



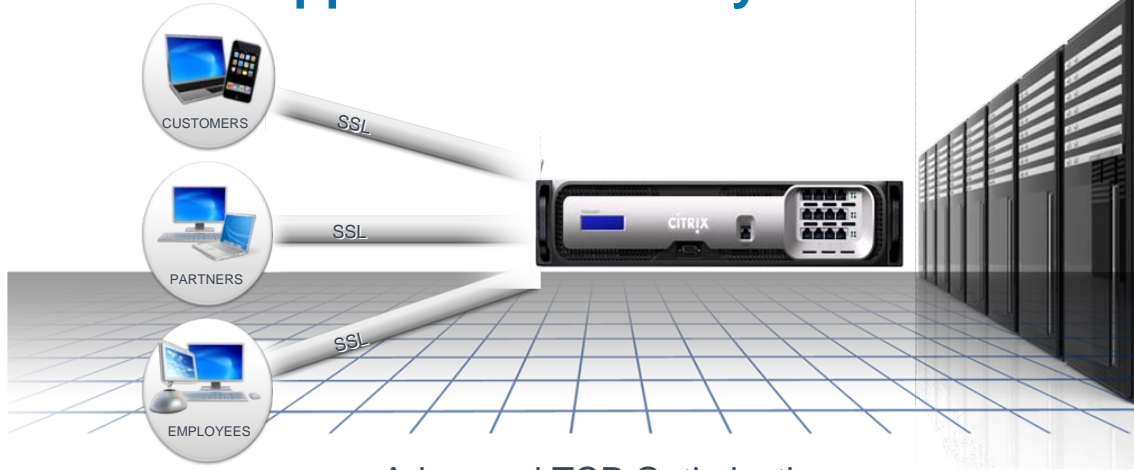
# Maximize XenApp Global High Availability and Security with Citrix NetScaler



# NetScaler Overview



# Accelerated Application Delivery



- Advanced TCP Optimization
- Static and Dynamic Caching
- Hardware Compression

**Enhanced User Productivity**

# Reduced Load on Servers



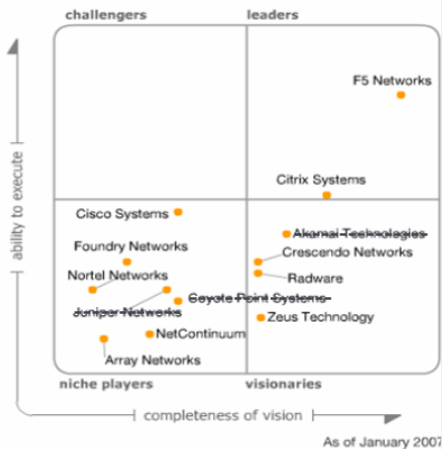
- SSL Offload
- TCP Multiplexing and Buffering
- Static and Dynamic Caching
- Hardware Compression

**Supports greater user capacity and more apps with minimal investment**

# Gartner: Magic Quadrant for Application Delivery Controllers

## 2007

Figure 1. Magic Quadrant for Application Delivery Products, 2007



Source: Gartner (January 2007)

## 2008

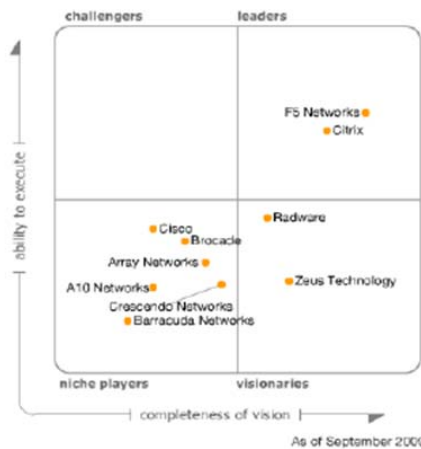
Figure 1. Magic Quadrant for Application Delivery Control



Source: Gartner (July 2008)

## 2009

Figure 1. Magic Quadrant for Application Delivery Controllers



Source: Gartner (September 2009)

# Trusted by Leading Enterprises and Web Properties



**7000+** Deployments Worldwide

# Secure Access, Availability and DR/BC for XenApp

**Business Continuity**

- Failover across XenApp sites
- Global server load balancing

**Secure Remote Access**

- Access Gateway SSL VPN
- Policy-based access control

**Local Load Balancing**

- Web Interface servers
- XML Broker servers



Web Interface Servers



XML Broker Servers



App Silo

# Secure Access, Availability and DR/BC for XenApp

**Business Continuity**

- Failover across XenApp sites
- Global server load balancing

Global Server Load Balancer

**Secure Remote Access**

- Access Gateway SSL VPN
- Policy-based access control

Access Gateway Enterprise Load Balancer  
Global Server Load Balancer  
Integrated Web Interface

**Local Load Balancing**

- Web Interface servers
- XML Broker servers

Load Balancer



Web Interface Servers



XML Broker Servers

Sharepoint  
OWA  
SAP  
Etc.



App Silo

# How NetScaler Adds Value to XenApp

- **Secure Access**

- Integrated Access Gateway, Enterprise for highly scalable, secure access

- **High Availability**

- Load balance XenApp components (e.g. Web Interface, XML Broker, Licensing Server, Smart Auditor, Password Manager, EdgeSight, etc.)
- Smart monitors and alerts of service health

- **Disaster Recovery/Business Continuity**

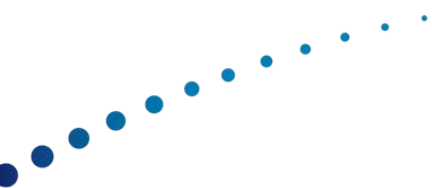
- Global Server Load Balancing (GSLB) provides multi-datacenter HA
- One URL simplifies end-user access

- **Integrated Web Interface option**

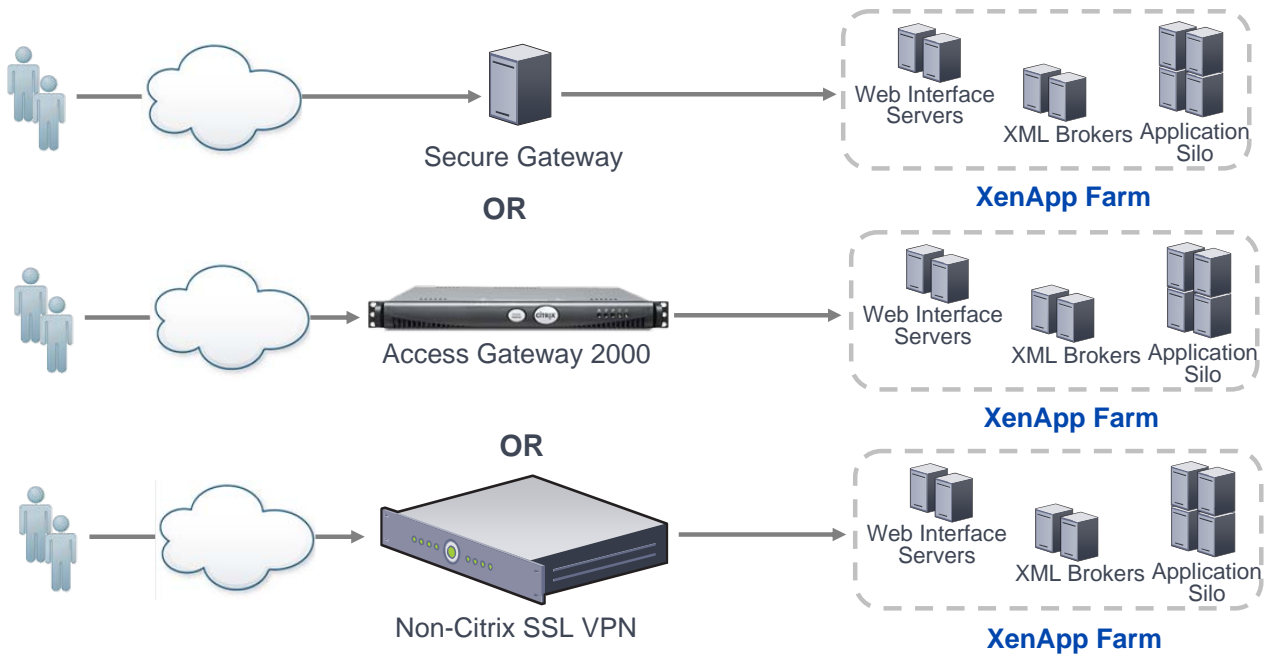
- Lower TCO: reduced server count, maintenance and power
- Simplifies network architecture and configuration
- Reduced need for firewall openings from DMZ to Web Interface servers
- Higher session performance with NetScaler built-for-purpose hardware appliance



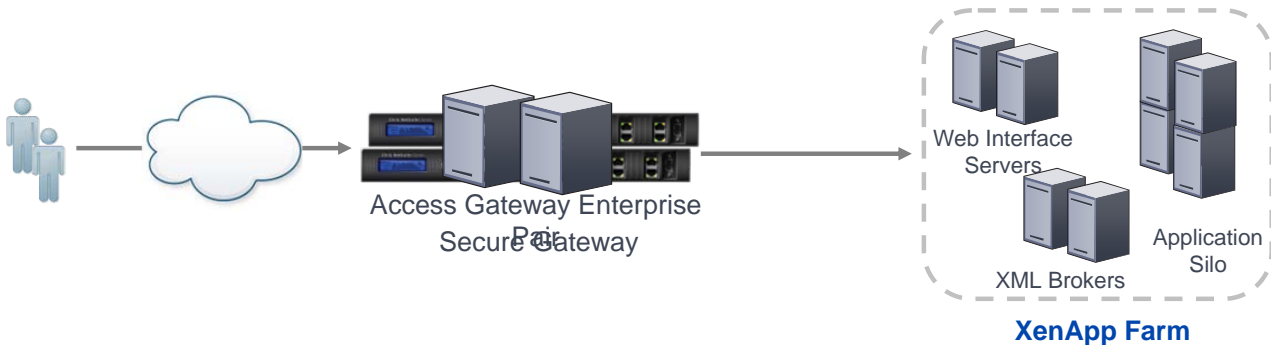
# NetScaler Meets XenApp Secure Access, Availability and DR/BC Requirements



# Existing XenApp Secure Access Solution



# Require More Scalability



## Requirements:

Scalability  
Integrated SmartAccess  
Client Security

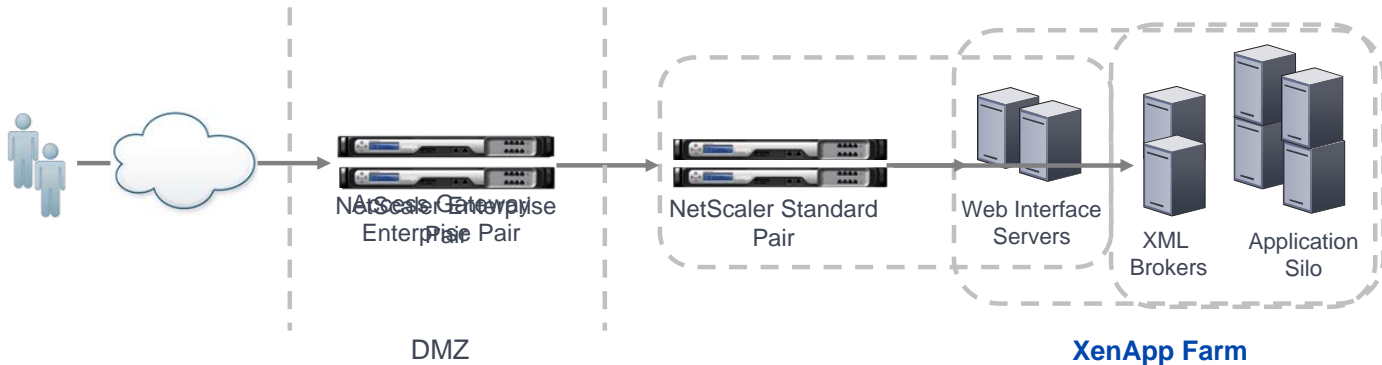
## Citrix Solution:

Access Gateway Enterprise Pair

# Why Replace Secure Gateway and Access Gateway with NetScaler?

- Built-in redundancy
  - With Secure Gateway and Access Gateway 2000 boxes redundancy can only be accomplished using an add on LB solution
- Hardened appliance in the DMZ
- Increased scalability
  - NetScaler 7000 model supports 2500 users
- Provides additional networking capabilities (not a point solution)
- GSLB provides high availability across multiple datacenters
- Integrated Web Interface service included in all NetScaler editions

# What About High Availability?



## Requirements:

- Load balance Web Interface and XML Broker
- Load balance servers in DMZ
- Consolidate appliances

## Citrix Solution:

- NetScaler Enterprise Pair
- NetScaler Standard Pair

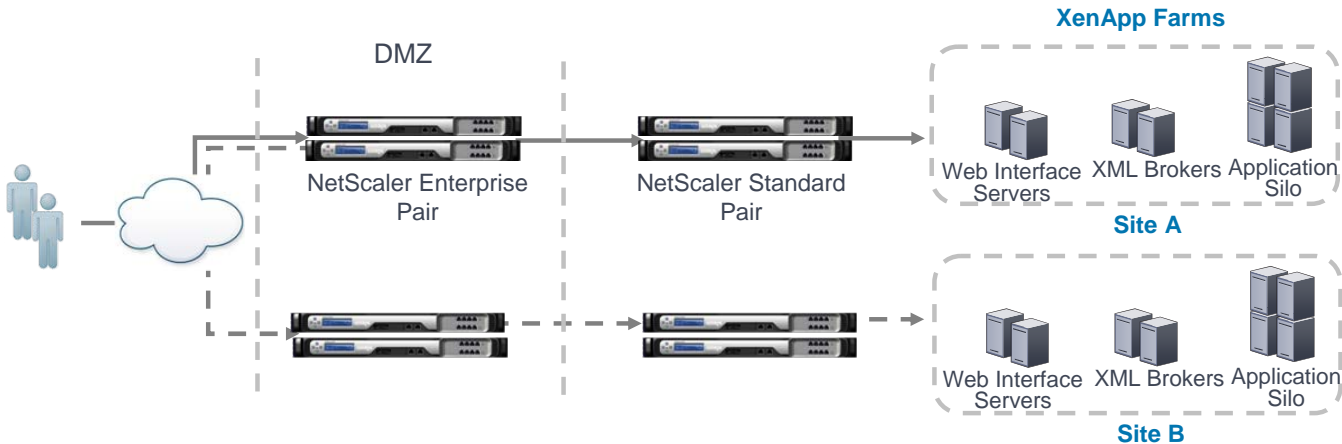
## Employ optional feature:

- Utilize built-in Web Interface on NetScaler

# Ensuring XenApp Availability

- Web Interface (WI) and XML Broker connect XenApp users to applications
  - Users logon to WI, which passes user credentials to XML for authentication
  - XML retrieves the list of authorized applications, which are displayed in WI
- Component failure breaks authentication, app enumeration and app launch processes
- NetScaler provides fault tolerance for XenApp
  - Load balances users across multiple Wis, XML Brokers and other components
  - Custom health checks for WI and XML Broker
  - New WI and XML Broker configuration wizards
  - Integrated Web Interface option simplifies configuration: “just another Web App” to NetScaler

# What About Disaster Recovery?



## Requirements:

- Failover between XenApp Farms for DR
- Global load balancing for efficient traffic distribution

## Citrix Solution:

- NetScaler Enterprise Pair x 2
- NetScaler Standard Pair x 2

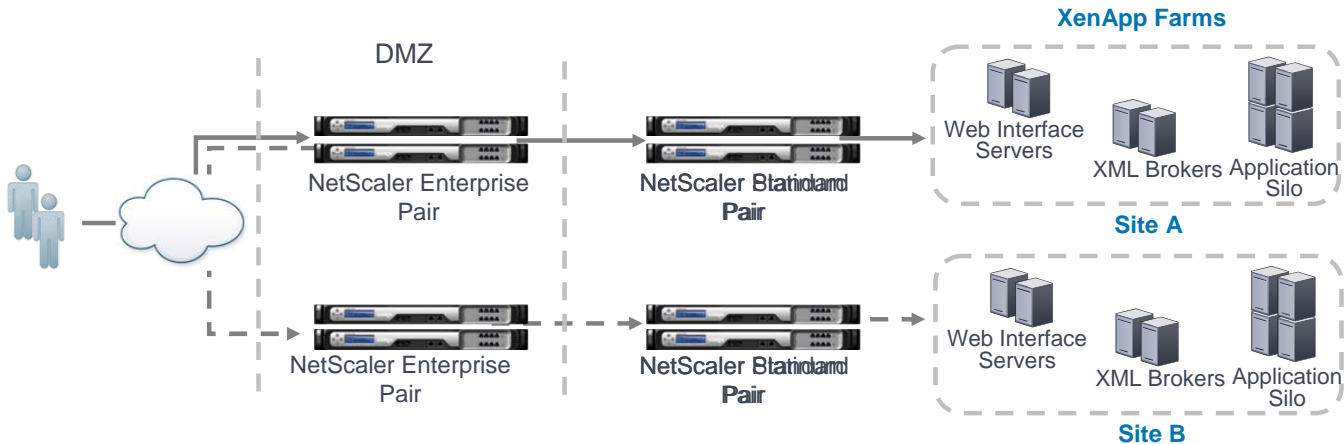
## Optional feature in GSLB:

- Run Web Interface on NetScaler

# Business Continuity for XenApp

- NetScaler GSLB functionality completes DR/BC solution
- Ease of Use
  - No need to send user to separate production and DR environments
- Ease of Administration for IT Managers
  - No DNS changes
  - No need to direct users to different URL in case of DR
  - Support active/active environments
  - Optional support for Web Interface on NetScaler

# What About Your Web Apps?



## Requirements:

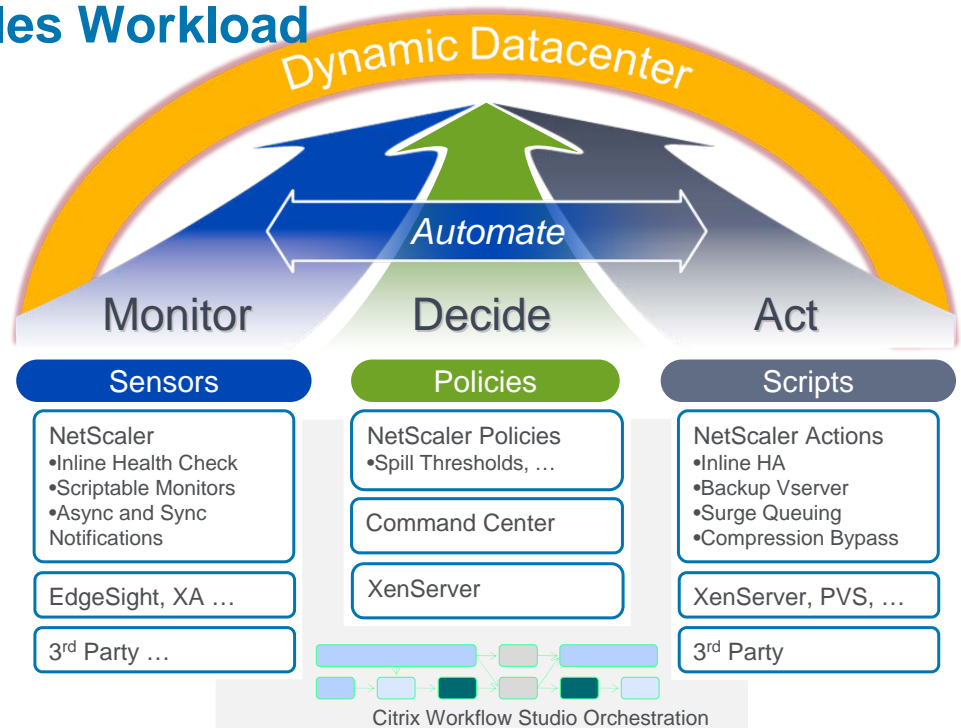
- App Firewall for PCI-DSS
- Prevent data leakage
- Application acceleration
- App performance monitoring

## Citrix Solution:

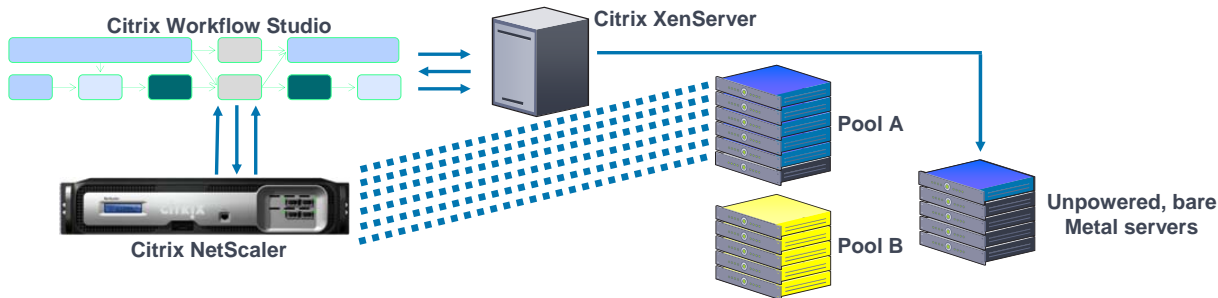
- NetScaler Enterprise Pair x 2
- NetScaler Platinum Pair x 2

# NetScaler Enables Workload Virtualization

- The end-state of datacenter evolution is fully fluid, automated and dynamic
- NetScaler offers a rich palette of sensors and actions



# The Citrix Delivery Center in Action



## Monitor

- NetScaler monitoring passing traffic
- Workflow Studio receives "add capacity" event
- XenServer Platinum receives provision event
- XenServer sees provisioning successful
- Workflow Studio receives "provision successful" event
- NetScaler receives "capacity available" event
- NetScaler monitoring passing traffic
- Workflow Studio receives "release capacity" event
- XenServer receives de-provision event

## Decide

- NetScaler determines pool oversubscribed
- XenServer determines VDisk to provision
- NetScaler determines over-capacity

## Act

- NetScaler sends "add capacity" event
- Workflow Studio sends "provision" event
- XenServer provisions unpowered, bare metal server
- XenServer sends "successful provision" event
- Workflow Studio sends "capacity available" event
- NetScaler adds capacity to pool
- NetScaler removes server and sends "release capacity" event
- Workflow Studio sends "de-provision" event
- XenServer powers down server and returns to spare pool

# Robust Enterprise Platform

- Enterprise-class platform that can meet current and future needs
- Application firewall provides 100% protection against web attacks
  - Meets PCI-DSS compliance requirements
- Advanced web application acceleration features
- Infrastructure offload and server cost saving benefits
- Real-time web application performance monitoring

# The Application-layer Threat – Blocked by NetScaler



## Web threat is growing

- 82% of web vulnerabilities ranked “easy to exploit”
- 90% increase in reported web attacks last year
- With Web 2.0 the threat is greatly increased

A decorative graphic consisting of a series of blue dots of varying sizes, arranged in a curved line that starts from the bottom left and moves towards the center of the slide.

# Customer Case Study

# Customer Overview

## Background:

*Investment firm in Greenwich, CT with \$35B under management; 170 employees*

- Citrix XenApp customer who had deployed Juniper SSL VPN gateways
- Experiencing performance issues
- User complaints regarding complexity and lack of integration with XenApp

## Requirements:

- SSL VPN gateway that would provide high performance and seamless integration with Citrix XenApp for end users
- High Availability – customer was using Coyote Point load balancers (8 boxes)
- Disaster Recovery – no solution in place

# Citrix Solution

## Secure Access:

- Access Gateway Enterprise provided immediate performance improvements and simplified end user experience

## High Availability:

- Load balancing ensured availability of XenApp components and web servers

## Disaster Recovery:

- Global server load balancing feature satisfied disaster recovery requirements

## Solution:

- 2 pairs of NetScaler 7000 EE
- 2 pairs of NetScaler 7000 SE
- 100 Citrix AGU Licenses

## Bottomline:

- Customer saw value of integrating SSL VPN, GSLB, LB, application acceleration in a scalable, easy-to-manage appliance



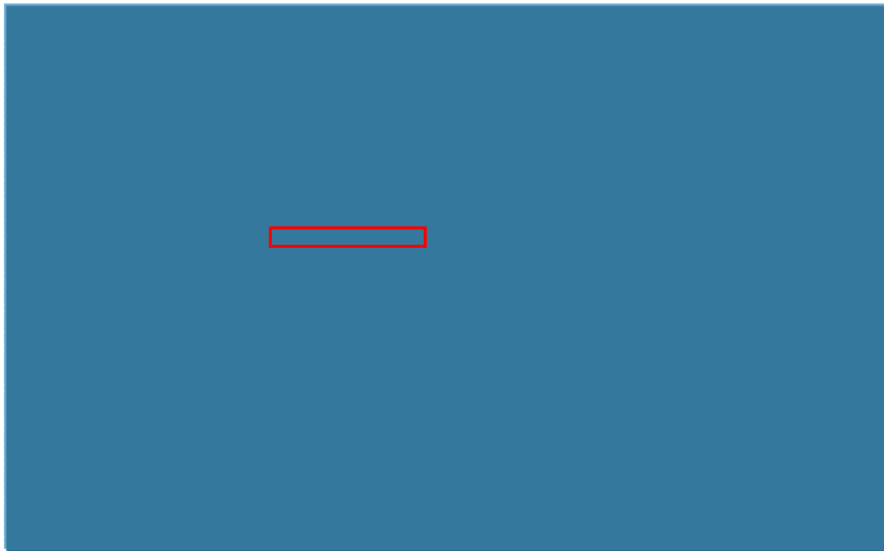
# Configuring NetScaler for XenApp The New Wizards



# Load balance Web Interfaces and XML Brokers

Provide inputs to create load balancing virtual server in front of XML Broker servers.

Also provide application name to monitor the health.



# Web Interface Wizard

The screenshot shows the 'Load Balancing Wizard for XenApp' window, specifically the 'Load Balance WI servers' step. The window title bar includes the Citrix logo. The main content area is divided into a left sidebar and a main configuration area. The sidebar contains a tree view with the following items: Introduction, Load Balance WI servers (selected), Load Balance XML brokers, and Summary. The main configuration area contains the following fields and controls:

- Virtual Server IP\*:** 10 . 102 . 31 . 11
- Port\*:** 80
- Protocol\*:** HTTP (dropdown menu)
- WI Site Path\*:** /Citrix/AccessPlatform/site/default.aspx
- Web Interface Server IPs:** A list box containing 10.102.31.16 and 10.102.31.17. Above the list is an 'Add' button and below it is a 'Remove' button. To the left of the list is an empty input field with a dot separator.

At the bottom of the window, there are four buttons: Skip >, < Back, Next >, and Close.

Note: No need to input name, persistence type, LB type etc.

# XML Broker Wizard

Load Balancing Wizard for XenApp

**Load Balance XML brokers**  
Configure virtual server for load balancing XML Brokers

**CITRIX**

- Introduction
- Load Balance Wl servers
- Load Balance XML brokers**
- Summary

Virtual Server IP\* 10 . 217 . 31 . 11 Port\* 80

Protocol\* HTTP

Application Name\* notepad

XML Broker Server IPs

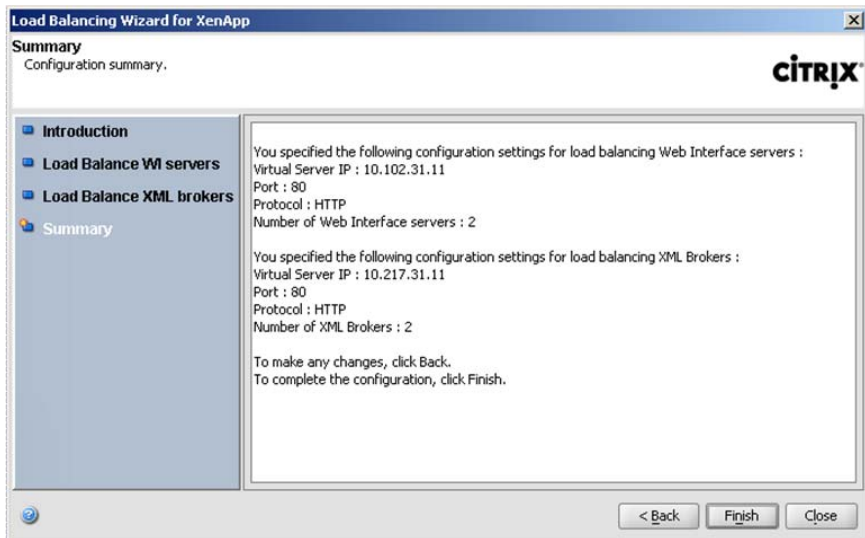
- . . .
- 10.217.31.10
- 10.217.31.15

Add Remove

Skip > < Back Next > Close

*\*Wizard-based configuration available in NetScaler 8.1*

# Configuration Confirmation



*\*Wizard-based configuration available in NetScaler 8.1*

# Configuring GSLB for XenApp

Use GSLB wizard for XenApp  
Disaster Recovery for multiple  
Sites & GSLB

Primary Xen

After success

Configure domain name,  
GSLB method and sites on  
this page.

You have the  
and remote s

The screenshot displays the Citrix NetScaler Configuration Utility interface. The main window is titled "GSLB Wizard for XenApp" and shows a "Summary" page with the following content:

- Introduction**
- Specify GSLB domain**
- Configure GSLB sites**
- Summary**

The summary text reads: "The configuration is successful. Click Exit to close the wizard."

**DNS Server Configuration**  
System should be an authoritative DNS server for domain www.access.citrix.com. ADNS service is used to configure system as an authoritative DNS server. Currently no ADNS service is configured. [Create New ADNS Service](#)

**Configuring Remote Sites**  
This configuration needs to be copied on remote sites : 200.10.10.1\_site.  
[View GSLB running configuration](#) to copy this configuration. On remote sites, go to System > Diagnostics > Batch Configuration to apply it.

Navigation pane on the left shows: NetScaler 10.102.31.13 > System > Network > DNS > SSL.

Other visible windows include "Local Site Configuration" with "Site IP Address\*" set to "10" and "Site" configuration fields for ports 443, 80, and 80.

# Installing Web Interface directly on NetScaler

The screenshot displays the Citrix NetScaler Configuration Utility interface within a Windows Internet Explorer browser window. The address bar shows the URL `http://10.102.32.111/menu/guia`. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The page title is "Citrix NetScaler Configuration Utility - Windows Internet Explorer".

The main content area is titled "Web Interface" and contains several sections:

- Getting Started:** A section with a magnifying glass icon, containing links for "Install Web Interface", "Uninstall Web Interface", and "Command Log". This section is highlighted with a red box.
- Configuration Summary:** A section with a document icon, showing "No Web Interface Site".

The left-hand navigation pane shows a tree view of the configuration utility. The "Web Interface" folder is selected and highlighted with a red box.

An "Install Web Interface" dialog box is open in the foreground, also highlighted with a red box. It contains the following fields and buttons:

- Web Interface Tar File Path\*: `/var/jwi-9.1-98.5007_e_nc.tgz` (with a "Browse (Appliance)" button)
- JRE Tar File Path\*: `/dabla-latte-freeds6-amd64-1.6` (with a "Browse (Appliance)" button)
- Buttons: "Install" and "Close"
- Help icon

An "Information" dialog box is also open, showing a message: "Web Interface installed successfully" with an "OK" button.

The bottom status bar of the browser shows "Ready" and "nsroot". The footer of the page contains the text: "Copyright (©) Citrix Systems, Inc. All rights reserved."

# Creation of Web Interface site

The screenshot displays the Citrix NetScaler Configuration Utility interface within a Windows Internet Explorer browser window. The browser address bar shows the URL `http://10.102.32.111/menu/guia`. The utility interface includes a navigation pane on the left with a tree view containing items like System, Licenses, Settings, Diagnostics, High Availability, NTP Servers, Groups, Users, Command Policies, Authentication, Auditing, Reports, SNMP, and Web Interface. The main content area shows the 'Web Interface Sites' configuration page with a 'Site Path' field. A modal dialog box titled 'Create Web Interface Site' is open, containing the following fields and options:

- Site Path\*: `/Citrix/xenApp`
- Access Gateway URL: `https://agee.mycompany.com`
- STA Server URL: `http://staserver.company.net`
- Site Type: `xenAppWeb` (dropdown menu)
- Published Resource Type: `Online` (dropdown menu)

At the bottom of the dialog box, there is a 'Help' link and 'Create' and 'Close' buttons. The main interface also features a top navigation bar with links for Monitoring, Configuration, Dashboard, Reporting, Documentation, Downloads, and Logout. The status bar at the bottom of the utility window shows 'Ready', '0 Item', and the user 'nsroot'. The Windows taskbar at the very bottom shows the Start button, several open applications, a search bar, and the system tray with the time '4:32 PM' and date '(3-14)'.

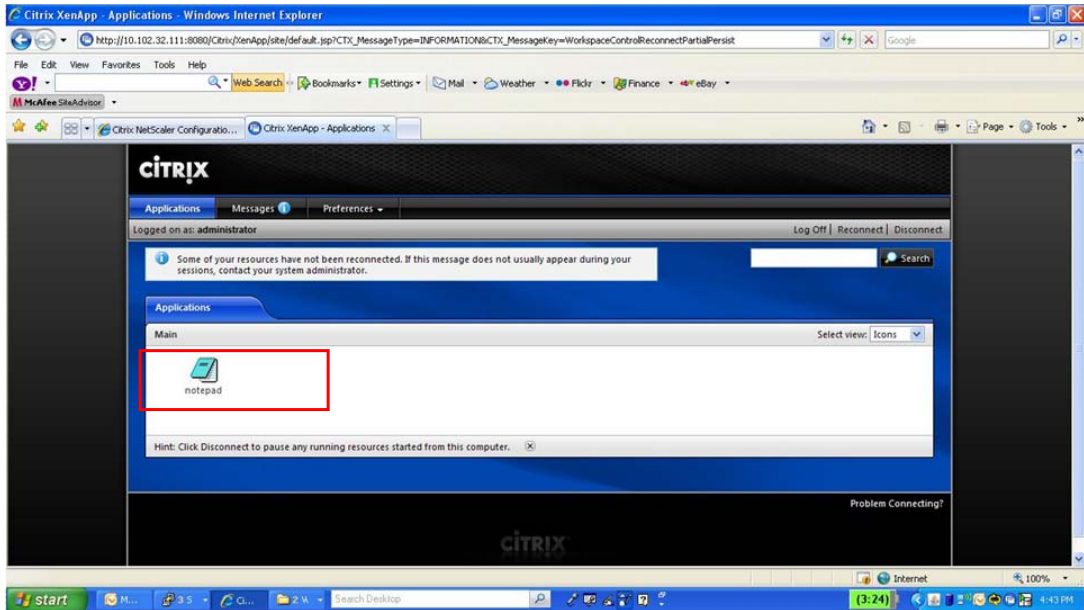
# Configure XenApp Farm

The screenshot displays the Citrix NetScaler Configuration Utility interface within a Windows Internet Explorer browser. The browser address bar shows the URL `http://10.102.32.111/menu/guia`. The utility's main window has a navigation pane on the left with a tree view containing categories like System, Licenses, Settings, Diagnostics, High Availability, NTP Servers, Groups, Users, Command Policies, Authentication, Auditing, Reports, SNMP, Web Interface, and Sites. The main content area is titled 'Web Interface Sites' and shows a 'Site Path' of `/Citrix/XenApp`. A 'Create XenApp Farm' dialog box is open in the center, with the following fields and options:

- Name\*: `Farm1`
- XML Service Addresses\*: `XenAppServer2,XenAppServer2`
- XML Service Port: `80`
- Transport: `HTTP` (dropdown menu)
- Load Balance

The dialog box includes a 'Help' link, 'Create', and 'Close' buttons. At the bottom of the utility window, there are buttons for 'Add...', 'Open...', and 'Remove', and a status bar showing 'Ready | 1 Item | nsroot'. The Windows taskbar at the bottom shows the Start button, several open applications, a search bar, and the system tray with the time `4:35 PM`.

# Web Interface on NetScaler: XenApp enumeration



# Summary

- NetScaler can enhance your XenApp deployment
- Integrated secure access with Citrix Access Gateway Enterprise
- Load balancing and health monitoring ensures XenApp availability
- GSLB meets DR/BC requirements via seamless cross site failover
- Optional native Web Interface services support on NetScaler
- Configuration wizards and custom monitors ease deployment
- NetScaler is the only solution in the market that provides SSL VPN, LB, GSLB and more on an integrated, flexible and scalable platform



**CITRIX®**