Deployment Guide

ICA Proxy for Citrix Receiver

Access Gateway Enterprise Edition
XenApp
XenDesktop
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Solution Requirements</td>
<td>4</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>4</td>
</tr>
<tr>
<td>Network Diagram</td>
<td>5</td>
</tr>
<tr>
<td>XenApp Services Site</td>
<td>7</td>
</tr>
<tr>
<td>NetScaler AGEE Certificates</td>
<td></td>
</tr>
<tr>
<td>Self Signed Certificates</td>
<td>12</td>
</tr>
<tr>
<td>NetScaler AGEE - VIPs</td>
<td>13</td>
</tr>
<tr>
<td>Public VIP</td>
<td>13</td>
</tr>
<tr>
<td>Private VIP</td>
<td>16</td>
</tr>
<tr>
<td>NetScaler AGEE - Session Profiles</td>
<td></td>
</tr>
<tr>
<td>Receiver Session Profile</td>
<td>21</td>
</tr>
<tr>
<td>NetScaler AGEE - STA</td>
<td></td>
</tr>
<tr>
<td>Secure Ticket Authority</td>
<td>25</td>
</tr>
<tr>
<td>Testing Citrix Receiver</td>
<td>27</td>
</tr>
</tbody>
</table>
Introduction

A member of the Citrix Delivery Center™ product family, Citrix NetScaler is a purpose-built web application delivery solution that accelerates application performance up to five times while improving security and reducing web infrastructure costs.

Citrix Access Gateway™, a member of the Citrix Delivery Center, is the only SSL VPN to securely deliver any application with policy-based SmartAccess control. With Access Gateway, organizations are empowered to cost-effectively meet the anywhere access demands of all workers – enabling flexible work options, easier outsourcing and non-employee access, and business continuity readiness – while ensuring the highest level of information security. The newest release of the company’s popular Citrix Access Gateway™ appliance now includes integration with Citrix XenDesktop™, allowing companies to deliver virtual desktops securely to thousands of end users based on their unique identity, location and security status.

Citrix XenApp™, a member of the Citrix Delivery Center™ product family, is the industry’s de facto standard for delivering Windows-based applications with the best performance, security and cost savings. XenApp is the most complete application virtualization system available with the ability to virtualize applications on both the client side and server side, delivering them on demand based on the user, the application or the location (online or offline).

Citrix XenDesktop™, a member of the Citrix Delivery Center™ product family, is a comprehensive desktop delivery system that allows customers to virtualize Windows desktops in the datacenter and deliver them on-demand to office workers in any location. By dynamically assembling each user’s unique personal desktop from new, pristine components each time they log on, XenDesktop offers an unparalleled end-user experience, dramatically simplifies desktop management and reduces the cost of traditional desktop computing by up to 40 percent. XenDesktop Enterprise and Platinum Editions tightly integrates the industry’s most proven application virtualization via the XenApp for Virtual Desktops feature.

Citrix Delivery Center is the first solution on the market to deliver applications and desktops to any user, anytime, anywhere from a secure central location. Citrix Delivery Center’s market leading application delivery technologies - XenServer, NetScaler, XenApp and XenDesktop - enable IT to dramatically improve agility, while enabling the best performance and highest security at the lowest cost.

Citrix Receiver is a lightweight software client that makes accessing virtual applications and desktops on any device as easy as turning on your TV. Citrix Receiver provides users with fast, secure, and easy access to their enterprise applications. With Citrix Receiver, users can access any XenApp application or any XenDesktop from their device.
Solution Requirements

- Windows Desktops delivered to iPhone, iPod Touch, iPad, Mac, Windows, WinMo, Android, Thin Clients
- Windows Applications delivered to iPhone, iPod Touch, iPad, Mac, Windows, WinMo, Android, Thin Clients
- ICA Proxy for Citrix Receiver

Prerequisites

- Citrix NetScaler L4/7 Application Switch, version 9.1 build 101.5+ running Access Gateway (Quantity x 2 for High Availability)
- Citrix XenApp Server 5.0+ or XenDesktop 4.0+
- Microsoft Server with Active Directory
- Citrix Receiver v2.1+
Network Diagram

The following is the Network that was used to develop this deployment guide.

VLAN Legend

| VLAN 1 | VLAN 2 |

NetScaler

| VLAN 1 (Private): |
| Interface 1/1, Untagged |
| NSIP: 1.1.1.10 / 24 |
| SNIP: 1.1.1.1 / 24 |
| private-VIP: 1.1.1.5 / 24 |

| VLAN 2 (Public): |
| Interface 1/8, Untagged |
| SNIP: 2.2.2.2 / 24 |
| public-VIP: 2.2.2.5 / 24 |
Citrix
“Receiver / Access Gateway”
Certificate Chain of Trust

1. Trusted Root CA Certificate (ns.com)
2. Server Certificate (xd.ns.com)

Import:
1. Trusted Root CA Certificate

Devices
XenApp Services Site

Once you have installed Citrix Web Interface Management you will need to configure it such that it will work with the Citrix NetScaler in an ICA Proxy deployment. Creating a XenApp service will publish the XenApp applications or XenDesktop through the Citrix client, such as XenApp client or Citrix Receiver.

From the Citrix Web Interface Management console:
XenApp Services Sites ➔ Action ➔ Create Site.

IIS Location:
IIS Site: Default Web Site
Path: /Citrix/PNAgent2/
Name: PNAgent2
Confirm:
Next.
Finish.

Specify Server Farm:
Farm Name: <your farm name>
Servers: <Hostname or IP Address>
Note: this is the Desktop Delivery Controller that provides the server instances.
Resource Type:
Online

Confirm:
Finish
From Citrix Web Interface Management:
Actions ➔
Secure Access.

Specify Access Method:
Client IP: Default
Method: Gateway Direct
Next.
Gateway Settings:
Address: <FQDN of NetScaler Access Gateway>
Port: 443

Note: Your first thought might be to configure the private FQDN here, but that isn’t the case. According to the sentence in the dialog box, this is the FQDN that public users will use to access the applications - through the Access Gateway. Therefore, this needs to be the public FQDN of the AG, which in this example is xd.ns.com, and resolves to 2.2.2.5.

Secure Ticket Authority:
URL: <ip address of STA>/scripts/ctxsta.dll

Select Finish
NetScaler AGEE Certificates

Self Signed Certificates

You will need two certificates. A self signed Root CA, and a server certificate unless you purchased a certificate for example from Verisign, then you only need the server certificate.

Follow the deployment guide located here to create a Self Signed Server Certificate and download a Root CA Certificate: http://community.citrix.com/display/ocb/2010/05/10/Citrix+Receiver+Certificate+Chain

Link them together and bind them to the Access Gateway VIP.
NetScaler AGEE - VIPs

Public VIP

Create the public facing VIP that users will connect to when they type in https://xd.ns.com into their browser Uniform Resource Locator (URL).

From the NetScaler GUI:

Create Virtual Server:
Type: New
IP Address: 2.2.2.5
Port: 443
Name: public-vip

Next.

Server Certificate:
Options: Use an installed certificate and private key pair
Certificate: xdserver.keypair

Next.

Note:
1) xd.ns.com must resolve to ip address 2.2.2.5 &
2) Common Name in Server Certificate xdserver.cer must contain xd.ns.com.
**DNS:**
DNS Server: 1.1.1.6
Note: Enter the ip address of your DNS server.
Next.

**Authentication:**
Type: Local
User: deletethisuser1
Pass: <password>
Note: Because we are authenticating at the Web Interface, set this to Local authentication.
You are required to create a user, but you can delete it later.
Next.
**Clientless Access:**
Use the Access Gateway Plugin and allow access scenario fallback.

Next.

Finish.
Private VIP

Create the private facing VIP that users will connect to when they type in https://xd.ns.com into their browser Uniform Resource Locator (URL).

From the NetScaler GUI:

NetScaler ➔
Access Gateway ➔
Access Gateway Wizard.

Create Virtual Server:
Type: New
IP Address: 1.1.1.5
Port: 443
Name: private-vip

Next.

Server Certificate:
Options: Use an installed certificate and private key pair
Certificate: xdserver.keypair

Next.

Note:
1) xd.ns.com must resolve to internal ip address 1.1.1.5 & (Do this with internal DNS)
2) Common Name in Server Certificate xdserver.cer must contain xd.ns.com.
DNS:
DNS Server: 1.1.1.9

Next.

Authentication:
Type: Local
User: deletethisuser2
Pass: <password>
Note: Because we are authenticating at the Web Interface, set this to Local authentication.
You are required to create a user, but you can delete it later.

Next.
**Additional:**

Authorization: Deny

Redirect:

Redirect to secure web address

Address:

https://xd.ns.com

Next.

**Clientless Access:**

Use the Access Gateway Plugin and allow access scenario fallback.

Next.

Finish.
VIPs:

After configuring the Public VIP and Private VIP you should see them in the Access Gateway -> Virtual Servers in the NetScaler config GUI.

Public VIP: is used for client connections coming from outside the organization, or Internet.

Private VIP: is used for client connections coming from inside the organization, or Intranet.

The Server certificate should be bound to both the Public and Private VIPs.
NetScaler AGEE - Session Profiles

Receiver Session Profile

To proxy the ICA connections from the XenApp or XenDesktop server to the Citrix Receiver, the NetScaler AGEE needs to be configured to do so. You do this by creating a session profile.

From the NetScaler GUI:

NetScaler ➜ Access Gateway ➜ Policies ➜ Session ➜ Add.

Type in policy name, in this example receiver.

At Request Profile, select ‘New’ to create a new profile. In this example, the request profile is the same as the group name: receiver

Note: This session profile will be used to identify the Citrix Receiver sessions coming from the iPhone, iPod, iPad, WinMo, Android, Mac, PC and Thin Clients, and tunnel traffic accordingly.

Expression:

Configure the following expressions and select Match All Expressions as the operator for the expressions:

REQ.HTTP.HEADER User-Agent CONTAINS CitrixReceiver

Next to Request Profile, select ‘New’.
Client Experience:
Home Page: http://1.1.1.3/Citrix/PNAgent2/config.xml
  Select Override Global.
Clientless Access: Allow.
  Select Override Global.
Single Sign-on to Web Applications: Selected
  Select Override Global.
Published Applications:

ICA Proxy:
  On
  Select Override Global

Web Interface Portal Mode:
  Normal
  Select Override Global

Select Create - to create the Session profile.

Then Create again - to create the Session policy.

Close.
Policy Binding:
From the NetScaler GUI:
   NetScaler ➔
   Access Gateway ➔
   Virtual Servers.

The receiver session policy should be bound to the public-vip and private-vip.

Open the public-vip and select the Policies tab.

Insert policy - select receiver
Select Ok.

Repeat this for the private-vip.
NetScaler AGEE - STA

Secure Ticket Authority

Communication between the XenApp or XenDesktop server and the NetScaler AGEE depends on the Citrix Secure Ticket Authority. You must configure this in the NetScaler AGEE. In this case the CTX STA resides on a separate server.

From the NetScaler GUI:

NetScaler ➔
Access Gateway ➔
Virtual Servers.

Open the public vip. In this example it is public-vip at IP Address 2.2.2.5.

Select Published Applications.

Under Secure Ticket Authority, Add.

Enter the URL to the Secure Ticket Authority, in this example the same as the XenApp Server, http://1.1.1.4/scripts/ctxsta.dll

Create.

Ok.

Repeat this for the private-vip.
Testing Citrix Receiver

Once you have installed all of the components of this solution, you should test it, by publishing a test application such as Notepad in XenApp or a Desktop in XenDesktop, then connect with the Citrix Receiver.

In order for the Receiver session to operate successfully with the Citrix Servers, and the AGEE, the certificate chain must be valid.

The easiest way to install the Root CA Certificate is to email it to yourself, and open it on the mobile device, then install it.

If the Certificate chain is not valid, the session will not work.

Install Citrix Receiver on the mobile device.

In the next section we will use the iPhone as an example.
Download the Citrix Receiver for iPhone:

Install and open iTunes by Apple. Navigate to the Apple Application Store, search, download and install the Citrix Receiver for iPhone.
**Account Settings:**
At this point you should see the Citrix Receiver on your iPhone.
Tap on it to open it, and configure with the gateway settings to the AGEE iPhone Proxy.
For this example:
Address: https://xd.ns.com
User: <username>
Pass: <password>
Domain: ns.com

**Citrix Access Gateway:**
Access Gateway:
  On
Gateway Type:
    Enterprise Edition
Gateway Authentication:
    No Authentication

**Apps:**
Tap on Save. Tap on the save profile, and Citrix Receiver should login through the AGEE, and receive the Applications published on XenApp or a Desktop from XenDesktop.
Open the account:
Tap on the saved account settings and watch the magic of Citrix unfold.

Windows XP streamed to an iPhone

Windows 7 streamed to an iPad
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