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Chapter 1 – Preface

This guide describes the getting-started process of the Alteon Virtual Appliance (VA) platform for the Microsoft Azure cloud.

Microsoft Azure is a cloud computing platform and infrastructure created by Microsoft for building, deploying, and managing applications and services through a global network of Microsoft-managed data centers.

It eliminates the need to invest up front in hardware and enables organizations to develop and deploy applications faster. Organizations use the Azure cloud to launch virtual machine instances as needed, configure security and networking, and manage storage.

For detailed information regarding the Azure cloud, refer to the Microsoft Azure documentation at https://azure.microsoft.com.

Who Should Use This Book

This guide is intended for network administrators maintaining applications in the Microsoft Azure cloud. It assumes familiarity with Microsoft Azure services, as well as general inter-networking technologies and concepts.

Related Documentation

Alteon Application Switches have the following related documentation, which is required to regularly manage the Azure Alteon VA, in addition to the specifics pertaining to Alteon’s integration into the Azure cloud:

- Alteon Application Switch Operating System Command Reference
- Alteon Web Based Management Application Guide
- Alteon Command Line Interface Application Guide
- Alteon Application Switch Troubleshooting Guide

Prerequisites

- Knowledge of Microsoft Azure and deploying VMs on the Microsoft Azure cloud.
- Knowledge of Alteon Application Switch operating system.
- An existing Microsoft Azure account.

The Alteon VA Platform on Microsoft Azure

Alteon VA for Microsoft Azure cloud allows running your enterprise applications while tapping into Microsoft Azure computing resources and providing a common application delivery platform for your applications. Leveraging the common Alteon operating system across Microsoft Azure cloud and the enterprise datacenter, enables faster application development cycles and improved economies for disaster recovery and seasonal application capacity scalability requirements. The figure below shows a reference Alteon VA deployment on Microsoft Azure cloud.
The Alteon VA instance on Microsoft Azure cloud hosts a single IP address (1.1.1.100) for management, VIP and the PIP. For simplicity, and in order to avoid additional configuration, it is mandatory to configure a PIP when operating the Alteon VA on Azure.
Chapter 2 – Deploying Alteon VA on the Azure Cloud

This section describes deploying Alteon VA on the Azure cloud, for standard or a high availability deployment mode, using the **Alteon Deployment** application.

**Note:** Using the **Alteon Deployment** application, the Alteon VA is automatically configured in single IP address mode.

**Note:** Radware recommends deploying using the Alteon Deployment application. See Appendix A for the procedure to deploy using the Radware Alteon VA-ADC and Security Services (BYOL).

**Deploying Alteon VA**

In order to deploy the Alteon VA on the Azure cloud, you first need to log in to the Microsoft Azure portal at [https://portal.azure.com/](https://portal.azure.com/).
To deploy Alteon VA on the Azure cloud

1. Once logged in to your Azure account, access the marketplace and search for the Alteon VA in the Azure marketplace by entering "Radware" or "Alteon" in the search box, and click Enter.

2. In order to deploy the Alteon VA using a solution template, select the Radware Alteon VA - deployment.
3. Click **Get it Now**.

4. Click **Continue** to accept the Azure terms of use.
5. Click **Create**.

The *Create Virtual Machine Wizard* opens and takes you through the required operations.
Configure the basic settings (the Azure Instance parameters):

6. Enter the Virtual machine prefix name

   Enter your Credentials. These parameters are mandatory when creating a virtual machine on the Microsoft Azure cloud. The VM credentials are used to access the virtual machines created on Azure. Since Alteon prevents access to the virtual machine in any manner other than the Alteon VA user interface (Web interface or CLI), you will not be able to access the VM running the Alteon VA using these credentials.

7. Enter your Alteon User Name.

8. Select the Authentication type (password or SSH public key), and enter your password or SSH public key.

9. Select your relevant subscription from the subscriptions options.

10. Define the Resource group that the VM running the Alteon VA will be associated with. You should select the option to create a new group.

11. Select the Azure data center location to where you want the Alteon VA to be deployed.
12. Click **OK**.

Now you can configure the VM settings:

13. Select the Solution Deployment mode: **Stand Alone** or **High Availability**.

14. Select the Storage account.

15. Change the default settings (Virtual Machine size, public IP address) if required, and the host name prefix.
   
   For a standalone deployment, the VM size minimum requirements are:
   
   — 1 vCPU
   — 3 GB RAM
   — 7 GB disk space

16. Click **OK**.
17. For a **High Availability** or **GSLB** deployment, enter the **Active Directory** credentials.

You can skip this step and enter it later through the Alteon configuration.

**Note:** For a Stand Alone deployment, these parameters are not required.
18. Click **OK**.

19. Enter the SLB settings: The number of real servers and their IP addresses.

   **Note:** Up to 10 real servers can be defined at this place. If more real servers are required, you can define them using the Alteon configuration procedure. See [Configuring Real Servers](#), below.

20. If required, you can change the service port and the SLB metrics.
21. Click OK.

22. Review the summary of your settings and click OK.

23. Click Purchase in order to launch the Alteon VA.

24. Click OK.

The Alteon VA deployment template will create the Alteon VA on Azure cloud and configure the Alteon to load balance the servers according to the service and SLB metrics you selected.

if you deployed an High Availability environment two instances of Alteon VA will be launched and already configured in an HA environment, and fully operational with no need for further configuration in the Alteon VA.

Note: When configuring the Alteon VA using the solution template, the security group is automatically configured to include the management protocols (SSH-port 20, https-port 8443), and the services that are load-balanced (e.g. port 80 for http).
Static VM IP Address

Since the Alteon VA license is generated based on the VM MAC or IP addresses, generating the license based on the VM IP address and having the IP address being static, prevents the license from becoming outdated.

For the static configuration, this is done automatically during the solution template deployment.

Note: Once the virtual machine is running you will be charged the Microsoft Azure fee for the virtual machine and for the Alteon VA (if you did not launched the BYOL image).
Chapter 3 – Consideration for Configuring Alteon VA on Azure

Alteon VA for Azure can be accessed through the following user interfaces:
- Web Interface, page 21
- CLI Interface, page 21

Web Interface

Alteon VA, when running on Microsoft Azure, is configured to have its management controlled through the data path. This is due to the fact that any instance on Microsoft Azure is provided with a single IP address per network interface.

In order to enable load-balancing HTTPS traffic and management access, the HTTPS port for management access is changed to 8443.

To access the Alteon web interface, open your browser and enter the Alteon VA instance IP address with port 8443.

For example, if the Alteon VM IP address is 1.1.1.1, enter https://1.1.1.1:8443

To log in, enter the default username and password: admin, admin

Note: If you do not intend to load balance HTTPS traffic, you can change the HTTPS port for management purposes to the standard HTTPS port 443 through the Web interface at: >Configuration>System>Management Access>Management Protocols or through the CLI command: /c/sys/access/https/port.

CLI Interface

To connect to Alteon VA through the command line interface (CLI), connect to Alteon VA port 22 using any terminal emulator supporting SSH (such as PUTTY).

Enter the default username and password: admin, admin

The CLI main menu is displayed.

It is strongly recommend you change the password on your first login.
Chapter 4 – Configuring Alteon VA on the Azure Cloud

Since using the configuration template you configure the Alteon VA for basic load balancing, you need to access this chapter only for advanced settings of the Alteon VA (such as for configuring more than 10 real servers, other SLB metrics, or L7 SLB).

This chapter describes how to configure your Alteon VA on the Microsoft Azure cloud.

Configuring Alteon VA to Run in Single IP Address Mode

Every virtual machine running on Microsoft Azure is assigned a single IP address per network interface. In order to enable the Alteon VA to run in such an environment, the Alteon VA is automatically configured to run in a "single IP address mode". When working in this mode, the system will automatically configure itself to direct the management traffic to the management process. Virtual services and PIPs will also be automatically assigned the virtual machine IP address, with no further need to configure it.

If the Alteon VA is not configured to work in a Single IP address mode (this can happen if this mode was manually disabled), on every login to the system you will receive a notification message in the Web UI, and will be prompted on the CLI to switch to Single IP address mode.

To configure Alteon VA to run in Single IP Address mode, access the Alteon VA CLI and enter the command: /c/sys/singleip ena

Basic Load Balancing Configuration

Once you access the Web interface (as described above) you can configure your Alteon VA on the Azure cloud to load balance between servers, performing the following steps:

- Configure the real servers
- Configure the servers group
- Configure the virtual servers

The following sections provide a step-by-step guide to perform these configurations.

Note: For more enhanced capabilities, refer to the Alteon Application Guide.

Configuring the Real Servers

You need to first configure the real servers.

To configure the real server

1. In the Web interface, navigate to: Configuration > Application Delivery > Real Servers
2. Enter the real server ID.
3. Enter the real server IP address.
4. Click the checkbox to enable the real server.
5. Define the service ports and the additional parameters as required.
6. Press **Submit**.
7. Repeat all the above steps for all your real servers.

![Configuration of Alteon VA on Azure Cloud](image)

### Configuring the Real Server Group

You can now configure the real server group.

**To configure the real server group**

1. In the Web interface, navigate to: **Configuration > Application Delivery > Server Groups**
2. Click + to create a new group.
3. Enter the group ID.
4. Enter the group description.
5. Mark the real servers in the **Available** area on the left and click the right arrow button to select them.
6. If there is a need to change the system defaults, modify any parameters as required.
7. Click **Submit**.
Define the Virtual Server

You can now configure the virtual servers.

To configure the virtual server

1. In the Web interface, navigate to: Configuration > Application Delivery > Virtual Servers
2. Click + to create a new virtual server.
3. Enable the Virtual Server by clicking Virtual server ID.
4. Enter the Virtual Sever ID.
5. The virtual server IP address is automatically assigned to be the same as the virtual machine IP address.
6. In the *Virtual Services* tab, click + to add a real servers group.
7. Enter the service port.
8. From the group ID drop down list, select the real servers group.
9. If you need to change the system defaults, modify any parameters as required.
10. Click **Submit**.

11. Click **Apply** to apply all the above changes.
Chapter 5 – Special Consideration

Azure virtual machines are associated with a single IP address. As a result, there are some special considerations that should be taken into account when deploying Alteon VA on Azure.

Configuring Virtual Services

There is no limitation on load balancing more than one application as long as every application is using a different service port.

In case you need to load balance several applications using the same port (for example web application using port 80) you should:

- Configure one virtual service.
- Configure a real server group for every application.
- Assign a content class based on the application domain name, or URL to redirect the traffic to the appropriate service group. For further information on configuring content groups refer to the Alteon Application Guide.

HTTPS

In order to enable load-balancing HTTPS traffic and management access, the HTTPS port for management access is changed to 8443.

To access the Alteon web interface, enter the Alteon VA instance IP address with port 8443.

For example, if the Alteon VM IP address is 1.1.1.1, enter https://1.1.1.1:8443

If you do not intend to load balance HTTPS traffic, you can change the HTTPS port for management purposes to the standard HTTPS port 443.

Reserved Ports

Alteon VA reserves some ports for internal usage.

You cannot load balance services running on the following ports: 123, 161, 3121, 2090, and 2091.

The following services use predefined ports and you cannot load balance services using the same ports as the services without changing the Alteon VA settings. If you do need to load balance services using these ports, you can change the ports that Alteon uses for these services through the user interface.

The following are the services and their predefined ports:

- HTTPS - port 8443 (to enable load balancing of HTTPS traffic)
- SSH - port 22
- Telnet - port 23
- DPM - port 3030

When you configure the Alteon to respond to health checks on specific ports (using the command: /cfg/sys/health) these ports cannot be used for load balancing services.
Chapter 6 – Limitation on Alteon VA Services

The current release of the Alteon VA on Microsoft Azure cloud provides the same functionality as the Standard Alteon VA, such as: server load balancing, SSL offloading, Alteon NG capabilities such as AppWall - WAF (Web Application Firewall), FastView - WPO (Web Performance Optimization) and caching, and compression.

Non-Supported Features

The following features are not supported by this release on the Azure cloud.

- Traffic Steering
- APM
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