Monitoring Citrix ShareFile

eG Enterprise v6.0

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Introduction

Citrix XenMobile is an enterprise mobility management solution that provides administrators with mobile device management (MDM), mobile application management (MAM) and online file-sharing capabilities. To deliver these services to end-users, the XenMobile software suite includes a wide range of components – the Citrix Netscaler that authenticates remote user sessions to the app store and ensures secure access, the XenMobile App Controller that stores the applications and data sources that can be accessed by users, Citrix ShareFile that enables efficient data sharing and synchronization across users, and the XenMobile MDM (a.k.a the XenMobile Device Manager) that protects the corporate network from mobile threats by applying configured mobile usage policies on devices and detecting non-conformances.
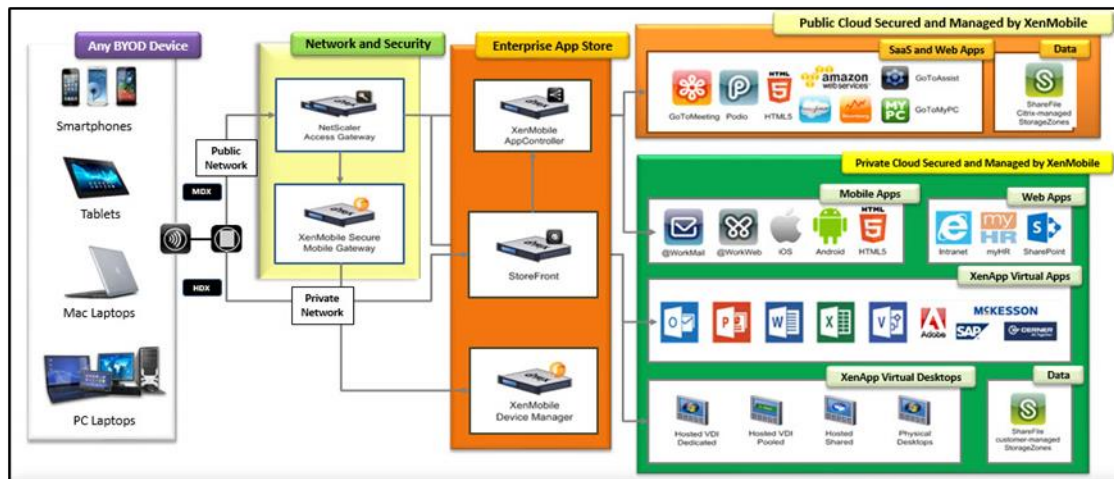

Figure 1: The Citrix XenMobile Architecture

The eG Enterprise Suite provides specialized monitors for each of the core components of the Citrix XenMobile service.

This document details how eG monitors Citrix ShareFile and what metrics it collects from it.

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Monitoring Citrix ShareFile

Citrix ShareFile is a secure enterprise file sync and sharing service that meets the mobility and collaboration needs of users and the data security requirements of the enterprise. ShareFile enables users to send large documents by email, securely handle document transfers to third parties, and access a collaboration space from desktops or mobile devices. ShareFile provides users with a variety of ways to work, including a web-based interface, mobile clients, desktop tools, and integration with Microsoft Outlook.

The ShareFile product architecture consists of two key components: the ShareFile Control Plane and Citrix-managed or customer-managed Storage zones.
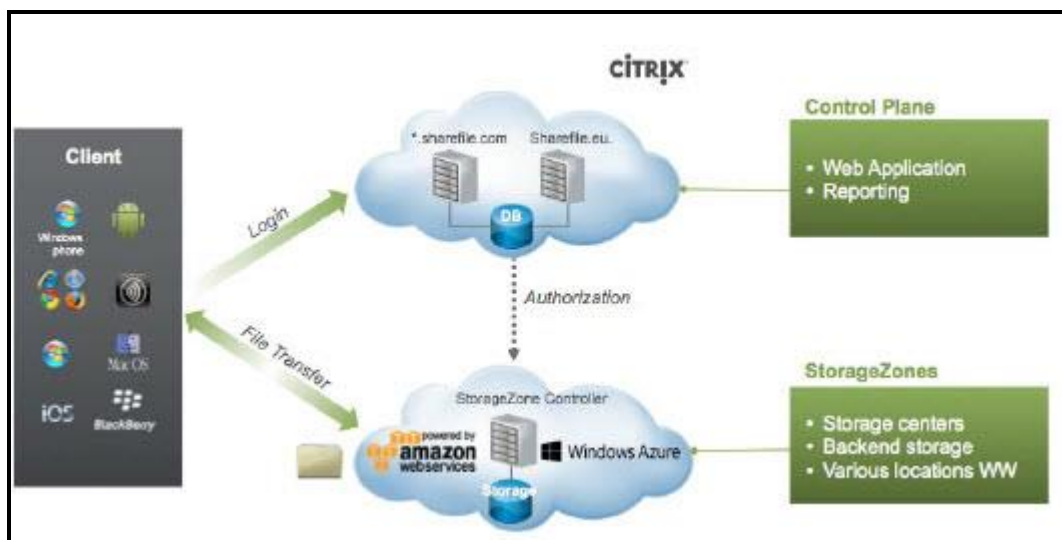
Figure 2.1: How Citrix ShareFile works

The Control Plane performs functions such as user authentication, access control, reporting and brokering. The ShareFile Storage Zones feature in ShareFile Enterprise allows IT administrators to choose where corporate data is stored.

If a user is unable to access the control plane's web interface or finds that sufficient storage space is not available for storing documents in storage zones or experiences significant delays when uploading documents using Sharefile, user productivity will be seriously hit; as a result, users wil end up being disillusioned with the Sharefile technology and with the Citrix XenMobile service as a whole!

To avoid this, administrators should be able to detect Sharefile-related problems proactively and fix them well before users notice and complain. For this purpose, eG Enterprise provides a dedicated *Citrix Sharefile* monitoring model.

Figure 3.1: The layer model of Citrix Sharefile

Each layer of this model is mapped to a tests that uses the **Sharefile REST API** to pull out a wide range of performance statistics related to the health of the ShareFile service. To access the API, the **eG agent has to be configured with the email ID and password of a ShareFile user who is vested with 'Admin' privileges.**

Using the metrics collected from the API, administrators can ascertain the following:

- Is the Citrix ShareFile account accessible over the network?

- Is the Control Plane online? If so, how long does it take to connect to the Control Plane?

- Is the Control Plane able to authenticate the login? If so, how quickly?

- Is any storage zone unavailable currently? If so, which one is it?

- Which storage zone takes the longest to access?

- How many public and private zones have been configured in the ShareFile account? Which are they?

- Does the ShareFile account have adequate user licenses? If not, which type of licenses is the account running short of - employee? or client?

- Which are the users who seldom use ShareFile?

- Which are the devices who have not connected to ShareFile in a long time?

- Has ShareFile locked or wiped any devices? If so, which ones are these?

- Is sufficient storage space available for the ShareFile account?

- Are folders and files growing at an abnormal rate? Are there any inactive folders that can be deleted to conserve space?

The sections that follow will take you on a layer-by-layer tour of the *Citrix ShareFile* monitoring model. However, since the tests associated with the **Network** layer have been already dealt with in detail in the *Monitoring Unix and Windows Servers* document, this chapter will focus on the other layers only.

2.1 The Control Plane Layer

The test mapped to this layer reports the availability and responsiveness of the Control Plane.

Figure 2.2: The test mapped to the Control Plane layer

2.1.1   Control Plane Connectivity Test

As stated earlier, the Control Plane performs functions such as user authentication, access control, reporting and brokering. The Control Plane is hosted in Citrix datacenters and managed by Citrix as a service.

Following are the components of the Control Plane:

- SSL web application servers for ShareFile web interface/web portal access

- SSL web API servers for client devices, including all native ShareFile apps and tools

- A clustered database that stores user account information, access rights information for file and folder metadata and user login information. The database in the Control Plane does not contain any user files or user/corporate data. The database is also securely replicated to a secondary, failover datacenter location for backup and recovery.

- Citrix NetScaler appliances load balance all client requests across the web servers. The NetScaler appliances and web servers run in the demilitarized zone (DMZ) and the database cluster runs in the production network behind the firewall.

All traffic from a client device, the web interface or a native tool connects to the Control Plane using 256-bit SSL encryption. The NetScaler appliances then load balance traffic/requests across the various web servers. Once the connection with the web servers is made, they communicate with the clustered database for retrieval of requested . Delays information.

If the Control Plane is unavailable, then device users will not be able to connect to Sharefile. Latencies in Control Plane connectivity will not only delay access, but adversely impact a user's experience with Sharefile. Likewise, if Control Plane fails to authenticate device/client requests to it or takes too long a time to validate such requests, then again user productivity will suffer. To avoid this, administrators will have to periodically run availability, authentication, and response time checks on the Control Plane and rapidly detect snags in the connectivity to the Control Plane. This is exactly what the **Control Plane Connectivity** test does. This test emulates a user accessing the ShareFile account via HTTP/HTTPS and in the process, reports whether/not the Control Plane is available. If it is available, the test also reports the connection time and how long the Control Plane took to authenticate that user access. This way, the test also promptly captures authentication failures and delays, well before the user registers a complaint with help desk.

Purpose	Emulates a user accessing Control Plane via HTTP/HTTPS and in the process, reports

	whether/not the Control Plane is available. If it is available, the test also reports the connection time and how long the Control Plane took to authenticate that user access. This way, the test also promptly captures authentication failures and delays, well before the user registers a complaint with help desk.
Target of the test	Citrix ShareFile
Agent deploying the test	A remote agent
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST -** The host for which the test is to be configured. 3. **PORT** – The port at which the **HOST** listens. By default, this is *NULL*. 4. **EMAIL ID** – Provide the email ID of the Sharefile user with 'Admin' access to Sharefile. The credentials of this user are necessary for connecting to the Sharefile REST API, running API commands, and pulling out metrics. 5. **PASSWORD** – Specify the password associated with the configured **EMAIL ID**. 6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here. 7. **SSL** – Indicate whether/not Sharefile is SSL-enabled. By default, this flag is set to **Yes**.
Outputs of the test	One set of results for the ShareFile account monitored

Measurements made by the test	Measurement	Measurement Unit	Interpretation
	Availability: Indicates whether/not the Control Plane is online.		The values that this measure reports and their corresponding numeric values are listed in the table below: | Measure Value	Numeric Value
---	---
Online	1
Offline	0	 **Note:** By default, this measure reports the **Measure Values** discussed in the table above. However, in the graph of this measure, the status of the Control Plane is indicated using the numeric equivalents only.
	Connection time: Indicates the time taken to connect to the Control Plane.	Secs	A high value indicates connection latencies. This can be caused by a flaky network connection, excessive bandwidth usage by traffic over the connection, and poor network configuration. If Netscaler takes time to load-balance and route the request to a particular web server, connection time will increase.

	Authentication status: Indicates whether authentication failed or succeeded.		The values that this measure reports and their corresponding numeric values are listed in the table below:

Measure Value	Numeric Value
Success	1
Failure	0

Note:

By default, this measure reports the **Measure Values** discussed in the table above. However, in the graph of this measure, the authentication status is indicated using the numeric equivalents only.

	Authentication time: Indicates the time taken by the Control Plane to authenticate requests.	Days	An unusually high value for this measure indicates an authentication delay. This can occur if the web server hosting the Control Plane's web interface is slow. Another common reason for this is the non-availability/poor responsiveness of the clustered database where the user credentials are stored.

2.2 ShareFile Storage Server Health

Using the test mapped to this layer, administrators can determine the availability and responsiveness of the ShareFile storage zones.

Figure 2.3: The test mapped to the ShareFile Storage Server Health layer

2.2.1　ShareFile Upload/Download Servers Test

ShareFile allows administrators to choose in which storage zone they prefer to store corporate data. Administrators can choose Citrix-managed (public) secure cloud storage options and/or customer-managed (private) storage zones.

With Citrix-managed storage zones, customers can place their data in a choice of worldwide locations managed by Citrix. They can choose between Microsoft Azure and Amazon Web Services enterprise-class datacenters.

With customer-managed StorageZones, IT can place data in the organization's own datacenter to help meet unique data sovereignty and compliance requirements or leverage Microsoft Azure cloud storage.

The true test of the efficiency of a storage zone lies in its easy, uninterrupted, and rapid access. Therefore, to understand which storage zone is most efficient and is best suited for their storage requirements, administrators should periodically check the accessibility of every storage zone, measure the time it takes to connect to each zone, and compare these parameters across all zones. This is where the **ShareFile Upload/Download** test helps. This test auto-discovers the storage zones configured on ShareFile and reports the availability and access time of each storage zone. By comparing the metrics reported by this test across storage zones, administrators can accurately pinpoint the following:

- Available and unavailable storage zones;

- The storage zone that can be accessed quickly;

- The storage zone that takes a long time to be accessed.

Purpose	Auto-discovers the storage zones configured on ShareFile and reports the availability and access time of each storage zone
Target of the test	Citrix ShareFile
Agent deploying the test	A remote agent
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST -** The host for which the test is to be configured. 3. **PORT** – The port at which the **HOST** listens. By default, this is *NULL*. 4. **EMAIL ID** – Provide the email ID of the Sharefile user with 'Admin' access to Sharefile. The credentials of this user are necessary for enabling this test to connect to the Sharefile REST API, running API commands, and pulling out metrics. 5. **PASSWORD** – Specify the password associated with the configured **EMAIL ID**. 6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here. 7. **SSL** – Indicate whether/not Sharefile is SSL-enabled. By default, this flag is set to **Yes**.
Outputs of the test	One set of results for each storage zone monitored

Measurements made by the test	Measurement	Measurement Unit	Interpretation
	Availability: Indicates whether/not this storage zone is online.		The values that this measure reports and their corresponding numeric values are listed in the table below: | Measure Value	Numeric Value | |---|---| | Online | 1 | | Offline | 0 | **Note:** By default, this measure reports the **Measure Values** discussed in the table above. However, in the graph of this measure, the status of a storage zone is indicated using the numeric equivalents only.
	Response time: Indicates the time taken to connect to this storage zone.	Secs	A high value indicates slowness in connecting to the storage zone. Compare the value of this measure across storage zones to know which storage zone is the quickest and which is the slowest to access. Once the slow storage zones are identifies, you may want to investigate the reasons for the slowness.

2.3 The ShareFile Zones Layer

With the help of the test mapped to this layer, administrators can determine the number and types of storage zones configured on the monitored ShareFile account.

Figure 2.4: The test mapped to the ShareFile Zones layer

2.3.1 ShareFile Zones Test

To know the number, names, and types of storage zones that have been configured on ShareFile, administrators can use the **ShareFile Zones** test.

Purpose	To know the number, names, and types of storage zones that have been configured on ShareFile
Target of the test	Citrix ShareFile

Agent deploying the test	A remote agent
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST -** The host for which the test is to be configured. 3. **PORT** – The port at which the **HOST** listens. By default, this is *NULL*. 4. **EMAIL ID** – Provide the email ID of the Sharefile user with 'Admin' access to Sharefile. The credentials of this user are necessary for enabling this test to connect to the Sharefile REST API, running API commands, and pulling out metrics. 5. **PASSWORD** – Specify the password associated with the configured **EMAIL ID**. 6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here. 7. **SSL** – Indicate whether/not Sharefile is SSL-enabled. By default, this flag is set to **Yes**. 8. **DETAILED DIAGNOSIS** - To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option. The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled: • The eG manager license should allow the detailed diagnosis capability • Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.
Outputs of the test	One set of results for the Citrix ShareFile account that is monitored

Measurements made by the test	Measurement	Measurement Unit	Interpretation
	Total zones: Indicates the total number of storage zones that have been configured.	Number	
	Private zones: Indicates the number of private zones that have been configured.	Number	With customer-managed or private StorageZones, IT can place data in the organization's own datacenter to help meet unique data sovereignty and compliance requirements or leverage Microsoft Azure cloud storage. Use the detailed diagnosis of this measure to identify the private zones that have been configured.

	Public zones: Indicates the number of public zones that have been configured.	Number	Public zones are Citrix-managed zones, which allow customers to place their data in a choice of worldwide locations managed by Citrix. They can choose between Microsoft Azure and Amazon Web Services enterprise-class datacenters. Use the detailed diagnosis of this measure to identify the public zones that have been configured.
	Storage centers: Indicates the number of storage centers that have been configured.	Number	ShareFile Storage Center extends the ShareFile Software as a Service (SaaS) cloud storage by providing a ShareFile account with on-premises private storage, referred to as StorageZones. A ShareFile Storage Center is a private single-tenant storage system maintained by a customer and can be used only by that customer's ShareFile account.

2.4 The ShareFile Service Layer

This layer indicates the quality of service delivered by ShareFile by reporting:

- Storage space usage

- License usage

- Device activity

- File and folder growth

Figure 2.5: The tests mapped to the ShareFile Service layer

2.4.1   ShareFile Account & Users Test

Accounts represent Tenants in ShareFile.com - an isolated area in ShareFile.com. ShareFile Accounts represent a single customer boundary and are represented by the subdomain names. noteThe metrics reported by the **ShareFile Account & Users** test help administrators manage their ShareFile account better and exercise greater control over ShareFile usage and users. This test reports how the ShareFile account being monitored uses its employee licenses, and thus proactively alerts administrators to a potential license shortfall. The storage space usage is also tracked, so that probable space crunches can be pre-emptively detected and mitigated. In addition, the test studies how the configured employee and client users use ShareFile and points to those users who frequently use Sharefile and those

who seldom use this service. Based on this, administrators can plan future license requirements effectively and efficiently.

Purpose	To know the number, names, and types of storage zones that have been configured on ShareFile
Target of the test	Citrix ShareFile
Agent deploying the test	A remote agent

Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed
	
	2. **HOST -** The host for which the test is to be configured.
	
	3. **PORT** – The port at which the **HOST** listens. By default, this is *NULL*.
	
	4. **EMAIL ID** – Provide the email ID of the Sharefile user with 'Admin' access to Sharefile. The credentials of this user are necessary for enabling this test to connect to the Sharefile REST API, running API commands, and pulling out metrics.
	
	5. **PASSWORD** – Specify the password associated with the configured **EMAIL ID**.
	
	6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
	
	7. **SSL** – Indicate whether/not Sharefile is SSL-enabled. By default, this flag is set to **Yes**.
	
	8. **REPORT BY EMPLOYEE** – Set this flag to **Yes** if you want the test to report detailed diagnostics for the *Most active employee users* and *Least active employee users* measures. Turn off this flag, if you do not want detailed diagnostics for these measures.
	
	9. **REPORT BY CLIENT** – Set this flag to **Yes** if you want the test to report detailed diagnostics for the *Most active client users* and *Least active client users* measures. Turn off this flag, if you do not want detailed diagnostics for these measures.
	
	10. **DAYS** – Specify the number of days of inactivity beyond which a user will be counted as *inactive* or *least active*. For instance, if the number 30 is specified against **DAYS**, then this test will include all users who have not logged into ShareFile for the last 30 days (or more) in the *Least active users* count. Likewise, this test will count all users who logged into ShareFile at least once during the last 30 days as *Most active users*.
	
	11. **DETAILED DIAGNOSIS** - To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option.
	
	The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled:
	
	    • The eG manager license should allow the detailed diagnosis capability
	
	    • Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.

Outputs of the test	One set of results for the Citrix ShareFile account that is monitored

Measurements made by the test	Measurement	Measurement Unit	Interpretation
	Plan type: Indicates the Sharefile plan.		ShareFile offers several plans to fit every company size and budget. The plans differ in the number of employees, included features, and amount of bandwidth and storage. All plans provide unlimited accounts for the clients and partners, custom branding, and telephone customer support. Depending upon the type of plan chosen, the value of this measure can be one of the following: • Basic • Professional • Corporate • Enterprise The numeric values that correspond to each of the measure values above are as follows: <table><tr><th>Measure Value</th><th>Numeric Value</th></tr><tr><td>Basic</td><td>1</td></tr><tr><td>Professional</td><td>2</td></tr><tr><td>Corporate</td><td>3</td></tr><tr><td>Enterprise</td><td>4</td></tr></table> **Note:** By default, this test reports one of the **Measure Value**s listed in the table above to indicate the plan. In the graph of this measure, the plan type is represented using the numeric equivalents only.
	Base employee licenses: Indicates the total number of employee licenses held by the ShareFile account.	Number	
	Used employee licenses: Indicates the number of employee licenses used.	Number	
	Employee licenses usage: Indicates the percentage of employee licenses utilized.	Percent	A value close to 100% is a cause for concern, as it indicates that employee licenses are about to be exhausted. To ensure that more employees use ShareFile, you will have to purchase additional employee licenses.

	Base disk space: Indicates the total disk space that can be used for storage.	MB	
	Used disk space: Indicates the amount of space that is in use currently.	MB	
	Storage usage: Indicates the percentage of disk space used.	Percent	A value close to 100% indicates a potential contention for disk space. You may have to allocate more space to your storage zones or configure more storage zones to provide for additional space.
	Employee users: Indicates the total number of employee users configured on ShareFile.	Number	Use the detailed diagnosis of this measure to know who are the employee users.
	Client users: Indicates the total number of client users configured on ShareFile.	Number	Use the detailed diagnosis of this measure to know who are the client users.
	Most active employee users: Indicates the number of employee users who have been actively using ShareFile.	Number	Use the detailed diagnosis of this measure to know the names of the most active employee users.
	Least active employee users: Indicates the number of employee users who are not active ShareFile users.	Number	This measure reports the number of employee users who have not logged into ShareFile beyond the duration specified against the **DAYS** parameter. Use the detailed diagnosis of this measure to know the names of the least active employee users.
	Most active client users: Indicates the number of client users who have been actively using ShareFile.	Number	Use the detailed diagnosis of this measure to know the names of the most active client users.
	Least active client users: Indicates the number of client users who are not active ShareFile users.	Number	This measure reports the number of client users who have not logged into ShareFile beyond the duration specified against the **DAYS** parameter. Use the detailed diagnosis of this measure to know the names of the least active client users.
	Total users: Indicates the total number of users configured on ShareFile.	Number	The value of this measure is the sum of the value of the *Employee users* and *Client users* measures.

Use the detailed diagnosis of the *Most active employee users* measure to know the names of the most active employee users and when they logged in last.

Details of most active employee users		
FULL NAME	USER LOGIN	LAST LOGIN
Sep 08, 2014 10:47:26		
Srividhya Seshachalam	srividhya@eginnovations.com	2014-09-08T05:18:49.397Z

Figure 2.6: The detailed diagnosis of the Most active employee users measure

Use the detailed diagnosis of the *Least active employee users* measure to know the names of the least active employee users and when they logged in last.

Details of least active employee users		
FULL NAME	USER LOGIN	LAST LOGIN
Sep 08, 2014 10:47:26		
pravat dash	pravat@eginnovations.com	2014-04-03T06:47:43.23Z
ctxuser eG	ctxuser@eginnovations.com	2014-09-05T06:40:44.217Z
Karthik Ganesan	karthikg@eginnovations.com	1900-01-01T05:00:00Z
Maheson R	maheson.ramasamy@eginnovations.com	2014-09-03T11:07:23.27Z
Srinivas Ramanathan	network@eginnovations.com	2014-09-03T13:48:58.273Z

Figure 2.7: The detailed diagnosis of the Least active employee users measure

Use the detailed diagnosis of the *Least active client users* measure to know the names of the least active client users and then they logged in last.

Details of least active client users		
FULL NAME	USER LOGIN	LAST LOGIN
Sep 08, 2014 10:47:26		
someone outside	dashpk90@gmail.com	1900-01-01T05:00:00Z

Figure 2.8: The detailed diagnosis of the Least active employee users measure

2.4.2 ShareFile Devices Test

Administrators should keep an eye on the devices that are actively using the ShareFile account, so that sudden/unexpected spikes in the count of active devices can be detected and the reasons investigated. This load-focus also helps administrators understand how effectively their device licenses have been utilized, so that they can precisely tell when more licenses will have to be purchased. The status of these devices should also be tracked at regular intervals, so that administrators know which devices continue to be a threat to the Sharefile environment and for which ones the ban can be lifted.

To perform all the aforesaid checks, the **ShareFile Devices** test can be used! This test keeps tabs on the devices that are active on the ShareFile account at any given point in time, and thus points to the current device load on ShareFile. Moreover, the test reveals the number and names of devices that have been locked, wiped, or waiting to

be wiped, so that administrators can accurately identify those devices (if any) for which such restrictions can be revoked and those on which they need to be maintained.

Purpose	Keeps tabs on the devices that are active on the ShareFile account at any given point in time, and thus points to the current device load on ShareFile. Moreover, the test reveals the number and names of devices that have been locked, wiped, or waiting to be wiped, so that administrators can accurately identify those devices (if any) for which such restrictions can be revoked and those on which they need to be maintained
Target of the test	Citrix ShareFile
Agent deploying the test	A remote agent
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST -** The host for which the test is to be configured. 3. **PORT** – The port at which the **HOST** listens. By default, this is *NULL*. 4. **EMAIL ID** – Provide the email ID of the Sharefile user with 'Admin' access to Sharefile. The credentials of this user are necessary for enabling this test to connect to the Sharefile REST API, running API commands, and pulling out metrics. 5. **PASSWORD** – Specify the password associated with the configured **EMAIL ID**. 6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here. 7. **SSL** – Indicate whether/not Sharefile is SSL-enabled. By default, this flag is set to **Yes**. 8. **DAYS** – Here, specify how frequently a device should have accessed ShareFile for it to be counted as an *Active/Connected* device. For instance, if the number 30 is specified against **DAYS**, then this test will include all devices that have accessed ShareFile at least once in the last 30 days (or more) in the *Active/Connected Devices* count. 9. **DETAILED DIAGNOSIS** - To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option. The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled: • The eG manager license should allow the detailed diagnosis capability • Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.
Outputs of the test	One set of results for the Citrix ShareFile account that is monitored
Measurements made by the	Measurement	Measurement Unit	Interpretation

test	**Active/Connected Devices:** Indicates the number of devices that are active on/connected to Sharefile.	Number	This measure reports the count of devices that have connected to ShareFile at least once in the configured number of **DAYS**. To know which are the active devices, use the detailed diagnosis of this measure.
	Recently registered devices: Indicates the number of devices that registered with ShareFile during the last measurement period.	Number	
	Locked devices: Indicates the number devices that are locked currently.	Number	If the device is lost, but administrators are not sure it was stolen, they can remotely "lock" the device. Use the detailed diagnosis of this measure to know which devices have been locked.
	Devices in wipe requested state: Indicates the number of devices for which a wipe has been requested currently.	Number	If a device is stolen or lost, administrators can send a request to have all data on that device erased. To know the devices for which such wipe requests have been sent, use the detailed diagnosis of this measure.
	Wiped devices: Indicates the number of devices on which data has been erased.	Number	Use the detailed diagnosis of this measure to know from which devices data has been wiped.
	Total devices: Indicates the total number of devices registered with ShareFile.	Number	

Use the detailed diagnosis of the *Wiped devices* measure to know from which devices data has been wiped, the user using that device, the email ID of that user, and when the device last logged in.

Figure 2.9: The detailed diagnosis of the Wiped devices measure

2.4.3   ShareFile Files and Folders Test

Files within ShareFile can be grouped into folders in order to organize the files and manage permissions. If these files and folders are allowed to grow uncontrollably, then at some point in time, ShareFile will have no storage space for new files. Such an eventuality, may not only impact user productivity but may beat the very purpose of ShareFile. To

avoid this, administrators should closely monitor the rate at which the number of files and the size of folders in a ShareFile account are growing, proactive detect alarming growth patterns, and promptly take action to curb the growth, so as to conserve storage space. This is exactly what the **ShareFile Files and Folders** test does! This test tracks the growth in the number and size of files and folders (respectively) and sends out email/SMS alerts to users if unusual/disturbing growth patterns are noticed. In addition, detailed diagnostics provided by the test also points administrators to those folders that are used the least. This information helps administrators know which folders are ideal candidates for deletion when efforts are taken to reduce space consumption in a ShareFile account.

Purpose	Tracks the growth in the number and size of files and folders (respectively) and sends out email/SMS alerts to users if unusual/disturbing growth patterns are noticed. In addition, detailed diagnostics provided by the test also points administrators to those folders that are used the least. This information helps administrators know which folders are ideal candidates for deletion when efforts are taken to reduce space consumption in a ShareFile account.
Target of the test	Citrix ShareFile
Agent deploying the test	A remote agent
Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed 2. **HOST -** The host for which the test is to be configured. 3. **PORT** – The port at which the **HOST** listens. By default, this is *NULL*. 4. **EMAIL ID** – Provide the email ID of the Sharefile user with 'Admin' access to Sharefile. The credentials of this user are necessary for enabling this test to connect to the Sharefile REST API, running API commands, and pulling out metrics. 5. **PASSWORD** – Specify the password associated with the configured **EMAIL ID**. 6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here. 7. **SSL** – Indicate whether/not Sharefile is SSL-enabled. By default, this flag is set to **Yes**. 8. **DAYS** – Here, specify the period of inactivity beyond which a folder is counted as a *Least used folder* by this test. For instance, if the number 30 is specified against **DAYS**, then this test will include all folders that have not been accessed even once in the last 30 days (or more) in the *Least used folders* count. Similarly, all folders that have been used at least once in the last 30 days will be counted as *Most used folders*. 9. **DETAILED DIAGNOSIS** - To make diagnosis more efficient and accurate, the eG Enterprise suite embeds an optional detailed diagnostic capability. With this capability, the eG agents can be configured to run detailed, more elaborate tests as and when specific problems are detected. To enable the detailed diagnosis capability of this test for a particular server, choose the **On** option. To disable the capability, click on the **Off** option. The option to selectively enable/disable the detailed diagnosis capability will be available only if the following conditions are fulfilled: • The eG manager license should allow the detailed diagnosis capability • Both the normal and abnormal frequencies configured for the detailed diagnosis measures should not be 0.
Outputs of the test	One set of results for the Citrix ShareFile account that is monitored

Measurements made by the test	Measurement	Measurement Unit	Interpretation
	Folders: Indicates the number of folders in the ShareFile account.	Number	
	Folders size: Indicates the total size of all folders in the ShareFile account.	MB	
	Growth rate of folder size: Indicates the percentage growth in the size of folders since the last measurement period.	Percent	A very high value for this measure is a cause for concern as it indicates that folder size is growing rapidly. To curb the growth, you may want to remove unused/seldom used folders from the storage zone.
	Asynchronous operations: Indicates the number of asynchronous operations performed on the ShareFile account.	Number	
	Most active folders: Indicates the number of folders used actively.	Number	This measure reports the count of folders that have been accessed at least once in the number of **DAYS** configured for this test. Use the detailed diagnosis of this measure to know which folders have been actively used.
	Least used folders: Indicates the number of folders that have been used less.	Number	This measure reports the count of folders that have not been accessed even once in the number of **DAYS** configured for this test. Use the detailed diagnosis of this measure to know which folders have been seldom accessed.
	Files: Indicates the total number of files in the ShareFile account.	Number	
	Growth rate of files count: Indicates the percentage growth in file count since the last measurement period.	Percent	A very high value for this measure is a cause for concern as it indicates that file count is growing rapidly. To curb the growth, you may want to remove unused/seldom used folders from the storage zone.

Use the detailed diagnosis of this measure to know which folders have been actively used, when they were created, and when they were last modified.

Figure 2.10: The detailed diagnosis of the Most active folders measure

Use the detailed diagnosis of this measure to know which folders have been not been actively used, when they were created, and when they were last modified.

Figure 2.11: The detailed diagnosis of the Least active folders measure

2.4.4 ShareFile Operations Test

One of the reasons why users opt for ShareFile is that it enables them to quickly and securely upload, download, and even delete files from anywhere through any desktop/device. However, at runtime, if ShareFile is unable to deliver the high-quality experience it promises , IT will be forced to hunt for alternatives. To avoid such an outcome, administrators should make sure that the guaranteed ShareFile service levels are delivered at all times. For this, administrators will have to periodically check the time it takes to upload, download, and delete files from ShareFile, isolate bottlenecks proactively, and plug the holes before users complain. The **ShareFile Operations** test helps administrators in this exercise. At configured intervals, this test emulates a file upload, download, and delete using ShareFile and reports the time it takes to perform each of these operations. This provides administrators with early indicators of problem conditions, thus enabling them to resolve the problem before any irrepairable damage is done.

This test is disabled by default. To enable the test, go to the **ENABLE / DISABLE TESTS** page. To access this page, follow the Tests -> Enable/Disable menu sequence in the **Agents** tile of the **Admin** tile menu. In the **ENABLE/DISABLE TESTS** page, pick *Citrix ShareFile* as the **Component type**, *Performance* as the **Test type**, choose this test from the **DISABLED TESTS** list, and click on the **<** button to move the test to the **ENABLED TESTS** list. Finally, click the **Update** button.

Purpose	At configured intervals, this test emulates a file upload, download, and delete using ShareFile and reports the time it takes to perform each of these operations
Target of the test	Citrix ShareFile
Agent deploying the test	A remote agent

Configurable parameters for the test	1. **TEST PERIOD** - How often should the test be executed
	2. **HOST -** The host for which the test is to be configured.
	3. **PORT** – The port at which the **HOST** listens. By default, this is *NULL*.
	4. **EMAIL ID** – Provide the email ID of the Sharefile user with 'Admin' access to Sharefile. The credentials of this user are necessary for enabling this test to connect to the Sharefile REST API, running API commands, and pulling out metrics.
	5. **PASSWORD** – Specify the password associated with the configured **EMAIL ID**.
	6. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
	7. **SSL** – Indicate whether/not Sharefile is SSL-enabled. By default, this flag is set to **Yes**.
	8. **PATH TO UPLOAD** – When this test runs for the very first time, it automatically creates the file to be uploaded on the eG agent host. Against **PATH TO UPLOAD**, you need to specify the full path to the folder in which the file has to be created. Once the file becomes available in the specified folder, the test will try to upload it to ShareFile. Then, the test will try to download the same file from ShareFile to the path specified against **PATH TO UPLOAD**. Next, the eG agent will attempt to delete the file from ShareFile.
Outputs of the test	One set of results for the Citrix ShareFile account that is monitored

Measurements made by the test	**Measurement**	**Measurement Unit**	**Interpretation**
	Upload status: Indicates whether/not the upload was successful.		The values that this measure can report and their corresponding numeric values are discussed in the table below: | **Measure Value**	**Numeric Value** | |---|---| | Success | 1 | | Failed | 0 | **Note**: By default, this measure reports the **Measure Values** discussed in the table above. However, in the graph of this measure, the upload status is indicated using the numeric equivalents only.
	Time taken for upload: Indicates the time it took for this test to upload the file to ShareFile.	Secs	Ideally, the value of this measure should be low. A high value is indicative of a poor upload experience with ShareFile. The reasons for the same should be investigated.

	Download status: Indicates whether/not the download was successful.		The values that this measure can report and their corresponding numeric values are discussed in the table below: | **Measure Value**	**Numeric Value**
Success	1
Failed	0 | If upload fails, then download and delete will fail. **Note:** By default, this measure reports the **Measure Values** discussed in the table above. However, in the graph of this measure, the download status is indicated using the numeric equivalents only.
	Time taken for download: Indicates the time it took for this test to download the file from ShareFile.	Secs	Ideally, the value of this measure should be low. A high value is indicative of a poor download experience with ShareFile. The reasons for the same should be investigated.
	Delete status: Indicates whether/not the delete was successful.		The values that this measure can report and their corresponding numeric values are discussed in the table below: | **Measure Value**	**Numeric Value**
Success	1
Failed	0 | If upload fails, then download and delete will fail. **Note:** By default, this measure reports the **Measure Values** discussed in the table above. However, in the graph of this measure, the delete status is indicated using the numeric equivalents only.
	Time taken for delete: Indicates the time it took for this test to delete the file from ShareFile.	Secs	Ideally, the value of this measure should be low. A high value is indicative of a poor file deletion experience with ShareFile. The reasons for the same should be investigated.

3

Conclusion

This document has described in detail the monitoring paradigm used and the measurement capabilities of the eG Enterprise suite of products with respect to the **Citrix ShareFile**. For details of how to administer and use the eG Enterprise suite of products, refer to the user manuals.

We will be adding new measurement capabilities into the future versions of the eG Enterprise suite. If you can identify new capabilities that you would like us to incorporate in the eG Enterprise suite of products, please contact support@eginnovations.com. We look forward to your support and cooperation. Any feedback regarding this manual or any other aspects of the eG Enterprise suite can be forwarded to feedback@eginnovations.com.