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:

- Forescout version 8.1.0-1 or higher
- 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirements</th>
<th>Features or Security Enhancements</th>
<th>Fixed Issues</th>
<th>Known Issues</th>
<th>Upgrade Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWS Plugin 2.1.1</td>
<td></td>
<td>√</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Azure Plugin 1.0.1</td>
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<td></td>
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<tr>
<td>VMware NSX Plugin 1.2.1</td>
<td></td>
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<td></td>
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<tr>
<td>VMware vSphere Plugin 2.4.3</td>
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</tbody>
</table>

*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):

<table>
<thead>
<tr>
<th>Issue</th>
<th>CVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWS-1354</td>
<td>CVE-2006-4711</td>
</tr>
<tr>
<td></td>
<td>CVE-2007-0896</td>
</tr>
<tr>
<td></td>
<td>CVE-2015-8559</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-11307</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-12022</td>
</tr>
<tr>
<td></td>
<td>CVE-2019-16869</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-1000873</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Hotfix</th>
<th>Fix Content</th>
<th>Up to Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.0.1</td>
<td>Refer to Hotfix 2.1.0.1 Release Notes</td>
<td>2.1.0.1019</td>
</tr>
</tbody>
</table>

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.
Hybrid Cloud Module 2.0.3
Release Notes

- **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):

<table>
<thead>
<tr>
<th>Issue</th>
<th>CVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAZ-231</td>
<td>CVE-2017-17485</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-11307</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-12022</td>
</tr>
<tr>
<td></td>
<td>CVE-2019-17195</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-1000844</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-1000850</td>
</tr>
<tr>
<td></td>
<td>CVE-2018-1000873</td>
</tr>
</tbody>
</table>

**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:

<table>
<thead>
<tr>
<th>Hotfix</th>
<th>Fix Content</th>
<th>Up to Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0.0.1</td>
<td>Refer to <a href="#">Hotfix 1.0.0.1 Release Notes</a></td>
<td>1.0.0.1015</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Hotfix</th>
<th>Fix Content</th>
<th>Up to Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.0.1</td>
<td>Refer to <a href="#">Hotfix 1.2.0.1 Release Notes</a></td>
<td>1.2.0.1005</td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Hotfix</th>
<th>Fix Content</th>
<th>Up to Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0.1.1</td>
<td>Refer to Hotfix 2.0.1.1 Release Notes</td>
<td>2.0.1.1027</td>
</tr>
<tr>
<td>2.2.0.1</td>
<td>Refer to Hotfix 2.2.0.1 Release Notes</td>
<td>2.2.0.1058</td>
</tr>
<tr>
<td>2.4.1.1</td>
<td>Refer to Hotfix 2.4.1.1 Release Notes</td>
<td>2.4.1.1013</td>
</tr>
<tr>
<td>2.4.2.1</td>
<td>Refer to Hotfix 2.4.2.1 Release Notes</td>
<td>2.4.2.1007</td>
</tr>
</tbody>
</table>
**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

Additional Forescout Documentation

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

- Documentation Downloads
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:

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/

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

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