



# ShareFile

## Technical Presentation

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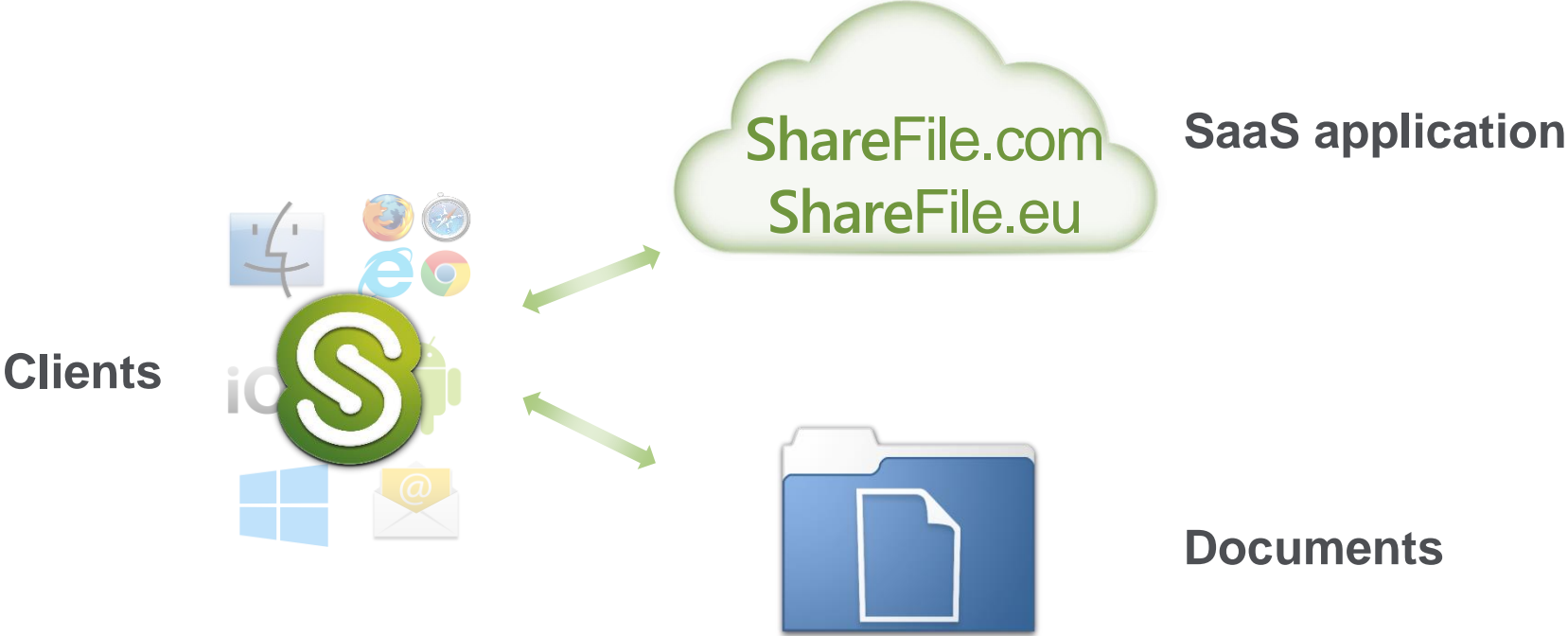
[joerg.vosse@citrix.com](mailto:joerg.vosse@citrix.com)



# ShareFile Enterprise

## Architecture Overview

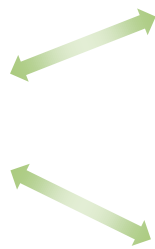
# ShareFile “Document Cloud”



# ShareFile “Document Cloud”

## Clients

- Mobile, Windows, Outlook, OS X, Web
- XenDesktop / XenApp
- Mobile Office Editor
- XenMobile DLP Policies



## SaaS application

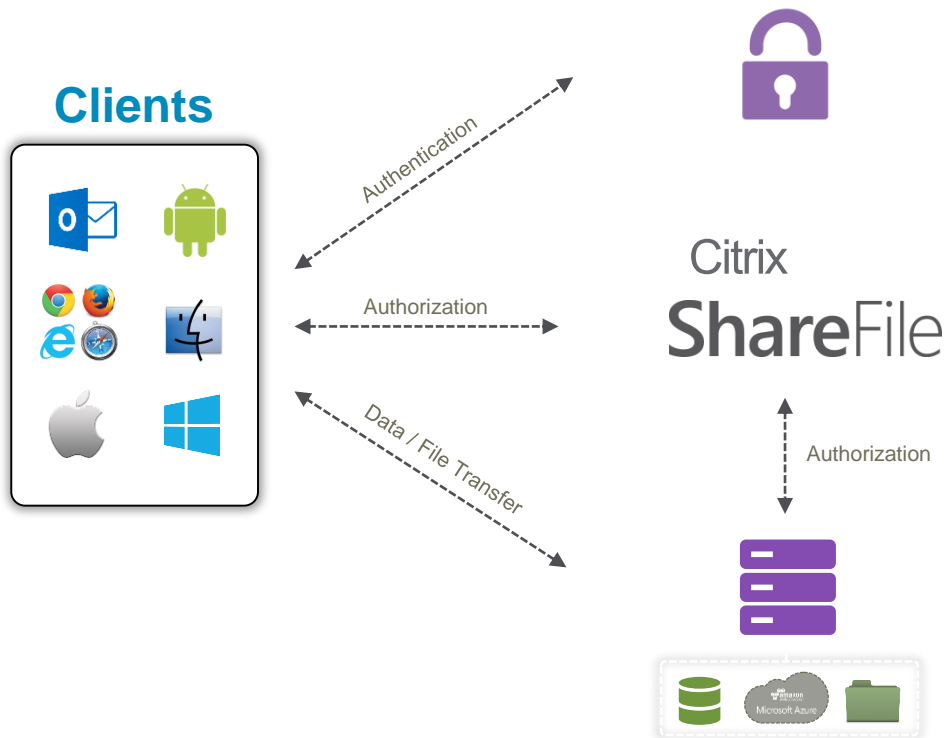
- Business logic
- Web application
- Reporting



## Documents

- Citrix-managed
- Customer-managed
- Existing repositories

# ShareFile “Document Cloud” Architecture



## Authentication

- Sharefile integrated
- SAML 2.0 IdP

## SaaS Application

- USA or Europe
- Business Logic
- Web Application
- Reporting

## Document Storage

- Citrix-Managed
- Customer-Managed
- Existing Repositories

# ShareFile Enterprise

## Clienttools Overview

# Files & Folders available on any device



# ShareFile Web User Interface

Citrix ShareFile Help Log Out

Search Files and Folders  Advanced Search

Home Manage Users Send a File Request a File Admin My Settings Apps

File Box  
Inbox (4)  
Recycle Bin  
View/Edit Folder Access  
More Options  
View Activity Log  
Request Files  
Add Note  
Add URL  
Copy Folder  
Move Folder  
Get Direct Link  
Edit Folder Details  
Edit Folder Options

**My Files & Folders** | Shared Folders | Favorite Folders | Connectors

↑ ↶ ↷ Demo

📁 Demo ⌵

+ Create Folder Upload Files

↓ Download ↶ Send More Actions ⌵ View: [Grid]

<input type="checkbox"/>	Title ▲	MB	Uploaded	Creator
<input type="checkbox"/>	Excel.xlsx ⌵	0.01	18/10/13 23:45	J. Vosse
<input type="checkbox"/>	PDF.pdf ⌵	0.09	18/10/13 23:45	J. Vosse
<input type="checkbox"/>	PowerPoint.pptx ⌵	0.09	18/10/13 23:46	J. Vosse
<input type="checkbox"/>	Word.docx ⌵	0.01	18/10/13 23:46	J. Vosse

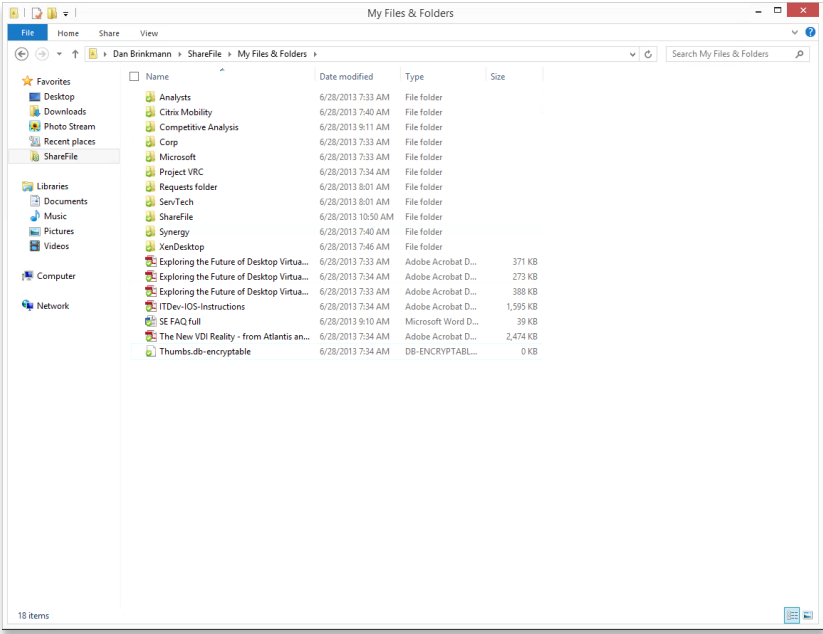
Storage used: 199.47 KB Email me when a file is:  Downloaded from this folder  Uploaded to this folder

This Folder is Shared With

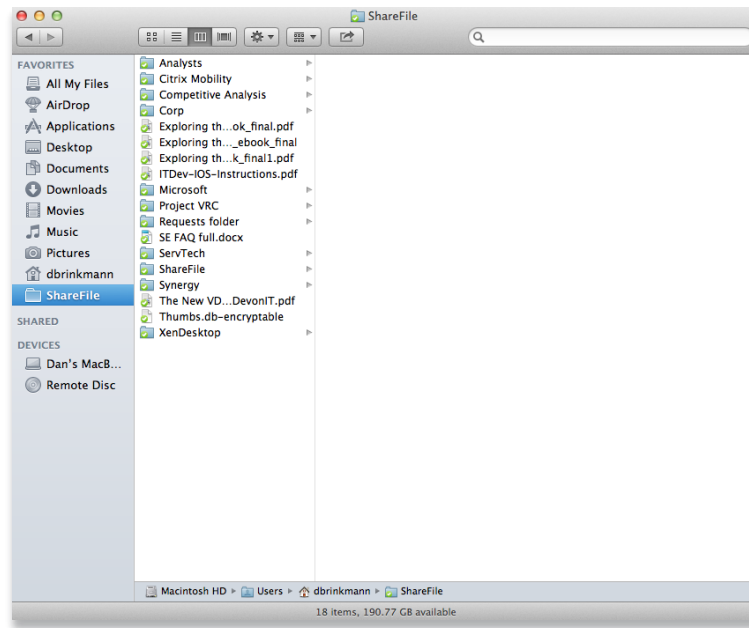
Name	Download	Download Alerts	Upload	Upload Alerts	Delete	Admin
Super Users	✓		✓		✓	✓
Vosse, Joerg (Joerg Vosse Test Account) (Owner)	✓		✓		✓	✓



# ShareFile Windows Synctool (Explorer)

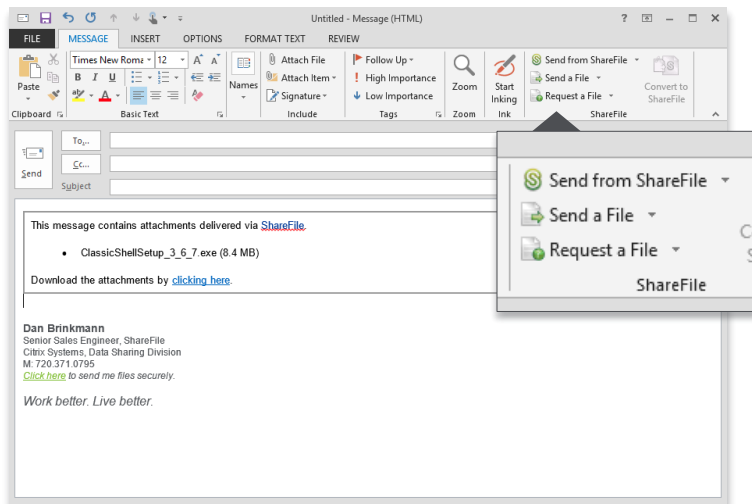


# ShareFile Mac Synctool (Finder)

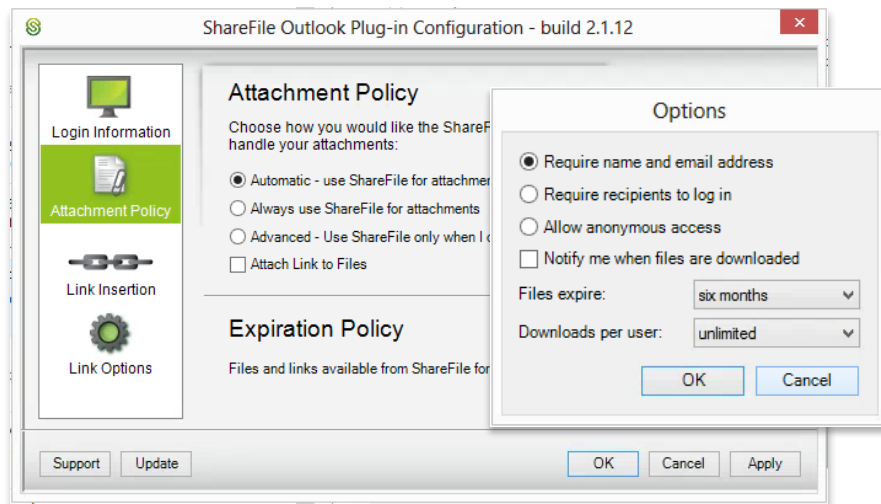


# ShareFile Outlook Plug-in

Send or request files from Outlook using ShareFile plug-in



Control attachment policy, link expiration, and access



# ShareFile Mobile Client

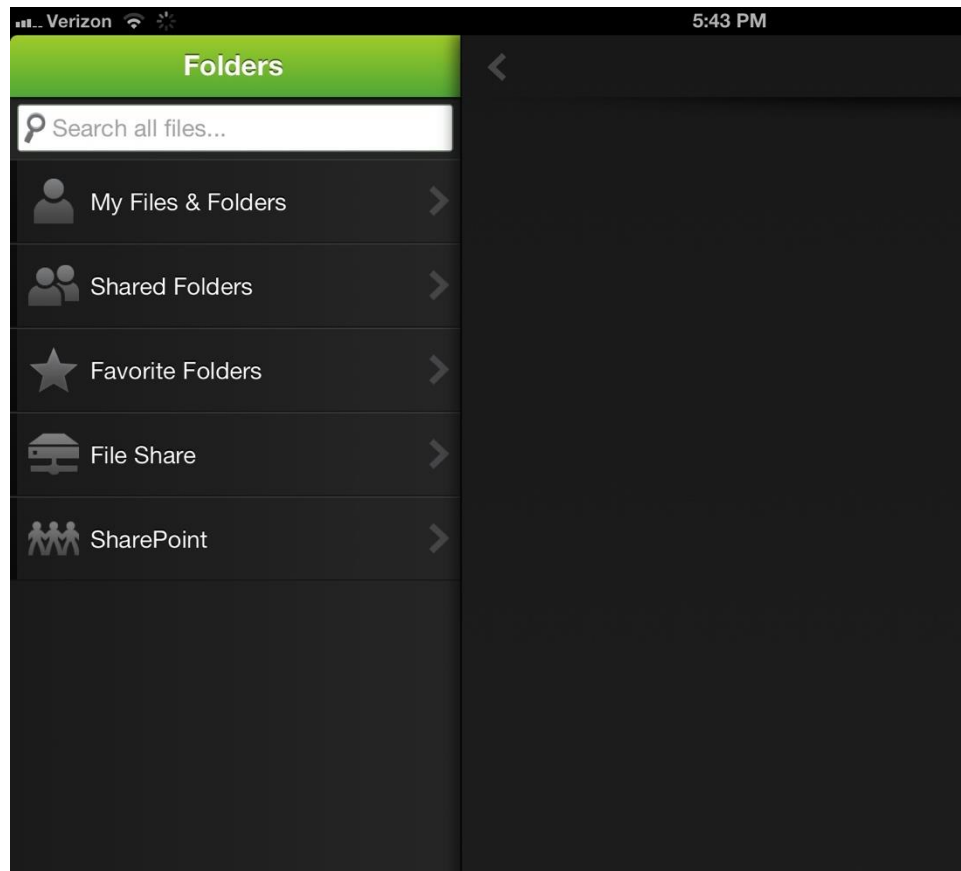
**Personal Folders**

**Shared Folders**

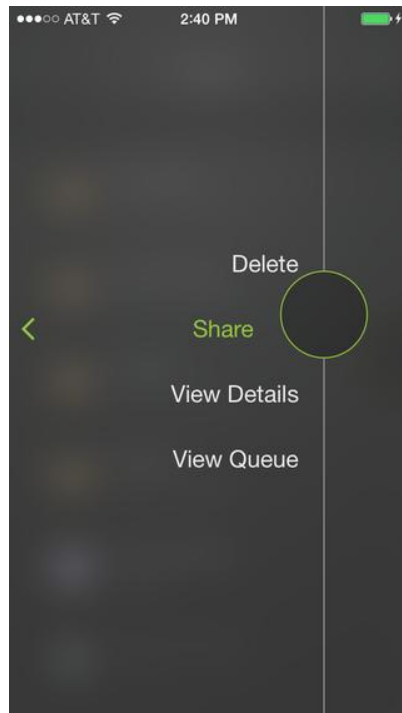
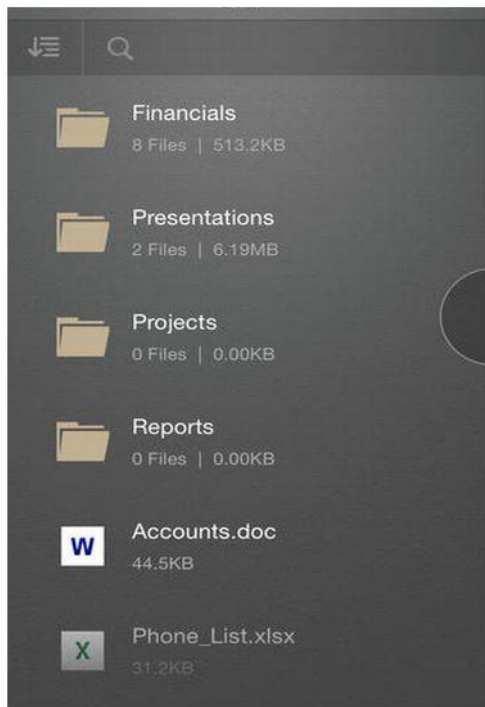
**Favorite Folders**

**Network Drives (R/W)**

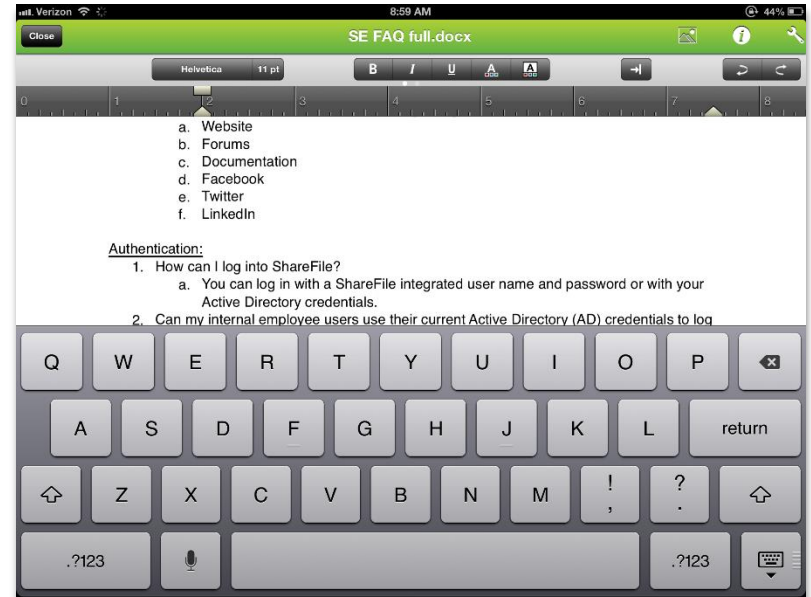
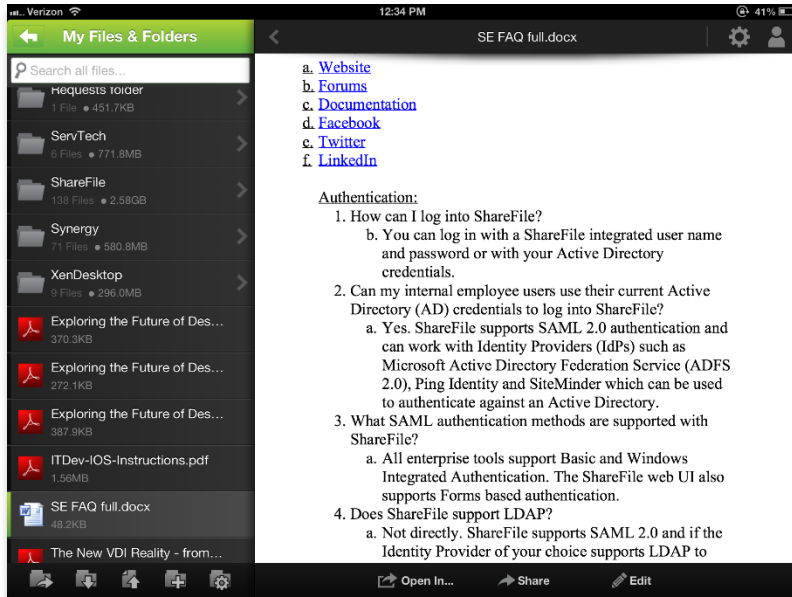
**SharePoint Document Libraries (R/W)**



# ShareFile Mobile Client (new design)

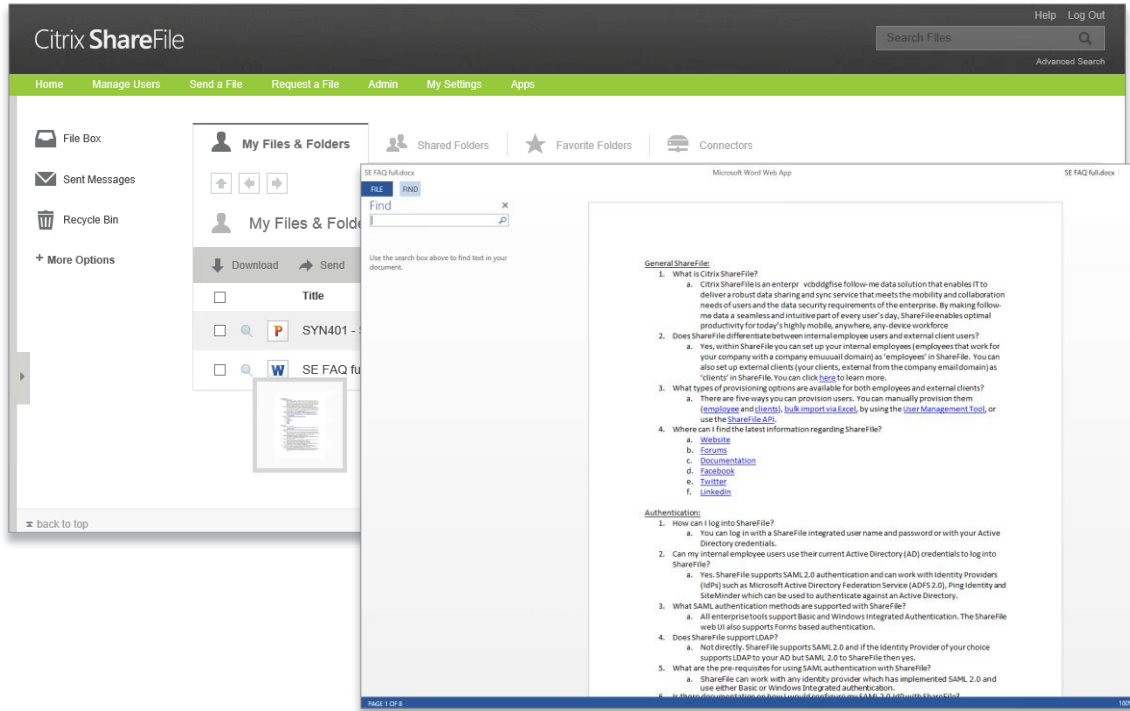


# Built-in Mobile Content Editor



# Microsoft Office Web Apps Integration

HTML rendering of Microsoft Office and Adobe PDF documents



- Supported with Citrix-managed StorageZones (only) today
- Rich file interaction without requiring download
- Leverages Microsoft web app viewer
  - PowerPoint animations
  - Excel calculations
  - MS Word & PDF rendering

# ShareFile Enterprise

In Virtual Environments

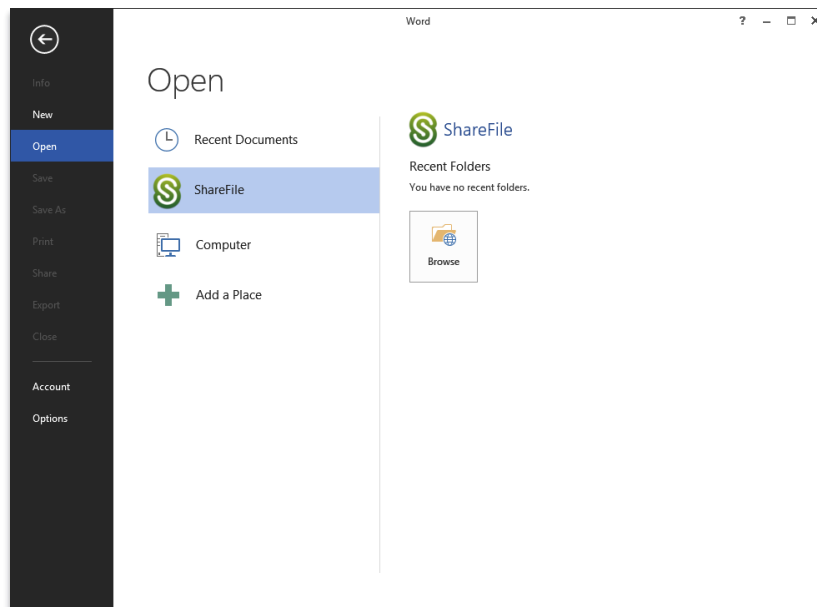


# XenDesktop / XenApp integration

Use Citrix Receiver to access published application or desktop



Open ShareFile documents from a published application

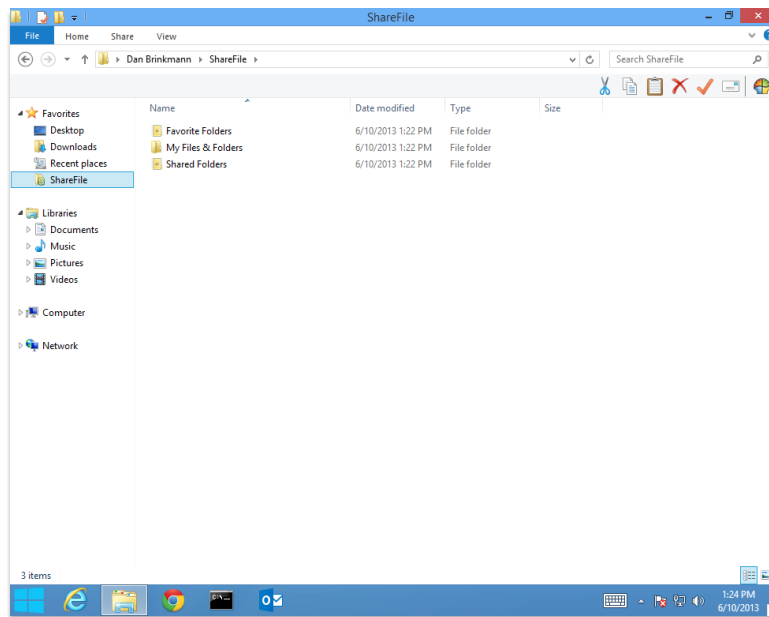


# XenDesktop / XenApp integration

Use Citrix Receiver to access published application or desktop



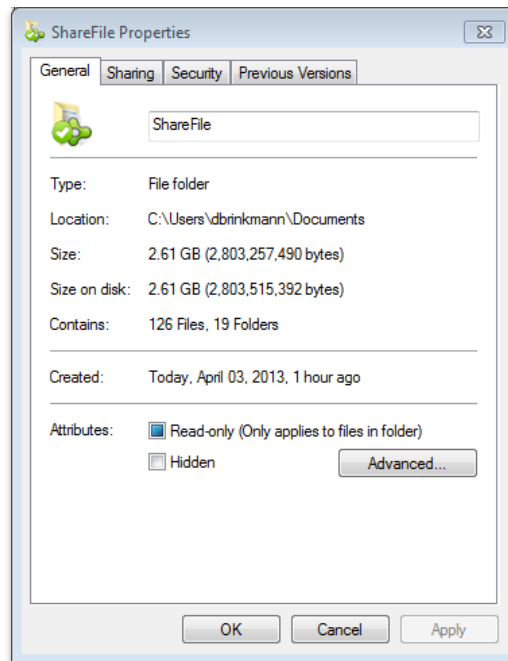
Open ShareFile documents from a published desktop



# Without On-Demand Sync

Every login to non-persistent desktop

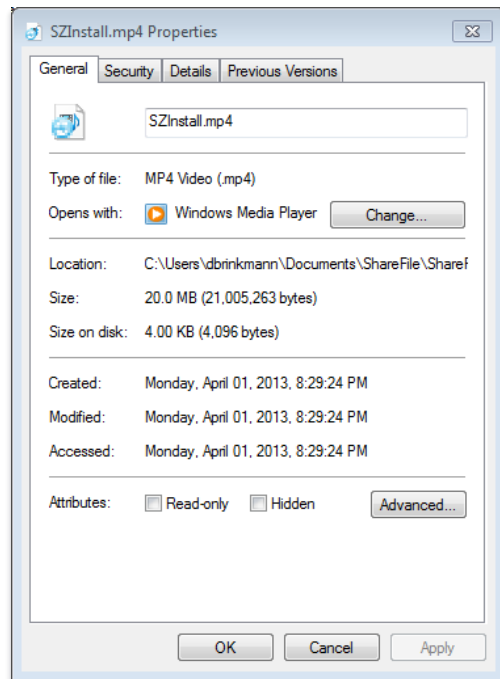
- Full file download of
  - My Files & Folders
  - Shared Folders (if configured)
- Likely to cause a capacity issue on PVS or MCS differencing disk
- Increased write IO during sync



# With On-Demand Sync

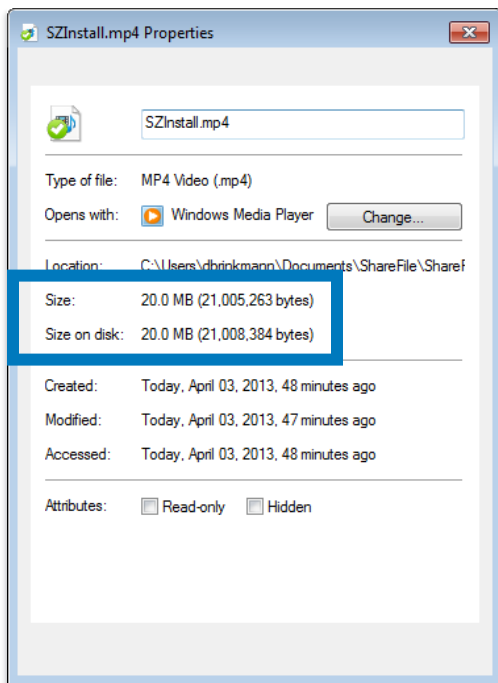
Designed for XenDesktop and XenApp

- Same look & feel as “normal” Windows Sync
- 4 KB placeholder for each file
- Only brings over files when required
  - Copy
  - Opening/editing in application
- Files are uploaded when changed
- During next login the locally sync'd files are deleted

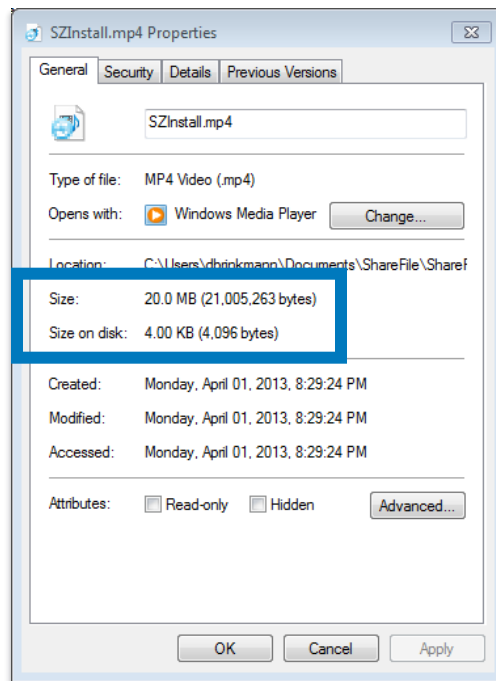


# Before & After On-Demand Sync

Without On-Demand Sync - **20 MB**



With On-Demand Sync – **4 KB**



# ShareFile Enterprise

Secure File Sharing

# Anonymous - Download

Citrix **ShareFile**

Rob Sanders has sent you files.

➤ [Click here to download Sharefile StorageZones POC Guide Final 10172013.pdf](#)

ShareFile is a tool for sending, receiving, and organizing your business files online. It can be used as a password-protected area for sharing information with clients and partners, and it's an easy way to send files that are too large to e-mail.

Trouble with the above link? You can copy and paste the following URL into your web browser:

<https://sfdemolabs-eu.sharefile.eu/d/61789d47c35c4b67>

Powered By Citrix ShareFile 2014

Citrix **ShareFile**

Download



**Sharefile StorageZones POC  
Guide Final 10172013.pdf**

2.33 MB



Download

# Contact Info Request - Download

Citrix ShareFile

Rob Sanders has sent you files.

➤ [Click here to download Sharefile StorageZones POC Guide Final 10172013.pdf](#)

ShareFile is a tool for sending, receiving, and organizing your business files online. It can be used as a password-protected area for sharing information with clients and partners, and it's an easy way to send files that are too large to e-mail.

Trouble with the above link? You can copy and paste the following URL into your web browser:

<https://sfdemolabs-eu.sharefile.eu/d/61789d47c35c4b67>

Powered By Citrix ShareFile 2014

Citrix ShareFile

## Your Information

Before you download the files, please provide your contact information for tracking purposes.

**NOTE:** This information is for internal tracking purposes only and will not be shared with third parties.

Email: \*

First Name: \*

Last Name: \*

Company:

Store this information for next time

Remember my info and skip this step

➔ [Continue to Download Page](#)



# Require Client Login - Download

## Citrix ShareFile

Rob Sanders has sent you files.

To download this file, you must first activate your account and set your personal password.

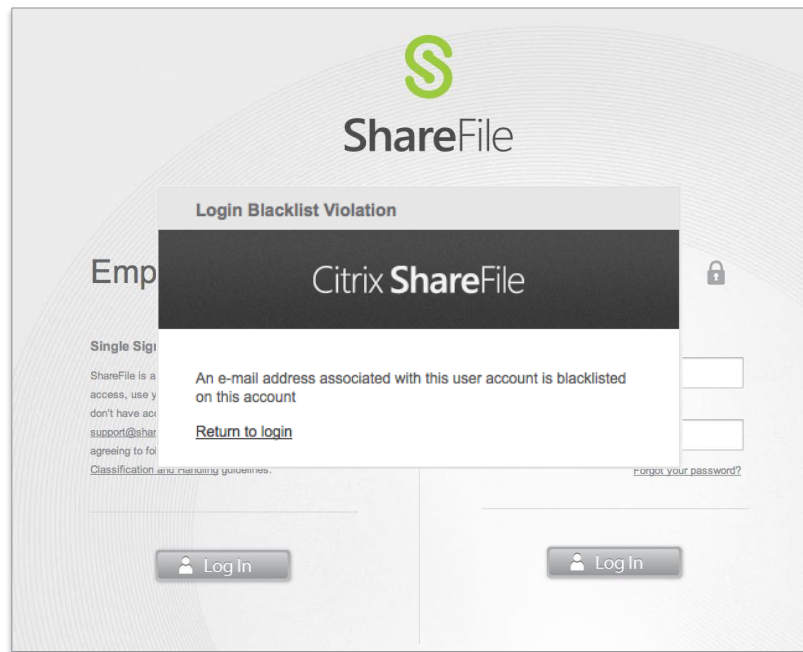
> [Activate my account and download Sharefile StorageZones POC Guide Final 10172013.pdf](#)

ShareFile is a tool for sending, receiving, and organizing your business files online. It can be used as a password-protected area for sharing information with clients and partners, and it's an easy way to send files that are too large to e-mail.

Trouble with the above link? You can copy and paste the following URL into your web browser:

<https://sfdemolabs-eu.sharefile.eu/d/373444ba01184b06?a=338c79f536a56c0a>

Powered By Citrix ShareFile 2014



# ShareFile Enterprise

## Enterprise Security Controls

# ShareFile Mobile Device Security

- Encryption at rest / in-transit
- Offline / Online access to files
- Device Restrictions
- File Self Destruct (Poison Pill)
- Passcode / Pin Code
- Modified Device Detection
- External Applications



The screenshot shows a settings panel for mobile device security. It contains several sections with options and dropdown menus:

- File Self Destruct** (with a help icon): Files are automatically removed:
- Require User Passcode** (with a help icon): Type of Passcode:
- Enable External Applications** (with a help icon):  Yes  No
- Enable Offline Access to Files**:  Yes  No
- Enable Automatic Login** (with a help icon):  Yes  No
- Restrict Modified Devices** (with a help icon):  Yes  No

# ShareFile Mobile Device Security

## Encryption at rest

- Requires passcode

## Poison Pill

- Lost device protection / data expiration

## Remote Wipe

- Wipes only ShareFile app data

## Disable External Applications

- Prevent “Open In” 3rd party apps

Provided by ShareFile
<b>Poison Pill</b>
Require password
Data retention
<b>Encrypt files at rest</b>
<b>Passcode lock</b>
Device lock
Jail-break detection
<b>Remote wipe</b>
Wipe status and auditing
<b>Disable external applications</b>
Secure Sharing
Network IP restrictions
Session inactivity timeout

# Mobile DLP Controls with XenMobile

## Provided by ShareFile

Disable download
Require password
Data retention
Encrypt files at rest
Passcode lock
Device lock
Jail-break detection
Remote wipe
Wipe status and auditing
Disable external applications
Secure Sharing
Network IP restrictions
Session inactivity timeout

## Provided by MDX Wrapping

Constrain clipboard cut and copy	Define maximum offline period
Constrain clipboard paste	Require regular re-authentication
Constrain external applications	Wipe data after security event
Constrain URL Schemes	Online access only
Block camera	Constrain Wi-Fi networks
Block microphone	Require internal network
Block screen capture	Constrain network access
Block email compose	App update grace period
Disable print	Require device encryption
Require Citrix Worx Home authentication	Require device pattern screen lock

# Mobile Device Deployment



# Mobile Device Deployment



# Windows / OS X Device Registration

- Restricts login to devices only with a valid access key

Sync Disabled ▾  Enable Auto-update

Provide or generate key to override Sync access control.

✓ Generate Key

Sync enables users to automatically synchronize files between computers and ShareFile. When disabled, users will not be able to login to Sync unless a registry policy is configured for managed devices. For more information, see the [Sync KB page](#).





# Sharing Controls

## Blacklist / Whitelist

- Prohibit sharing with specific email domains
- Restrict sharing to only specific email domains

## Require Client Login

- Disables anonymous sharing of documents
- Restricts ability for recipients to forward shared documents to someone else

## Client 2-step verification

- 2-step verification on untrusted devices using SMS messages, Google Authenticator

### Two-Step Verification



Two-Step Verification uses your phone to provide an extra layer of security for your username. After you log in, you will be asked to enter a verification code that will be sent to your phone via text message (SMS) or voice call.

Enable

# ShareFile Enterprise

## Storage Zones

# ShareFile with StorageZones

Choose where your data is stored



Best economics,  
most elastic



Meet compliance &  
security requirements

# ShareFile with StorageZones

Choose where your data is stored



Best economics,  
most elastic



Meet compliance &  
security requirements



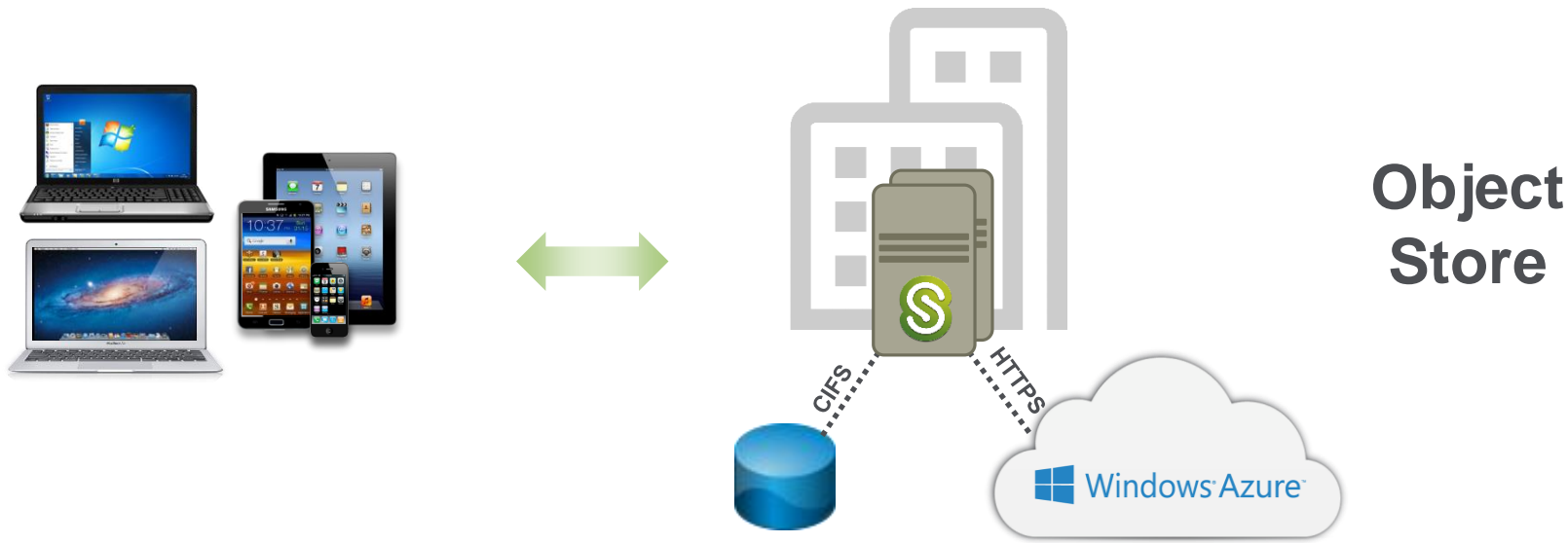
**StorageZone  
Connectors**

Mobile productivity with  
existing data sources

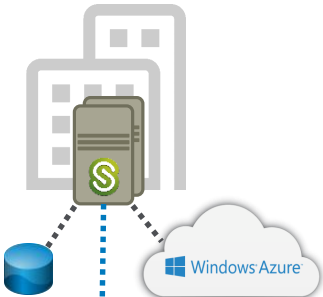
# ShareFile with Citrix-managed StorageZones



# ShareFile with customer-managed StorageZones



# ShareFile StorageZones



Customer-managed



**Object Store**

Citrix-managed



**Existing Systems**

# ShareFile StorageZone options



Object  
Store

- Cloud-optimized storage technology
- Either **Citrix-managed** or **customer-managed**
- Full ShareFile feature set (Sync, Send/Share, retention, versioning, etc.)












Existing  
Systems

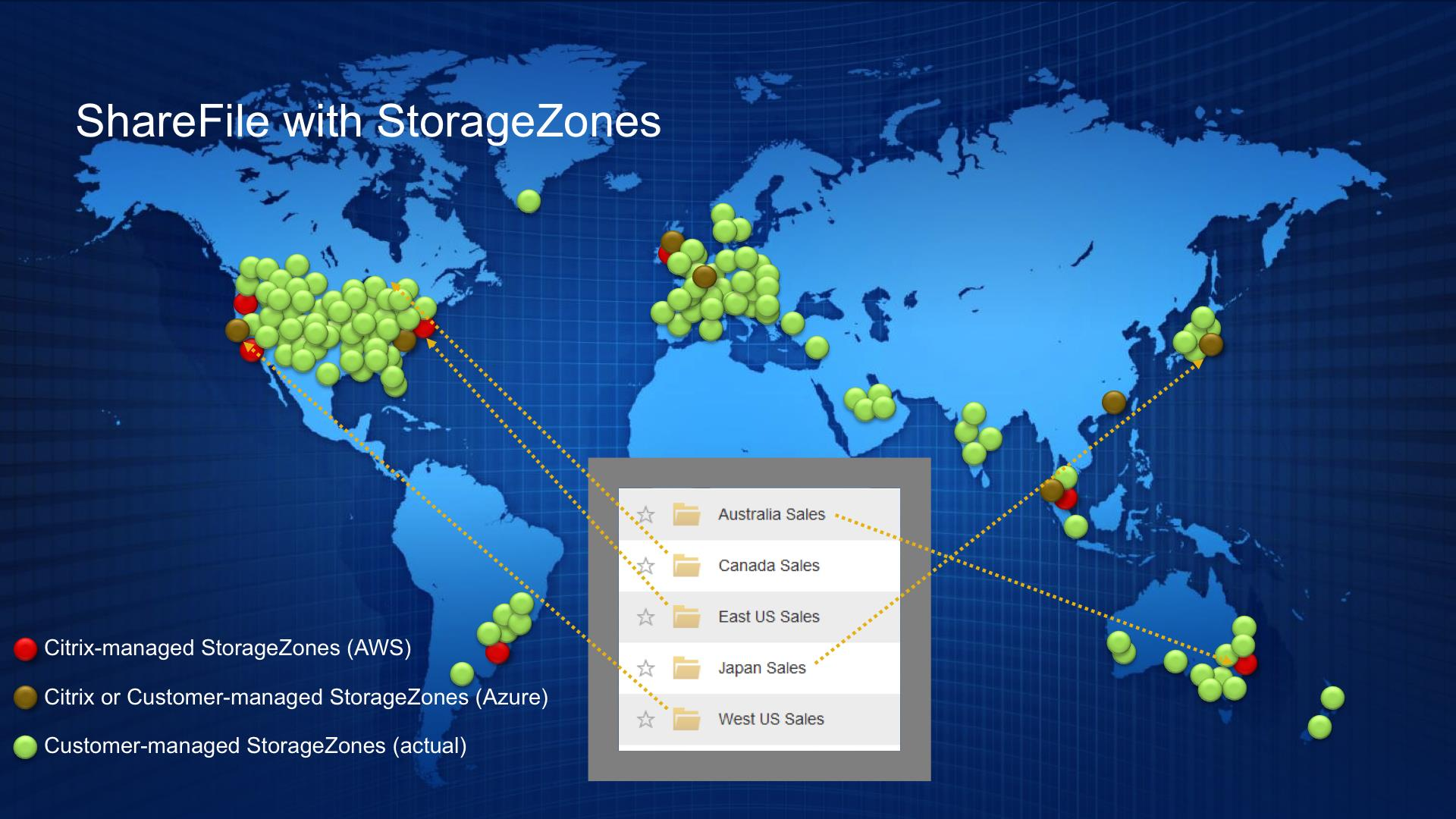
- Network shares, SharePoint
- Typically in customer datacenter
- Feature set determined by repositories capabilities



# ShareFile with StorageZones

-  Citrix-managed StorageZones (AWS)
-  Citrix or Customer-managed StorageZones (Azure)
-  Customer-managed StorageZones (actual)

		Australia Sales
		Canada Sales
		East US Sales
		Japan Sales
		West US Sales



# ShareFile Enterprise

## Authentication Options

# Authentication Options

## ShareFile Managed

- Uses email address and a ShareFile password
- Passwords are stored hashed in the ShareFile Control Plane
- Admin portal supports password policy management

## Customer IdP

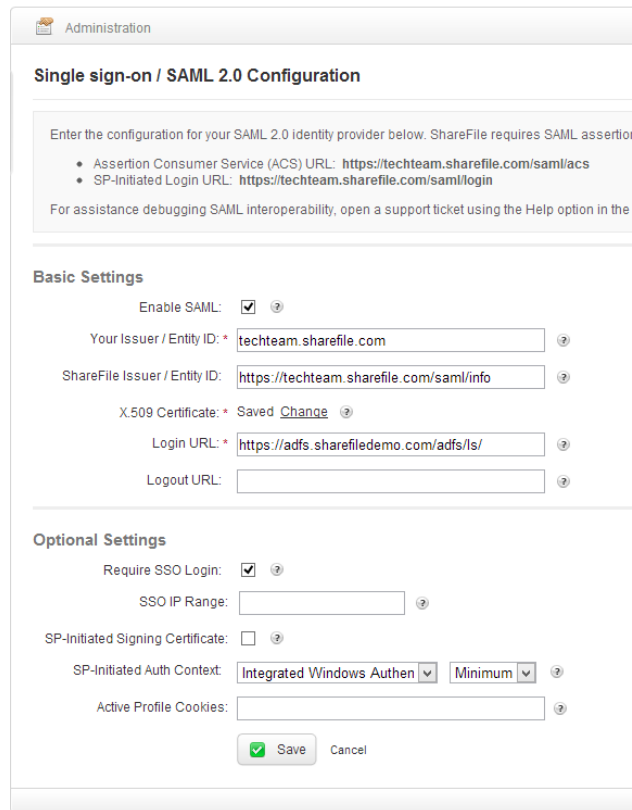
- Requires customer provided and configured SAML 2.0 identity provider
- Supports Forms, Basic, and Windows Integrated protocols
- Tested with ADFS 2.0, PingFederate, SiteMinder, Okta
- Supported only with 'Enterprise' tools

## XenMobile

- Unified storefront for all applications, data and services
- Instant user provisioning and de-provisioning
- Single sign-on with Citrix Worx
- Real-time SaaS application monitoring
- Comprehensive access control policies

# SAML Authentication

- Employee account is still required in ShareFile
  - Folder Access Control
  - Licensing
- Employees will be matched by email address
- Employee password will never be sent to SaaS Application Tier
- ShareFile Authentication can be blocked for Employee users
- Basic, Integrated Windows Authentication, and Forms are supported for all Enterprise clients



The screenshot displays the 'Administration' console for SAML 2.0 Configuration. The page title is 'Single sign-on / SAML 2.0 Configuration'. Below the title, there is a section for configuration instructions and a list of URLs for ACS and SP-Initiated Login. The 'Basic Settings' section includes fields for 'Enable SAML' (checked), 'Your Issuer / Entity ID' (techteam.sharefile.com), 'ShareFile Issuer / Entity ID' (https://techteam.sharefile.com/saml/info), 'X.509 Certificate' (Saved), 'Login URL' (https://adfs.sharefiledemo.com/adfs/ls/), and 'Logout URL'. The 'Optional Settings' section includes 'Require SSO Login' (checked), 'SSO IP Range', 'SP-Initiated Signing Certificate' (unchecked), 'SP-Initiated Auth Context' (Integrated Windows Authen, Minimum), and 'Active Profile Cookies'. At the bottom, there are 'Save' and 'Cancel' buttons.

Administration

### Single sign-on / SAML 2.0 Configuration

Enter the configuration for your SAML 2.0 identity provider below. ShareFile requires SAML assertions

- Assertion Consumer Service (ACS) URL: <https://techteam.sharefile.com/saml/acs>
- SP-Initiated Login URL: <https://techteam.sharefile.com/saml/login>

For assistance debugging SAML interoperability, open a support ticket using the Help option in the

#### Basic Settings

Enable SAML:  ?

Your Issuer / Entity ID:  ?

ShareFile Issuer / Entity ID:  ?

X.509 Certificate: \* Saved [Change](#) ?

Login URL: \*  ?

Logout URL:  ?

#### Optional Settings

Require SSO Login:  ?

SSO IP Range:  ?

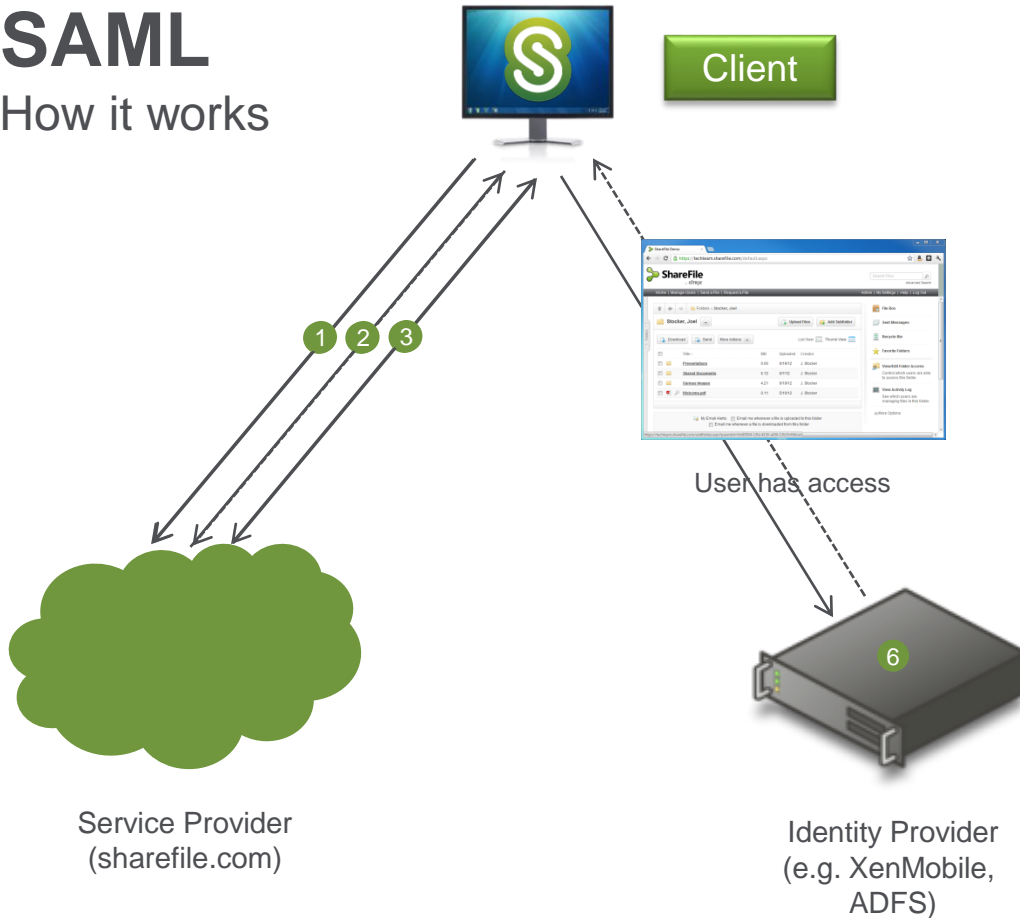
SP-Initiated Signing Certificate:  ?

SP-Initiated Auth Context:   ?

Active Profile Cookies:  ?

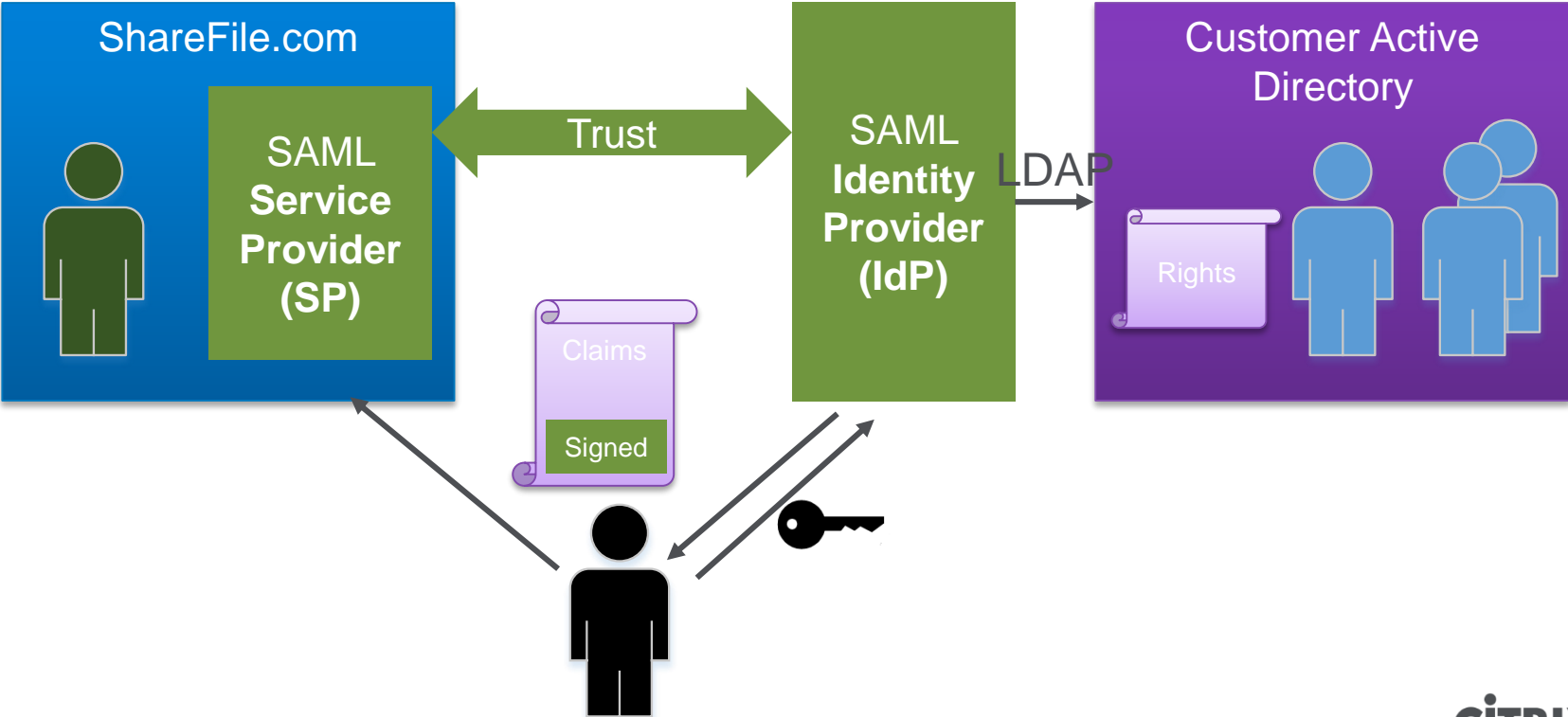
# SAML

## How it works



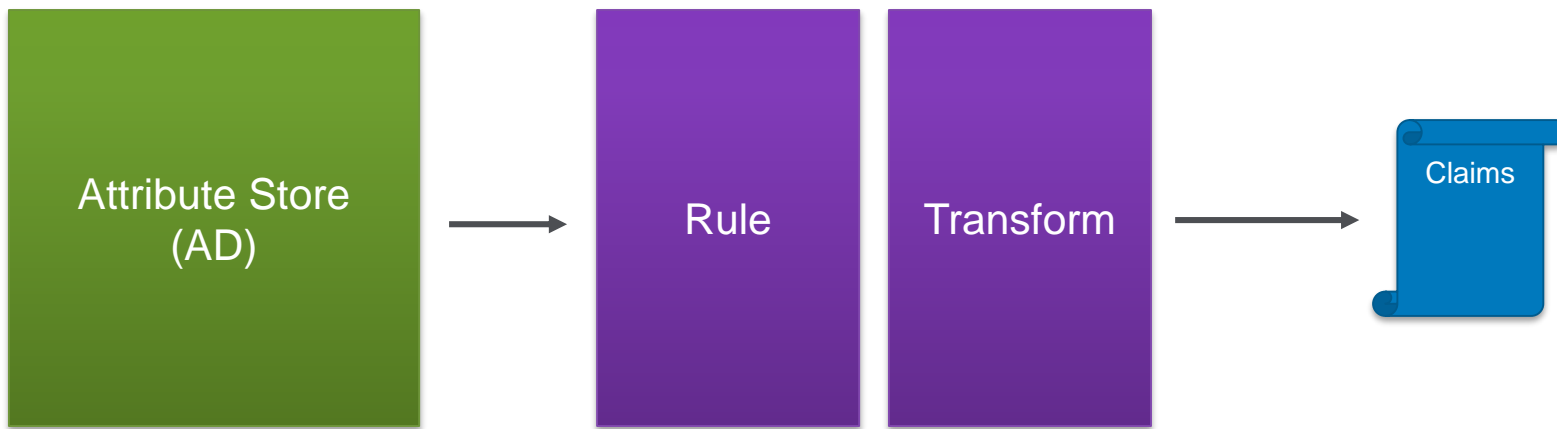
- 1 Client requests ShareFile SSO login URL
- 2 Client discovers identity provider
- 3 Client redirected to identify provider
- 4 Client requests identity provider URL
- 5 Identity Provider identifies the user
- 6 Assertion Consumer Service URL with SAML response
- 7 User agent requests ACS URL
- 8 ACS validates SAML response and redirects user agent to ShareFile URL
- 9 User agent requests ShareFile URL

# IdP / SP Authentication

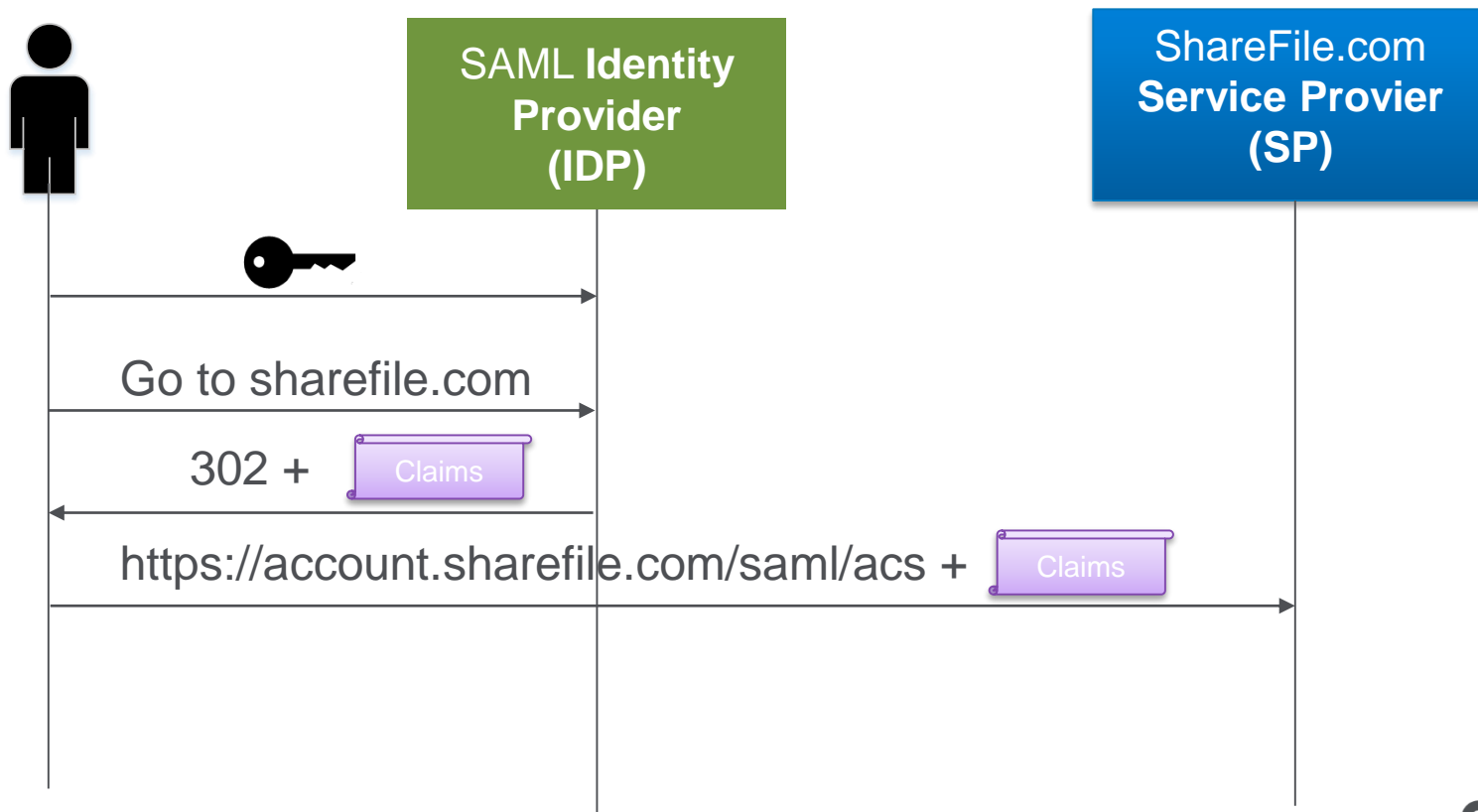


# So how do we get the Identity?

- `<NameID Format="urn:oasis:names:tc:SAML:1.1:nameid-format:emailAddress">joel.stocker@citrix.com</NameID>...`



# SAML: IDP-Initiated Sign-On



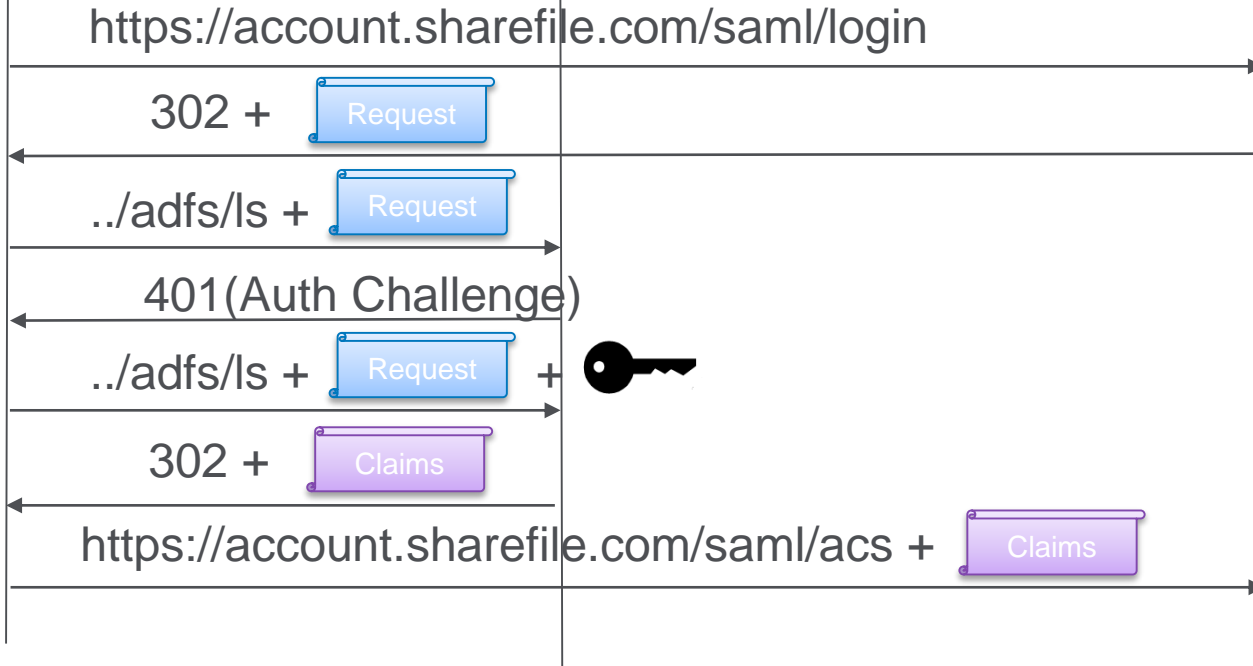


# SAML: SP-Initiated Sign-On



SAML Identity  
Provider  
(IDP)

ShareFile.com  
Service Provider  
(SP)



# ShareFile Enterprise

## User Provisioning

# Manual

## Add Employee: Step 1 of 4

To add an employee, start by entering an email address below.

Email:

→ Next Step

[Cancel](#)

# Bulk Import

## Add Multiple Employees

To add multiple employees, [download the template spreadsheet](#) and add as many users as desired to Excel.

**To export from Outlook:**

- 1) Select File -> Import and Export...
- 2) Select Export to a file and click Next
- 3) Select Microsoft Excel and click Next
- 4) Select Contacts and click Next
- 5) Browse for a place to save and click Next
- 6) Click Finish
- 7) Optionally add a "Password" column and specify passwords

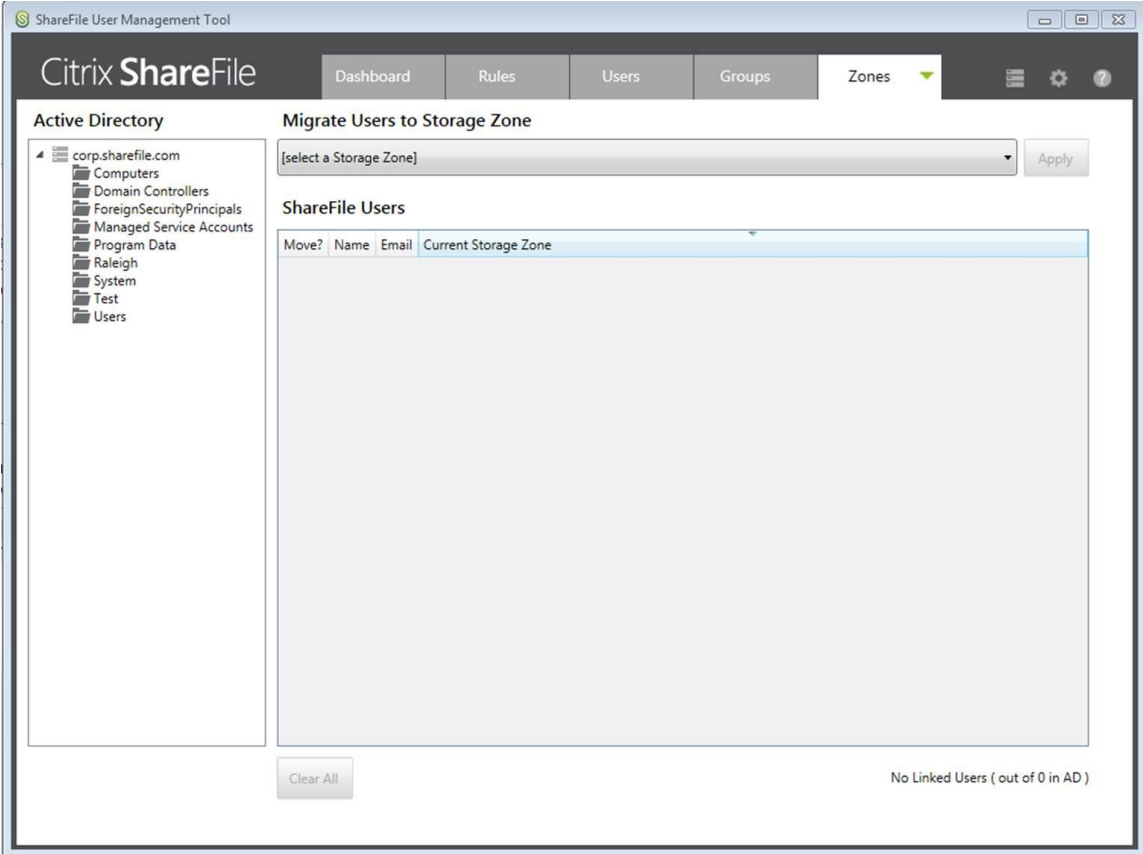
Excel Spreadsheet: \*

Durchsuchen...

Add Employees

Cancel

# User Management Tool



# XenMobile AppController

The screenshot displays the XenMobile AppController interface. At the top, there is a navigation bar with tabs for Dashboard, Apps & Docs (selected), Roles, Devices, Workflows, and Settings. On the left, a sidebar menu titled 'Apps & Docs' lists various categories: APPS (All Apps, Android Apps, iOS Apps, Web & SaaS, Web Link, Public App Stores, Disabled, App Marketplace) and DOCS (ShareFile, XenApp/XenDesktop, Windows Apps). The 'ShareFile' option is highlighted in green. The main content area shows the 'ShareFile Configuration' page, which includes an 'Edit' button and several configuration fields: Domain (text input), Assigned role (dropdown menu showing 'Not Assigned'), Service Account for Provisioning (User name and Password text inputs), and SAML Configuration (Your issuer text input).

Dashboard Apps & Docs Roles Devices Workflows Settings

## Apps & Docs

APPS

- All Apps
- Android Apps
- iOS Apps
- Web & SaaS
- Web Link
- Public App Stores
- Disabled
- App Marketplace

DOCS

- ShareFile
- XenApp/XenDesktop
- Windows Apps

### ShareFile Configuration [Edit](#)

Domain: \*

Assigned role: \*

#### Service Account for Provisioning

User name: \*

Password: \*

#### SAML Configuration

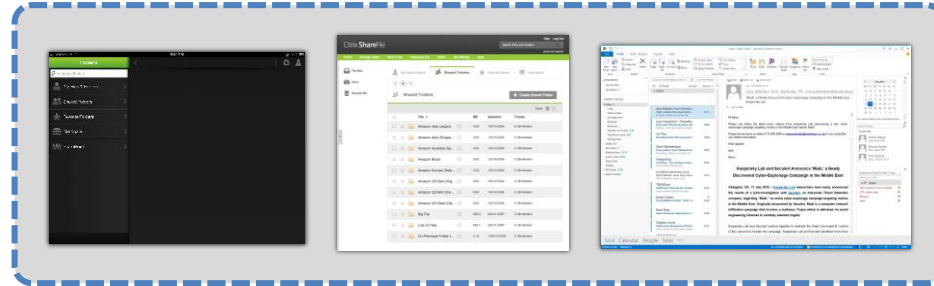
Your issuer:

# ShareFile Enterprise

API

# Solutions Through Platforms

Clients



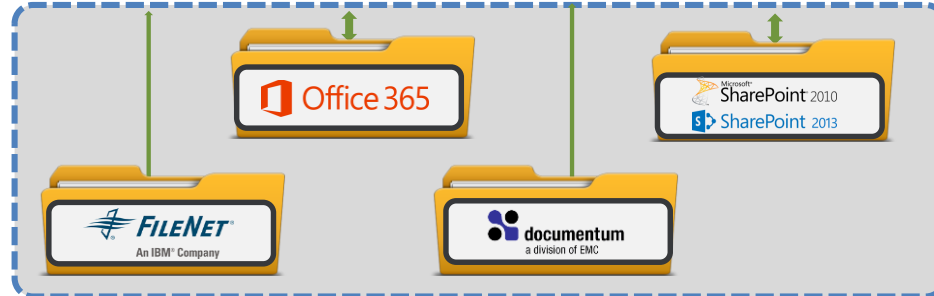
V3 API

Platform

ShareFile

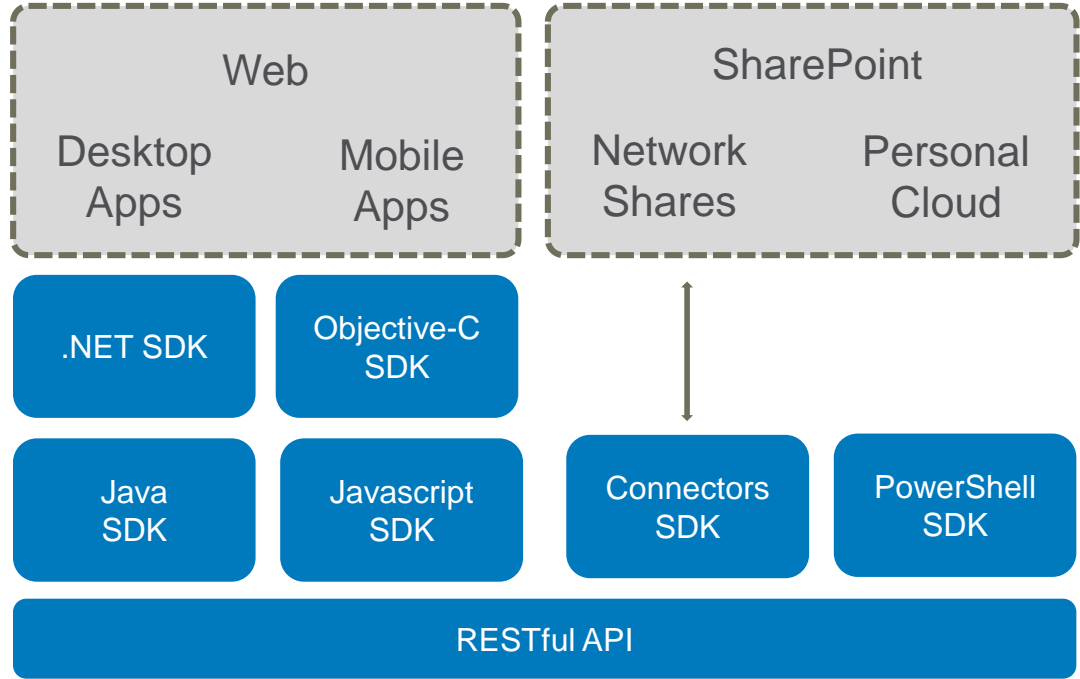
Connectors SDK (Data Sources)

Partners





# ShareFile Platform



# ShareFile

## Welcome to the ShareFile API!

### Getting Started

Quick Start Guide

OData Implementation

FAQ

Get an API Key

Authentication

### API Reference

Access Controls

Accounts

Async Operations

Capabilities

Devices

Favorite Folders

Groups

Items

MetaData

Queues

Sessions

Shares

Storage Centers

Users

Zones

Code Samples

# ShareFile Developer

The ShareFile API lets you integrate with other services and build tools and applications on top of ShareFile

1



#### GET AN API KEY

Get started right away - [request your API key.](#)

2



#### BROWSE THE DOCUMENTATION

Learn [how the API works](#) and [what it can do.](#)

3



#### GO LIVE!

Share your project - [get featured in our showcase.](#)

## How do I get started?

You'll need a ShareFile account, first of all. Then you [grab an API key](#) for each app you want to build from your account settings page.

We recommend that you start out by checking out our [Quick Start Guide](#) and then learn how to [authenticate](#) with us, before you dive into the [code samples](#) and the [documentation](#).

You will probably also want to look at our [client libraries](#) to see if we have one available for your preferred

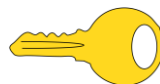
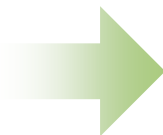
# ShareFile Enterprise

Communications & Diagrams

# Client Communication

## Clients

- Mobile, Windows, Outlook, OS X, Web
- XenDesktop / XenApp



## SAML IdP

- XenMobile
- Microsoft ADFS v2
- CA SiteMinder
- Ping Federate/Identity

## SaaS Application Tier

- \*.sharefile.com 173.199.5.0/24
- \*.sharefile.eu 78.108.127.0/24



## Documents

- StorageZones Controller
- Amazon, Azure, on-premises

# StorageZones Controller Req & Communication

## StorageZones Controller

- Windows Server 2008 R2 or 2012 R2
- IIS Services with ASP.NET
- .NET Framework 4.5
- 2 vCPU, 4GB RAM
- Public IP address with DNS
- Public SSL certificate



## SaaS Application Tier

- \*.sharefile.com 173.199.5.0/24
- \*.sharefile.eu 78.108.127.0/24

## ShareFile Data

- CIFS/SMB file share
- Service account

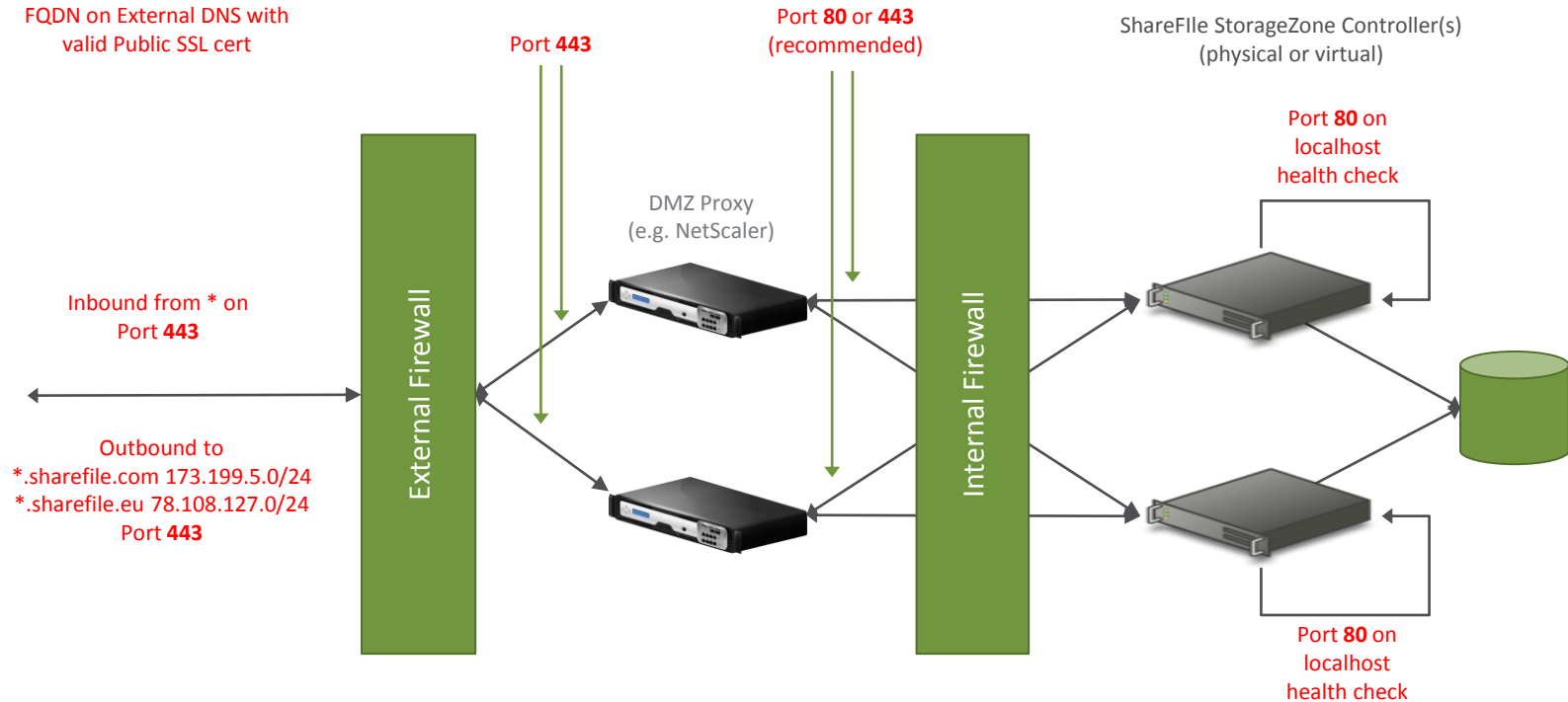
## SharePoint

- http/https

## Network Shares

- CIFS/SMB

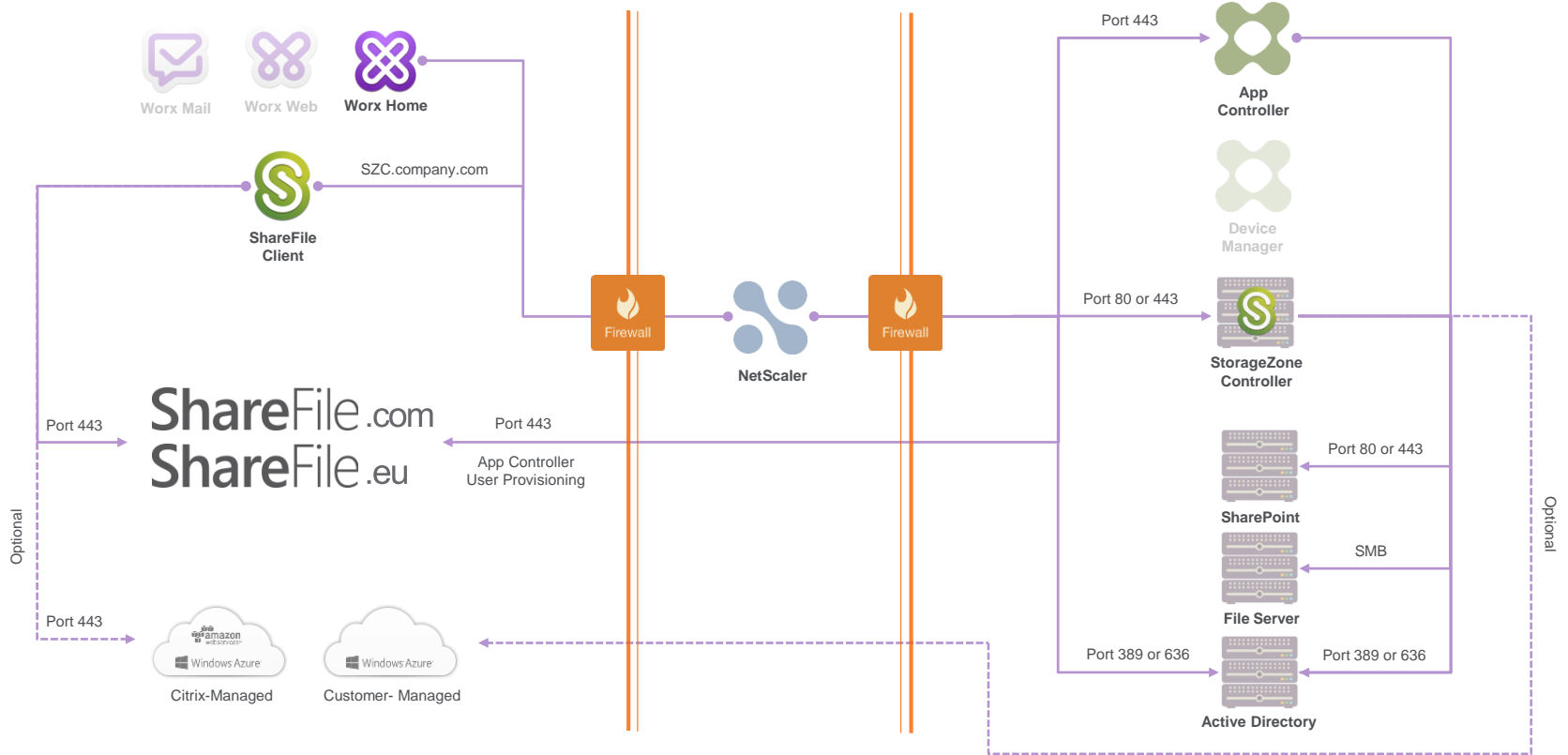
# ShareFile StorageZones Networking Diagram



# Internet & Remote Users

# DMZ

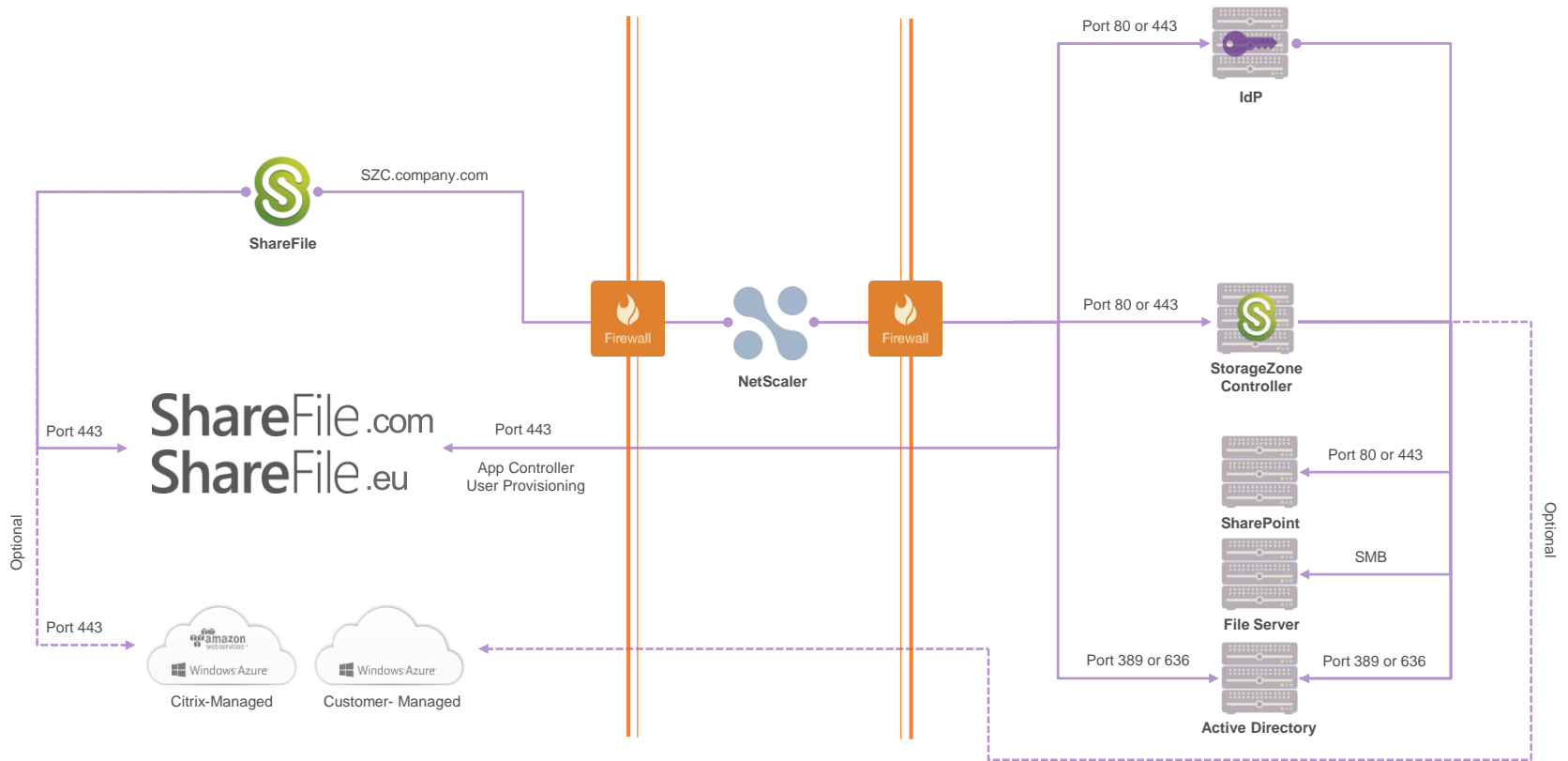
# Internal Network



# Internet & Remote Users

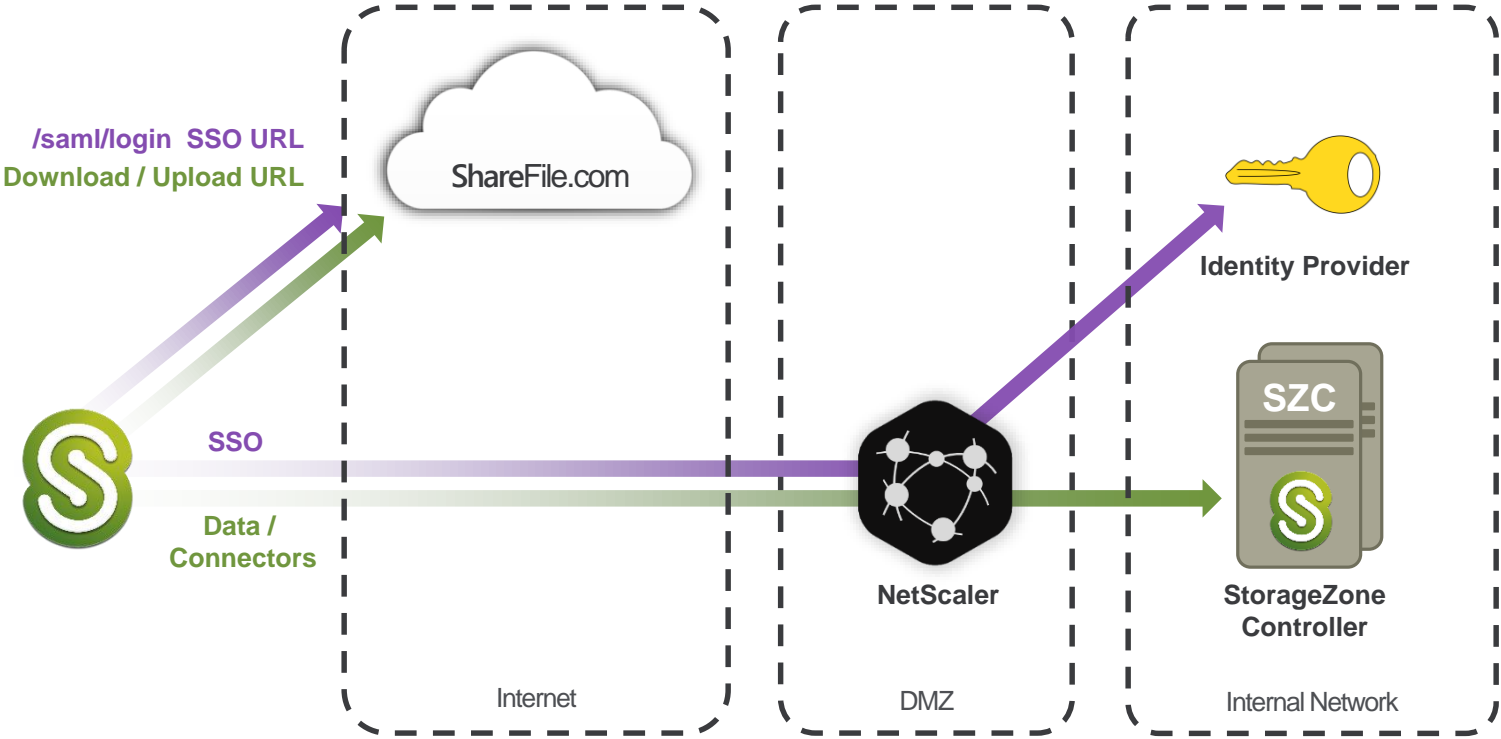
# DMZ

# Internal Network

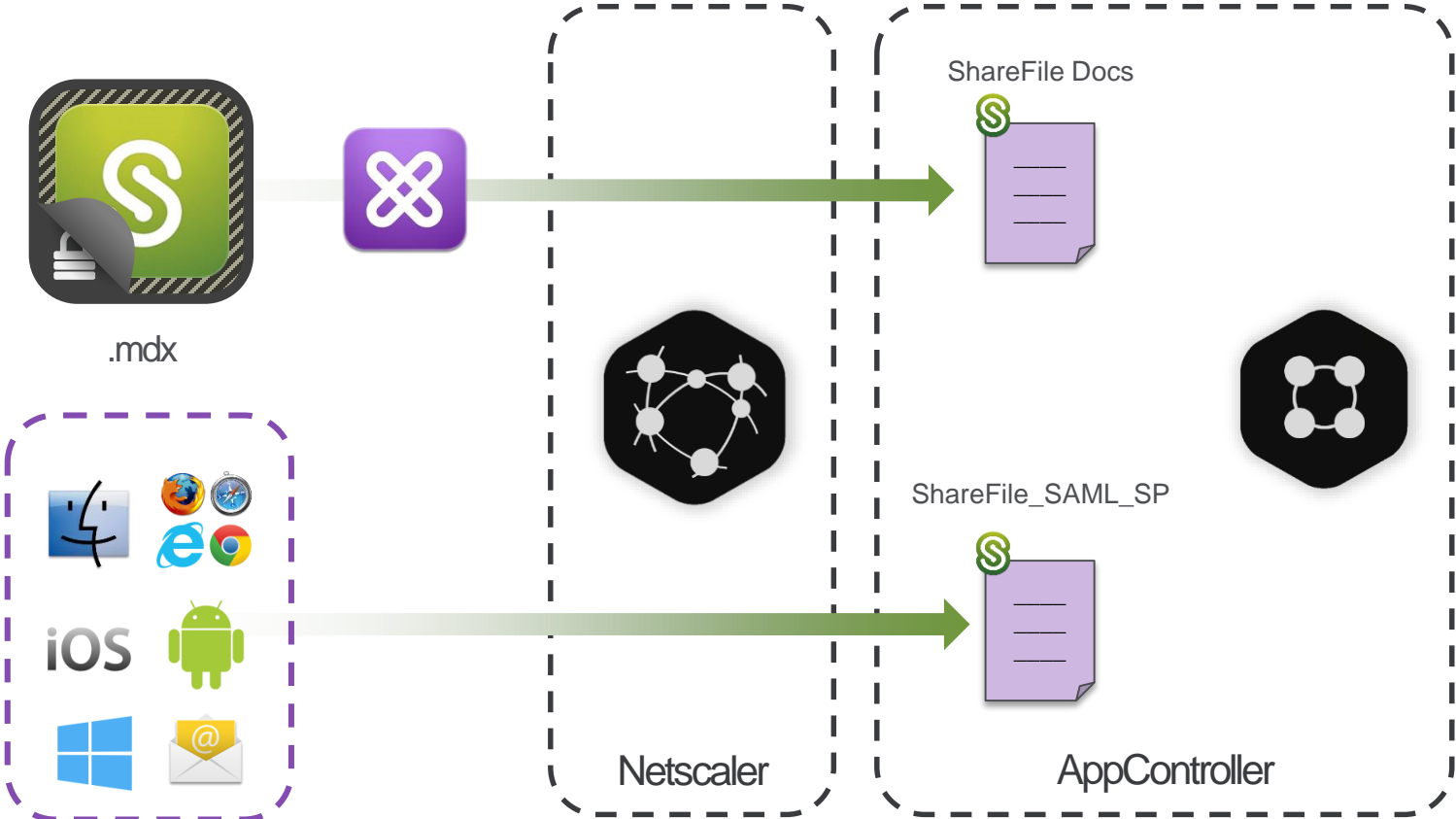




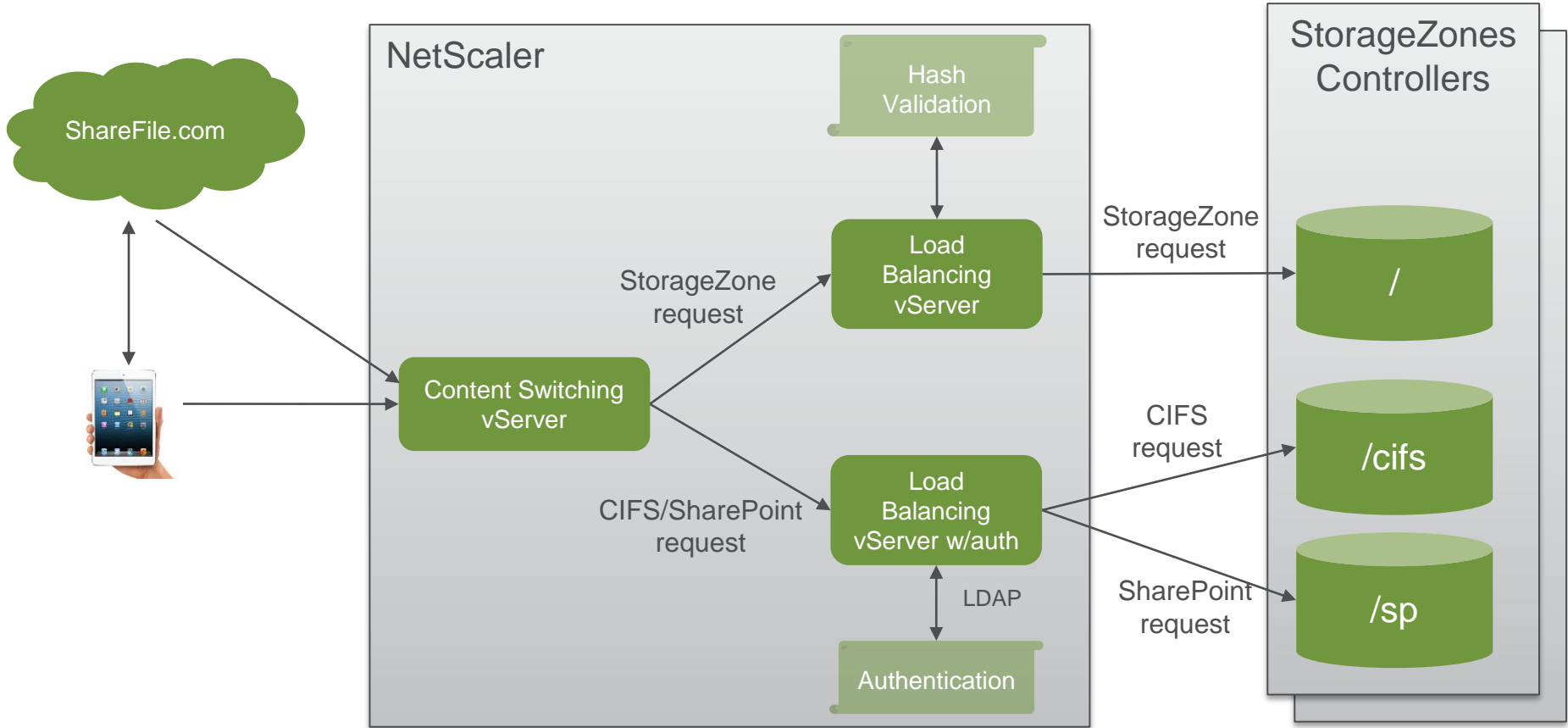
# App Communication



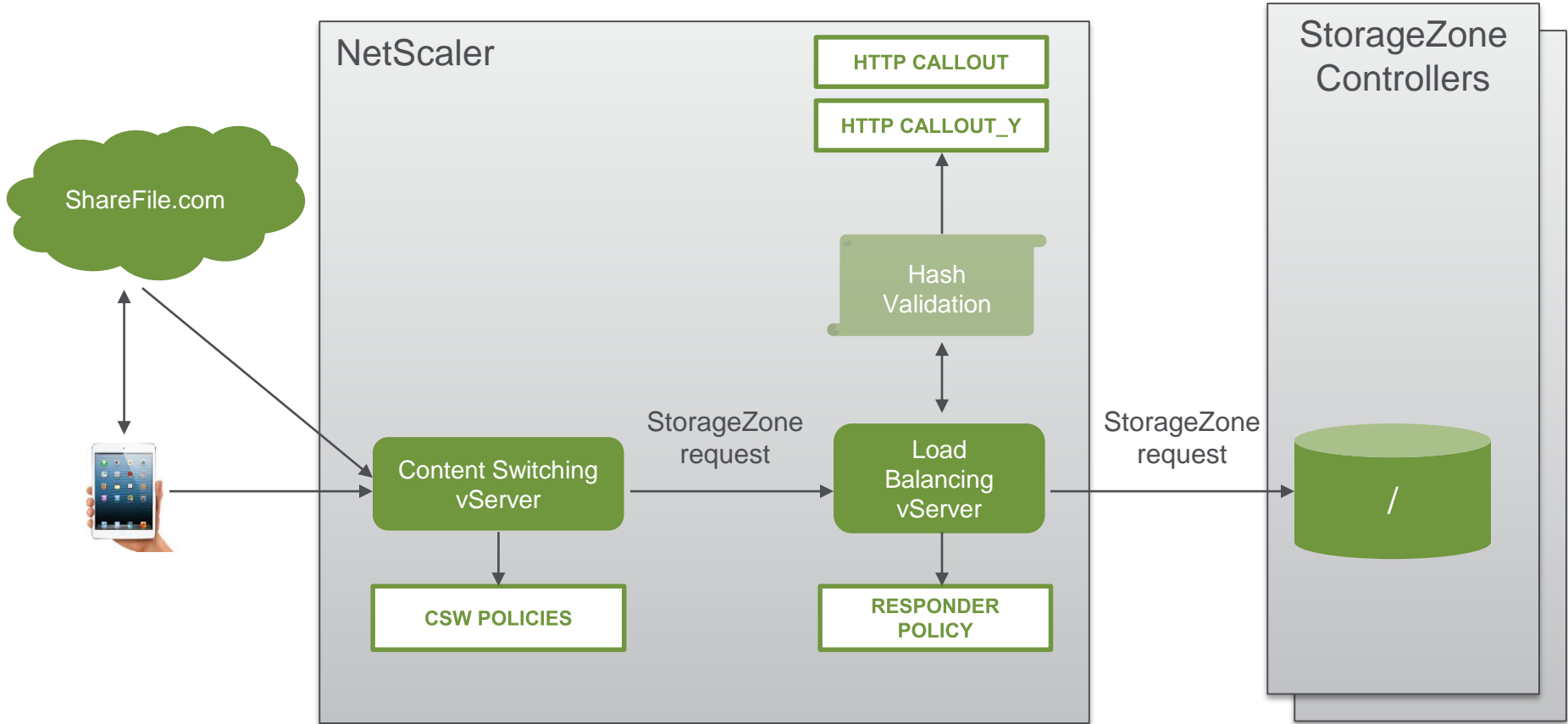
# ShareFile & XenMobile AppController



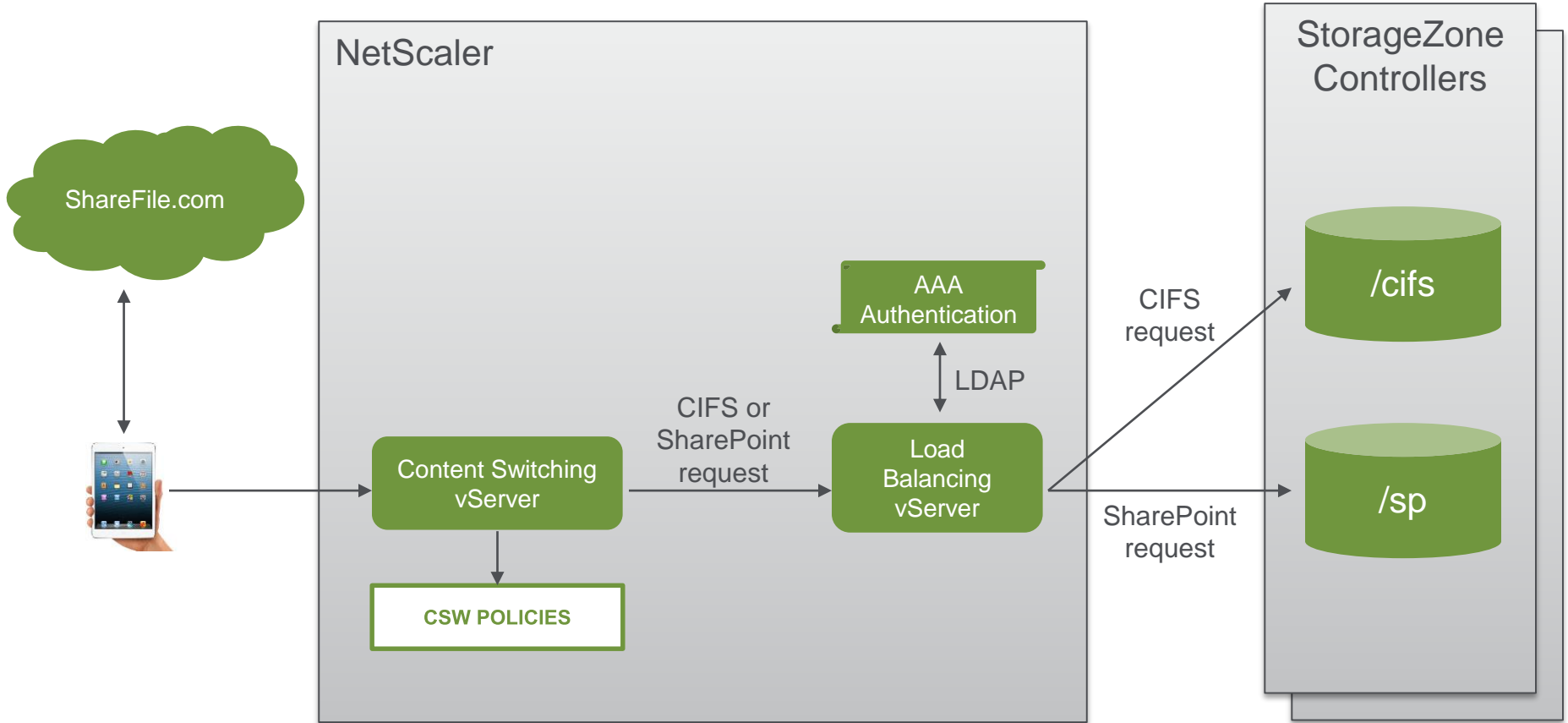
# Inserting NetScaler



# NetScaler ShareFile Data Flow



# NetScaler ShareFile Data Flow



# Q & A



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