Alteon Application Switch

And

Microsoft SharePoint 2016

Integration Guide

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Introduction

Radware Application Delivery Solution provides high availability, improved user QoE, and faster performance for Microsoft SharePoint 2016 Servers.

The Radware Alteon Application Switch delivers improved QoE and higher productivity for Microsoft SharePoint 2016 users through a complete set of availability, and acceleration services that are dynamically allocated without altering network configuration. Alteon unique architecture accommodates the future growth requirements of the Microsoft SharePoint 2016 solution, typical for large and medium sized enterprises, while offering cost-effective scalability and full protection of existing investments.

Key benefits of the Radware Alteon application Switch for Microsoft SharePoint Server 2016 Joint Solution:

- High availability: guarantee 24x7 availability for the Microsoft SharePoint Server, ensuring that users will be able to access required business documents and share information at any given time. Alteon's advanced health monitoring is capable of detecting any faulty element in the Microsoft SharePoint Server 2016 deployment ensuring that user traffic bypasses the faulty elements and is always routed to a health element.
- Acceleration and Optimization: Alteon advanced acceleration capabilities, which include SSL offloading, caching, compression and TCP multiplexing, enhance the end-user experience by providing faster response time for SharePoint 2016 users while reducing the bandwidth and server resources:
    - SSL offloading offloads the SSL encoding/decoding CPU-intensive tasks from the SharePoint 2016 web servers to the Alteon Application Switch accelerator hardware, freeing those web servers to handle their core tasks: processing complex business related transactions. By offloading SSL tasks to the Alteon device, organizations may save up-to 20% in CPU usage for each SharePoint 2016 web front-end server.
    - Alteon caching ensures that static content is served by the Alteon device and not by the SharePoint 2016 web servers, resulting in faster download times of client content while decreasing the load on the SharePoint 2016 web servers. By enabling caching, Alteon decreases the load on the SharePoint 2016 Web servers by up to 40%.
    - Alteon compression ensures that each page a user views is compressed to a smaller size before the page is sent to the user. This capability has two main benefits for organizations that deploy the SharePoint Server 2016 solution: it provides faster download times for the viewed content, and it reduces the bandwidth required to support the SharePoint Server 2016 solution. Enabling compression may reduce up to 65% of the bandwidth usage and may improve the page load time by 300%.
- Ensure SLA - To help customers measure the SharePoint application performance and ensure it meets their expected SLA at all times, Radware provides a new Application Performance Monitoring (APM) module, enabling a proactive approach for monitoring

and maintaining a high SLA of their applications. The APM module monitors the actual QoE of the end user, enabling the application admin to take a proactive approach in maintaining application SLA – as soon as they get indication of application transaction performance decline.

- CAPEX and OPEX Savings: Alteon creates greater savings and lowers the Total Cost of Ownership (TCO) for organizations that deploy the Microsoft SharePoint 2016 solution. By offloading server processing, Alteon's acceleration capabilities reduce CAPEX by reducing the number of servers as well as reducing the bandwidth consumption required to support the same amount SharePoint's users. In addition, Alteon reduces OPEX by decreasing the management costs of the SharePoint Server 2016 solution through managing all SSL connections and keys centrally in one secured location on the Alteon device. Centrally handling the SSL transactions and keys ensures simpler management and better security for the organization private keys.

Microsoft SharePoint 2016 Overview

SharePoint Server 2016 provides a comprehensive solution for connected information work that enables people to transform the way they work while preserving the benefits of structured processes, compliance, and existing IT investments.

SharePoint Server 2016 has been optimized for the way people work, providing people with a familiar, consistent view of information, collaboration, and process, and IT with a comprehensive, easily-managed and integrated platform to meet the needs of the business.

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 80 Gbps 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

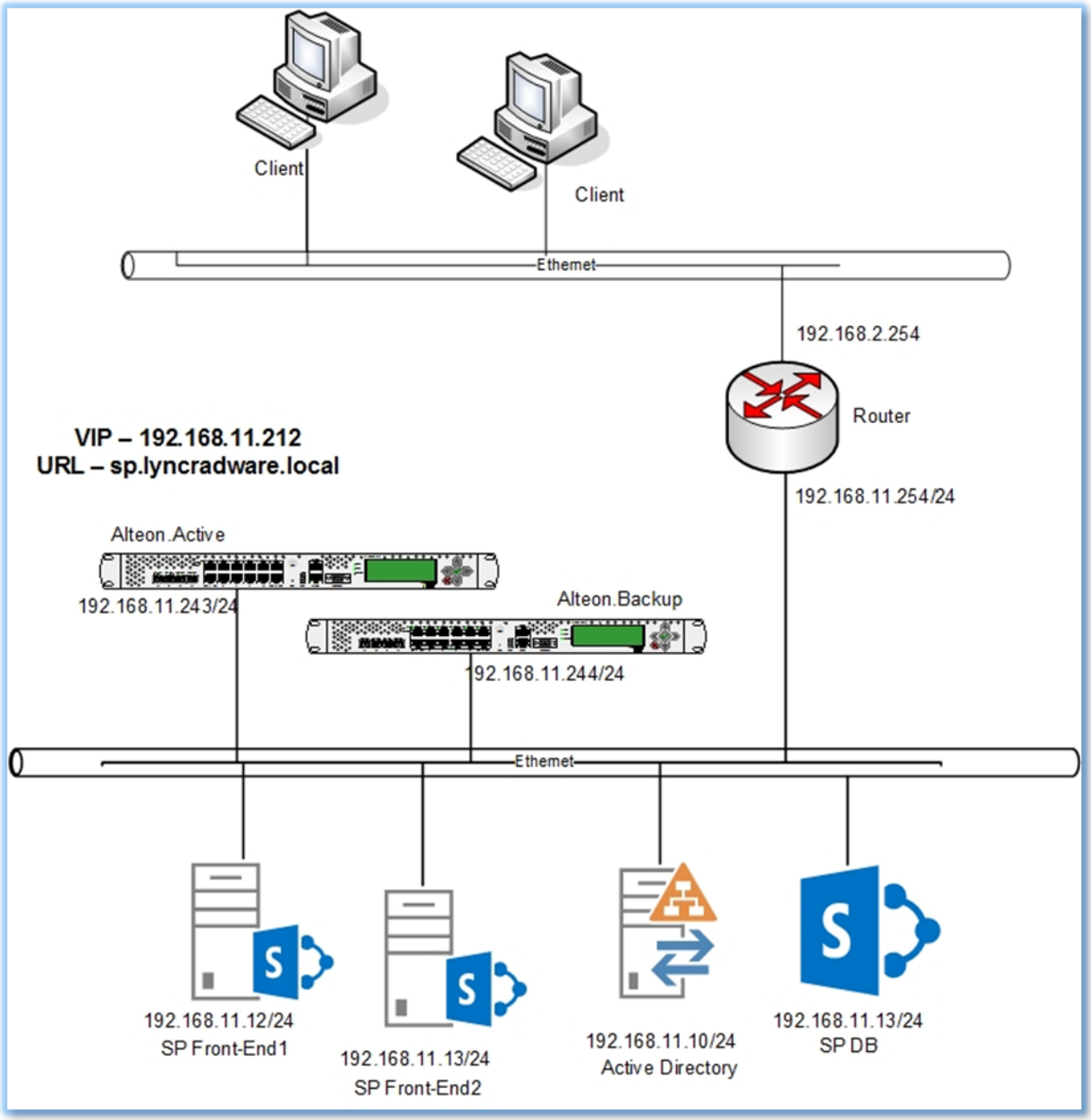
By embracing Radware's "Pay-as-you-Grow" approach, you only pay for the exact capacity currently required, preventing overspending on the initial solution. Throughput capacity,

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 SharePoint Architecture

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



Important Implementation Notes

1. SharePoint 2016 exposes an internal hostname that has to be exposed as an internal web hostname to remote users accessing the Alteon VIP. For that, SharePoint 2016 should be configured with Alternate mapping addresses. For more information please refer to SharePoint 2016 Alternate mapping
2. HTTP compression should be activated on the Alteon
3. Persistency mechanism is done by Alteon Insert Cookie mechanism
4. Cookie Timeout 360 Minutes.
5. Health Monitoring done by L7

Software and Hardware

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

- Microsoft Windows 2012 R2 Enterprise x64
- Alteon version 30.5 (two units)
- Microsoft SharePoint 2016 Enterprise

Configuration

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

Alteon Active Configuration

Network Configuration

```
/c/l3/if 1
   ena
   ipver v4
   addr 192.168.11.243
   vlan 1704
   peer 192.168.11.244
/c/l3/gw 1
   ena
   ipver v4
```

```
   addr 192.168.11.254
```

Compression Configuration

```
/c/slb/accel/compress
   on
/c/slb/accel/compress/comppol 1
   name "Comp.policy"
   minsize 1
   ena
```

HA Configuration

```
/c/l3/hamode switch
/c/l3/ha/floatip 1
   ena
   ipver v4
   addr 192.168.11.242
   if 1
/c/l3/ha/switch
   def 1
/c/l3/ha/switch/trigger/ifs
   add 1
```

Health Monitoring Configuration

```
/c/slb/advhc/health _SharePointHM HTTP
/c/slb/advhc/health _SharePointHM HTTP/http
   host "sp.lyncradware.local"
   path "/SitePages/Home.aspx"
   response 401 none ""
```

SLB Configuration

```
/c/slb/real 1
   ena
   ipver v4
   rip 192.168.11.12
   name "SharePoint.1"
```

```
/c/slb/real 2
   ena
   ipver v4
   rip 192.168.11.13
   name "SharePoint.2"
/c/slb/group 1
   ipver v4
   health _SharePointHM
   add 1
   add 2
   name "Sharepoint.Group"
/c/slb/virt 1
   ena
   ipver v4
   vip 192.168.11.212
   vname "Sharepoint.vip"
/c/slb/virt 1/service 443 https
   group 1
   rport 80
   dbind forceproxy
   ptmout 360
/c/slb/virt 1/service 443 https/http
   comppol 1
/c/slb/virt 1/service 443 https/ssl
   srvrcert cert 1
   sslpol 1
/c/slb/virt 1/service 443 https/pip
   mode address
   addr v4 192.168.11.213 255.255.255.255 persist disable
/c/slb/virt 1/service 443 https/pbind cookie insert
/c/slb/virt 1/service 443 https/http/rcount 1
/c/slb/gslb
   off
   hostlk ena
```

Alteon Process Directions

```
/c/slb/port 1
```

```
   client ena
   server ena
   proxy ena
```

Sync Configuration

```
/c/slb/sync
   pips e
   certs e
   gw e
/c/slb/sync/peer 1
   ena
   addr 192.168.11.244
/cfg/slb/peerpip/add 192.168.11.244
```

Alteon Standby Configuration

Network Configuration

```
/c/l3/if 1
   ena
   ipver v4
   addr 192.168.11.244
   vlan 1704
   peer 192.168.11.243
/c/l3/gw 1
   ena
   ipver v4
   addr 192.168.11.254
```

HA Configuration

```
/c/l3/hamode switch
/c/l3/ha/floatip 1
   ena
   ipver v4
   addr 192.168.11.242
   if 1
```

```
/c/l3/ha/switch
   def 1
/c/l3/ha/switch/trigger/ifs
   add 1
```

Sync Configuration

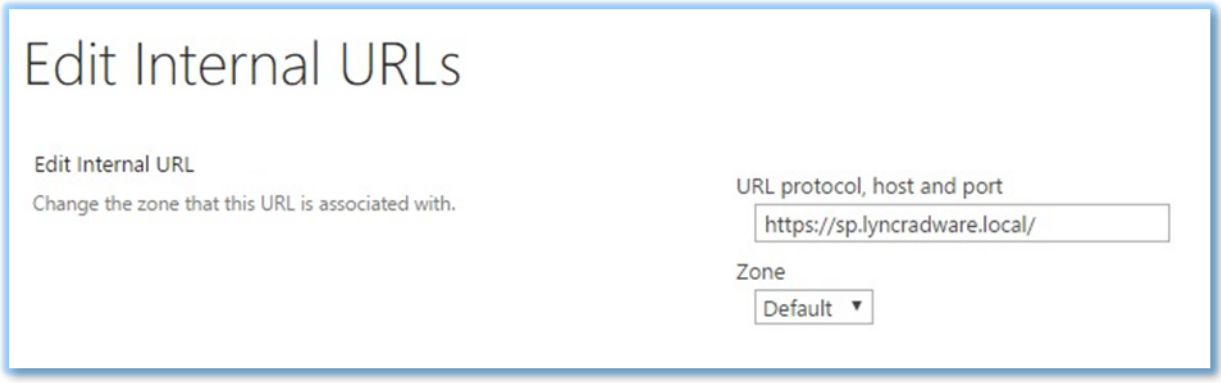
```
/c/slb/sync
   pips e
   certs e
   gw e
/c/slb/sync/peer 1
   ena
   addr 192.168.11.243
```

SharePoint 2016 alternate mapping

When using SSL offloaded in the load balancer, the web application should not be configured using SSL. However, there is a difference between the URL that users use to access the web application and the URL set at IIS. For example, the URL that used by the client is https://sp.lyncradware.local as SSL is configured at the load balancer, while in SharePoint, the web applications are created as http://sp.lyncradware.local . Without SharePoint Alternate mapping accommodating the difference between the internal and external URL, the SharePoint sites won't work properly. One possible behavior is that the browser will warn you that the content is not secure.

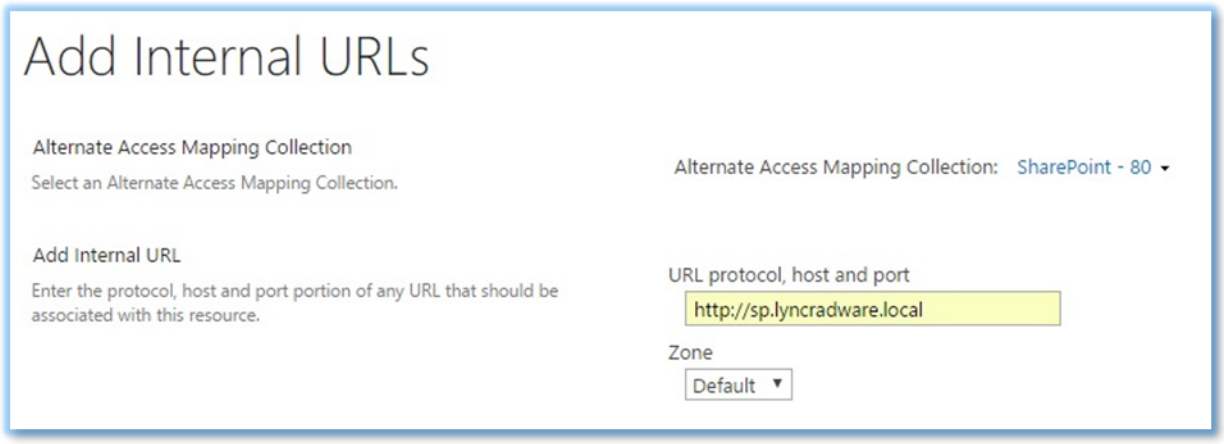
To configure SharePoint Alternate Mapping use SSL offload, you should first make sure the public url is set to https:// and then add an internal URL as http://. Simply adding a URL for HTTPS will not work.

1. Go to SharePoint Central Administration navigation pane, click Application Management.
2. In the main pane, under Web Applications, click Configure alternate access mappings.
3. From the Internal URL list, click the Internal URL corresponding to the Public URL you want to be accessible through the load balancer.
4. The Edit Internal URLs page opens.
5. In the URL protocol, host and port box, change the protocol from http:// to https://.

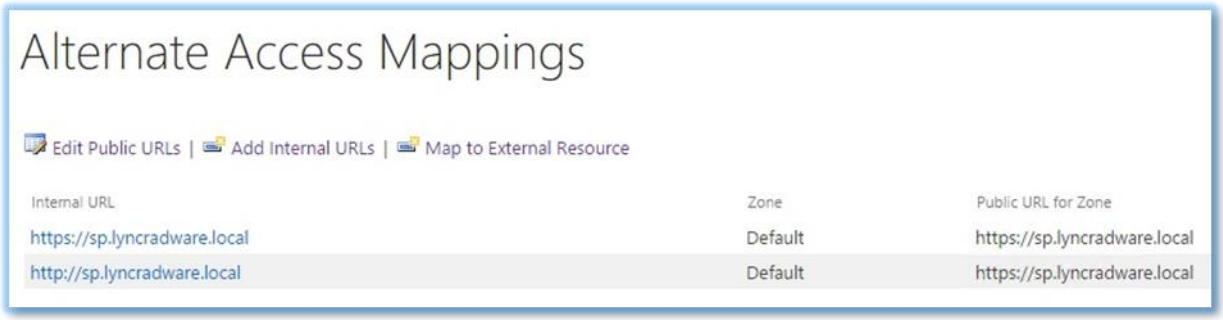


6. Click the OK. You should return to the Alternate Access Mappings page.
7. On the Menu bar, click Add Internal URLs.

8. In the URL protocol, host and port box, type the same internal URL used in step 4, but use the http:// protocol. This allows access to the non-SSL site from behind the load balancer.



1. Click Save. The result should look like this:



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