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Brocade Virtual Traffic Manager Plugin for vRealize Orchestrator

Deployment Guide

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Preface

Welcome to the Brocade Virtual Traffic Manager (vTM) Plugin for vRealize (formerly vCenter) Orchestrator (vRO) Solution Guide. Read this preface for an overview of the information provided in this guide and contact information. This preface includes the following sections:

- About This Guide
- Contacting Brocade

About This Guide

The Brocade Virtual Traffic Manager Plugin for vRealize Orchestrator Solution Guide describes how to install and use the plugin for the Traffic Manager in a vCenter environment. The plugin enables workflows for common tasks such as adding, deleting and modifying basic configurations of the Virtual Traffic Manager.

Audience

This guide is written for network operations professionals, server administrators and DevOps professionals familiar with administering and managing Application Delivery Controllers (ADCs) and vCenter Servers.

You must also be familiar with:

- vCenter
- vRealize Orchestrator
- Brocade Virtual Traffic Manager

For more details on the Brocade vADC product family, see:

<http://www.brocade.com/vADC>

Contacting Brocade

This section describes how to contact departments within Brocade.

Internet

You can learn about Brocade products through the company Web site: <http://www.brocade.com>.

Technical Support

If you have problems installing, using, or replacing Brocade products, contact Brocade Support or your channel partner who provides support. To contact Brocade Support, see <http://www.brocade.com/en/support.html>.

Professional Services

Brocade Global Services has the expertise to help organizations build scalable, and efficient cloud infrastructures. Leveraging 15 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world- class professional services, technical support, and

education services, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

Chapter 1: Solution Overview

This chapter describes the installation procedure for the vTM plugin for vRO and how it enables automating the most common configurations of a Traffic Manager in a vCenter environment. The plugin uses the SOAP API of the Traffic Manager to enable vRealize Orchestrator workflows. The workflows available are classified into CRUD operations including but not limited to adding, deleting and reading pool, node, rule and virtual server configurations. Additional workflows for attaching and detaching vTM instances are included in the plugin.

This chapter includes the following sections:

- Virtual Traffic Manager Overview
- Why vTM plugin for vRO

Virtual Traffic Manager Overview

Brocade Virtual Traffic Manager (vTM) is a software-based application delivery controller (ADC) designed to deliver faster and more reliable access to public web sites and private applications. vTM frees applications from the constraints of legacy, proprietary, hardware-based load balancers, which enables them to run on any physical, virtual, or cloud environment. With vADC products from Brocade, organizations can:

- Make applications more reliable with local and global load balancing
- Scale application servers by up to 3x by offloading TCP and SSL connection overhead
- Accelerate applications by up to 4x by using web content optimization (WCO)
- Secure applications from the latest application attacks, including SQL injection, XSS, CSRF, and more
- Control applications effectively with built-in application intelligence and full-featured scripting engine

Virtual Traffic Manager offers much more than basic load balancing. It controls and optimizes end-user services by inspecting, transforming, prioritizing, and routing application traffic. The powerful TrafficScript® engine facilitates the implementation of traffic management policies that are unique to an application by allowing organizations to build custom functionality or to leverage existing features in Virtual Traffic Manager in a specialized way. With vTM, organizations can deliver:

Performance

Improve application performance for users by offloading encryption and compression from the web server by dynamic caching and reducing the number of TCP sessions on the application.

Reliability and scalability

Increase application reliability by load balancing traffic across web and application servers, balancing load across multiple data centers (private or public clouds), monitoring the response

time of servers in real-time to decide the fastest way to deliver a service, protecting against traffic surges, and by managing the bandwidth and rate of requests used by different classes of traffic.

Advanced scripting and application intelligence

Manage application delivery more easily with fine-grained control of users and services using TrafficScript, an easy-to-use scripting language that can parse any user transaction, and take specific, real-time action based on user, application, request, or more. Development teams use TrafficScript to enable a point of control in distributed applications, while operations teams use it to quickly respond to changing business requirements or problems within an application before developers can fix it.

Application acceleration

Dramatically accelerate web-based applications and websites in real-time with optional web content optimization (WCO) functionality. It dynamically groups activities for fewer long distance round trips, resamples and sprites images to reduce bandwidth, and minifies JavaScript and combines style sheets to give the best possible response time for loading a web page on any browser or device.

Application-layer security

Enhance application security by filtering out errors in web requests, and protecting against external threats, with the option of a comprehensive Layer-7 firewall to defend against deliberate attacks.

Why vTM plugin for vRO

With businesses focusing more on automation and orchestration of IT services in today's hybrid deployments, the attention towards product integrations using APIs has increased. The vTM plugin for vRO is a great solution in making available the core load balancing functions to the vCenter environment in the form of workflows and actions using SOAP API. The plugin, in addition to automating the configuration aspects of load balancing, will prevent misconfigurations. This helps businesses to accelerate and reduce IT costs while retaining quality.

Chapter 2: Deploying Virtual Traffic Manager Plugin in vRealize Orchestrator

This chapter describes the process for deploying Virtual Traffic Manager plugin in a VMWare vRealize Orchestrator environment. It includes the following sections:

- Requirements
- Understanding the Deployment Process
- Installing vTM plugin
- Certificate Installation
- Packaged Workflows

Requirements

- vTM Plugin DAR file (Version 1.0.0)
- vRealize Orchestrator Server (Tested with Version 6.0.2.2707387)
- vRealize Orchestrator Client (Tested with Version 6.0.2 (1))

Understanding the Deployment Process

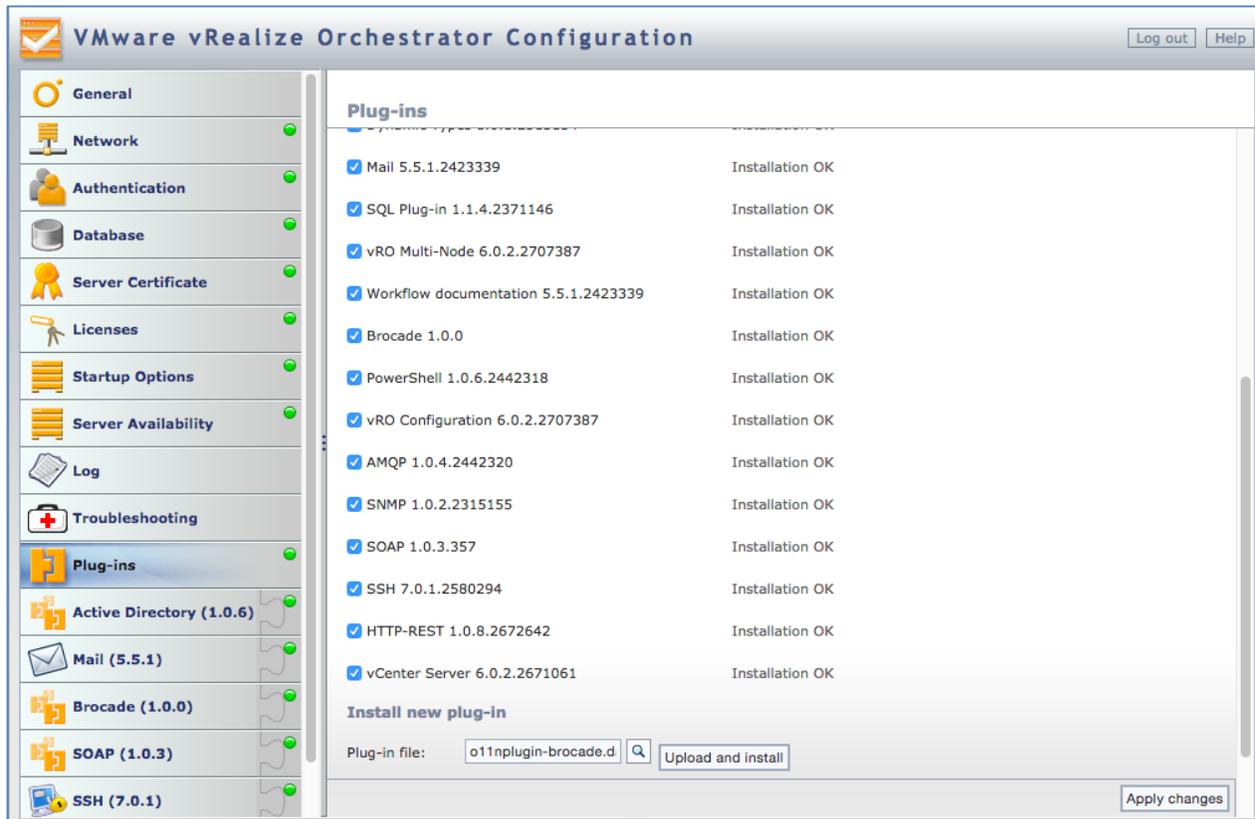
The pre-requisite for deploying the vTM plugin is to configure the vRealize Orchestrator and register it with vCenter according to the VMWare documentation. The following table displays the process for deploying Virtual Traffic Manager plugin:

Component	Procedure	Description
vTM Plugin DAR file installation in vRealize Orchestrator	Log in to the Admin UI of the vRealize Orchestrator and install the plugin	For details, see “Installing vTM Plugin”
Certificate Installation	For each vTM instance used in vRO, install SSL certificate	For details, see “Certificate Installation”
Packaged Workflows	From a vRealize Orchestrator client, the packaged workflows can be used to automate certain load balancing features of Virtual Traffic Manager	For details, see “Packaged workflows”

Installing vTM Plugin

To install the Virtual Traffic Manager plugin for vRO:

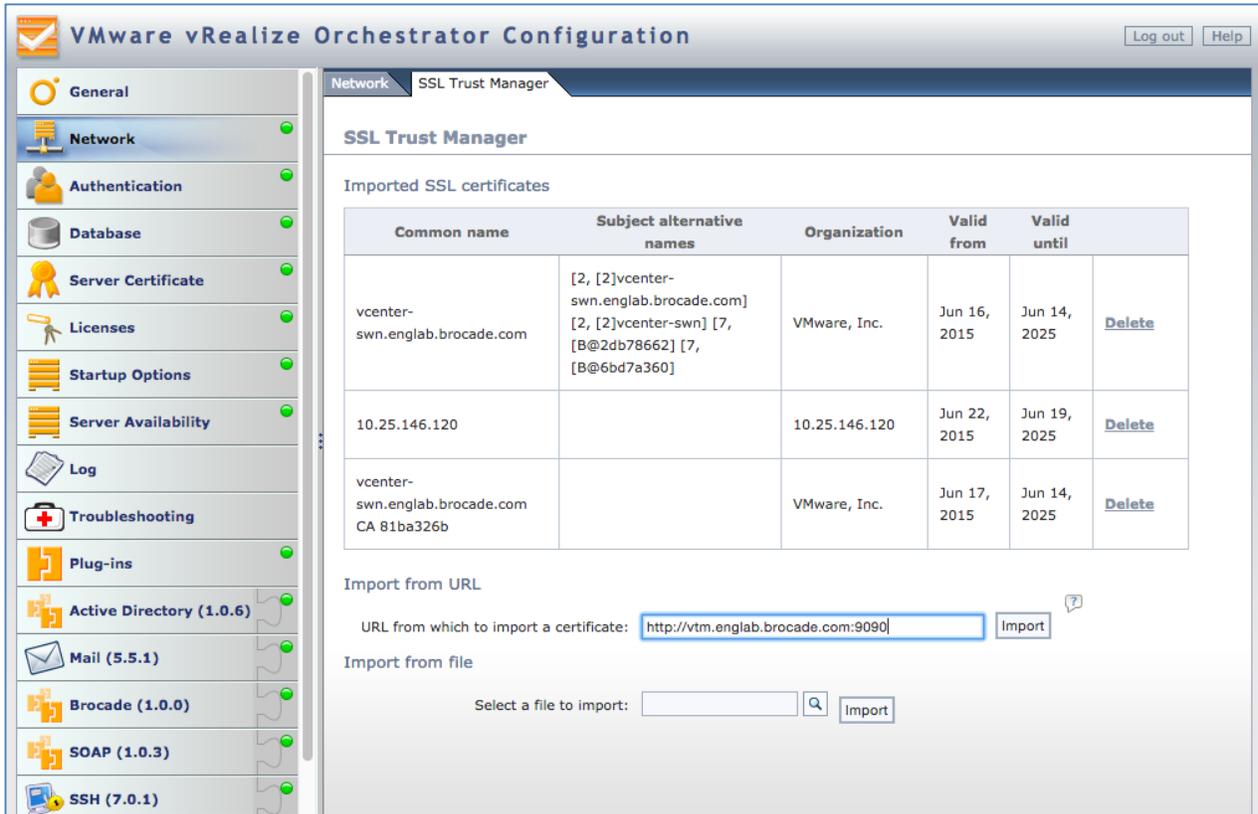
- [Download the vTM plugin DAR file.](#)
- Log in to the vRealize Orchestrator UI and click **Plug-ins** on the left frame.
- Scroll to the bottom on the right frame and click the empty text-box for **Plug-in file**.
- Browse and locate the vTM plugin DAR file named o11nplugin-brocade.dar. Once selected, click open and then **Upload and Install**.
- Click **Apply Changes**.
- Click **Startup Options** on the left frame and select **Restart service** to register the plugin.



Certificate Installation

In some cases, vRealize Orchestrator requires self signed certificates of Virtual Traffic Managers to be imported to enable workflow interactions. Because of this requirement, it is recommended to do so.

- Log in to the vRealize Orchestrator UI and click **Network** on the left frame.
- On the right frame of the UI, select the **SSL Trust Manager** tab.
- At the bottom of the page for input **Import from URL**, type the https admin UI address of the Virtual Traffic Manager and click **Import**.
- Click **Import** when asked for confirmation to import. However, ensure that the Common Name of the certificate for a vTM matches how we connect to it (either IP or FQDN) from the workflows.



Packaged Workflows

Once the Brocade vTM plugin is deployed using the admin UI of vRO, the workflows packaged along with the plugin are accessible to be run from the vRealize Orchestrator client.

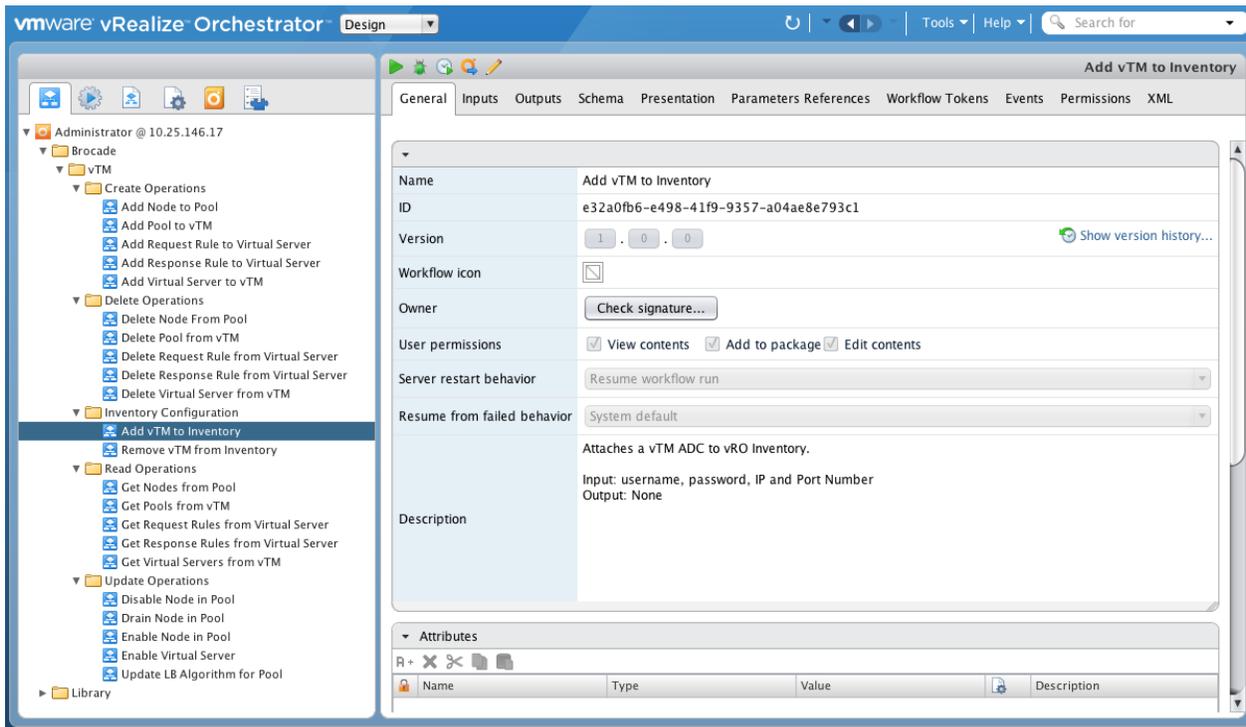
- Log in to the vRealize Orchestrator client software.
- Select the Workflows tab and expand the list of workflow to find the folder **Brocade**.
- The vTM plugin comes packaged with the following workflows. The workflows are categorized as Create, Read, Update and Delete (CRUD) operations in addition to a couple of workflows for Inventory management in vRO. The table describes what each workflow does.

Workflow	Workflow Type	Workflow Description
Add vTM to Inventory	Inventory Configuration	Attaches a vTM ADC to vRO Inventory. Input: username, password, IP and Port Number Output: None
Remove vTM from Inventory	Inventory Configuration	Detaches a vTM ADC from the vCO Inventory. Input: vTM Instance Output: None

Workflow	Workflow Type	Workflow Description
Add Node to Pool	Create Operations	<p>Adds an IP address and port number of a service as a node to a named Pool.</p> <p>Input: Pool, IP address, Port Number</p> <p>Output: Node</p>
Add Pool to vTM	Create Operations	<p>Adds a Pool to a vTM. At least one node needs to be entered while creating a pool.</p> <p>Input: STM, Pool name, ip address, port number</p> <p>Output: Pool</p>
Add Request Rule to Virtual Server	Create Operations	<p>Adds a Traffic Script request rule to a Virtual Server. The field Rule text takes the complete traffic script code as input. The enable option attaches it to the virtual server.</p> <p>Input: Virtual Server, Rule Name, Rule Text, enable, run frequency</p> <p>Output: Rule</p>
Add Response Rule to Virtual Server	Create Operations	<p>Adds a Traffic Script response rule to a Virtual Server. The field Rule text takes the complete traffic script code as an input. The enable option attaches it to the virtual server.</p> <p>Input: Virtual Server, Rule Name, Rule Text, enable, run frequency</p> <p>Output: Rule</p>
Add Virtual Server to vTM	Create Operations	<p>Adds a Virtual Server to a vTM. A default pool needs to be selected for the virtual server. By default, the virtual server binds to all IP addresses in the vTM.</p> <p>Input: vTM, port Number, Protocol, Default Pool, Virtual Server Name</p>
Delete Node from Pool	Delete Operations	<p>Deletes a selected Node from a Pool.</p> <p>Input: Pool, Node</p> <p>Output: None</p>
Delete Pool from vTM	Delete Operations	<p>Deletes a selected Pool from a vTM.</p> <p>Input: vTM, Pool</p> <p>Output: None</p>
Delete Request Rule from Virtual Server	Delete Operations	<p>Deletes a selected request rule from a Virtual Server.</p> <p>Input: Virtual Server, Rule</p> <p>Output: None</p>

Workflow	Workflow Type	Workflow Description
Delete Response Rule from Virtual Server	Delete Operations	Deletes a selected response rule from a Virtual Server. Input: Virtual Server, Rule Output: None
Delete Virtual Server from vTM	Delete Operations	Deletes a selected Virtual Server from a vTM. Input: STM, Virtual Server Output: None
Get Nodes from Pool	Read Operations	Gets the List of Nodes from a selected Pool. Input: Pool Output: Array of Nodes
Get Pools from vTM	Read Operations	Gets the List of Pools from a vTM. Input: vTM Output: Array of Pools
Get Request Rules from Virtual Server	Read Operations	Gets the List of Request rules from a selected Virtual Server. Input: Virtual Server Output: Array of Request Rules
Get Response Rules from Virtual Server	Read Operations	Gets the List of Response rules from a selected Virtual Server. Input: Virtual Server Output: Array of Response Rules
Get Virtual Servers from vTM	Read Operations	Gets the List of Virtual Servers from a vTM. Input: STM Output: Array of Virtual Servers
Disable Node in Pool	Update Operations	Disables a selected Node in a Pool. Input: Pool, Node Output: None
Drain Node in Pool	Update Operations	Drains a selected Node in a Pool. Input: Pool, Node Output: None
Enable Node in Pool	Update Operations	Makes a Node active in a Pool. Input: Pool, Node Output: None
Enable Virtual Server	Update Operations	Enables/Disables a selected Virtual Server Input: vTM, Virtual Server, Enable Output: None

Workflow	Workflow Type	Workflow Description
Update LB Algorithm for Pool	Update Operations	Updates the LB algorithm for a selected Pool Input: vTM, Pool, LB type Output: None



Chapter 3: Conclusion

This document briefly discusses how to install the Virtual Traffic Manager plugin in vRealize Orchestrator environment. It also showcases the packaged work flows along with plugin. Please refer to the product documentation on the Brocade Community Forums (<http://community.brocade.com>) for examples of how Brocade Virtual Traffic Manager can be deployed to meet a range of service hosting problems.