



TESTING & INTEGRATION GROUP
SOLUTION GUIDE

Alteon Application Switch (AAS) optimizing the delivery of
Microsoft Lync 2010

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TECHNICAL SOLUTION GUIDE
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Introduction

In today's competitive business landscape, the "always up" requirement from a unified communication service, such as Microsoft Lync Server 2010, has a strong business justification. A planned conference call with a customer that was canceled due to communication issues or an important executive-level update that was delayed or prevented due to a failed communication service are just two examples of the high business impact of a failed communication service. Additionally, the need to efficiently scale-up the unified communication solution to support additional services, increased capacity, and more concurrent users is a challenge that all IT organizations must address when planning and deploying a Microsoft Lync solution.

The Radware Alteon and Microsoft Office Communications Server joint solution ensures Office Communications Server customers solution resilience, efficiency and scale. Radware's Alteon Application Switch guarantees Office Communications Server maximum availability, scalability, performance and security. Managing traffic for both the Web Service content and SIP based Unified Communication services, Alteon Application Switch provides advanced health monitoring to avoid system down time and advanced traffic management to deliver a best of breed subsystem. With a pay as you grow platform licensing model, Alteon Application Switch ensures long term investment protection facilitating incremental growth demanded by today's business.

Using Microsoft Lync server 2010 and Radware ADC solutions, customers can receive the following key business benefits:

- A complete highly available and highly-performing unified communication solution - by leveraging Radware ADC solution capabilities, such as server health monitoring and smart load balancing
- Seamless multi-site load balancing through Radware's patented global server load balancing functionality, enabling transparent disaster recovery fail over and active-active site backup
- The combined Radware-Microsoft solution can support larger number of users with smaller and more cost-effective infrastructure, by offloading resource intensive server tasks to the Radware ADC, such as SSL termination and thus supporting more users per server
- By using the Radware ADC with its content caching and compression features in conjunction with the Microsoft Lync Server 2010, end-users connected over slow speed WAN connections (such as over cellular networks), can benefit from faster response time and a noticeably improved Quality of Experience (QoE)
- Seamless scalability – Radware's "Pay-as-you-Grow" approach enables adding more capacity to the solution, with no service interruption or system reconfiguration, via Radware's On-Demand Switch platforms
- A [Microsoft certified solution](#), fully tested and validated.

Microsoft Lync 2010 Overview

Microsoft® Lync™ ushers in a new connected user experience transforming every communication into an interaction that is more collaborative, engaging, and accessible from anywhere. For IT, the benefits are equally powerful, with a highly secure and reliable system that works with existing tools and systems for easier management, lower cost of ownership, smoother deployment and migration, and greater choice and flexibility.

Connected End User Experience

Users seek communications tools that make their work easier and are available anywhere, anytime—including within the context of other applications. Microsoft Lync 2010 provides a single interface that unites voice communications, IM, and audio, video, and Web conferencing into a richer, more contextual offering.

Find and communicate with the right person Rich presence including pictures, skill search, location information, and more gives users the context they need to make smart communication choices including built-in instant messaging capability. Users can add and connect with users on Public IM services such as Windows Live, AOL, and Yahoo! and communicate with them using their single work identity.

Create a more fun work environment by building social connections The rich experience of Lync 2010 helps workers make connections across time and distance with picture-enhanced presence, automatic frequent contacts lists, and activity feeds for keeping up with co-workers.

Make every interaction a near face to face meeting Transform any conversation to include high-resolution video-, application-, and desktop-sharing and be fully present in meetings without making the physical trip.

Communicate with context from Microsoft Office applications The visually compelling experience of Lync 2010 is consistent throughout Microsoft Office and other business applications, including color-coded presence icons, pictures, high-resolution video, and desktop sharing.

Stay connected from virtually anywhere A single experience across the PC, phone, or Web means that users have the choice to connect from many devices.

Benefits

From controlling costs to managing compliance, Microsoft® Lync™ delivers value that speaks to the needs of today's organizations.

Do more. With less.

Control costs Voice over IP (VoIP) enables communications among geographically dispersed company locations without long distance charges. Integrated audio, video, and Web conferencing helps reduce travel costs as well as the cost of third-party conferencing solutions.

Improve productivity Rich presence information helps employees find each other and choose the most effective way to communicate at a given time. Instead of e-mailing documents back and forth for approval, workers can rely on real-time collaboration through enhanced conferencing with desktop, application, and virtual whiteboard sharing—or contact a collaborator from within Microsoft Office or other applications. The unified Microsoft Lync 2010 client provides access to enterprise voice, enterprise messaging, and conferencing from one simplified interface.

Support the mobile workforce Mobile workers get access to rich Unified Communications tools from practically anywhere with an Internet connection, no VPN needed. An updated Lync Mobile client makes joining and managing conferences, searching the Global Address List, and viewing presence information easy. Rich presence in Lync Server 2010 has been updated with mobile location information, making on-the-go workers easier to find and contact. A single user experience across PC, phone, mobile phone, and browser gives workers more ways to stay in touch.

Gain operational efficiencies By integrating Unified Communications and rich presence into business workflows, latency and delays can be reduced or eliminated. For geographically dispersed teams, group chat can enable efficient, topic-specific, multi-party discussions that persist over time.

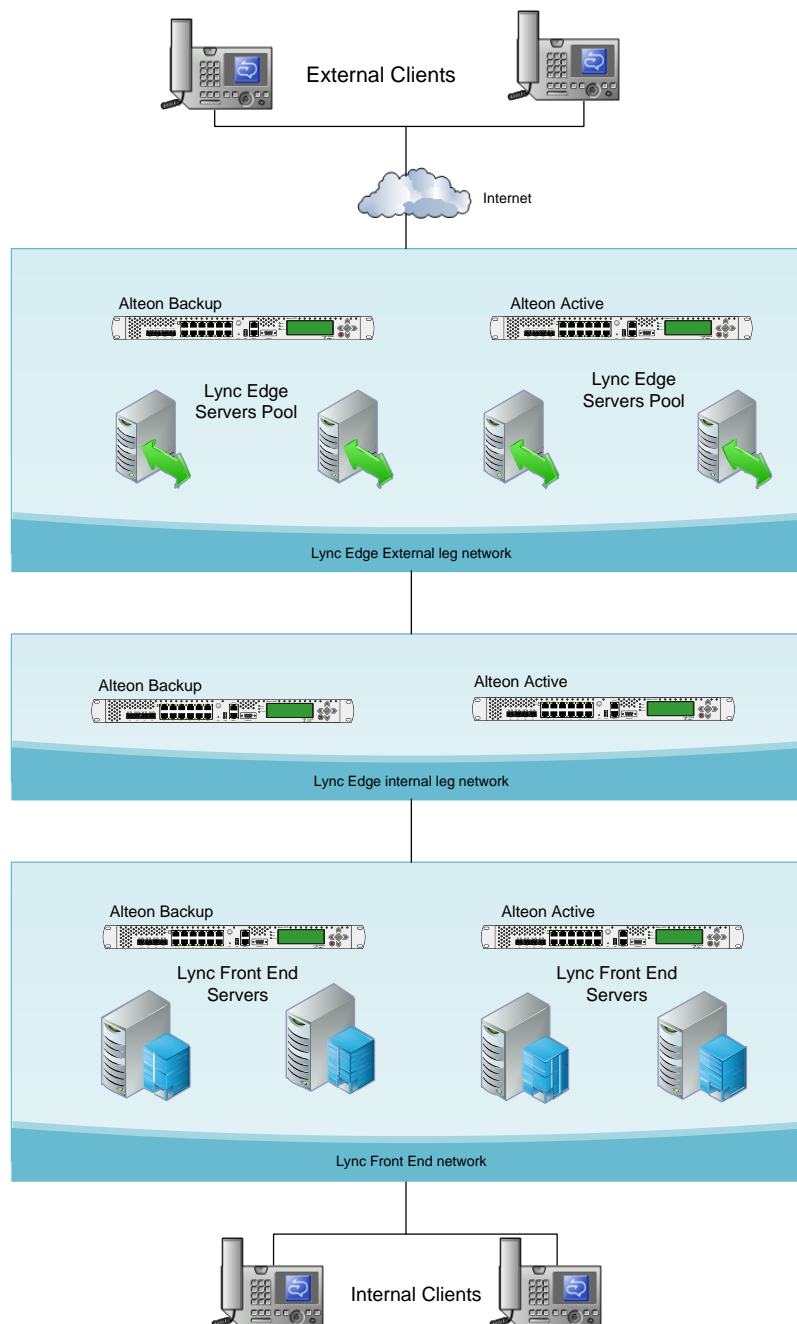
Be more responsive to customers, partners, and employees Enhanced delegation through Lync 2010, one-click call routing and management features in Microsoft Lync 2010 Attendant for receptionists, and rich presence information in both help ensure that opportunities are routed to the right person at the right time.

Maintain regulatory compliance Built-in security, encryption, archiving, and call detail records help meet regulatory requirements. By using your own servers and network, you maintain control over sensitive data that would otherwise be transmitted over public telephone networks and third-party conferencing platforms.

Joint Solution Topology example:

Radware's ADC solution provides high availability and improved performance to the Microsoft Lync 2010 unified communication solution through smart traffic load balancing and redirection. The simplest implementation is done by configuring a virtual IP address on the Alteon ADC, to which all LYNC traffic will go through, and intelligently distributed to the pool of LYNC servers.

The following topology diagram is a generic logical example, demonstrating which Lync server elements can be load balanced by the Alteon ADCs, i.e. Lync Edge servers and Lync Front End Servers.



A more realistic topology would use a single ADC device (or a cluster of two for redundancy), to provide all ADC services to the various Lync server pools, and zones in the network, separating the traffic through VLANs and by using a different virtual IP per VLAN – representing a network zone (e.g. DMZ or LAN), and per server pool.

Office Communications Server Protocols load balanced by Alteon

Front End Server

Front End Servers	Lync Server Front-End service	5060	TCP	Optionally used by Standard Edition servers and Front End Servers for static routes to trusted services, such as remote call control servers.
Front End Servers	Front-End service	5061	TCP (TLS)	Used by Standard Edition servers and Front End pools for all internal SIP communications between servers (MTLS), for SIP communications between Server and Client (TLS) and for SIP communications between Front End Servers and Mediation Servers (MTLS). Also used for communications with Monitoring Server.
Front End Servers	Front-End service	444	HTTPS TCP	Used for HTTPS communication between the Focus (the Lync Server component that manages conference state) and the individual servers. This port is also used for TCP communication between Front End Servers and Survivable Branch Appliances.
Front End Servers	Lync Server Front-End service	135	DCOM and remote procedure call (RPC)	Used for DCOM based operations such as Moving Users, User Replicator Synchronization, and Address Book Synchronization.
Front End Servers	Lync Server IM Conferencing service	5062	TCP	Used for incoming SIP requests for instant messaging (IM) conferencing.
Front End Servers	Lync Server Web Conferencing service	8057	TCP (TLS)	Used to listen for Persistent Shared Object Model (PSOM) connections from client.
Front End Servers	Lync Server Audio/Video Conferencing service	5063	TCP	Used for incoming SIP requests for audio/video (A/V) conferencing.

Front End Servers	Lync Server Web Compatibility service	443	HTTPS	Used for communication from Front End Servers to the web farm FQDNs (the URLs used by IIS web components).
Front End Servers	Lync Server Application Sharing service	5065	TCP	Used for incoming SIP listening requests for application sharing.
Front End Servers	Lync Server Conferencing Announcement service	5073	TCP	Used for incoming SIP requests for the Lync Server Conferencing Announcement service (that is, for dial-in conferencing).
Front End Servers	Lync Server Call Park service	5075	TCP	Used for incoming SIP requests for the Call Park application.
Front End Servers	Audio Test service	5076	TCP	Used for incoming SIP requests for the Audio Test service.
Front End Servers	Lync Server Response Group service	5071	TCP	Used for incoming SIP requests for the Response Group application.
Front End Servers	Lync Server Bandwidth Policy Service	5080	TCP	Used for call admission control by the Bandwidth Policy service for A/V Edge TURN traffic.
Front End Servers	Lync Server Bandwidth Policy Service	448	TCP	Used for call admission control by the Lync Server Bandwidth Policy Service.
Front End Servers	Lync Server Web Services	8080	TCP	Front End web services

Edge Server External Leg

Edge Servers External Leg	Load balancer for Edge Servers	443	TCP	Used for SIP Access Service (VIP1)
Edge Servers External I Leg	Load balancer for Edge Servers	5061	TCP	Used for Federation mode
Edge Servers External Leg	Load balancer for Edge Servers	443	TCP	Used for Web Conferencing service (VIP2)
Edge Servers External Leg	Load balancer for Edge Servers	443	TCP	Used for A/V service (VIP3)
Edge Servers External Leg	Load balancer for Edge Servers	3478	UDP	STUN/UDP for A/V service

Edge Server Internal Leg

Edge Servers Internal Leg	Load balancer for Edge Servers	443	TCP	Used for Web Service
Edge Servers Internal Leg	Load balancer for Edge Servers	5061	TCP	SIP TLS
Edge Servers Internal Leg	Load balancer for Edge Servers	5062	TCP	Internal Edge authentication
Edge Servers Internal Leg	Load balancer for Edge Servers	3478	UDP	STUN/UDP for A/V service

CWA Servers

CWA Servers	Load balancer for CWA Servers	443	TCP	HTTPS Traffic (Alteon do SSL Offloading)
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Table 1.0 – Office Communications Server Protocols load balanced by Alteon

For more information, please visit: <http://lync.microsoft.com/en-us/Pages/default.aspx>

Radware Alteon

Alteon Application Switch Series 4-5 provide 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 face diverse requirements, the Alteon Application Switch provides the extendable throughput they need from 0 to 20Gbps for unparalleled scalability, business availability and performance.

Breakthrough Performance Delivering best Quality of Experience

Powered by state-of-the-art, custom-designed hardware platforms, the Alteon Series 4-5 ensure the best user experience and fastest response time for your mission-critical applications, resulting in effective, continuous business operation. The Alteon 4008 & 4416 provide up to 4Gbps of scalable throughput capacity while delivering breakthrough performance including 215K Layer 4 and 135K Layer 7 Transactions per Second (TPS). The Alteon 5412, targeting large data centers and

carrier environments packed with four 10GE ports, supports up to 20Gbps of throughput capacity, 2.5 Million DNS queries per second, 535K Layer 4 and 300K Layer 7 Transactions per Second.

The beating heart of Alteon Series 4-5 is the Virtual Matrix Architecture (VMA), a one-of-a-kind technology that unleashes the power of Alteon's next-generation proprietary platforms. VMA is a fast, robust, and flexible architecture that leverages the entire system's capacity while providing the parallel performance of distributed processing.

Integrated Application Acceleration Capabilities

Alteon Application Switch Series 4-5 deliver 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 in order to support application processing requirements and reducing CAPEX and OPEX.

The Alteon Application Switch is validated and certified by leading application vendors such as Microsoft, Oracle, SAP, IBM and others. When operating Alteon Application Switch Series 4-5 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.

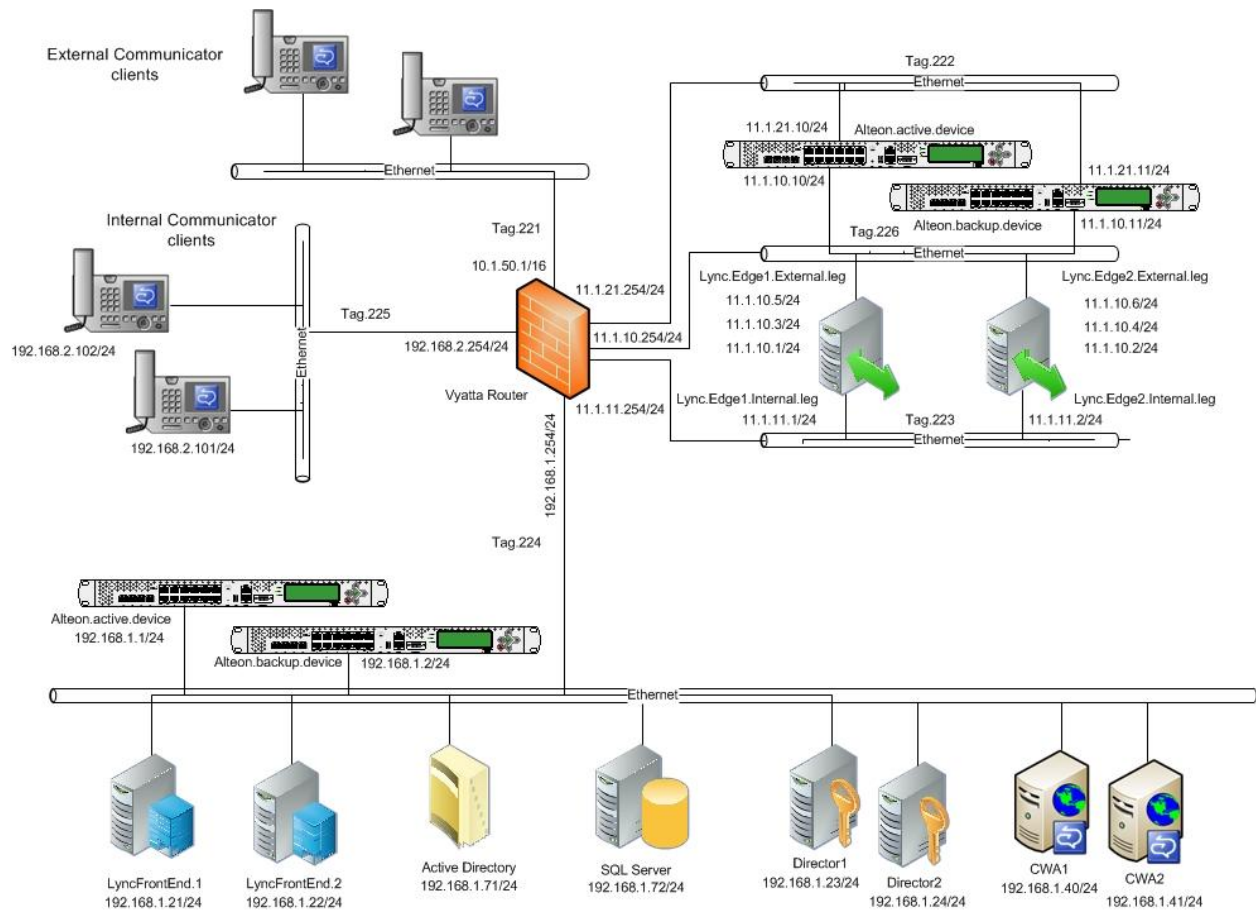
Application acceleration capabilities have greater importance in virtual data centers where applications suffer from increased latency caused by virtualization infrastructure. Alteon reduces applications latency and improves QoE of virtual applications.

Intelligently Embedding Radware's 'On Demand' Infrastructure Approach

By embracing Radware's "Pay-as-you-Grow" approach, you only pay for the exact capacity currently required and prevent over-spending 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 device and without even restarting it.

The "Pay-as-you-Grow" approach enables you to 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, to dramatically reduce OPEX.

Radware Alteon and Microsoft Lync Architecture



Tested Network Drawing

Important Implementation Notes

1. There are two pairs of Alteon Application Switches configured for this deployment. A pair of Alteons configured in the DMZ for the Edge Servers and a pair of Alteons configured in the LAN for the Front-End Servers.
2. DNS SRV records for the appropriate domain are used to locate the Lync servers for client connectivity. DNS administration is required to bind an A record for the Lync FQDN, where the FQDN resolves the appropriate Alteon Virtual IP Address (VIP). Alteon has the ability to become the Authoritative responder for this FQDN, normally used in Disaster Recovery designs; in this case the DNS would use a name server record pointing to the Alteon for the authoritative response. Alteon would base the response on the availability, load and proximity information it uses to drive intelligent load distribution.
3. SSL traffic is (TCP.443) can be configured as persistent with SSLID tracking (not configured in this paper)
4. Other traffic is persistent with Source IP LB.
5. Internal legs of the Edge servers routing table for 192.168.1.0/24, 192.168.2.0/24 and 192.168.3.0/24 must be routed statically on the servers to IP 11.1.11.254. Windows command example: `'route add 192.168.1.0 mask 255.255.255.0 11.1.11.254 -p'`
6. Microsoft requires session timeout for 1800 second; Make sure that aging time on the Alteon is set to 30 minutes.
7. Internal Alteon leg route for 192.168.1.0/24 will go through 11.1.10.254 (for CWA, Online Meeting, ABS, dialing conferencing and Group Extensions services)
8. Import the Microsoft Lync certificate to the Alteons both internal and external, to understand how to import the Certificate please refer to the Alteons Manual.
9. To sync configuration after configure the active Alteon please run the command `/oper/slb/sync` to copy the configuration (L2 and L3 network configuration need to be configured one the Alteon standby device before applying the sync command)
10. The CWA server are doing compression to the web pages by default, the Alteon cannot do the header and body modification when compression is enabled by the CWA servers. To disable compression we use the compression mechanism that tells the servers not to add compression to the web pages.

Software and Hardware

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

Microsoft Windows 2008 R2 x64bits
 Radware's Alteon ODS2 v.28.1.0 (4 units)
 Microsoft Lync 2010 Enterprise
 Microsoft SQL Server 2005
 Microsoft Lync Front End and Edge servers

Configuration

Alteon Internal Active Configuration

Network Configuration

<input type="checkbox"/>	VLAN ID	Name	Ports	STG	State
<input type="checkbox"/>	1	Default VLAN	1	1	●
<input type="checkbox"/>	205	TAG.192.168.1.x	2	1	●

```
/c/port 2
  tag ena
  pvid 205
/c/l2/vlan 1
  learn ena
  def 1
/c/l2/vlan 205
  ena
  name "205"
  learn ena
  def 2
/c/l2/stg 1/clear
/c/l2/stg 1/add 1 205
```

IP Interfaces

<input type="checkbox"/>	Interface ID	IP Address	Mask/Prefix	Broadcast Address	VLAN	Status
<input type="checkbox"/>	2	192.168.1.2	255.255.255.0	192.168.1.255	205	●

```
/c/l3/if 2
  ena
  ipver v4
  addr 192.168.1.2
  vlan 205
/c/l3/gw 1
  ena
  ipver v4
  addr 192.168.1.254
```

Sync Configuration

```

/c/slb/sync
  prios d
  certs e
  state e
/c/slb/sync/peer 1
  ena
  addr 192.168.1.3

```

Real Servers Configuration**Real Servers**

<input type="button" value="Add"/>		<input type="button" value="Bulk Edit"/>		<input type="button" value="Delete"/>		<input type="button" value="Search"/>		<input type="button" value="Refresh"/>	
<input type="checkbox"/>	ID	Name	IP Version	IP Address	Max Connections	MAC Address	VLAN	Port	Status
<input type="checkbox"/>	1	Lync.Server1	4	192.168.1.21	200000	00:50:56:b5:00:df	0	0	
<input type="checkbox"/>	2	Lync.Server.2	4	192.168.1.22	200000	00:50:56:b5:00:e3	0	0	
<input type="checkbox"/>	3	Lync.EDGE.Internal.1	4	11.1.11.1	200000	00:50:56:b5:01:1e	0	0	
<input type="checkbox"/>	4	Lync.EDGE.Internal.1	4	11.1.11.2	200000	00:50:56:b5:01:1e	0	0	
<input type="checkbox"/>	14	Lync.Director.Server.1	4	192.168.1.23	200000	00:50:56:b5:00:e4	0	0	
<input type="checkbox"/>	15	Lync.Director.Server.2	4	192.168.1.24	200000	00:50:56:b5:00:ea	0	0	
<input type="checkbox"/>	16	Lync.CWA.Server.1	4	192.168.1.40	200000	00:50:56:b5:00:d1	0	0	
<input type="checkbox"/>	17	Lync.CWA.Server.2	4	192.168.1.41	200000	00:50:56:b5:00:e6	0	0	

```

/c/slb/real 1
  ena
  ipver v4
  rip 192.168.1.21
  name "Lync.Server1"
/c/slb/real 2
  ena
  ipver v4
  rip 192.168.1.22
  name "Lync.Server.2"
/c/slb/real 3
  ena
  ipver v4
  rip 11.1.11.1
  name "Lync.EDGE.Internal.1"
/c/slb/real 4
  ena
  ipver v4
  rip 11.1.11.2
  name "Lync.EDGE.Internal.1"
/c/slb/real 14
  ena
  ipver v4
  rip 192.168.1.23
  name "Lync.Director.Server.1"
/c/slb/real 15
  ena

```

```

ipver v4
rip 192.168.1.24
name "Lync.Director.Server.2"
/c/slb/real 16
ena
ipver v4
rip 192.168.1.40
name "Lync.CWA.Server.1"
/c/slb/real 17
ena
ipver v4
rip 192.168.1.41
name "Lync.CWA.Server.2"

```

Server Groups Configuration

Server Groups

Add			Delete	Search	Refresh		
Server Group ID	Name	SLB Metric	Health Check	Backup			
<input type="checkbox"/>	1	Lync.frontend.SIP.5060	leastconns	tcp	None		
<input type="checkbox"/>	2	Lync.frontend.HTTPS.conf.444	roundrobin	tcp	None		
<input type="checkbox"/>	3	Lync.frontend.HTTPS.443	roundrobin	tcp	None		
<input type="checkbox"/>	4	Lync.frontend.MTLS.5061	roundrobin	tcp	None		
<input type="checkbox"/>	5	Lync.frontend.DCOM.135	roundrobin	tcp	None		
<input type="checkbox"/>	7	Lync.CWA.Group	roundrobin	tcp	None		
<input type="checkbox"/>	9	Lync.Directors	leastconns	tcp	None		
<input type="checkbox"/>	10	Proxy.to.FE.4443	leastconns	tcp	None		
<input type="checkbox"/>	11	FE.IM.REQ.8057	leastconns	tcp	None		
<input type="checkbox"/>	12	fe.web.service.8080	leastconns	tcp	None		
<input type="checkbox"/>	14	FE.CALL.ADM.448	leastconns	tcp	None		
<input type="checkbox"/>	15	FE.App.Share.5065	leastconns	tcp	None		
<input type="checkbox"/>	16	FE.monitoring.5069	leastconns	tcp	None		
<input type="checkbox"/>	17	FE.RES.GROUP.5071	leastconns	tcp	None		
<input type="checkbox"/>	18	FE.SIP.REQ.5072	leastconns	tcp	None		
<input type="checkbox"/>	19	FE.CONF.ANOUN.5073	leastconns	tcp	None		
<input type="checkbox"/>	20	FE.SIP.REQ.CALL.PRK.5075	leastconns	tcp	None		
<input type="checkbox"/>	21	FE.AUDIO.TEST.5076	leastconns	tcp	None		
<input type="checkbox"/>	22	FE.AV.AGE.TURN.TRAFF.5080	leastconns	tcp	None		
<input type="checkbox"/>	23	EDGE.Replication.4443	leastconns	tcp	None		
<input type="checkbox"/>	24	EDGE.INT.443	leastconns	tcp	None		
<input type="checkbox"/>	25	EDGE.INT.5061	leastconns	tcp	None		
<input type="checkbox"/>	26	EDGE.INT.5062	leastconns	tcp	None		
<input type="checkbox"/>	27	GE.INT.UDP.STUN.3478	leastconns	tcp	None		
<input type="checkbox"/>	30	EDGE.INT.8057	leastconns	tcp	None		
<input type="checkbox"/>	31	Lync.Director.5060	leastconns	tcp	None		

```

/c/slb/group 1
ipver v4
content "5060"
add 1
add 2
name "Lync.frontend.SIP.5060"

```

```
/c/slb/group 2
  ipver v4
  metric roundrobin
  content "444"
  add 1
  add 2
  name "Lync.frontend.HTTPS.conf.444"
/c/slb/group 3
  ipver v4
  metric roundrobin
  content "443"
  add 1
  add 2
  name "Lync.frontend.HTTPS.443"
/c/slb/group 4
  ipver v4
  metric roundrobin
  content "5061"
  add 1
  add 2
  name "Lync.frontend.MTLS.5061"
/c/slb/group 5
  ipver v4
  metric roundrobin
  content "135"
  add 1
  add 2
  name "Lync.frontend.DCOM.135"
/c/slb/group 7
  ipver v4
  metric roundrobin
  content "80"
  add 16
  add 17
  name "Lync.CWA.Group"
/c/slb/group 9
  ipver v4
  content "5061"
  add 14
  add 15
  name "Lync.Directors"
/c/slb/group 10
  ipver v4
  add 1
  add 2
  name "Proxy.to.FE.4443"
/c/slb/group 11
  ipver v4
  add 1
  add 2
  name "FE.IM.REQ.8057"
/c/slb/group 12
  ipver v4
  add 1
  add 2
  name "fe.web.service.8080"
```

```
/c/slb/group 14
  ipver v4
  add 1
  add 2
  name "FE.CALL.ADM.448"
/c/slb/group 15
  ipver v4
  add 1
  add 2
  name "FE.App.Share.5065"
/c/slb/group 16
  ipver v4
  add 1
  add 2
  name "FE.monitoring.5069"
/c/slb/group 17
  ipver v4
  add 1
  add 2
  name "FE.RES.GROUP.5071"
/c/slb/group 18
  ipver v4
  add 1
  add 2
  name "FE.SIP.REQ.5072"
/c/slb/group 19
  ipver v4
  add 1
  add 2
  name "FE.CONF.ANOUN.5073"
/c/slb/group 20
  ipver v4
  add 1
  add 2
  name "FE.SIP.REQ.CALL.PRK.5075"
/c/slb/group 21
  ipver v4
  add 1
  add 2
  name "FE.AUDIO.TEST.5076"
/c/slb/group 22
  ipver v4
  add 1
  add 2
  name "FE.AV.AGE.TURN.TRAFF.5080"
/c/slb/group 23
  ipver v4
  add 3
  add 4
  name "EDGE.Replication.4443"
/c/slb/group 24
  ipver v4
  add 3
  add 4
  name "EDGE.INT.443"
/c/slb/group 25
```




```
    ipver v4
    add 3
    add 4
    name "EDGE.INT.5061"
/c/slb/group 26
    ipver v4
    add 3
    add 4
    name "EDGE.INT.5062"
/c/slb/group 27
    ipver v4
    add 3
    add 4
    name "GE.INT.UDP.STUN.3478"
/c/slb/group 30
    ipver v4
    add 3
    add 4
    name "EDGE.INT.8057"
/c/slb/group 31
    ipver v4
    add 14
    add 15
    name "Lync.Director.5060"
```

Alteon process directions

```
/c/slb/port 2
    client ena
    server ena
    proxy ena
```

Virtual Servers and Services Configuration**Virtual Servers**



AddBulk EditDeleteSearch

<input type="checkbox"/>	ID	Name	IP Address	Domain Name	Status
<input type="checkbox"/>	+1	Lync.frontend.DCOM.135	192.168.1.200		enabled
<input type="checkbox"/>	+2	Lync.frontend.HTTPS.443	192.168.1.200		enabled
<input type="checkbox"/>	+3	Lync.frontend.HTTPS.conf.444	192.168.1.200		enabled
<input type="checkbox"/>	+4	Lync.frontend.SIP.5060	192.168.1.200		enabled
<input type="checkbox"/>	+5	Lync.frontend.MTLS.5061	192.168.1.200		enabled
<input type="checkbox"/>	+6	Lync.FE.SIP.app.sharing.5065	192.168.1.200		enabled
<input type="checkbox"/>	+7	Lync.edge.internal.UDP.STUN.3478	192.168.1.230		enabled
<input type="checkbox"/>	+8	Lync.Edge.internal.443	192.168.1.230		enabled
<input type="checkbox"/>	+9	Lync.Edge.internal.5062	192.168.1.230		enabled
<input type="checkbox"/>	+10	Lync.Edge.internal.8057	192.168.1.230		enabled
<input type="checkbox"/>	+11	Lync.Edge.Internal.5061	192.168.1.230		enabled
<input type="checkbox"/>	+12	Lync.proxy.4443	192.168.1.200		enabled

<input type="checkbox"/>	13	FE.monitoring.5069	192.168.1.200	enabled
<input type="checkbox"/>	15	EDGE.Replication.4443	192.168.1.230	disabled
<input type="checkbox"/>	31	Lync.IM.Request.8057	192.168.1.200	enabled
<input type="checkbox"/>	32	Lync.call.admission.control	192.168.1.200	enabled
<input type="checkbox"/>	33	Lync.Responese.group	192.168.1.200	enabled
<input type="checkbox"/>	34	Lync.SIP.Request	192.168.1.200	enabled
<input type="checkbox"/>	35	Lync.Conferencing.anoun	192.168.1.200	enabled
<input type="checkbox"/>	36	Lync.SIP.Request.call.park	192.168.1.200	enabled
<input type="checkbox"/>	37	Lync.Audio.test.service	192.168.1.200	enabled
<input type="checkbox"/>	38	Lync.AV.age.turn.traffic	192.168.1.200	enabled
<input type="checkbox"/>	40	Lync.External.Web.services	192.168.1.200	enabled
<input type="checkbox"/>	41	Lync.Directors.vip	192.168.1.160	enabled
<input type="checkbox"/>	43	Lync.CWA.vip	192.168.1.170	enabled

```

/c/slb/virt 1
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.frontend.DCOM.135"
/c/slb/virt 1/service 135 basic-slb
  group 5
  pbind clientip norport
  tmout 30
/c/slb/virt 2
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.frontend.HTTPS.443"
/c/slb/virt 2/service 443 https
  group 3
  pbind clientip norport
  tmout 30
  direct dis
/c/slb/virt 3
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.frontend.HTTPS.conf.444"
/c/slb/virt 3/service 444 basic-slb
  group 2
  pbind clientip norport

```

```
    tmout 30
/c/slb/virt 4
    ena
    ipver v4
    vip 192.168.1.200
    vname "Lync.frontend.SIP.5060"
/c/slb/virt 4/service 5060 sip
    group 1
    pbind clientip norport
    tmout 30
/c/slb/virt 5
    ena
    ipver v4
    vip 192.168.1.200
    vname "Lync.frontend.MTLS.5061"
/c/slb/virt 5/service 5061 basic-slb
    group 4
    pbind clientip norport
    tmout 30
/c/slb/virt 6
    ena
    ipver v4
    vip 192.168.1.200
    vname "Lync.FE.SIP.app.sharing.5065"
/c/slb/virt 6/service 5065 basic-slb
    group 15
    pbind clientip norport
    tmout 30
/c/slb/virt 7
    ena
    ipver v4
    vip 192.168.1.230
    vname "Lync.edge.internal.UDP.STUN.3478"
/c/slb/virt 7/service 3478 basic-slb
    group 27
    protocol udp
    pbind clientip norport
    tmout 30
/c/slb/virt 8
    ena
    ipver v4
    vip 192.168.1.230
    vname "Lync.Edge.internal.443"
/c/slb/virt 8/service 443 https
    group 24
    pbind clientip norport
    tmout 30
/c/slb/virt 9
    ena
    ipver v4
    vip 192.168.1.230
    vname "Lync.Edge.internal.5062"
/c/slb/virt 9/service 5062 basic-slb
    group 26
    pbind clientip norport
    tmout 30
```

```
/c/slb/virt 10
  ena
  ipver v4
  vip 192.168.1.230
  vname "Lync.Edge.internal.8057"
/c/slb/virt 10/service 8057 basic-slb
  group 30
  pbind clientip norport
  tmout 30
/c/slb/virt 11
  ena
  ipver v4
  vip 192.168.1.230
  vname "Lync.Edge.Internal.5061"
/c/slb/virt 11/service 5061 basic-slb
  group 25
  pbind clientip norport
  tmout 30
/c/slb/virt 12
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.proxy.4443"
/c/slb/virt 12/service 4443 basic-slb
  group 10
  pbind clientip norport
/c/slb/virt 13
  ena
  ipver v4
  vip 192.168.1.200
  vname "FE.monitoring.5069"
/c/slb/virt 13/service 5069 basic-slb
  group 16
  pbind clientip norport
/c/slb/virt 15
  ena
  ipver v4
  vip 192.168.1.230
  vname "EDGE.Replication.4443"
/c/slb/virt 15/service 4443 basic-slb
  group 23
  pbind clientip norport
/c/slb/virt 31
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.IM.Request.8057"
/c/slb/virt 31/service 8057 basic-slb
  group 11
  pbind clientip norport
  tmout 30
/c/slb/virt 32
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.call.admition.control"
```

```
/c/slb/virt 32/service 448 basic-slb
  group 14
  pbind clientip norport
  tmout 30
/c/slb/virt 33
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.Responese.group"
/c/slb/virt 33/service 5071 basic-slb
  group 17
  pbind clientip norport
/c/slb/virt 34
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.SIP.Request"
/c/slb/virt 34/service 5072 basic-slb
  group 18
  pbind clientip norport
/c/slb/virt 35
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.Conferencing.anoun"
/c/slb/virt 35/service 5073 basic-slb
  group 19
  pbind clientip norport
  tmout 30
/c/slb/virt 36
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.SIP.Request.call.park"
/c/slb/virt 36/service 5075 basic-slb
  group 20
  pbind clientip norport
/c/slb/virt 37
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.Audio.test.service"
/c/slb/virt 37/service 5076 basic-slb
  group 21
  pbind clientip norport
/c/slb/virt 38
  ena
  ipver v4
  vip 192.168.1.200
  vname "Lync.AV.age.turn.traffic"
/c/slb/virt 38/service 5080 basic-slb
  group 22
  pbind clientip norport
/c/slb/virt 40
  ena
  ipver v4
```

```
    vip 192.168.1.200
    vname "Lync.External.Web.services"
/c/slb/virt 40/service 8080 http
    group 12
    pbind clientip norport
/c/slb/virt 41
    ena
    ipver v4
    vip 192.168.1.160
    vname "Lync.Directors.vip"
/c/slb/virt 41/service 5061 basic-slb
    group 9
    pbind clientip norport
    tmout 20
/c/slb/virt 41/service 5060 sip
    group 31
    pbind clientip norport
    tmout 20
/c/slb/virt 43
    ena
    ipver v4
    vip 192.168.1.170
    vname "Lync.CWA.vip"
/c/slb/virt 43/service 443 https
    group 7
    rport 80
    dbind ena
/c/slb/virt 43/service 443 https/http
    compool 2
    httpmod 2
/c/slb/virt 43/service 443 https/ssl
    svrcert cert 7
    sslpool 6
```

Layer 7 Modification

```
/c/slb/layer7/httpmod 1
    ena
    name "http to https"
/c/slb/layer7/httpmod 1/rule 1 text
    ena
    name "http.to.https"
    directn resp
    body include
    action replace "FROMTEXT=http://sp.r2radware.com"
    "TOTEXT=https://sp.r2radware.com"
/c/slb/layer7/httpmod 2
    ena
    name "http.to.https.lync.cwa"
/c/slb/layer7/httpmod 2/rule 2 text
    name "http.to.https.cwa"
    directn resp
    body include
    action replace "FROMTEXT=http://cwa.lyncradware.com"
    "TOTEXT=https://cwa.lyncradware.com"
```

```
/c/slb/layer7/httpmod 2/rule 3 url
  ena
  name "eyal"
  body include
/c/slb/layer7/httpmod 2/rule 3 url/action
  protocol https
/c/sys/access/https/cert WebManagementCert
/c/sys/access/https/https e
```

VRRP Configuration

```
/c/I3/vrrp/on
/c/I3/vrrp/vr 2
  ena
  ipver v4
  vrid 131
  if 2
  prio 150
  addr 192.168.1.1
  share dis
/c/I3/vrrp/vr 2/track
  l4pts e
/c/I3/vrrp/vr 3
  ena
  ipver v4
  vrid 132
  if 2
  prio 150
  addr 192.168.1.200
  share dis
/c/I3/vrrp/vr 3/track
  l4pts e
/c/I3/vrrp/vr 4
  ena
  ipver v4
  vrid 134
  if 2
  prio 150
  addr 192.168.1.230
  share dis
/c/I3/vrrp/vr 4/track
  l4pts e
/c/I3/vrrp/vr 5
  ena
  ipver v4
  vrid 135
  if 2
  prio 150
  addr 192.168.1.160
  share dis
/c/I3/vrrp/vr 5/track
  l4pts e
/c/I3/vrrp/vr 6
  ena
```



```

    ipver v4
    vrid 136
    if 2
    prio 150
    addr 192.168.1.170
    share dis
/c/l3/vrrp/vr 6/track
    l4pts e
/c/l3/vrrp/group
    ena
    ipver v4
    vrid 140
    if 2
    prio 200
    share dis
/c/l3/vrrp/group/track
    l4pts ena

```

PIP Configuration

```

/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 192.168.1.99 2

```

Compression Configuration

```

/c/slb/accel/compress
    on
/c/slb/accel/compress/comppol 2
    name "cwa"
    minsize 1
    ena

```

SSL Configuration

```

/c/slb/ssl/certs/key 7
/c/slb/ssl/certs/import key "7" text
-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: DES-EDE3-CBC,B1AB1DB1C8EC9267

```

```

eSxvkg7rxRTUd+0w9/m3BdvN0AfoPT4bgi2jl/iQM6ELmttt6MuaXSRODxh2sS0F
EXQj63BV9s9exOfOmschkYYmDoM75GRy0xoG9atWbO81nTFBPvHbND5XbXW2nydi7
/k5V5QZk7CtMaiwTGq7CCMls20000/Pu2KtkXMPt4SZTeUk9qG4+6QQBBSSJeGpj
tPfAJ/ZXnwpLaGV/YW/KII78TwMHCCrCTdsW0dRXwu8VcYe6YCe5aZImX6gVo+eS
fBLcwm4r4q43NKIF/WKJVgRHHIEJsUuwP2lJb/TIYYHJc+5xnFnLIZGdvJWnV1T2
rMnpYJzeTKxSuq27Z4TB0NDjpXZikC0/eNITVhw7J5NE3vot2Wzg+EqusupyHRZi
MsqHOpBKu37QYuCgkytBN1xv1kz00ICx605mncH3SaVcO2T7YcQ9bi/GKUWkGcMw
+I+YUYFErZqtI5AsV6W5esLaW6Pv17ONT+zlcjgoVKNWRJ383f1qWdMaNGpIctgr
MbyGZ+/k7mKeP9/TzzD59brZXP50fWsDjFlfEID4Y9HsrmaqkNJQ4ElvAiXUrQ59d
9oCK5cet5fUVTDctgwxQTER2UBYPFab13e8z94qhiiKMST02DTesyVTkTgpRZWzo
ChNIEswaACoGtTQfYszieseNMEIGF0og4XQkqcIT26kBohNw05xzFBg4AiLK/u7H
NauS/EI5EW2GAjeVupg4atUYoKoOTz/7xUXV75dQnACxYRG+onjauimU/pGfE9fs

```


Alteon Internal Standby Configuration

Network Configuration

<input type="checkbox"/>	VLAN ID	Name	Ports	STG	State
<input type="checkbox"/>	1	Default VLAN	1	1	
<input type="checkbox"/>	205	TAG.192.168.1.x	2	1	

```

/c/port 1
  pvid 201
/c/port 2
  pvid 202
/c/l2/vlan 1
  learn ena
  def 0
/c/l2/vlan 101
  ena
  name "VLAN 101"
  learn ena
  def 0
/c/l2/vlan 201
  ena
  name "201"
  learn ena
  def 1
/c/l2/vlan 202
  ena
  name "202"
  learn ena
  def 2

```

IP Interfaces

<input type="checkbox"/>	Interface ID	IP Address	Mask/Prefix	Broadcast Address	VLAN	Status
<input type="checkbox"/>	2	192.168.1.3	255.255.255.0	192.168.1.255	205	

```

/c/l3/if 2
  ena
  ipver v4
  addr 192.168.1.3
  vlan 205
/c/l3/gw 1
  ena
  ipver v4
  addr 192.168.1.254

```

Sync Configuration

```

/c/slb/sync
  prios d
  certs e
  state e
/c/slb/sync/peer 1

```

```
ena
addr 192.168.1.2
```

VRRP Configuration

```
/c/l3/vrrp/on
/c/l3/vrrp/vr 2
  ena
  ipver v4
  vrid 131
  if 2
  prio 150
  addr 192.168.1.1
  share dis
/c/l3/vrrp/vr 2/track
  l4pts e
/c/l3/vrrp/vr 3
  ena
  ipver v4
  vrid 132
  if 2
  prio 150
  addr 192.168.1.200
  share dis
/c/l3/vrrp/vr 3/track
  l4pts e
/c/l3/vrrp/vr 4
  ena
  ipver v4
  vrid 134
  if 2
  prio 150
  addr 192.168.1.230
  share dis
/c/l3/vrrp/vr 4/track
  l4pts e
/c/l3/vrrp/vr 5
  ena
  ipver v4
  vrid 135
  if 2
  prio 150
  addr 192.168.1.160
  share dis
/c/l3/vrrp/vr 5/track
  l4pts e
/c/l3/vrrp/vr 6
  ena
  ipver v4
  vrid 136
  if 2
  prio 150
  addr 192.168.1.170
  share dis
```

```
/c/l3/vrrp/vr 6/track
l4pts e
```

Alteon External Active Configuration

Network Configuration

<input type="checkbox"/>	VLAN ID	Name	Ports	STG	State
<input type="checkbox"/>	1	Default VLAN	2-16	1	●
<input type="checkbox"/>	99		1	1	●
<input type="checkbox"/>	201	TAG.11.1.21.x	1	1	●
<input type="checkbox"/>	202	TAG.11.1.10.x	1	1	●

```
/c/port 1
tag ena
pvid 201
/c/port 2
tag ena
pvid 202
/c/l2/vlan 1
learn ena
def 0
/c/l2/vlan 201
ena
name "201"
learn ena
def 1
/c/l2/vlan 202
ena
name "202"
learn ena
def 2
/c/l2/stg 1/clear
/c/l2/stg 1/add 1 201 202
```

IP Interfaces

<input type="checkbox"/>	Interface ID	IP Address	Mask/Prefix	Broadcast Address	VLAN	Status
<input type="checkbox"/>	1	11.1.21.11	255.255.255.0	11.1.21.255	201	●
<input type="checkbox"/>	2	11.1.10.11	255.255.255.0	11.1.10.255	202	●

```
/c/l3/if 1
ena
ipver v4
addr 11.1.21.11
mask 255.255.255.0
broad 11.1.21.255
```

```

    vlan 201
/c/l3/if 2
    ena
    ipver v4
    addr 11.1.10.11
    mask 255.255.255.0
    broad 11.1.10.255
    vlan 202
/c/l3/gw 1
    ena
    ipver v4
    addr 11.1.21.254
/c/l3/route/ip4
    add 192.168.1.0 255.255.255.0 11.1.10.254 2

```

Real Server Configuration

Real Servers

<input type="button" value="Add"/>		<input type="button" value="Bulk Edit"/>		<input type="button" value="Delete"/>		<input type="button" value="Search"/>		<input type="button" value="Refresh"/>	
<input type="checkbox"/>	ID	Name	IP Version	IP Address	Max Connections	MAC Address	VLAN	Port	Status
<input type="checkbox"/>	1	edge.server.1	4	11.1.10.1	200000	00:50:56:b5:00:40	202	2	●
<input type="checkbox"/>	2	edge.server.2	4	11.1.10.2	200000	00:50:56:b5:00:42	202	2	●
<input type="checkbox"/>	5	frontend.internal.Lync.vip	4	192.168.1.200	200000	00:03:b2:3d:2f:81	201	1	●
<input type="checkbox"/>	6	meeting.Server.1	4	11.1.10.5	200000	00:50:56:b5:00:40	202	2	●
<input type="checkbox"/>	7	meeting.Server.2	4	11.1.10.6	200000	00:50:56:b5:00:42	202	2	●
<input type="checkbox"/>	8	av.server.1	4	11.1.10.3	200000	00:50:56:b5:00:40	202	2	●
<input type="checkbox"/>	9	av.server.2	4	11.1.10.4	200000	00:50:56:b5:00:42	202	2	●

```

/c/slb/real 1
    ena
    ipver v4
    rip 11.1.10.1
    name "edge.server.1"
/c/slb/real 2
    ena
    ipver v4
    rip 11.1.10.2
    name "edge.server.2"
/c/slb/real 5
    ena
    ipver v4
    rip 192.168.1.200
    name "frontend.internal.Lync.vip"
/c/slb/real 6
    ena
    ipver v4
    rip 11.1.10.5
    name "meeting.Server.1"
/c/slb/real 7
    ena
    ipver v4
    rip 11.1.10.6

```

```

    name "meeting.Server.2"
/c/slb/real 8
    ena
    ipver v4
    rip 11.1.10.3
    name "av.server.1"
/c/slb/real 9
    ena
    ipver v4
    rip 11.1.10.4
    name "av.server.2"
/c/slb/real 10
    ena
    ipver v4
    rip 192.168.1.170
    name "CWA.Service"

```

Servers Group Configuration

Server Groups

Add			Delete			Search			Refresh		
Server Group ID	Name	SLB Metric	Health Check	Backup							
<input type="checkbox"/> 1	Lync.edge.HTTPS.SIP.443	leastconns	tcp	None							
<input type="checkbox"/> 3	Lync.edge.lm.443	leastconns	tcp	None							
<input type="checkbox"/> 4	Lync.edge.meeting.443	leastconns	tcp	None							
<input type="checkbox"/> 5	Lync.edge.av.443	leastconns	tcp	None							
<input type="checkbox"/> 6	CWA.Service.group	leastconns	tcp	None							

```

/c/slb/group 1
    ipver v4
    add 1
    add 2
    name "Lync.edge.HTTPS.SIP.443"
/c/slb/group 3
    ipver v4
    add 5
    name "Lync.edge.lm.443"
/c/slb/group 4
    ipver v4
    add 6
    add 7
    name "Lync.edge.meeting.443"
/c/slb/group 5
    ipver v4
    add 8
    add 9
    name "Lync.edge.av.443"
/c/slb/group 6
    ipver v4
    add 10
    name "CWA.Service.group"

```

Alteon process directions

```

/c/slb/port 1
    client ena

```

```

proxy ena
/c/slb/port 2
client ena
server ena
proxy ena

```

Virtual Servers Configuration

Virtual Servers

<input type="checkbox"/>	ID	Name	IP Address	Domain Name	Status
<input type="checkbox"/>	1	Lync.edge.SIP.HTTPS.443	11.1.21.200		enabled
<input type="checkbox"/>	2	Lync.edge.av.HTTPS.443	11.1.21.201		enabled
<input type="checkbox"/>	3	Lync.edge.STUN.3478	11.1.21.201		enabled
<input type="checkbox"/>	4	Lync.edge.meeting.HTTPS.443	11.1.21.202		enabled
<input type="checkbox"/>	5	Im.Proxy	11.1.21.203		enabled
<input type="checkbox"/>	6	CWA.Service.vip	11.1.21.170		enabled

```

/c/slb/virt 1
  ena
  ipver v4
  vip 11.1.21.200
  vname "Lync.edge.SIP.HTTPS.443"
/c/slb/virt 1/service 443 https
  group 1
  pbind clientip norport
  tmout 30
/c/slb/virt 2
  ena
  ipver v4
  vip 11.1.21.201
  vname "Lync.edge.av.HTTPS.443"
/c/slb/virt 2/service 443 https
  group 5
  pbind clientip norport
  tmout 30
/c/slb/virt 3
  ena
  ipver v4
  vip 11.1.21.201
  vname "Lync.edge.STUN.3478"
/c/slb/virt 3/service 3478 basic-slb
  group 5

```



```
protocol udp
pbind clientip norport
tmout 30
/c/slb/virt 4
ena
ipver v4
vip 11.1.21.202
vname "Lync.edge.meeting.HTTPS.443"
/c/slb/virt 4/service 443 https
group 4
pbind clientip norport
tmout 30
/c/slb/virt 5
ena
ipver v4
vip 11.1.21.203
vname "Im.Proxy"
/c/slb/virt 5/service 443 https
group 3
rport 4443
pbind clientip norport
tmout 30
/c/slb/virt 6
ena
ipver v4
vip 11.1.21.170
vname "CWA.Service.vip"
/c/slb/virt 6/service 443 https
group 6
pbind clientip norport
tmout 30
/c/slb/virt 6/service 443 https/ssl
/c/sys/access/https/cert WebManagementCert
/c/sys/access/https/https e
```

Sync Configuration

```
/c/slb/sync
prios d
certs e
state e
/c/slb/sync/peer 1
ena
addr 11.1.10.12
```

VRRP Configuration

```
/c/l3/vrrp/on
/c/l3/vrrp/vr 1
ena
ipver v4
vrid 141
if 1
prio 200
addr 11.1.21.10
```

```
/c/l3/vrrp/vr 1/track
  ifs e
  ports e
/c/l3/vrrp/vr 2
  ena
  ipver v4
  vrid 142
  if 2
  prio 200
  addr 11.1.10.10
/c/l3/vrrp/vr 2/track
  ifs e
  ports e
/c/l3/vrrp/vr 3
  ena
  ipver v4
  vrid 143
  if 1
  prio 200
  addr 11.1.21.200
/c/l3/vrrp/vr 3/track
  ifs e
  ports e
/c/l3/vrrp/vr 4
  ena
  ipver v4
  vrid 144
  if 1
  prio 200
  addr 11.1.21.201
/c/l3/vrrp/vr 4/track
  ifs e
  ports e
/c/l3/vrrp/vr 5
  ena
  ipver v4
  vrid 145
  if 1
  prio 200
  addr 11.1.21.202
/c/l3/vrrp/vr 5/track
  ifs e
  ports e
/c/l3/vrrp/vr 6
  ena
  ipver v4
  vrid 146
  if 1
  prio 200
  addr 11.1.21.203
/c/l3/vrrp/vr 6/track
  ifs e
  ports e
/c/l3/vrrp/vr 7
  ena
  ipver v4
```

```
vrid 1
if 1
prio 200
addr 11.1.21.170
```

PIP Configuration

```
/c/slb/pip/type vlan
/c/slb/pip/type port
/c/slb/pip/add 11.1.10.170 1
```

Alteon External Standby Configuration

Network Configuration

<input type="checkbox"/>	VLAN ID	Name	Ports	STG	State
<input type="checkbox"/>	1	Default VLAN	empty	1	
<input type="checkbox"/>	201	TAG.11.1.21.x	1	1	
<input type="checkbox"/>	202	TAG.11.1.10.x	2	1	

```
/c/port 1
  pvid 201
/c/port 2
  pvid 202
/c/l2/vlan 1
  learn ena
  def 0
/c/l2/vlan 201
  ena
  name "201"
  learn ena
  def 1
/c/l2/vlan 202
  ena
  name "202"
  learn ena
  def 2
```

IP Interfaces

<input type="checkbox"/>	Interface ID	IP Address	Mask/Prefix	Broadcast Address	VLAN	Status
<input type="checkbox"/>	1	11.1.21.12	255.255.255.0	11.1.21.255	201	
<input type="checkbox"/>	2	11.1.10.12	255.255.255.0	11.1.10.255	202	

```
/c/l3/if 1
  ena
  ipver v4
  addr 11.1.21.12
```

```
    mask 255.255.255.0
    broad 11.1.21.255
    vlan 201
/c/l3/if 2
    ena
    ipver v4
    addr 11.1.10.12
    mask 255.255.255.0
    broad 11.1.10.255
    vlan 202
/c/l3/gw 1
    ena
    ipver v4
    addr 11.1.21.254
/c/l3/route/ip4
    add 192.168.1.0 255.255.255.0 11.1.10.254 2
```

VRRP Configuration

```
/c/l3/vrrp/vr 1
    ena
    ipver v4
    vrid 141
    if 1
    addr 11.1.21.10
/c/l3/vrrp/vr 1/track
    ifs e
    ports e
/c/l3/vrrp/vr 2
    ena
    ipver v4
    vrid 142
    if 2
    addr 11.1.10.10
/c/l3/vrrp/vr 2/track
    ifs e
    ports e
/c/l3/vrrp/vr 3
    ena
    ipver v4
    vrid 143
    if 1
    addr 11.1.21.200
/c/l3/vrrp/vr 3/track
    ifs e
    ports e
/c/l3/vrrp/vr 4
    ena
    ipver v4
    vrid 144
    if 1
    addr 11.1.21.201
/c/l3/vrrp/vr 4/track
    ifs e
    ports e
/c/l3/vrrp/vr 5
```

```
ena
ipver v4
vrid 145
if 1
addr 11.1.21.202
/c/l3/vrrp/vr 5/track
ifs e
ports e
/c/l3/vrrp/vr 6
ena
ipver v4
vrid 146
if 1
addr 11.1.21.203
/c/l3/vrrp/vr 6/track
ifs e
ports e
/c/l3/vrrp/vr 7
ena
ipver v4
vrid 1
if 1
addr 11.1.21.170
```

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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International: +972(3) 766-8666