

## About the Hybrid Cloud Module

The Forescout Hybrid Cloud Module provides visibility and control functions across physical and virtual devices that are on-premises and off-premises through the following plugin integrations:

- AWS Plugin
- Azure Plugin
- VMware NSX Plugin
- VMware vSphere Plugin

The Hybrid Cloud Module is a Forescout Base Module. Base Modules are delivered with each Forescout release.

The plugins listed above are installed and rolled back with the Hybrid Cloud Module.

Refer to the *Forescout Hybrid Cloud Module Overview Guide* for more module information, such as module requirements, upgrade, and rollback instructions.

Refer to the relevant configuration guides for detailed information about how to work with and configure plugins included with this module. See [Additional Forescout Documentation](#) for information on how to access these guides, and other documentation.

## Forescout Requirements

This plugin requires the following Forescout release and other components:

- Minimum of Forescout version 8.1.
- If you are using Flexx licensing, ensure that you have a valid Forescout eyeControl (ForeScout CounterACT Control) license, to use enforcement actions provided by the component. Refer to the *Forescout Flexx Licensing How-to Guide* for more information about managing Flexx licenses.

Components described in this document may have additional requirements and dependencies.

## About This Release

This section describes updates and important information related to the components delivered in this version of the Hybrid Cloud Module. This release also includes enhancements and fixes provided in previous versions. See [Previous Module Versions](#).

The following table identifies the components that are updated in this module version:

Component	Requirements	Features or Security Enhancements	Fixed Issues	Known Issues	Upgrade Considerations
<a href="#">AWS Plugin 2.1.1</a>		✓	✓		
<a href="#">Azure Plugin 1.0.1</a>		✓	✓		
<a href="#">VMware NSX Plugin 1.2.1</a>			✓		
<a href="#">VMware vSphere Plugin 2.4.3</a>			✓		

**Only components providing new features/enhancements are released with an updated configuration guide (help) that matches the updated version number of the component.**

## AWS Plugin 2.1.1

The AWS Plugin connects to the Amazon® Web Services (AWS) public cloud environment to retrieve information on Elastic Compute Cloud (EC2) instances and other AWS entities such as Identity and Access Management (IAM) users, Virtual Private Clouds (VPCs), and Amazon Simple Storage Service (S3). The EC2 instances, IAM users, and VPCs follow rules similar to those for other endpoints discovered by the ForeScout platform where policies and actions can be defined on those entities. The ForeScout platform's integration with AWS brings the detailed visibility, control, and compliance capabilities of the ForeScout platform to EC2 instances and the associated AWS cloud configurations.

The AWS Plugin lets you:

- View endpoints, IAM users, and VPCs in Amazon's public cloud
- Create and apply ForeScout policies across the AWS entities
- Maintain the security and compliance of cloud instances, IAM users, S3s, and VPCs
- Apply security groups to instances, enforce password policies, and perform a range of other policy actions

## Requirements

This plugin requires the following AWS components:

- An Amazon Web Services online account.
- One AWS Access Key ID and Secret Key to configure the AWS plugin. These are associated with a User profile on AWS. The access key ID is a unique identifier associated with a secret key. These two keys are used by the AWS plugin to communicate with AWS on behalf of that user.

- If you are using a proxy server with Basic Authentication, you need that proxy's credentials.
- The plugin requires the following AWS services:
  - **Amazon EC2** – Amazon Elastic Compute Cloud (Amazon EC2) is a web service that enables you to launch and manage Linux / UNIX and Windows server instances in Amazon’s public cloud.
  - **Amazon VPC** – Amazon Virtual Private Cloud (VPC) is a web service for provisioning a logically isolated section of AWS Cloud where you can launch AWS resources in a virtual network you define. You control your virtual networking environment, including selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways.
  - **CloudWatch** - CloudWatch is a web service that enables you to monitor and manage various metrics. It also allows the configuration of alarm actions based on the metrics data.

There are two user permissions options that can be used on the Forescout platform:

- Read-only permissions (the Forescout platform will support visibility only)
- Full permissions (the Forescout platform will support both visibility and control)

## Feature Enhancements

There were no new feature enhancements for the AWS plugin for this release.

## Security Enhancements

This release of the AWS Plugin includes updates that address security issues that are identified in, but not limited to, the following Common Vulnerabilities and Exposures (CVE):

Issue	CVE
AWS-1354	CVE-2006-4711
	CVE-2007-0896
	CVE-2015-8559
	CVE-2018-11307
	CVE-2018-12022
	CVE-2019-16869
	CVE-2018-1000873

## Fixed Issues

This section identifies the fixed issues for this version of the AWS Plugin.

### Merged Hotfixes

The following, previously released hotfixes are merged into this version of the AWS Plugin:

Hotfix	Fix Content	Up to Version
2.1.0.1	Refer to <a href="#">Hotfix 2.1.0.1 Release Notes</a>	2.1.0.1019

## Known Issues

There are currently no known issues for this release of the AWS Plugin.

## Azure Plugin 1.0.1

The Azure Plugin connects to the Microsoft® Azure public cloud environment to retrieve information on Virtual Machine (VM) instances and other Azure entities, such as Virtual Networks (VNETs). The VM instances and VNETs follow rules similar to those of other endpoints discovered by the Forescout platform, where policies and actions can be defined on those entities. The integration of the Forescout platform with Azure brings the detailed visibility, control, and compliance capabilities of the Forescout platform to Azure VM instances and the associated Azure cloud configurations.

## Requirements

This section describes requirements for the Azure Plugin.

### Requirements on Azure

This plugin requires the following Azure components:

- An Azure online account.
- One Azure account tenant ID, one Azure account client/application ID, and one access key to configure the Azure Plugin. These are associated with a User account on Azure.
- The following Azure services:
  - **Azure Virtual Machine** – A web service that enables you to launch and manage Linux and Windows server instances in Azure’s public cloud.
  - **Azure VNet** (VNet) – A web service for provisioning a logically isolated section of the Azure Cloud where you can launch Azure resources in a virtual network you define. You control your virtual networking environment, including the selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways.

- **Azure Subscriptions** – A web service that grants you access to Azure services. It includes the Azure account for usage and billing as well as governing the use of Azure subscription services.

There are two user permissions options that can be used on the Forescout platform:

- Read-only permissions (the Forescout platform supports visibility only)
- Full permissions (the Forescout platform supports both visibility and control)

### Networking Requirements

The following must be configured on enterprise firewalls to support communication between the Forescout platform and Azure regional access points.

- Outgoing communication on port 443/TCP must be allowed
- The \*.azure.com domain must be reachable with HTTPS
- (Optional) Proxy communication, for example, port 8080 is open

### Feature Enhancements

There were no new feature enhancements for the Azure Plugin for this release.

### Security Enhancements

This release of the Azure Plugin includes updates that address security issues that are identified in, but not limited to, the following Common Vulnerabilities and Exposures (CVE):

Issue	CVE
MAZ-231	CVE-2017-17485
	CVE-2018-11307
	CVE-2018-12022
	CVE-2019-17195
	CVE-2018-1000844
	CVE-2018-1000850
	CVE-2018-1000873

### Fixed Issues

This section identifies the fixed issues for this version of the Azure Plugin.

### Merged Hotfixes

The following, previously released hotfixes are merged into this version of the Azure Plugin:

Hotfix	Fix Content	Up to Version
<b>1.0.0.1</b>	Refer to <a href="#">Hotfix 1.0.0.1 Release Notes</a>	1.0.0.1015

## Known Issues

There are currently no known issues for this release of the Azure Plugin.

## VMware NSX Plugin 1.2.1

The VMware NSX Plugin provides integration with the VMware NSX Network Virtualization and Security Platform. VMware NSX is an integral part of VMware's Software Defined Data Center (SDDC) deployment that delivers micro-segmentation and granular security to the individual workload, thus enabling a more secure data center.

## Requirements

This section describes requirements for the VMware NSX Plugin.

### Networking Requirements

- The 443/TCP port must be open on the enterprise firewall to support communication between the ForeScout platform and the NSX Manager
- NSX server certificate (self-signed acceptable)

### Supported Vendor Requirements

- VMware NSX®
- VMware vSphere®
- The following VMware licenses are required to work with the plugin.
  - VMware NSX® (standard)
  - VMware vSphere® Enterprise Plus Edition™
  - VMware vCenter Server® (standard)

## Fixed Issues

This section identifies the fixed issues for this version of the VMware NSX Plugin.

### Merged Hotfixes

The following, previously released hotfixes are merged into this version of the VMware NSX Plugin:

Hotfix	Fix Content	Up to Version
1.2.0.1	Refer to <a href="#">Hotfix 1.2.0.1 Release Notes</a>	1.2.0.1005

## Known Issues

There are no known issues for this release of the VMware NSX Plugin.

## VMware vSphere Plugin 2.4.3

This section describes important information about VMware vSphere version 2.4.3.

### Requirements

This section describes requirements for the VMware vSphere Plugin.

#### Networking Requirements

If the Forescout platform and the VMware vCenter server are not in the same location, the following ports must be open on enterprise firewalls to support communication between them:

- 443/TCP

#### Supported Vendor Requirements

Please see the [Compatibility Matrix](#) for supported vendor requirements.

### Feature Enhancements

There were no new feature enhancements for the VMware vSphere plugin for this release.

### Fixed Issues

This section identifies the fixed issues for this version of the VMware vSphere Plugin.

#### Merged Hotfixes

The following, previously released hotfixes are merged into this version of the VMware vSphere Plugin:

Hotfix	Fix Content	Up to Version
<b>2.0.1.1</b>	Refer to <a href="#">Hotfix 2.0.1.1 Release Notes</a>	2.0.1.1027
<b>2.2.0.1</b>	Refer to <a href="#">Hotfix 2.2.0.1 Release Notes</a>	2.2.0.1058
<b>2.4.1.1</b>	Refer to <a href="#">Hotfix 2.4.1.1 Release Notes</a>	2.4.1.1013
<b>2.4.2.1</b>	Refer to <a href="#">Hotfix 2.4.2.1 Release Notes</a>	2.4.2.1007

## Known Issues

There are no known issues for this release of the VMware vSphere plugin.




## Upgrading the Module

New module releases may become available between Forescout releases. This section describes how to install the module when a new release becomes available.

### To install the module:

1. Navigate to one of the following Forescout download portals, depending on the licensing mode your deployment is using:
  - [Product Updates Portal](#) - **Per-Appliance Licensing Mode**
  - [Customer Portal, Downloads Page](#) - **Flexx Licensing Mode**

To identify your licensing mode, select **Help > About ForeScout** from the Console.

2. Download the module `.fpi` file.
3. Save the file to the machine where the Console is installed.
4. Log into the Console and select **Options** from the **Tools** menu.
5. Select **Modules**. The Modules pane opens.
6. Select **Install**. The Open dialog box opens.
7. Browse to and select the saved module `.fpi` file.
8. Select **Install**. The Installation screen opens.
9. Select **I agree to the License Agreement** to confirm that you have read and agree to the terms of the License Agreement and select **Install**. The installation cannot proceed unless you agree to the license agreement.
  -  *The installation begins immediately after selecting Install and cannot be interrupted or canceled.*
  -  *In modules that contain more than one component, the installation proceeds automatically one component at a time.*
10. When the installation completes, select **Close** to close the window. The installed module is displayed in the Modules pane.
  -  *Some components are not automatically started following installation.*



## Rollback and Upgrade the Module

The following rollback/upgrade activities are not supported:

- Rolling back this module (or one of its components) to a version released prior to Forescout 8.1.
- If you are running a version of Forescout lower than 8.1 with the corresponding version of this module installed, you cannot upgrade to this module version (or one of its components).

If you upgrade to a newer module or component version that becomes available after this release, you may be able to roll it back. When rollback is supported, the Rollback button is enabled in the Console.

Modules/components on Appliances connected to the Enterprise Manager are rolled back to the selected version. Modules/components on Appliances that are not connected to the Enterprise Manager during the rollback are rolled back when the Enterprise Manager next reconnects to the Appliances.

### To roll back the module or component:

1. Select **Options** from the Console **Tools** menu.
2. Navigate to the **Modules** folder.
3. In the Modules pane, select the module or component to be rolled back.
4. Select **Rollback**. A dialog box opens listing the versions to which you can roll back.
5. Select a version and select **OK**. A dialog box opens showing you the rollback progress.

## Previous Module Versions

Installing this module version also installs fixes and enhancements provided in the previous module versions listed in this section. To view Release Notes for previous module versions, see:

[https://updates.forescout.com/support/files/plugins/hybrid\\_cloud/2.0.2/2.0.2-2/RN.pdf](https://updates.forescout.com/support/files/plugins/hybrid_cloud/2.0.2/2.0.2-2/RN.pdf)

<https://www.forescout.com/company/resources/hybrid-cloud-module-release-notes-2-0-1/>

<https://www.forescout.com/company/resources/hybrid-cloud-module-2-0-release-notes/>

<https://www.forescout.com/company/resources/hybrid-cloud-module-1-2-0-release-notes/>

## Additional Forescout Documentation

For information about other Forescout features and modules, refer to the following resources:

- [Documentation Downloads](#)

- [Documentation Portal](#)
- [ForeScout Help Tools](#)

## Documentation Downloads

Documentation downloads can be accessed from the [ForeScout Resources Page](#), and one of two ForeScout portals, depending on which licensing mode your deployment is using.

- **Per-Appliance Licensing Mode** – [Product Updates Portal](#)
- **Flexx Licensing Mode** – [Customer Portal](#)

 *Software downloads are also available from these portals.*

### To identify your licensing mode:

- From the Console, select **Help > About ForeScout**.

## ForeScout Resources Page

The ForeScout Resources page provides links to the full range of technical documentation.

### To access the ForeScout Resources page:

- Go to <https://www.ForeScout.com/company/resources/>, select **Technical Documentation**, and search for documents.

## Product Updates Portal

The Product Updates Portal provides links to ForeScout version releases, Base and Content Modules, and eyeExtend products, as well as related documentation. The portal also provides a variety of additional documentation.

### To access the Product Updates Portal:

- Go to <https://updates.foreScout.com/support/index.php?url=counteract> and select the version you want to discover.

## Customer Portal

The Downloads page on the ForeScout Customer Portal provides links to purchased ForeScout version releases, Base and Content Modules, and eyeExtend products, as well as related documentation. Software and related documentation only appear on the Downloads page if you have a license entitlement for the software.

### To access documentation on the ForeScout Customer Portal:

- Go to <https://ForeScout.force.com/support/> and select **Downloads**.

## Documentation Portal

The ForeScout Documentation Portal is a searchable, web-based library containing information about ForeScout tools, features, functionality, and integrations.

**To access the Documentation Portal:**

- Go to [https://updates.forescout.com/support/files/counteract/docs\\_portal/](https://updates.forescout.com/support/files/counteract/docs_portal/)

## ForeScout Help Tools

Access information directly from the Console.

### **Console Help Buttons**

Use context-sensitive *Help* buttons to access information about tasks and topics quickly.

### **ForeScout Administration Guide**

- Select **ForeScout Help** from the **Help** menu.

### **Plugin Help Files**

- After installing the plugin, select **Tools** > **Options** > **Modules**, select the plugin, and then select **Help**.

### **Online Documentation**

- Select **Online Documentation** from the **Help** menu to access either the [ForeScout Resources Page](#) (Flexx licensing) or the [Documentation Portal](#) (Per-Appliance licensing).

## Contact Information

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## About the Documentation

- Refer to the Technical Documentation page on the ForeScout website for additional documentation: <https://www.Forescout.com/company/technical-documentation/>
- Have feedback or questions? Write to us at [documentation@forescout.com](mailto:documentation@forescout.com)

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