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Deployment Guide

ICA Proxy for XenApp & XenDesktop for Citrix Receiver for iPhone, iPod, iPad

Access Gateway Enterprise Edition (NetScaler AGEE)

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Introduction

A member of the Citrix Delivery CenterTM 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 GatewayTM, 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 GatewayTM appliance now includes integration with Citrix XenDesktopTM, allowing companies to deliver virtual desktops securely to thousands of end users based on their unique identity, location and security status.

Citrix XenAppTM, a member of the Citrix Delivery CenterTM 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 XenDesktopTM, a member of the Citrix Delivery CenterTM 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 simplies 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 iPhone users with fast, secure, and easy access to their enterprise applications. With Citrix Receiver for iPhone, users can access any XenApp application or any XenDesktop from their Apple iPhone, iPad or iPod Touch.

Solution Requirements

- Windows Desktops delivered to iPhone, iPod or iPad
- Windows Applications delivered to iPhone, iPod, iPad
- ICA Proxy for Citrix Receiver iPhone, iPod & iPad
- ICA Proxy for XenApp & XenDesktop
- ICA Proxy for NetScaler Access Gateway Enterprise Edition AGEE

Prerequisites

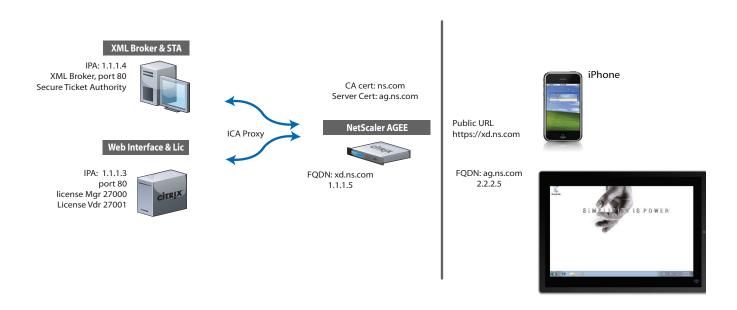
- Citrix NetScaler L4/7 Application Switch, version 9.1 build 101.5+ running Access Gateway (Quantity x 2 for High Availability)
- Citrix XenApp Server 5.0+ or XenDesktop 4.0+
- Microsoft Server with Active Directory
- iPhone Configuration Utility
- iPhone OS 3.0+, iPad OS
- Citrix Receiver for iPhone v2.1+



Network Diagram

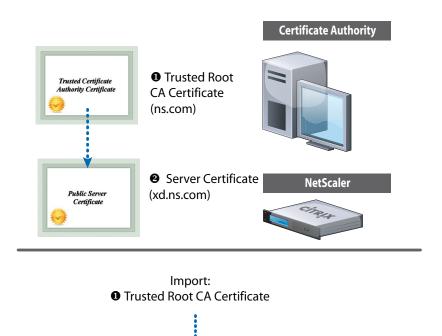
The following is the Network that was used to develop this deployment guide.

Citrix "ICA Proxy for iPhone & iPad" Logical Network Diagram



VLAN Legend	NetScaler
VLAN 1 VLAN 2	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**











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 for iPhone or iPad.

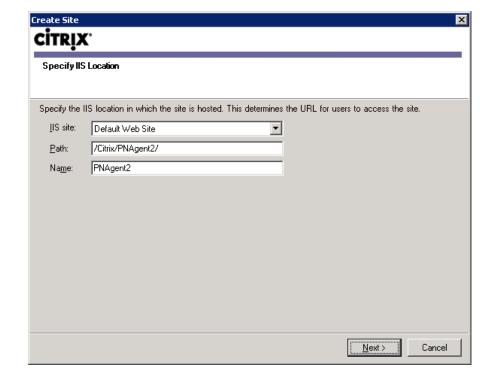
From the Citrix Web Interface Management console:

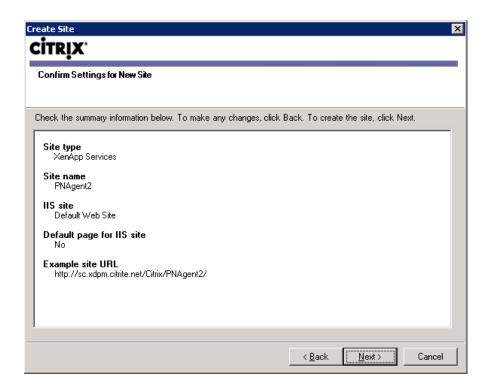
XenApp Services Sites →
Action →
Create Site.

IIS Location:

IIS Site: Default Web Site Path: /Citrix/PNAgent2/

Name: PNAgent2



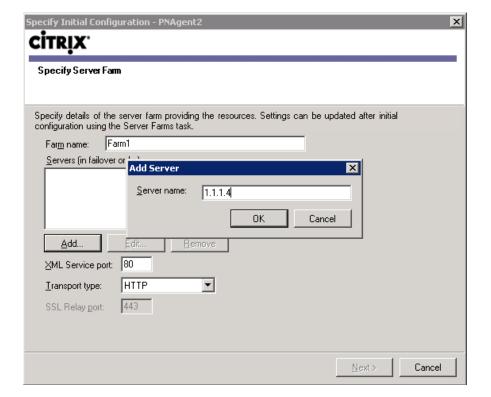


Confirm:

Next.

Finish.

Configure Site Now.



Specify Server Farm:

Farm Name: <your farm name>

Servers: <Hostname or IP

Address>

Note: this is the Desktop

Delivery Controller that provides

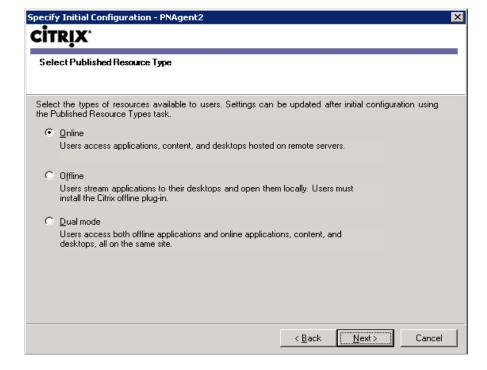
the server instances.



Resource Type:

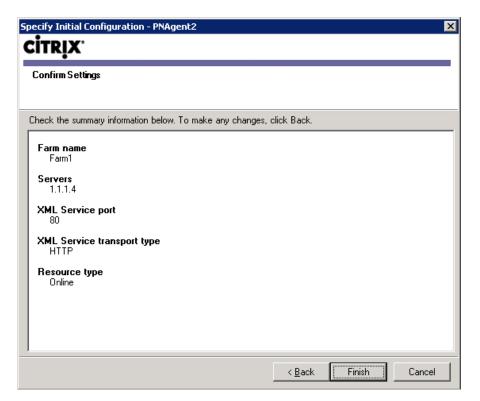
Online

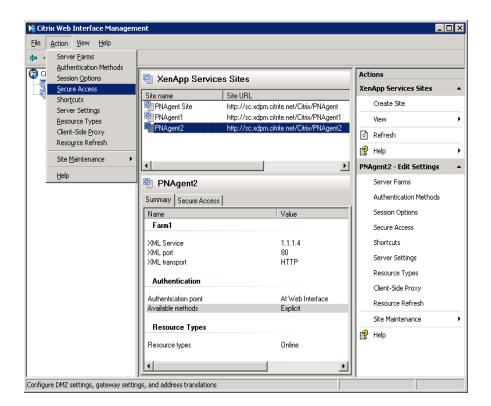
Next



Confirm:

Finish

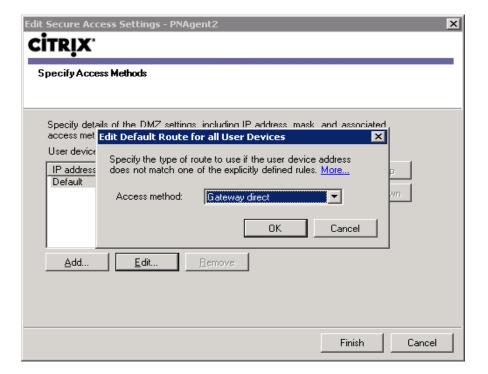




From Citrix Web Interface Management:

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 ag.ns.com, and resolves to 2.2.2.5.

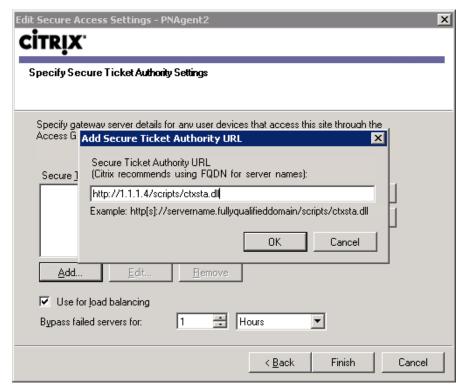
Specify Gateway Settings Specify Gateway server details for any user devices that access this site through the Access Gateway or Secure Gateway. More... Address (FQDN): xd.ns.com Port: 443 Enable session reliability Request tickets from two STAs, where available < Back Next > Cancel

Edit Secure Access Settings - PNAgent2

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

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:

NetScaler →

Access Gateway →

Access Gateway

Wizard.

Create Virtual Server:

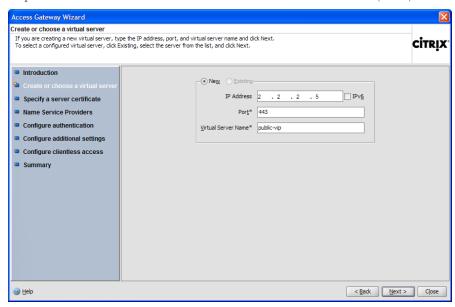
Type: New

IP Address: 2.2.2.5

Port: 443

Name: public-vip

Next.



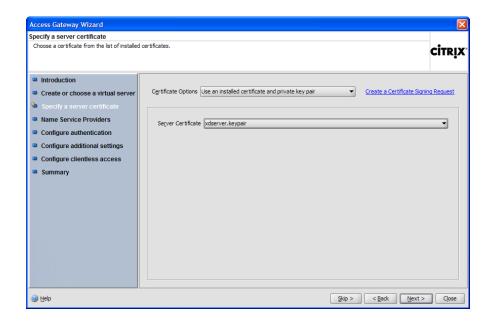
Server Certificate:

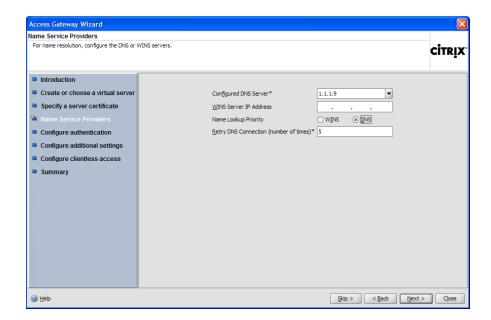
Options: Use an installed certificate and private key pair Certificate: xdserver.keypair

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:

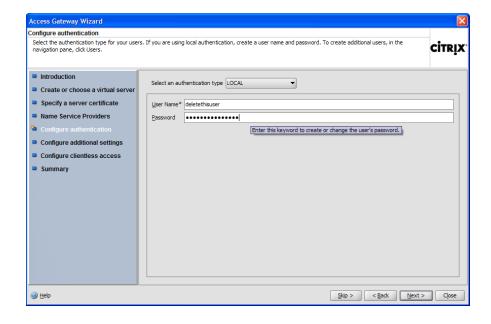
DNS Server: 1.1.1.6

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.



Additional:

Authorization: Deny

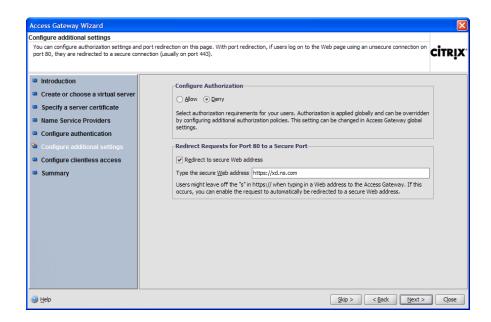
Redirect:

Redirect to secure web address

Address:

https://xd.ns.com

Next.

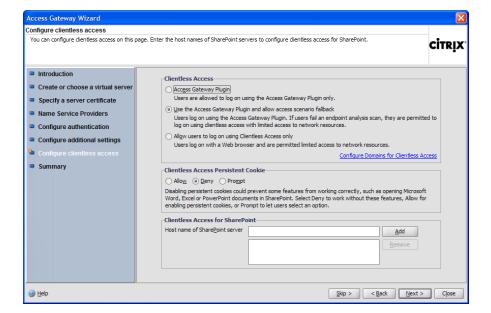


Clientless Access:

Use the Access Gateway Plugin and allow access scenario fallback.

Next.

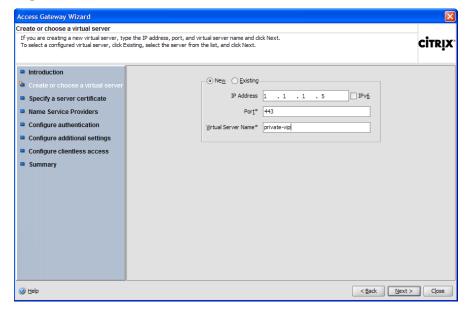
Finish.



NetScaler AGEE

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:

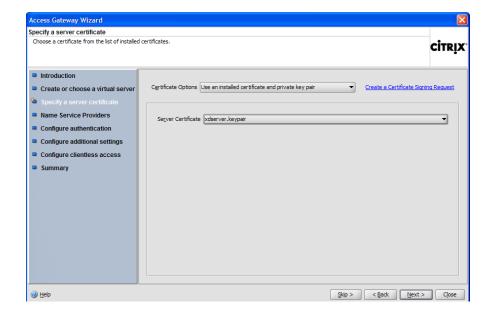
Type: New

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)

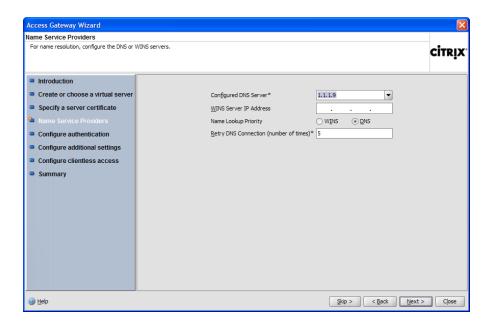
2) Common Name in Server Certificate xdserver.cer must contain xd.ns.com.



DNS:

DNS Server: 1.1.1.9

Next.



Authentication:

Type: Local

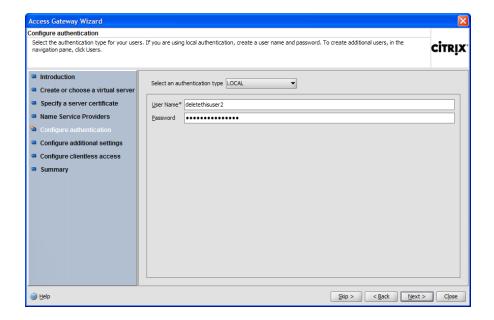
User: deletethisuser2 Pass: <password>

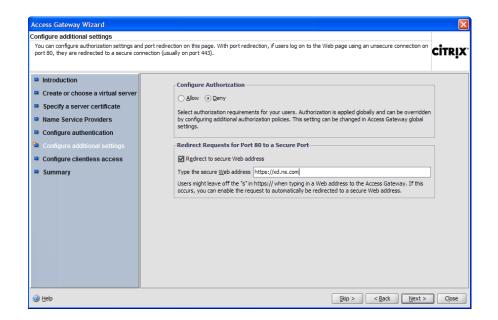
Note: Because we are authenticating at the Web Interface, set this to Local

authentication.

You are required to create a user, but you can delete it later.

Next.





Additional:

Authorization: Deny

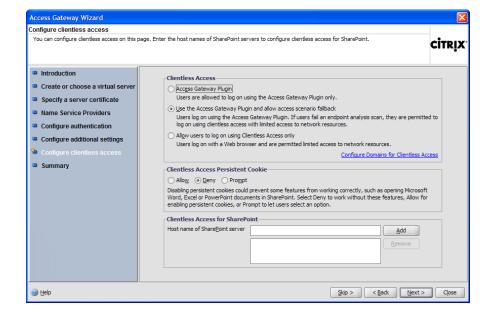
Redirect:

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.

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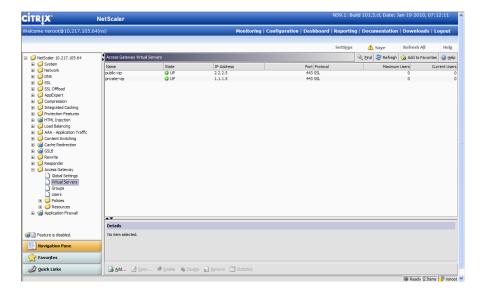
VIPs:

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 comming from inside the organization, or Intranet.

The Server certificate should be bound to both the Public and Private VIPs.





From the NetScaler GUI: NetScaler → Access Gateway → Policies → Session → Add.

Type in policy name, in this example iphone_and_ipad.

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

Note: This session profile will be used to identify the Citrix Receiver sessions coming from the iPhone, iPod or iPad, 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 REQ.HTTP.HEADER User-Agent

REQ.HTTP.HEADER User-Agent CONTAINS Darwin

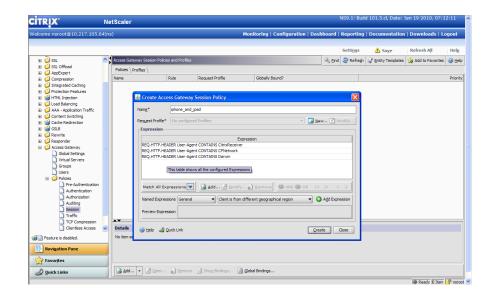
CONTAINS CFNetwork

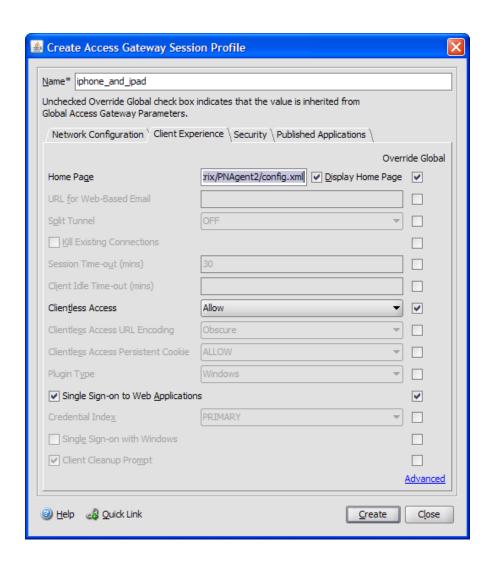
Next to Request Profile, select 'New'.

NetScaler AGEE

Proxy Group, 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.





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:

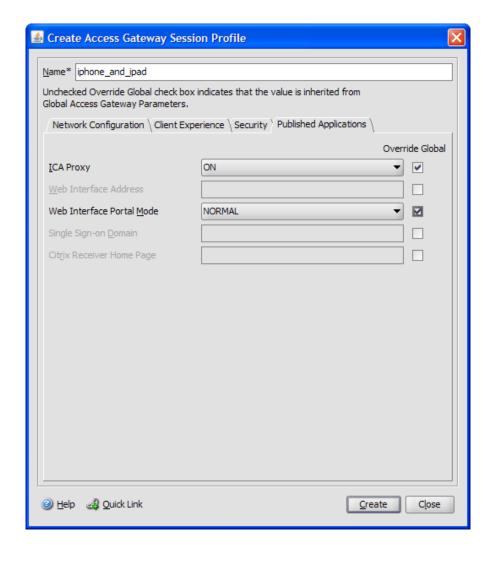
Normal

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.

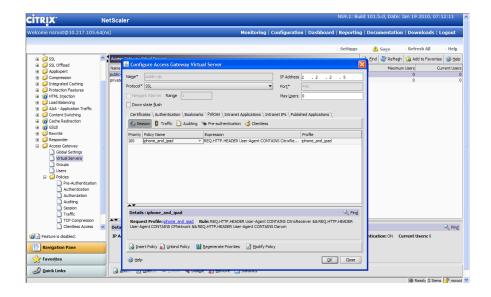
The iphone_and_ipad session policy should be bound to the public-vip and private-vip.

Open the public-vip and select the Policies tab.

Insert policy - select iphone_ and_ipad.

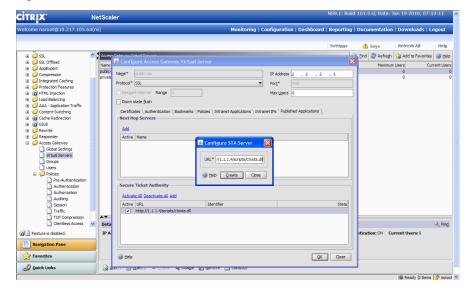
Select Ok.

Repeat this for the private-vip.



Secure Ticket Authority

Communication between the XenApp ot 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.

Install AGEE Cert locally:

On a Windows PC, run the MMC and then add the certificate snap-in for the current user.

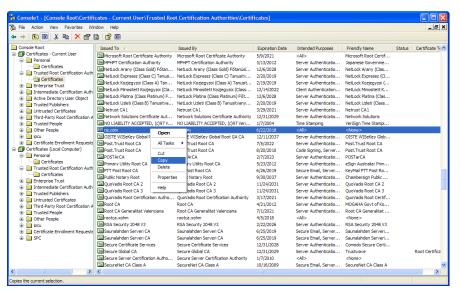
Copy the root certificate from the Trusted Root Authorities to the personal keystore (make sure to copy and not move).

Download and Install the iPhone Configuration Utility:

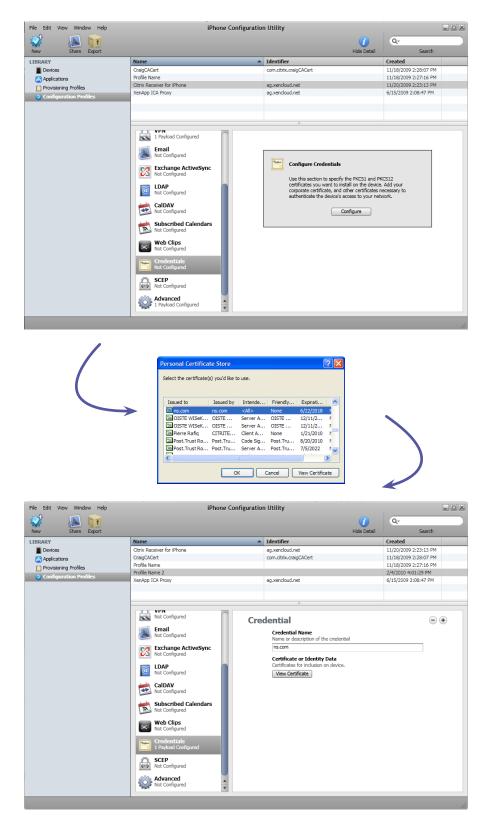
Select Configuration Profiles.

Create a new Configuration Profile.

Fill out the General profile information.







Credentials:

Select Credentials -> Configure. Select the Root CA Certificate.

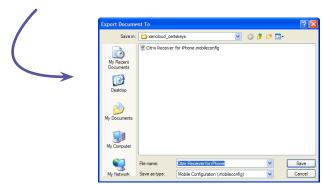
Note: If using an Intermediate Certificate, you should install the Root CA Certificate and the Intermediate Root CA Certificate.



Export:

Select Export.
Save locally.







iPhone Certificate:

At this point you can:

1) eMail the profile to yourself, and open it with the iPhone.

or

2) eMail the Root CA Certificate to yourself, and open it with the iPhone.

or

3) Install it to your iPhone locally using iTunes.

In this example, we install the profile locally using iTunes

.



Install the Cert & Profile onto the iPhone:

In this example we emailed the cert to the iPhone, and installed it

Note: If you purchased a certificate for an Certificate Authority, then you don't need to install any certificates in your iPhone, iPod or iPad.





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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