

Technical Integration Guide (TIG)

**Optimizing the Delivery of Microsoft Exchange
2013 with**

Alteon Application Delivery Controller

Alteon Version 29.0

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Introduction

The Radware Alteon application delivery controller (ADC) and Microsoft Exchange 2013 joint solution is designed to provide a highly scalable and highly available unified messaging and communication infrastructure with the fastest response time. By deploying these two best-of-breed sub-systems, end-users can benefit from a significantly improved quality of experience (QoE).

Using the advanced health monitoring of each of the client access servers, Alteon application delivery controllers can validate the servers' availability and response time, as well as deliver seamless load balancing, redundancy, and persistency features. Furthermore, Alteon provides service acceleration through compression, caching, and SSL termination to Microsoft Exchange users, offloading critical resources from the CAS servers and enabling smaller CAS arrays, resulting in lower CAPEX and OPEX for the organization.

Microsoft Exchange 2013 Overview

Microsoft Exchange Server 2013 brings a new rich set of technologies, features, and services to the Exchange Server product line. Its goal is to support people and organizations as their work habits evolve from a communication focus to a collaboration focus. At the same time, Exchange Server 2013 helps lower the total cost of ownership, whether you deploy Exchange 2013 (Preview) on-premises or provision your mailboxes in the cloud. New features and functionality in Exchange 2013 are designed to do the following:

- **Support a multigenerational workforce** — Social integration and making it easier to find people is important to users. Smart Search learns from user communication and collaboration behavior to enhance and prioritize search results in Exchange. Also, with Exchange 2013 Preview, users can merge contacts from multiple sources to provide a single view of a person, by linking contact information pulled from multiple locations.
- **Provide an engaging experience** — Microsoft Outlook 2013 Preview and Microsoft Office Outlook Web App have a fresh new look. Outlook Web App emphasizes a streamlined user interface that also supports the use of touch, enhancing the mobile device experience with Exchange.
- **Integrate with SharePoint and Lync** — Exchange 2013 (Preview) offers greater integration with Microsoft SharePoint 2013 Preview and Microsoft Lync 2013 Preview through site mailboxes and In-Place eDiscovery.
- **Help meet evolving compliance needs** — Compliance and eDiscovery are challenging for many organizations. Exchange 2013 (Preview) helps you to find and search data not only in Exchange, but across your organization. With improved search and indexing, you can search across Exchange 2013 Preview, Lync 2013 Preview, SharePoint 2013 Preview, and Windows file servers.

- **Provide a resilient solution** — Exchange 2013 builds upon the Exchange Server 2010 architecture and has been redesigned for simplicity of scale, hardware utilization, and failure isolation.

Exchange Server Protocols Load Balanced by Radware ADC

The following table describes Exchange CAS Server protocols that can be load balanced by Radware ADC, including:

Service Name	Protocol	Port
Outlook Anywhere ActiveSync Offline address book Outlook Web Access Auto Discover Control Panel	HTTPS	443
POP3	POP3, POP3s	110, 995
IMAP	IMAPs, IMAPs	143, 993

Alteon ADC

Alteon ADC provides breakthrough performance, advanced application acceleration capabilities, and on-demand scalability needed to effectively meet contemporary network and business needs. Specifically designed for the majority of enterprises and carriers that operate in dynamic, ever-changing environments and that face diverse requirements, Alteon ADC provides the extendable throughput these enterprises need from 0 to 80Gbps for unparalleled scalability, business availability, and performance.

Integrated Application Acceleration Capabilities

Alteon ADC delivers a wide set of application acceleration capabilities including SSL offloading, web compression, caching, HTTP multiplexing, and TCP optimization. These capabilities are designed to offload servers, address server performance issues, enhance response-time for best QoE, and mitigate security risks. By offloading processor intensive operations from servers, Alteon frees the servers' CPUs to handle additional requests, eliminating the need to buy additional hardware to support application processing requirements and reducing CAPEX and OPEX.

Alteon ADC is validated and certified by leading application vendors such as Microsoft, Oracle, SAP, IBM, and others. When operating Alteon ADC with Microsoft SharePoint, for example, the response time of SharePoint servers is accelerated by 350% and the servers' CPU load is reduced by 40%. Similar benefits are achieved with other popular applications.

Application acceleration capabilities have greater importance in virtual data centers where applications suffer from increased latency caused by the virtualization infrastructure. Alteon reduces applications latency and improves QoE of virtual applications.

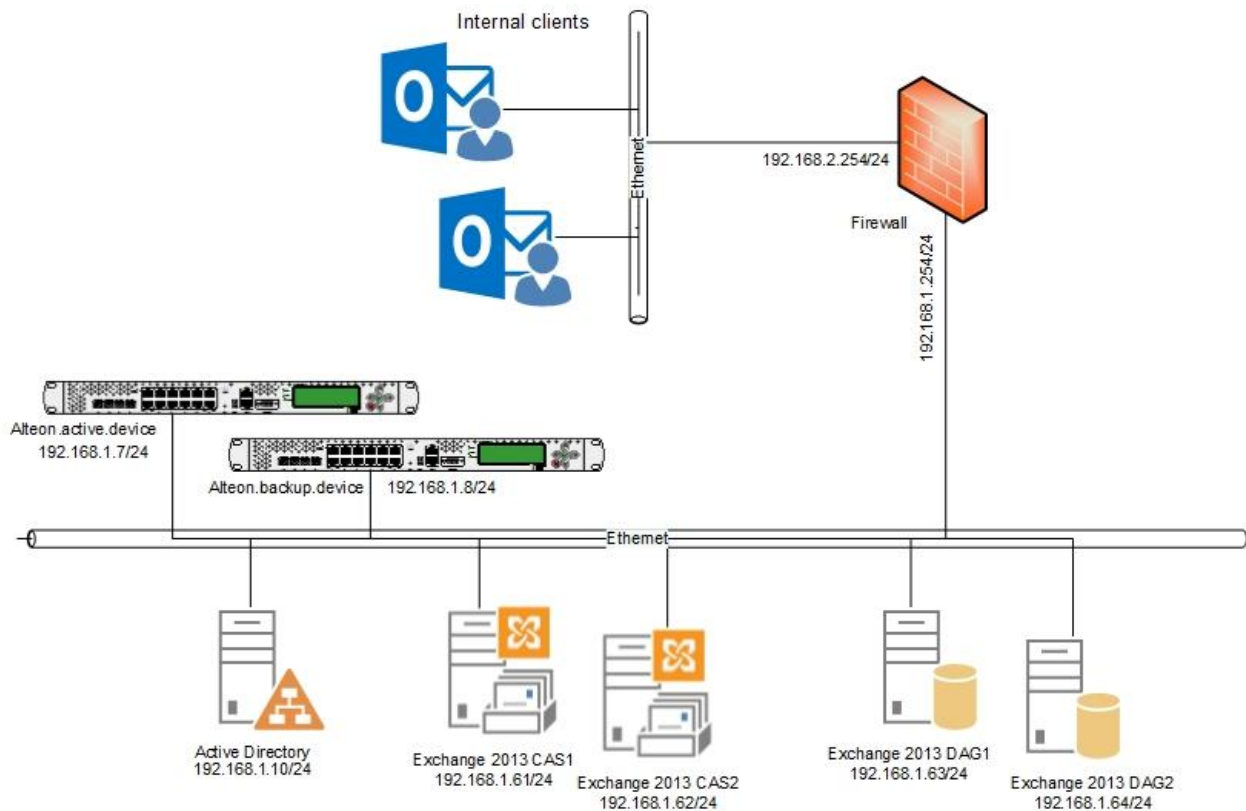
Intelligently Embedding Radware’s ‘Pay as-you-Grow’ Infrastructure Approach

By embracing Radware’s “Pay-as-you-Grow” approach, you only pay for the exact capacity currently required, preventing overspending on the initial solution. Throughput capacity, acceleration capabilities and application-aware services can be added on demand to meet new business requirements – with no forklift upgrade of the platform and without even restarting it.

The “Pay-as-you-Grow” approach lets you overcome capacity planning challenges and reduces the risk associated with data center growth for best investment protection. Thanks to platform standardization and simplicity, there are two platforms to cover all of your application needs resulting in fewer spare parts, and less training and operations, dramatically reducing OPEX.

Alteon ADC and Microsoft Exchange Architecture

The following is an illustration of the tested network described in this document:



Important Implementation Notes

1. DNS SRV records for the appropriate domain are used to locate the Exchange servers for client connectivity. DNS administration is required to bind an A record for the Exchange FQDN, where the FQDN resolves to the appropriate Alteon Virtual IP address (VIP). Alteon can become the Authoritative responder for this FQDN, normally used in Disaster Recovery designs. In this case, the DNS uses a name server record pointing to the Alteon platform for the authoritative response. Alteon bases the response on the availability, load, and proximity information it uses to drive intelligent load distribution.
2. To sync the configuration after configuring the active Alteon, run the command `/oper/slb/sync` to copy the configuration.

Note: You must configure Layer 2 and Layer 3 network configurations on the Alteon standby platform before applying the **sync** command.

Software and Hardware

The following is a list of hardware and software tested to verify the interoperability of the presented solution:

- Microsoft Windows 2012 Enterprise x64
- Alteon version 29.0 (2 units)
- Microsoft Exchange 2013 Enterprise

Configuration

This section includes the configuration for implementing this solution, including:

- [Alteon Active Configuration](#)
- [Alteon Standby Configuration](#)

Alteon Active Configuration

Network Configuration

```
/c/port 1
  pvid 526
/c/l2/vlan 1
  learn ena
  def 0
/c/l2/vlan 526
  ena
  name "526"
  learn ena
```

```
def 1
/c/12/stg 1/clear
/c/12/stg 1/add 1 526
/c/sys/sshd/ena
/c/sys/sshd/on
/c/13/if 1
  ena
  ipver v4
  addr 192.168.1.8
  vlan 526
/c/13/gw 1
  ena
  ipver v4
  addr 192.168.1.254
```

Sync Configuration

```
/c/slb/sync
  prios d
  certs e
/c/slb/sync/peer 1
  ena
  addr 192.168.1.7
```

Real Servers Configuration

```
/c/slb/real 1
  ena
  ipver v4
  rip 192.168.1.61
  name "Exchange2013.CAS1"
/c/slb/real 2
  ena
  ipver v4
  rip 192.168.1.62
  name "Exchange2013.CAS2"
```

Server Groups Configuration

```
/c/slb/group 1
  ipver v4
  metric roundrobin
  add 1
  add 2
  name "CAS.443.Group"
/c/slb/group 2
  ipver v4
  metric roundrobin
  health imap
  add 1
  add 2
  name "IMAP"
/c/slb/group 3
  ipver v4
  metric roundrobin
  health pop3
  add 1
  add 2
  name "POP3"
```

Alteon Process Directions

```
/c/slb/port 1
  client ena
  server ena
  proxy ena
```

Virtual Servers and Services Configuration

```
/c/slb/virt 1
  ena
  ipver v4
  vip 192.168.1.180
  vname "CAS.HTTPS"
/c/slb/virt 1/service 443 https
  group 1
```



```
rport 443
pbind clientip norport
/c/slb/virt 1/service 110 pop3
group 3
rport 110
pbind clientip norport
/c/slb/virt 1/service 143 imap
group 2
rport 143
pbind clientip norport
/c/slb/virt 1/service 993 basic-slb
group 2
rport 993
pbind clientip norport
/c/slb/virt 1/service 995 basic-slb
group 3
rport 995
pbind clientip norport
/c/slb/virt 1/service 25 smtp
group 1
rport 25
pbind clientip norport
```

VRRP Configuration

```
/c/13/vrrp/on
/c/13/vrrp/vr 51
ena
ipver v4
vrid 51
if 1
prio 254
addr 192.168.1.5
/c/13/vrrp/vr 52
ena
ipver v4
vrid 52
```

```
if 1
prio 254
addr 192.168.1.180
```

PIP Configuration

```
/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 192.168.1.208 1
```

Alteon Standby Configuration

Network Configuration

```
/c/port 1
  pvid 526
/c/l2/vlan 1
  learn ena
  def 0
/c/l2/vlan 526
  ena
  name "526"
  learn ena
  def 1
/c/l2/stg 1/clear
/c/l2/stg 1/add 1 526
/c/sys/sshd/ena
/c/sys/sshd/on
/c/l3/if 1
  ena
  ipver v4
  addr 192.168.1.7
  vlan 526
/c/l3/gw 1
  ena
  ipver v4
  addr 192.168.1.254
```

Sync Configuration

```
/c/slb/sync
  prios d
  certs e
/c/slb/sync/peer 1
  ena
  addr 192.168.1.7
```

PIP Configuration

```
/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 192.168.1.207 1
```

VRRP Configuration

```
/c/l3/vrrp/on
/c/l3/vrrp/vr 51
  ena
  ipver v4
  vrid 51
  if 1
  prio 101
  addr 192.168.1.5
/c/l3/vrrp/vr 52
  ena
  ipver v4
  vrid 52
  if 1
  prio 101
  addr 192.168.1.180
```

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