Alteon Application Switch optimizing the delivery of VMware Zimbra 7.2 servers.
Contents

INTRODUCTION .................................................................................................................. 3

RADWARE ALTEON ............................................................................................................. 3
  Integrated Application Acceleration Capabilities with FastView ........................................ 3
  Shaped to Deliver Applications ......................................................................................... 3

VMWARE ZIMBRA ............................................................................................................ 4
  End Users Seamlessly Connect to Their Personal Clouds ................................................... 4
  Manage IT-as-a-Service .................................................................................................... 4
  Streamlined Administration for Lower TCO ....................................................................... 4

RADWARE ALTEON AND VMWARE ZIMBRA SERVER ARCHITECTURE ......................... 5

IMPORTANT IMPLEMENTATION NOTES .......................................................................... 5

CONFIGURATION ............................................................................................................... 6

ALTEON ACTIVE CONFIGURATION .................................................................................. 6
  Network Configuration ...................................................................................................... 6
  Sync Configuration ........................................................................................................... 6
  PIP Configuration ............................................................................................................ 6
  Real Servers Configuration .............................................................................................. 6
  Server Groups Configuration ............................................................................................ 7
  Alteon Process Directions ............................................................................................... 7
  Virtual Services Configuration ........................................................................................ 7
  SSL Configuration ........................................................................................................... 8
  VRRP Configuration ........................................................................................................ 9

ALTEON STANDBY CONFIGURATION ............................................................................. 10
  Network Configuration .................................................................................................... 10
  PIP Configuration .......................................................................................................... 10
  Sync Configuration ........................................................................................................ 10
  VRRP Configuration ....................................................................................................... 10

APPENDIX .......................................................................................................................... 12

ALTEON ACTIVE DEVICE FULL CONFIGURATION SCRIPT ........................................... 12
ALTEON STANDBY DEVICE FULL CONFIGURATION SCRIPT ........................................... 17

TECHNICAL SUPPORT ....................................................................................................... 24
Introduction

The Radware Alteon Application Switch and VMware Zimbra joint solution provides a highly-scalable and highly-available unified messaging and communication infrastructure with the fastest response time. By deploying these two best-of-breed subsystems, end users benefit from a significantly improved Quality of Experience.

Using advanced health monitoring of each of the client access servers, Radware’s Alteon Application Switches validate the availability and response time of those resources, as well as deliver seamless load balancing, redundancy and persistency features. Furthermore, through its FastView™ technology, Radware’s Alteon provides service acceleration, offloading critical resources from the Zimbra servers, lowering CAPEX and OPEX to the organization.

Radware Alteon

Radware’s Alteon ADC solution provides advanced and comprehensive application delivery capabilities needed to effectively meet the challenges of application deployment and application delivery in today’s data centers. Equipped with advanced application acceleration capabilities, a global server load balancing solution and a comprehensive Layer 7 modification tool, the Alteon ADC is well-positioned as the leading ADC in the industry. Alteon ADC also spearheads the ADC virtualization trend with ADC-VX™, the industry’s first ADC virtualization and consolidation platform based on a specialized ADC hypervisor, and with Alteon virtual appliance (Alteon VA).

Integrated Application Acceleration Capabilities with FastView

Radware’s Alteon ADC delivers a wide set of advanced application acceleration capabilities that accelerate application response time while offloading server processing. By offloading processor-intensive operations, such as SSL, Web compression, caching, HTTP multiplexing, and TCP optimization, it frees the servers’ CPUs to handle additional requests, resulting in reduced application server hardware and lower CAPEX.

Radware’s FastView result-driven acceleration technology adds Web Performance Optimization (WPO) capabilities on top of the standard ADC application acceleration features to deliver the fastest Web application response time and ensure best application SLA. The result is best business impact for increased revenues, more page views, higher customer loyalty as well as improved employee productivity when using enterprise Web applications for all browsers and all end-user device types – starting from the first page visit.

Shaped to Deliver Applications

With Radware’s AppShape™ technology, Alteon ADC benefits from reduced deployment time of application delivery services by 85%, while guaranteeing maximum value for each business-critical application in terms of availability, performance and security. AppShape offers configuration templates and wizards for leading business applications. AppShape allows application delivery services to be fully managed and operated from an application-centric view, including operational screens, logs and compliance – resulting in simplified and efficient application
management in the ADC. Furthermore AppShape’s reporting capabilities help organizations with capacity planning tasks by providing per-application trend analysis and resource utilization reports.

**VMware Zimbra**

VMware Zimbra’s innovative post-PC email, calendar and collaboration solution solves the challenges faced by organizations mired in legacy communications infrastructure.

**End Users Seamlessly Connect to Their Personal Clouds**

Zimbra provides end users with a feature-rich browser-based experience that enables them to seamlessly and securely connect to their personal clouds on any device or platform. Zimbra’s smarter mailbox helps manage information and activity across their email, voice, social, calendar, address book, tasks and enterprise applications. Zimbra offers anywhere access, both online and offline, and synchs across multiple devices and smartphones (iPhone, Android, BlackBerry), while maintaining compatibility with all existing desktop email and calendar clients.

**Manage IT-as-a-Service**

Zimbra provides the choice of running securely in any private cloud as a virtual appliance or hosted in the public cloud. The software virtual appliance enables IT administrators to instantly deploy their own private email and collaboration cloud on top of VMware vSphere without complex installation and configuration workflows. With an open architecture and APIs, Zimbra integrates seamlessly with existing and new enterprise applications. Zimbra provides out-of-the-box integration with Cisco and Mitel for click-to-call, visual voicemail, call record history, presence and instant messaging. Additionally, IT administrators can easily connect Zimbra to their existing unified communications solution or extend Zimbra to work with other third-party unified communication solutions.

**Streamlined Administration for Lower TCO**

Designed for virtualization, Zimbra delivers faster provisioning and easier administration with built-in support for high availability, disaster recovery, backup and lifecycle management using vSphere. Zimbra simplifies these critical functions through an easy-to-use, Web-based administration console that enables administrators to easily access the applications anywhere, anytime and manage access and policies for a diverse set of users. Zimbra also supports hierarchical storage management, optimizing storage costs through tiered storage, and multi-tenancy that enables service providers to cost-effectively support a variety of businesses in a hosted environment. Additionally, Zimbra’s high-scalability and reduced administration time (33% less than Microsoft Exchange) enables IT to manage email and collaboration with fewer resources, lower costs and less risk—in the cloud or on-premises.
Radware Alteon and VMware Zimbra Server Architecture

Important Implementation Notes

1. Though reference is made to the Radware pre-configured certificates, you can import a certificate or create a new certificate in Alteon. For more information on exporting, importing, or creating certificates, see the Alteon Application Switch Operating System Application Guide.

2. In this architecture, Alteon offloads the SSL traffic and encrypts it again at the server side in a lower cypher mode.

3. SSL offloading is done for HTTPS, IMAPS, SecureSMTP and POP3S services.

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

- VMware Zimbra 7.2 servers
- Radware Alteon version 28.1.5
- VMware Zimbra Desktop client v.7.2.1
- VMware vCenter 5.u1a
- VMware ESX 5.u1
Configuration

Alteon Active Configuration

Network Configuration

```
/c/port 1
  pvid 506
/c/l2/vlan 1
  learn ena
def 2
/c/l2/vlan 506
  ena
  name "506"
  learn ena
def 1
/c/l2/stg 1/clear
/c/l2/stg 1/add 1 506
/c/l3/if 1
  ena
  ipver v4
  addr 192.168.25.2
  vlan 506
/c/l3/gw 1
  ena
  ipver v4
  addr 192.168.25.254
```

Sync Configuration

```
/c/slb/sync
  certs e
/c/slb/sync/peer 1
  ena
  addr 192.168.25.3
```

PIP Configuration

```
/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 192.168.25.201 1
```

Real Servers Configuration

```
/c/slb/real 1
  ena
  ipver v4
  rip 192.168.25.11
  name "zimbra.mbx.1"
```
/c/slb/real 2
ena
ipver v4
rip 192.168.25.12
name "zimbra.mbx.2"

**Server Groups Configuration**

/c/slb/group 1
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.HTTP.servers"

/c/slb/group 2
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.pop3.servers"

/c/slb/group 3
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.ldap.servers"

/c/slb/group 4
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.imap.servers"

/c/slb/group 5
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.smtp.servers"

**Alteon Process Directions**

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

**Virtual Services Configuration**

/c/slb/virt 1
ena
ipver v4
vip 192.168.25.200
  vname "zimbra.servers"
/c/slb/virt 1/service 443 https
  group 1
  rport 80
  dbind forceproxy
/c/slb/virt 1/service 443 https/http
  comppol 1
  xforward ena
/c/slb/virt 1/service 443 https/ssl
  srvrcert cert 1
  sslpol 1
/c/slb/virt 1/service 389 ldap
  group 3
/c/slb/virt 1/service 25 smtp
  group 5
  pbind clientip norport
/c/slb/virt 1/service 110 pop3
  group 2
/c/slb/virt 1/service 143 imap
  group 4
/c/slb/virt 1/service 993 ssl
  name Secure.IMAP
  group 4
  rport 143
  dbind forceproxy
/c/slb/virt 1/service 993 ssl/ssl
  srvrcert cert 1
  sslpol 2
/c/slb/virt 1/service 995 ssl
  name Secure.POP3
  group 2
  rport 110
  dbind forceproxy
/c/slb/virt 1/service 995 ssl/ssl
  srvrcert cert 1
  sslpol 2
/c/slb/virt 1/service 465 ssl
  name Secure.SMTP
  group 5
  rport 25
  dbind forceproxy
/c/slb/virt 1/service 465 ssl/ssl
  srvrcert cert 1
  sslpol 2
/c/sys/access/https/cert WebManagementCert
/c/sys/access/https/https e

**SSL Configuration**

/c/slb/ssl/sslpol 1
name "zradware.com"
ena
/c/slb/ssl/sslpol 2
    name "SIMAP"
cipher "all"
convert disabled
ena

**VRRP Configuration**

/c/l3/vrrp/on
/c/l3/vrrp/vr 1
    ena
    ipver v4
    vrid 1
    if 1
    prio 200
    addr 192.168.25.1
/c/l3/vrrp/vr 2
    ena
    ipver v4
    vrid 2
    if 1
    prio 200
    addr 192.168.25.200
Alteon Standby Configuration

**Network Configuration**

```plaintext
/c/port 1
  pvid 506
/c/l2/vlan 1
  learn ena
def 2
/c/l2/vlan 506
  ena
  name "506"
  learn ena
def 1
/c/l2/stg 1/clear
/c/l2/stg 1/add 1 506
/c/sys/sshd/ena
/c/sys/sshd/on
/c/l3/if 1
  ena
  ipver v4
  addr 192.168.25.3
  vlan 506
/c/l3/gw 1
  ena
  ipver v4
  addr 192.168.25.254
```

**PIP Configuration**

```plaintext
/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 192.168.25.202 1
```

**Sync Configuration**

```plaintext
/c/slb/sync
certs e
/c/slb/sync/peer 1
  ena
  addr 192.168.25.2
```

**VRRP Configuration**

```plaintext
/c/l3/vrrp/on
/c/l3/vrrp/vr 1
  ena
  ipver v4
  vrid 1
  if 1
```
prio 100
addr 192.168.25.1
/c/l3/vrrp/vr 2
  ena
  ipver v4
  vrid 2
  if 1
  prio 100
  addr 192.168.25.200
Appendix

Alteon Active Device Full Configuration Script

```
/c/sys/mmgmt
tftp mgmt
/c/sys
  idle 10080
/c/sys/access
  http ena
  tnet ena
/c/port 1
  pvid 506
/c/l2/vlan 1
  learn ena
  def 2
/c/l2/vlan 506
  ena
  name "506"
  learn ena
  def 1
/c/l2/stg 1/clear
/c/l2/stg 1/add 1 506
/c/sys/sshd/ena
/c/sys/sshd/on
/c/l3/if 1
  ena
  ipver v4
  addr 192.168.25.2
  vlan 506
/c/l3/gw 1
  ena
  ipver v4
  addr 192.168.25.254
/c/l3/vrrp/on
/c/l3/vrrp/vr 1
  ena
  ipver v4
  vrid 1
  if 1
  prio 200
  addr 192.168.25.1
/c/l3/vrrp/vr 2
  ena
  ipver v4
  vrid 2
  if 1
  prio 200
  addr 192.168.25.200
```
Alteon Load Balancing VMware Zimbra Servers

Thursday, September 20, 2012

7NPEXnu29PfLqGsBnZMQ3pHW0+k4YZk+em/gB0IWDU/ukiFRPVM4x+qCcjWM2piP+
6ZgtiSLFRghGOz4UToHb4CTpi0v8WAlQPppP/uuke9qMtn/JZ1dqCtGiRVGII
S1RtXXPaKdzW22iqsoB9sfyvzSQ8GldHqWqxAgMBAAGjgeAwgd0wDwYDVR0TAQH/
BAUuAwEB/2ARBglghkgBvhvCAQEEBAMCAkQwMgYJY1ZIAYb4QqENBCUWIOFsdGVv
bi9Ob3J0ZWwqR2VuZXJhdGVkIENlcnRpZmljYXRlMB0GA1UdDgQWBBQ1/qBazJMc
8CUS6qh3ZJ94XQ5uHDBXBgNVHSMEUDBOgBQ1/qBazJMc8CUS6qh3ZJ94XQ5uHKEw
pC4wLD6eqMCgGA1UEAxQhRGVmYXVsdF9HZW5lc3F0ZWRfQWx0ZW9uX0JCSV9DZX
J0
ggRQCA7MMAsGA1UdDgQEAwIC5DANBgkqhkiG9w0BAQQFAAOBgQaELA+egN84
aP
vWmRuA7E93iyupees/XJNhiM4iyw06aWgdSAA+ospK9/ueH0q0Pbw1Pe4hzvfx4
Z5PHQgf0aa2AcoSxPtlAio9564vft3+z+MgZvKihXRLYPHejaUmwLt2to7HA7l
Qp9tGbLxU/KKsd9/DQe2UP7WeRexOA==
-----END CERTIFICATE-----

/c/slb/sync/passphrs
b4014420a0004000f7e2ad3c52a3f0c30cb6c2691ac49e83827946cdbea89dd
/c/slb/ssl
    on
    /c/slb/ssl/sslpol 1
        name "zradware.com"
        ena
    /c/slb/ssl/sslpol 2
        name "SIMAP"
        cipher "all"
        convert disabled
        ena
    /c/slb
        on
        /c/slb/sync
            certs e
        /c/slb/sync/peer 1
            ena
            addr 192.168.25.3
        /c/slb/real 1
            ena
            ipver v4
            rip 192.168.25.11
            name "zimbra.mbx.1"
        /c/slb/real 2
            ena
            ipver v4
            rip 192.168.25.12
            name "zimbra.mbx.2"
        /c/slb/real 5
            ena
            ipver v4
            rip 192.168.25.13
            name "zimbra.mta.1"
        /c/slb/real 6
ena
ipver v4
rip 192.168.25.14
name "zimbra.mta.2"

/c/slb/group 1
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.HTTP.servers"

/c/slb/group 2
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.pop3.servers"

/c/slb/group 3
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.ldap.servers"

/c/slb/group 4
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.imap.servers"

/c/slb/group 5
ipver v4
metric phash 255.255.255.255
add 1
add 2
name "zimbra.smtp.servers"

/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 192.168.25.201 1
/c/slb/port 1
  client ena
  server ena
  proxy ena

/c/slb/virt 1
  ena
  ipver v4
  vip 192.168.25.200
  vname "zimbra.servers"

/c/slb/virt 1/service 443 https
  group 1
  rport 80
  dbind forceproxy

/c/slb/virt 1/service 443 https/http
comppol 1
xforward ena
/c/slb/virt 1/service 443 https/ssl
    srvrcert cert 1
    sslpol 1
/c/slb/virt 1/service 389 ldap
group 3
/c/slb/virt 1/service 25 smtp
group 5
    pdbind clientip norport
/c/slb/virt 1/service 110 pop3
group 2
/c/slb/virt 1/service 143 imap
group 4
/c/slb/virt 1/service 993 ssl
    name Secure.IMAP
    group 4
    rport 143
    pdbind forceproxy
/c/slb/virt 1/service 993 ssl/ssl
    srvrcert cert 1
    sslpol 2
/c/slb/virt 1/service 995 ssl
    name Secure.POP3
    group 2
    rport 110
    pdbind forceproxy
/c/slb/virt 1/service 995 ssl/ssl
    srvrcert cert 1
    sslpol 2
/c/slb/virt 1/service 465 ssl
    name Secure.SMTP
    group 5
    rport 25
    pdbind forceproxy
/c/slb/virt 1/service 465 ssl/ssl
    srvrcert cert 1
    sslpol 2
/c/sys/access/https/cert WebManagementCert
/c/sys/access/https/https e
/

Alteon Standby Device Full Configuration Script

/c/sys/mmgmt
tftp mgmt
/c/sys/access
    http ena
tnet ena
/c/port 1
    pvid 506
/c/l2/vlan 1
  learn ena
def 2
/c/l2/vlan 506
  ena
  name "506"
  learn ena
def 1
/c/l2/stg 1/clear
/c/l2/stg 1/add 1 506
/c/sys/sshd/ena
/c/sys/sshd/on
/c/l3/if 1
  ena
  ipver v4
  addr 192.168.25.3
  vlan 506
/c/l3/gw 1
  ena
  ipver v4
  addr 192.168.25.254
/c/l3/vrrp/on
/c/l3/vrrp/vr 1
  ena
  ipver v4
  vrid 1
  if 1
  prio 100
  addr 192.168.25.1
/c/l3/vrrp/vr 2
  ena
  ipver v4
  vrid 2
  if 1
  prio 100
  addr 192.168.25.200
/c/slb/ssl/certs/key 1
/c/slb/ssl/certs/import key "1" text
-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: DES-EDE3-CBC,D006C91568541AB6
8VVd/KSqgD6G3QdgDHu0530XihVV+YID2wzaGO8m86nc1Fhf8qVIYclVSzuQ4IATrfwAxhn3tuUGEujDAbzV4W7MDRBx9J4PUVV3WzGcyNIK8KsxSt1JBeIRgewtsU1ejBY/Ngmp2A3/hZVKDaEYmeeeFGNXF2euqCsoi4IG0VJrmdn376HxUlcdeMDE5bwcSdhX7C/sb64X/eqz19FpX7FN+SQM4+jPxsSBrj5fc5srDYi60EWO4FhoR+VuvwHQ6vF8RotrdfVsbHTVUoN0+WOUuSWnm0Krhe6Lzc4VpnIBIQzJJSynzlt7TCecGwvgID6T3S/+7W67NnBjtenDxtyHDdkTYOEtsyKuaEe/hXZ/wsJM5SihUPXTJwWhKKX6L
DW4nStd3pJMArOu2OfCxsT5t7nCaYGatpfpfTI5fDZlofeaeeyf9fwHVSbsYBxd2B9l4xe4SOUuiUQYTPA6+eIq4tgFhsnut2IIf2RMu6uk9WLt258afESi3iMoFtdRf1
nXHW3GtSt5YPdcrrWSWtFAJZkSCGCDgriLEmKx7ufZ7Z6u/ezRbJgMrUflXaRMu1
Alteon Load Balancing VMware Zimbra Servers

Thursday, September 20, 2012

-----BEGIN RSA PRIVATE KEY-----

/ssl/certs/key WebManagementCert

-----BEGIN RSA PRIVATE KEY-----

/ssl/certs/import key "WebManagementCert" text

-----BEGIN RSA PRIVATE KEY-----

/c/ssl/certs/request 1

-----BEGIN CERTIFICATE REQUEST-----

/c/ssl/certs/IMPORT request "1" text

-----END CERTIFICATE REQUEST-----

/c/ssl/certs/request WebManagementCert

-----BEGIN CERTIFICATE REQUEST-----

/c/ssl/certs/IMPORT request "WebManagementCert" text

-----END CERTIFICATE REQUEST-----

---End RSA PRIVATE KEY---
/c/slb/sync/passphrs
dcdca19a4888a0884b7b3d0e77a29b847b1782ea0627f9c5ec12474c90168a879
/c/slb/gslb/dnssec
   keymaster dis
/c/slb/ssl
   on
   /c/slb/ssl/sslpol 1
      name "zradware.com"
      ena
   /c/slb/ssl/sslpol 2
      name "SIMAP"
      cipher "all"
      convert disabled
      ena
   /c/slb
   on
   /c/slb/sync
      certs e
   /c/slb/sync/peer 1
      ena
      addr 192.168.25.2
   /c/slb/real 1
      ena
      ipver v4
      rip 192.168.25.11
      name "zimbra.mbx.1"
   /c/slb/real 2
      ena
      ipver v4
      rip 192.168.25.12
      name "zimbra.mbx.2"
   /c/slb/real 5
      ena
      ipver v4
      rip 192.168.25.13
      name "zimbra.mta.1"
   /c/slb/real 6
      ena
      ipver v4
      rip 192.168.25.14
      name "zimbra.mta.2"
   /c/slb/group 1
      ipver v4
      metric phash 255.255.255.255
      add 1
      add 2
      name "zimbra.HTTP.servers"
   /c/slb/group 2
      ipver v4
      metric phash 255.255.255.255
      add 1
add 2
name "zimbra.pop3.servers"
/c/slb/group 3
  ipver v4
  metric phash 255.255.255.255
  add 1
  add 2
  name "zimbra.ldap.servers"
/c/slb/group 4
  ipver v4
  metric phash 255.255.255.255
  add 1
  add 2
  name "zimbra.imap.servers"
/c/slb/group 5
  ipver v4
  metric phash 255.255.255.255
  add 1
  add 2
  name "zimbra.smtp.servers"
/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 192.168.25.202 1
/c/slb/port 1
  client ena
  server ena
  proxy ena
/c/slb/virt 1
  ena
  ipver v4
  vip 192.168.25.200
  vname "zimbra.servers"
/c/slb/virt 1/service 443 https
  group 1
  rport 80
  dbind forceproxy
/c/slb/virt 1/service 443 https/http
  comppol 1
  xforward ena
/c/slb/virt 1/service 443 https/ssl
  srvrcert cert 1
  sslpol 1
/c/slb/virt 1/service 389 ldap
  group 3
/c/slb/virt 1/service 25 smtp
  group 5
  pbind clientip norport
/c/slb/virt 1/service 110 pop3
  group 2
/c/slb/virt 1/service 143 imap
  group 4
/c/slb/virt 1/service 993 ssl
  group 4
  rport 143
  dbind forceproxy
/c/slb/virt 1/service 993 ssl/ssl
  srvrcert cert 1
  sslpol 2
/c/slb/virt 1/service 995 ssl
  group 2
  rport 110
  dbind forceproxy
/c/slb/virt 1/service 995 ssl/ssl
  srvrcert cert 1
  sslpol 2
/c/slb/virt 1/service 465 ssl
  group 5
  rport 25
  dbind forceproxy
/c/slb/virt 1/service 465 ssl/ssl
  srvrcert cert 1
  sslpol 2
/c/sys/access/https/cert WebManagementCert
/c/sys/access/https/https e
/
Technical Support

Radware offers technical support for all of its products through the Radware Certainty Support Program. Please refer to your Certainty Support contract, or the Radware Certainty Support Guide available at: http://www.radware.com/content/support/supportprogram/default.asp.

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