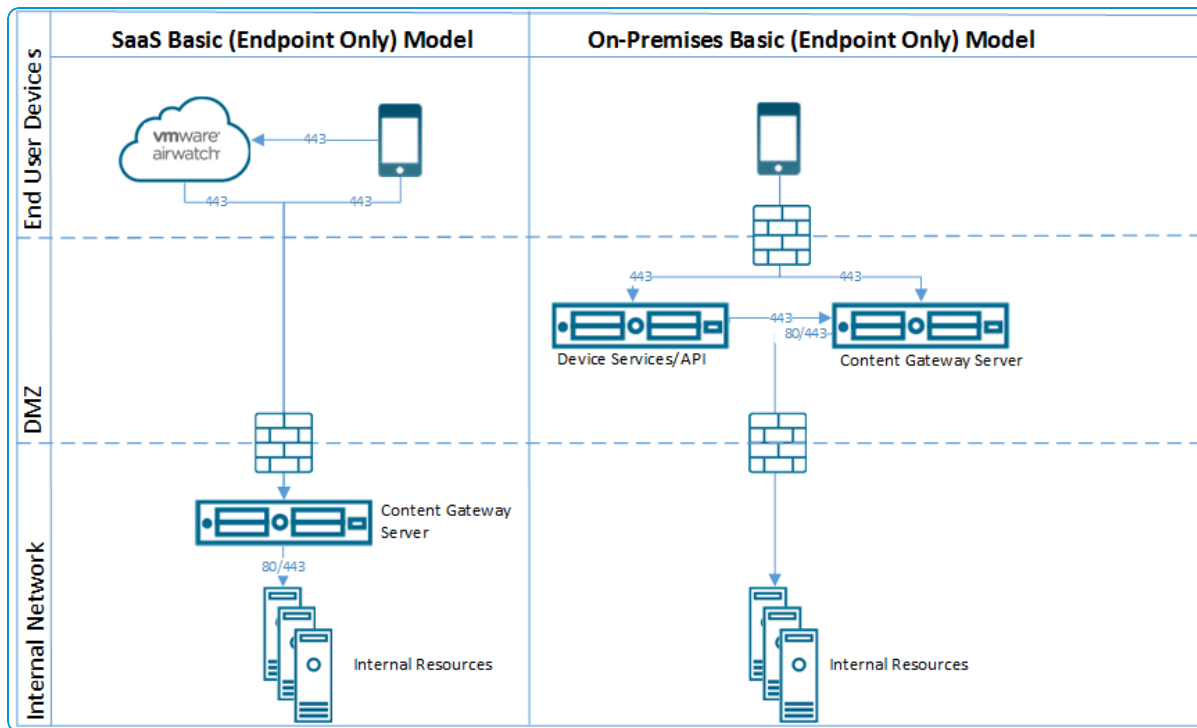
The basic endpoint deployment model of AirWatch Content Gateway is a single instance of the product installed on a server with a publicly available DNS.

In the Basic deployment model, AirWatch Content Gateway is typically installed in the internal network behind a load balancer in the DMZ that forwards traffic on the configured ports to the AirWatch Content Gateway. AirWatch Content

Gateway then connects directly to your internal content repositories. All deployment configurations support load balancing and reverse proxy.

The basic endpoint Content Gateway server communicates with API and Devices Services. Device Services connects the end-user device to the correct Content Gateway.

If the basic endpoint is installed in the DMZ, the proper network changes must be made for the AirWatch Content Gateway to access various internal resources over the necessary ports. Installing this component behind a load balancer in the DMZ minimizes the number of network changes to implement the AirWatch Content Gateway. It provides a layer of security because the public DNS is not pointed directly to the server that hosts the AirWatch Content Gateway.



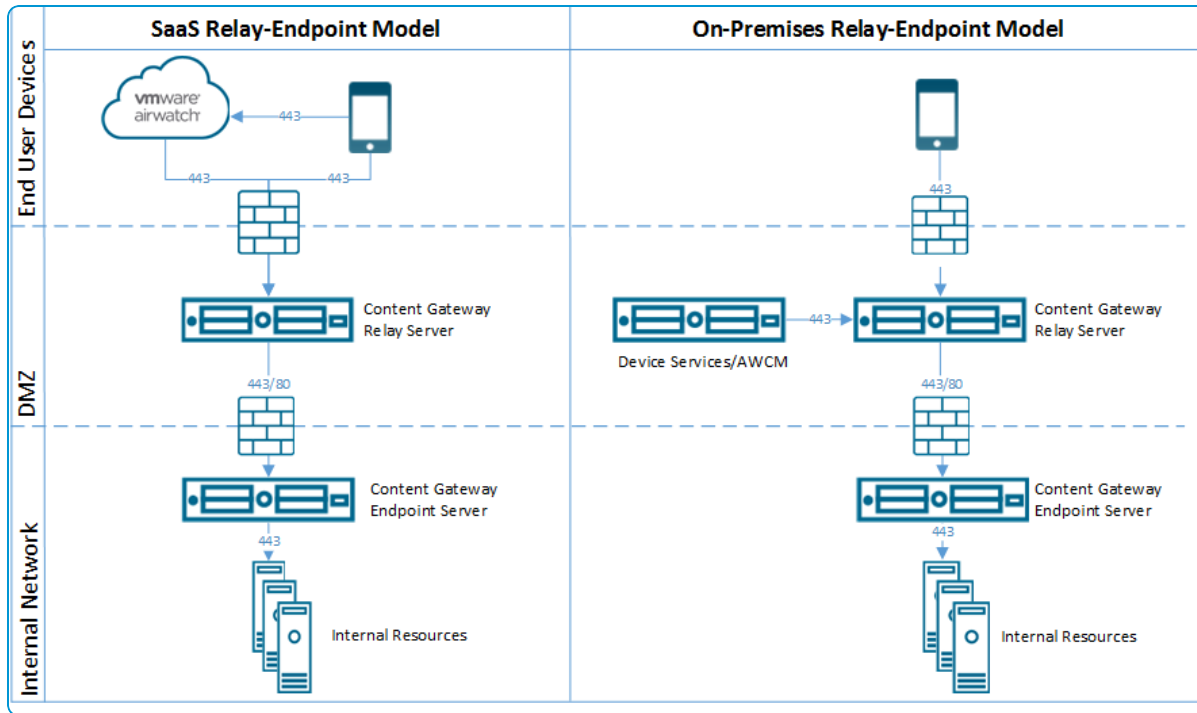
Relay-Endpoint Deployment Model for Content Gateway

The relay-endpoint deployment model architecture includes two instances of the AirWatch Content Gateway with separate roles. The AirWatch Content Gateway relay server resides in the DMZ and can be accessed from public DNS over the configured ports.

By default, 443 is the port for accessing the Content Gateway. The AirWatch Content Gateway endpoint server is installed in the internal network hosting internal resources. This server must have an internal DNS record that the relay server can resolve. This deployment model separates the publicly available server from the server that connects directly to internal resources, providing an added layer of security.

The role of the endpoint server is to connect to the internal repository or content requested by the device. The relay server performs health checks at a regular interval to ensure that the endpoint is active and available.

These components can be installed on shared or dedicated servers. To ensure that other applications running on the same server does not impact the performance, install AirWatch Content Gateway on dedicated servers.



Chapter 3:

Content Gateway Installation Preparation

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Preparation for Content Gateway Installation

Prepare for the Content Gateway installation to ensure that the procedure runs as smoothly as possible. Effective preparation includes evaluating the appropriateness of the Content Gateway solution for your organization, determining your deployment model, and meeting the hardware, software, and network requirements.

Support for Corporate File Servers

AirWatch supports integration with various corporate file servers. The syncing method support and requirement of the Content Gateway component vary by repository type.

Available Sync Methods

Review the available syncing methods for repositories:

- **Admin** – Refers to a repository that gets fully configured and synced by an administrator in the AirWatch Console.
- **Automatic** – Refers to a repository that gets configured by an administrator in the AirWatch Console, but gets synced by end users on their devices.
- **Manual** – Refers to a repository that gets configured in the AirWatch Console, but relies on the end user to add the link manually and sync the repository on their device.

Available Repositories by Platform

Use the following table to determine the type of repositories supported by device platform:

Available Repositories by Platform			
Repository Type	Automatic /Manual*		
	iOS	Android	SSP
CMIS	–	–	✓
Network File Share	✓	✓	✓
SharePoint 2007	✓	✓	✓
SharePoint 2010	✓	✓	✓
SharePoint 2013	✓	✓	✓
SharePoint Office 365	✓	–	✓
SharePoint Windows Authentication	–	–	✓
SharePoint Office 365 ADFS	–	–	✓
SharePoint ADFS	–	–	✓
WebDav	✓	✓	✓
SharePoint WebDav	✓	–	✓

Available Repositories by Platform

Legend:

* = Templates are not distinguished at the device level.

✓ = Supported

– = Not Supported

Corporate File Server Matrix

Use the matrix to determine the supported syncing methods and Content Gateway requirements by repository type:

	Admin	Automatic	Manual
Access through Content Gateway			
Box	–	–	–
CMIS	✓ +	✓ +	✓ +
Google Drive	–	–	–
Network Share	✓ +	✓ +	✓ +
OneDrive	–	–	–
OneDrive for Business	✓	–	–
OneDrive for Business ADFS	✓	–	–
SharePoint	✓	✓	✓
SharePoint ADFS	✓	✓	✓
SharePoint O365	✓	✓	✓
SharePoint O365 ADFS	✓	✓	–
SharePoint - Personal (My Sites)	✓	–	–
SharePoint WebDAV	✓	–	–
SharePoint Windows Auth	✓	✓	✓
WebDAV	✓	✓	✓
Document Extensions			
Box	✓	✓	✓
CMIS	✓	✓	✓
Google Drive	✓	–	–
Network Share	✓ *	✓ *	✓ *
OneDrive	✓	–	–
OneDrive for Business	✓	–	–
OneDrive for Business ADFS	✓	–	–
OneDrive for Business OAuth	✓	–	–

	Admin	Automatic	Manual
SharePoint	✓ **	✓ **	✓ **
SharePoint ADFS	✓ **	✓ **	✓ **
SharePoint O365	✓ **	✓ **	✓ **
SharePoint O365 ADFS	✓ **	✓ **	✓ **
SharePoint O365 OAuth	✓	✓	✓
SharePoint - Personal (My Sites)	✓ **	—	—
SharePoint WebDAV	✓ **	—	—
SharePoint Windows Auth	✓ **	✓ **	✓ **
WebDAV	✓ *	✓ *	✓ *
Legend: ¥ =The VMware Content Gateway on Linux servers supports only SMB v2.0 and SMB v3.0. The default supported version is SMB v2.0. ✓ + = Requires Content Gateway ✓ = Supported — = Not Supported ✓ * = Supported, with limitations. Access limited to files from repositories previously opened in the Content Locker. ✓ ** = Supported, with limitations. Access limited to files previously downloaded in the Content Locker.			

Disable SMBv1 Protocol

AirWatch Content Gateway does not support the SMBv1 protocol because of security vulnerabilities. For using Network Share with maximum security, disable SMBv1 and enable the SMBv2 protocol.

Procedure:

1. Navigate to your Network Share server.
2. Start **PowerShell** with administrator privileges.
3. Run **Get-SmbServerConfiguration | Select EnableSMB1Protocol, EnableSMB2Protocol** to verify the status of the SMB protocols in use.
4. If you have the SMBv1 protocol enabled, disable it by running the following command:
 - a. Run **Set-SmbServerConfiguration -EnableSMB1Protocol \$false**.
 - b. Select **Y** to confirm.
5. If you have the SMBv2 protocol disabled, enable it by running the following command:
 - a. Run **Set-SmbServerConfiguration -EnableSMB2Protocol \$true**.
 - b. Select **Y** to confirm.

Content Gateway Requirements for Linux

To ensure a successful Content Gateway installation, meet the minimum requirements.

Administrators upgrading from the legacy MAG or VMware Tunnel product should first review the considerations outlined in Migration Overview.

Note: Uninterrupted internet connection is mandatory for a successful Content Gateway Installation.

Hardware Requirements

Use the following requirements as a basis for creating your AirWatch Content Gateway server.

Requirement	CPU Cores	RAM (GB)	Disk Space	Notes
VM or Physical Server (64-bit)	2 CPU Core (2.0+ GHz)* *An Intel processor is required.	2 GB+	5 GB	The requirements listed here support basic data query. You may require additional server space if your use case involves the transmission of large encrypted files from a content repository.
Sizing Recommendations				
Number of Devices	Up to 5,000	5,000 to 10,000	10,000 to 40,000	40,000 to 100,000
CPU Cores	1 server with 2 CPU Cores*	2 load-balanced servers with 2 CPU Cores each	2 load-balanced servers with 4 CPU Cores each	4 load-balanced servers with 4 CPU Cores each
RAM (GB)	4	4 each	8 each	16 each
Hard Disk Space (GB)	400 MB for installer ~10 GB for log file space**			

*It is possible to deploy only a single AirWatch Content Gateway server as part of a smaller deployment. However, consider deploying at least 2 load-balanced servers with 2 CPU Cores each regardless of number of devices for uptime and performance purposes. CPU Cores should each be 2.0 GHz or higher. An Intel processor is required.

**About 10 GB is for a typical deployment. Log file size should be scaled based on your log usage and requirements for storing logs.

General Requirements

To ensure a successful installation, ensure your AirWatch Content Gateway is set up with the following general requirements.

Requirements	Notes
Internally registered DNS record	Register the Endpoint server.

Requirements	Notes
Externally registered DNS record	Identify the appropriate configuration model to determine which server to register: <ul style="list-style-type: none"> • Endpoint-Only Configuration Model – Register the endpoint server. • Relay-Endpoint Configuration Model – Register the relay server.
SSL Certificate from a trusted third party with a subject name of the server hostname	Requires a PKCS12 (.pfx) format and the trust of all device types in use. <ul style="list-style-type: none"> • Android does not natively trust all Comodo certificates. • PKCS12 (.pfx) format includes the server certificate, private key, root chain, and password protection.

Linux Software Requirements

Ensure your AirWatch Content Gateway server meets all the following software requirements.

Requirement	Notes
SSH access to Linux Servers and an admin account with full write permissions.	Root permissions, or sudo access with the same privileges as root required. Once installation completes, you can put restrictions into place for these account types.
yum Enabled	Enable to allow the installer to request and install any missing prerequisites.
CentOS 7.1/7.2/7.3/7.4 RHEL 7.1/7.2/7.3/7.4 (Non-licensed servers are not supported for Content Gateway installation) SLES 12 (SP1/SP2/SP3)	UI-less recommended. Basic infrastructure type recommended.

For configuring the ports listed below, all traffic is uni-directional (outbound) from the source component to the destination component.

Source Component	Destination Component	Protocol	Port	Note
Content Gateway – Basic-Endpoint Configuration				
Devices (from Internet and Wi-Fi)	Content Gateway Endpoint	HTTPS	443*	1
AirWatch Device Services	Content Gateway Endpoint	HTTPS	443*	5
AirWatch Console	Content Gateway Endpoint	HTTPS	443*	6

Source Component	Destination Component	Protocol	Port	Note
Content Gateway Endpoint	Web-based content repositories (SharePoint / WebDAV / CMIS, and so on)	HTTP or HTTPS	80 or 443	2
Content Gateway Endpoint	Network Share-based repositories (Windows file shares)	CIFS or SMB	137–139 and 445	7
Content Gateway – Relay-Endpoint Configuration				
Devices (from Internet and Wi-Fi)	Content Gateway Relay	HTTPS	443*	1
AirWatch Device Services	Content Gateway Relay	HTTPS	443*	5
AirWatch Console	Content Gateway Relay	HTTPS	443*	6
Content Gateway Endpoint	Web-based content repositories (SharePoint / WebDAV / CMIS, and so on.)	HTTP or HTTPS	80 or 443	2
Content Gateway Relay	Content Gateway Endpoint	HTTPS	443*	4
Content Gateway Endpoint	Network Share-based repositories (Windows file shares)	CIFS or SMB	137–139 and 445	7
* If needed, this port can be changed based on your environment's restrictions.				

- For devices attempting to access internal resources.
- For devices with the VMware Content Locker to access the internal content from websites, such as SharePoint.
- For applications communicating with internal systems.
If a firewall resides between the Content Gateway Endpoint and an internal system you are trying to reach, then you have to open the corresponding port depending on the traffic.
- For Content Gateway Relay topologies to forward device requests to the internal Content Gateway endpoint only.
- For the Device Services server to enumerate the repositories through the content relay and convert them into a format the devices can use.
- For the Console server to enumerate the repositories through the content relay for viewing in the AirWatch Console.
- For devices with the VMware Content Locker to access the internal content from Network Shares.
- For various services to function properly.

Chapter 4:

Content Gateway Configuration

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Configure a Content Gateway Node

Configure Content Gateway settings in the AirWatch Console to establish a node and pre-configure the settings that get bundled into the configuration file, eliminating the need to configure the settings manually post-installation on the server. Configuration includes selecting the platform, configuration model, associated ports, and if necessary, uploading an SSL certificate.

Procedure:

1. Navigate to **Groups & Settings > All Settings > Content > Content Gateway** in the Organization Group of your choice.
2. Set **Enable the Content Gateway** to **Enabled**.
You might need to select **Override** to unlock Content Gateway settings.
3. Click **Add**.
4. Complete the fields that appear to configure a Content Gateway instance.

Setting	Description
Platform	Select the Operating System for the Content Gateway server.
CONTENT CONFIGURATION	
Choose Configuration Type	Select one of the following configuration types: <ul style="list-style-type: none"> • Basic – Endpoint configuration with no relay component. • Relay – Endpoint configuration with a relay component.
Name	Provide a unique name used to select this Content Gateway instance when attaching it to a Content Repository, Repository Template, or RFS Node.
Content Gateway Relay Address	If implementing a relay configuration, enter the URL used to access the Content Gateway Relay from the Internet.
Content Gateway Relay Port	If implementing a relay configuration, enter the relay server port.
Content Gateway Endpoint Address	Enter the host name of the Content Gateway endpoint. The Public SSL certificate bound on the configured port must be valid for this entry.
Content Gateway Endpoint Port	Enter the endpoint server port.
Server SSL Port	Enter the SSL port number.

Setting	Description									
CONTENT SSL CERTIFICATE										
Public SSL Certificate (required for Linux requirements)	<p>If necessary, upload a PKCS12 (.pfx) certificate file with a full chain for the Content Gateway Installer to bind to the port. The full chain includes a password, server certificate, intermediates, root certificate, and a private key.</p> <p>Requirements vary by platform and SSL configuration.</p> <table><tr><th>Console Action</th><th>SSL Offloading</th><th>Server Action</th></tr><tr><td>Upload</td><td>No</td><td>Opt out of SSL Offloading when prompted during installation.</td></tr><tr><td>Upload Optional</td><td>Yes</td><td>Select SSL Offloading when prompted during installation.</td></tr></table>	Console Action	SSL Offloading	Server Action	Upload	No	Opt out of SSL Offloading when prompted during installation.	Upload Optional	Yes	Select SSL Offloading when prompted during installation.
Console Action	SSL Offloading	Server Action								
Upload	No	Opt out of SSL Offloading when prompted during installation.								
Upload Optional	Yes	Select SSL Offloading when prompted during installation.								
Ignore SSL Errors (not recommended)	If using a self-signed certificate, consider enabling this feature. If enabled, Content Gateway ignores certificate trust errors and certificate name mismatches.									
SSL Offloading	Enable or disable SSL Offloading.									



For more information about configuring ICAP Proxy, see <https://support.air-watch.com/articles/115001675368>.

5. Select **Save**.

Next Steps

During configuration, you specify the platform and configuration model for Content Gateway. After configuring settings in the AirWatch Console, download the installer, configure additional nodes, or manage configured nodes.

Content Gateway Compatibility Matrix

The following table provides information about the compatibility of Content Gateway with the current and previous versions of the AirWatch Console and Remote File Storage (RFS).

Content Gateway for Linux

Console Version	Content Gateway Version	RFS Version
9.3	2.3.1	2.7
9.2.3	2.3.1	2.7

Download the Content Gateway Installer

After you configure the Content Gateway node on the AirWatch Console, install the Content Gateway using the AirWatch Content Gateway installer. The AirWatch Content Gateway installer is available for download on the AirWatch Resource

Portal.

Procedure:

1. From AirWatch Console, navigate to **Groups & Settings > All Settings > Content > Content Gateway** in an Organization Group with at least one configured and saved Content Gateway node.
2. To retrieve the existing Content Gateway instance configuration as XML file, select the configuration using the radio button and then select **Download Configuration** from AirWatch Console.
3. Enter and confirm a **password** for the certificate. The password must contain a minimum of six characters. You can also use Content Gateway GUID to retrieve configurations using APIs.
4. From the More Actions menu, select **Download Installer** to configure Content Gateway using Content Gateway installer. You are redirected to the AirWatch Resource Portal page to download the Content Gateway installer files.
5. Select **Download**.

Download Unified Access Gateway Appliance

Unified Access Gateway (UAG) is an appliance using which you can deploy the Content Gateway as a service. To install the Content Gateway as a service, you must download the Unified Access Gateway virtual appliance file available on the AirWatch Resource Portal.

Procedure:

1. From AirWatch Console, navigate to **Groups & Settings > All Settings > Content > Content Gateway** in an Organization Group with at least one configured and saved Content Gateway node.
2. From the More Actions menu, select **Download Virtual Appliance** to configure Content Gateway as a service on Unified Access Gateway. You are redirected to the Resource Portal page to download the Unified Access Gateway Virtual Appliance File.
3. Select **Download**.

Deployment Methods

You can deploy Content Gateway using the following deployment methods:

- Content Gateway as a service on Unified Access Gateway
- Content Gateway installer

Note: Unified Access Gateway is supported on VMware ESXi and Microsoft Hyper-V Hypervisors.

To start the Content Gateway's services, run the downloaded installer. Use the platform and configuration model to determine which server type to install.

- If using the relay-endpoint configuration model for Linux Content Gateway, install the relay server.
- If using the endpoint-only configuration model for Linux Content Gateway, install the endpoint server.

Considerations for Content Gateway Configuration

- When setting up repository access using the Content Gateway, repository content only syncs up to two folder levels. Other subfolders sync as the AirWatch Console or devices request them. On the Console, the sync occurs when performing a manual sync action inside a subfolder. On the device, the sync occurs when an end user navigates to a subfolder.

Content Gateway Robustness

Geographical separations in content infrastructure can lead to latencies that impact performance. Global organizations might encounter issues when syncing content from Corporate File Servers dispersed across the globe through a single Content Gateway connector.

To address the performance issues caused by geographical separations between AirWatch Content Gateway and the local Corporate File Servers, configure multiple Content Gateway instances at the same Organization Group. It also splits the load for large deployments.

Evaluate your organization's need for multiple Content Gateway nodes. Global organizations with concerns about latencies caused by geographical separations benefit the most from this configuration option.

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Content Gateway Installation

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Install a Content Gateway Relay Server on Linux

When deploying the Content Gateway using the relay-endpoint model, you must install two instances of the Content Gateway on separate servers. One of the servers on which one instance must be installed is the relay server. Install the latest Content Gateway version to ensure compatibility with the latest AirWatch Console versions.

Note: Uninterrupted internet connection is mandatory for a successful Content Gateway Installation. For more information about troubleshooting installation errors, see [Content Gateway Troubleshooting on page 30](#).

Procedure:

1. Create a dedicated install directory for the Content Gateway installer on the server (For example, /tmp/ContentInstall/).
2. Copy the .bin file to the dedicated install directory using a file transfer software.
Examples of file transfer software include FileZilla or WinSCP.
3. On the Linux box, navigate to the folder you copied the file to.
4. Locate the **ContentGateway.bin** file, and make it an executable file:

```
sudo chmod +x ContentGateway.bin
```

5. Begin installation:

```
$ sudo ./ContentGateway.bin
```

6. Press **Enter** until you receive a prompt to accept the licensing agreement. Press **Y** to accept.
7. Select the Installation Type.
 - a. If you want to retrieve the Gateway instance configuration from an API server, select **Provide API Server Information**.
 - b. If you have downloaded the Gateway instance configuration as XML file from AirWatch Console, select **Import Config.xml file**.
8. If you select Provide API Server Information:
 - a. Enter API URL and press **Y** to accept.
 - b. Enter ContentGateway GUID and press **Y** to accept.
 - c. Enter and confirm the password for Content Gateway.
9. If you select Import Config.xml file:
 - a. Enter the config.xml file path and press **Enter**.
 - b. Review the Product Name and Program Features and press **Enter**.

- c. Enter Content Gateway Certificate Password.
10. Enter **Relay** as the configuration type for Content Gateway Setup.
11. Verify the firewall ports match your server. Enter **Y** to grant the installer firewall permissions needed.
12. Review the summary information and verify its accuracy.
13. Press **Enter** to begin the installation.
Any errors during installation are displayed as error messages with details. The errors are recorded in the installation log file, which saves in the same directory in which you installed the Content Gateway. For information about troubleshooting the errors, see [Content Gateway Troubleshooting on page 30](#).
14. Close the installer and verify connectivity to AirWatch. For information about testing the Content Gateway's connectivity, see [Verify Content Gateway Connectivity on page 25](#).

Install a Content Gateway Endpoint Server on Linux

When deploying the Content Gateway using the relay-endpoint model, you must install two instances of the Content Gateway on separate servers. Out of the two instances where one instance is installed on the relay server, the other instance must be installed on the endpoint server. Install the latest Content Gateway version to ensure compatibility with the latest AirWatch Console versions.

Note: Uninterrupted internet connection is mandatory for a successful Content Gateway Installation. For more information about troubleshooting installation errors, see [Content Gateway Troubleshooting on page 30](#).

Procedure:

1. Create a dedicated install directory for the Content Gateway installer on the server (For example, /tmp/ContentInstall/).
2. Copy the .tar file to the dedicated install directory using a file transfer software.
Examples of file transfer software include FileZilla or WinSCP.
3. On the Linux box, navigate to the folder you copied the file to.
4. Locate **ContentGateway.bin**, and make it an executable file:

```
Sudo chmod +x ContentGateway.bin
```

5. Begin installation:

```
$ sudo ./ContentGateway.bin
```

6. Press **Enter** until you receive a prompt to accept the licensing agreement. Press **Y** to accept.
7. Select the Installation Type:

- a. If you want to retrieve the Gateway instance configuration from an API server, select **Provide API Server Information**.
 - b. If you have downloaded the Gateway instance configuration as XML file from AirWatch Console, select **Import Config.xml file**.
8. Verify your feature selection. Press **Enter** to continue.
 9. If you select Provide API Server Information:
 - a. Enter API URL and press **Y** to accept.
 - b. Enter ContentGateway GUID and press **Y** to accept.
 - c. Enter and confirm the Content Gateway password.
 10. If you select Import Config.xml file:
 - a. Enter the config.xml file path and press **Enter**.
 - b. Review the Product Name and Program Features and press **Enter**.
 - c. Enter Content Gateway Certificate Password.
 11. Enter **Endpoint** as the configuration type for **Content Gateway Setup**.
 12. Select the SSL Offloading setting that matches your configuration:
 - Enter **Y** if the SSL connection ends before reaching this server.
 - Enter **N** if the SSL connection does not end before reaching this server.
 13. Verify the firewall ports match your server. To grant the installer firewall permissions that are needed, enter **Y**.
 14. Review the summary information and verify its accuracy.
 15. Press **Enter** to begin the installation.

Any errors during installation are displayed as error messages with details. The errors are recorded in the installation log file, which saves in the same directory in which you installed the Content Gateway. For information about troubleshooting the errors, see [Content Gateway Troubleshooting on page 30](#).
 16. Close the installer and verify connectivity to AirWatch. For information about testing the Content Gateway's connectivity, see [Verify Content Gateway Connectivity on page 25](#)

Verify Content Gateway Connectivity

Post-installation, test the Content Gateway's connection in the AirWatch Console to verify if the installation is completed successfully.

Procedure:

1. Navigate to **Groups & Settings > All Settings > Content > Content Gateway** in the AirWatch Console.
2. Select **Test Connection** to verify the connectivity. The test connection also provides information about the currently installed version of the Content Gateway.

Uninstall Content Gateway on Linux

AirWatch provides a shell script to uninstall the Content Gateway component on the Linux server. If you have deployed the Basic endpoint Content Gateway model, run the uninstall script on the basic endpoint server. For the relay-endpoint model, run the script on both relay server and the endpoint server.

Procedure:

1. Navigate to the `/opt/airwatch/content-gateway/_content-gateway_installation` folder on the Linux server.
2. List the files in the installation folder using the `ls` command.

```
# ls
```

3. Run the uninstall script.

```
sudo ./Uninstall_ContentGateway
```

4. On the AirWatch Console, select the organization group where the Content Gateway is configured and then navigate to **Groups & Settings > All Settings > Content > Content Gateway**.
5. Select the radio button for the Content Gateway configuration.
6. From the **More Actions** drop-down menu, select **Delete**.

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Content Gateway Management

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Upgrade Content Gateway

To access the latest iteration, upgrade the Content Gateway. Any custom changes you make to the configuration files after the original installation is lost, so you can create backups of these files to reference later.

Procedure:

1. From AirWatch Console, navigate to **Groups & Settings > All Settings > Content > Content Gateway**.
2. To retrieve the existing Content Gateway instance configuration as XML file, select the configuration using the radio button and then select **Download Configuration**.
3. Enter and confirm an installer password with a minimum of six characters and select **Download**.
4. From the More Actions menu, select **Download Installer** to configure Content Gateway using Content Gateway installer. You are redirected to the AirWatch Resource Portal page to download the Content Gateway installer files.

IMPORTANT: Downloading the installer removes Content Gateway v8.3 functionality. Only download the installer if prepared to immediately follow-through with installation.

5. After the download, continue with the steps for Installing the Content Gateway – Basic or Installing the Content Gateway – Relay-Endpoint.

Content Gateway Troubleshooting

Use the available logs and commands or monitoring URL to diagnose and troubleshoot intermittent issues that you might experience with the Content Gateway.

Linux Logs

Log Type	Location
Installer Log	/opt/airwatch/content-gateway/_content-gateway_installation/Logs/
Content Log	/var/log/airwatch/content-gateway/ Use the following command to sort (as root): <pre>tail -f /var/log/airwatch/content-gateway/content-gateway.log</pre>

Linux Commands

```
sudo service content-gateway start - Starts the service.
sudo service content-gateway stop - Stops the service.
sudo service content-gateway restart - Restarts the service.
sudo service content-gateway status - Shows the status of the service.
```

Note: The Content Gateway does not have specific error codes or messages through which it communicates the errors. Content Gateway communicates errors through the standard HTTP status codes. For more information, see the [HTTP status codes](#).

Troubleshooting Linux Installation

If the internet connectivity is interrupted during the installation of Content Gateway, the installation is completed with errors and a message is displayed. The dependent packages cannot be downloaded without an internet connection. Information about the missing packages are provided in the logs.

Use the following command to check the status of `libprotobuf` and `Gnutls` packages:

```
$ rpm -qa | grep <package_name>
```

For example, `$ rpm -qa | grep libprotobuf`.

Manual Installation of Packages

The dependency packages are installed when the Content Gateway installer is run. SMB-connector implementation fails if the packages are not installed due to network interruptions. You can manually install the packages using the commands

specific to the OS platforms to restore SMB-conector implementation.

OS Platform	Package	Command
CentOS or RHEL	libprotobuf	<code>yum install -y protobuf</code>
	Gnutls	<code>yum install -y gnutls</code>
SLES or SUSE	libprotobuf	<code>zypper ar -C -G -f http://download.opensuse.org/distribution/13.2/repo/oss/suse_protobuf_repo</code>
		<code>zypper install -y libprotobuf8</code>
		<code>zypper rr protobuf_repo</code>
	Gnutls	<code>zypper ar -C -G -f http://download.opensuse.org/distribution/leap/42.3/repo/oss/suse/gnutls_repo</code>
		<code>zypper install -y libgnutls28</code>
		<code>zypper rr gnutls_repo</code>

Accessing Other Documents

While reading this documentation you may encounter references to documents that are not included here.

The quickest and easiest way to find a particular document is to navigate to https://my.air-watch.com/help/9.2/en/Content/Release_Notes/Doc_List_PDFs.htm and search for the document you need. Each release-specific document has a link to its PDF copy on AirWatch Resources.

Alternatively, you can navigate to AirWatch Resources on myAirWatch (resources.air-watch.com) and search. When searching for documentation on Resources, be sure to select your AirWatch version. You can use the filters to sort by PDF file type and AirWatch v9.3.