



# Monitoring Citrix Director 7.x

eG Innovations Product Documentation

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# Table of Contents

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|  |    |
|--|----|
| CHAPTER 1: INTRODUCTION .....  | 1  |
| CHAPTER 1: HOW TO MONITOR CITRIX DIRECTOR 7.X USING EG ENTERPRISE? ..... | 2  |
| 1.1 Pre-requisites for monitoring the Citrix Director 7.x .....          | 2  |
| 1.2 Managing the Citrix Director 7.x .....                               | 2  |
| CHAPTER 2: MONITORING THE CITRIX DIRECTOR 7.X .....                      | 4  |
| 2.1 The Delivery Groups Layer .....                                      | 5  |
| 2.1.1 Desktop OS Machines Test .....                                     | 5  |
| 2.1.2 Failed Machines Test .....   | 10 |
| 2.1.3 Server OS Machines Test .....                                      | 12 |
| 2.2 The Users Layer .....  | 17 |
| 2.2.1 Logon Performance Test .....                                       | 18 |
| 2.2.2 Session Details Test .....   | 26 |
| 2.2.3 User Connection Failures .....                                     | 29 |
| 2.2.4 User Connections Test .....  | 32 |
| 2.2.5 User Logon Performance Test .....                                  | 34 |
| ABOUT EG INNOVATIONS .....   | 42 |

## Table of Figures

---

|   |    |
|---|----|
| Figure 1.1: Adding a Citrix Director 7.x .....  | 3  |
| Figure 1.2: List of Unconfigured tests to be configured for the Citrix Director 7.x ..... | 3  |
| Figure 2.1: The layer model of the Citrix Director 7.x component .....                    | 4  |
| Figure 2.2: The tests mapped to the Delivery Groups layer .....                           | 5  |
| Figure 2.3: The tests mapped to the Users layer .....                                     | 18 |

## Chapter 1: Introduction

Citrix Director provides a detailed and intuitive overview of XenDesktop environments. It enables support and helpdesk teams to quickly and seamlessly perform crucial support tasks for their end users while at the same time monitoring and troubleshooting system issues before they become system-critical.

Citrix XenApp and XenDesktop version 7 and higher support an Open Data (ODATA) API that third party applications can use to access the same metrics that administrators have access to from the Citrix Director tool. These metrics include data related to connection failures to virtual desktops, machines in a failure state, session usage, user logon duration with breakups of the login duration, and load balancing data. In v6, eG Enterprise leverages the ODATA API and reports the same metrics published in the Director console in the eG monitoring console using a dedicated *Citrix Director 7.x* monitoring model. This way, Citrix administrators need not have to work with multiple consoles and all the key performance information about the Citrix infrastructure is available from the eG Enterprise console itself.

## Chapter 1: How to monitor Citrix Director 7.x using eG Enterprise?

eG Enterprise monitors the Citrix Director in an agent-based manner. For this purpose, an eG agent should be deployed on the target Citrix Director. To enable this agent to communicate with the target director and pull out performance metrics, a set of pre-requisites should be fulfilled. These requirements have been explained in the following section.

### 1.1 Pre-requisites for monitoring the Citrix Director 7.x

Typically, to enable the eG agent to run the tests and pull out metrics, the following pre-requisites should be fulfilled:

- The **eGurkhaAgent** service should run using the privileges of a user with **Farm Administrator** rights.
- The Domain, User, and Password parameters of every test that the eG agent executes for the Citrix Director should be configured with the domain name and credentials (as the case may be) of a user with **Farm Administrator** rights.

Once the above-said requirements are set in place, manage the Citrix Director component using the eG administrative interface to proceed the Citrix Director monitoring. The steps for achieving this are briefed in the below section.

### 1.2 Managing the Citrix Director 7.x

The eG Enterprise cannot automatically discover the Citrix Director 7.x. This implies that you need to manually add the component for monitoring. Remember that the eG Enterprise automatically manages the components that are added manually. To manage a Citrix Director component, do the following:

1. Log into the eG administrative interface.
2. eG Enterprise cannot automatically discover Citrix Director 7.x. You need to manually add the server using the **COMPONENTS** page (see Figure 1.1) that appears when the Infrastructure -> Components -> Add/Modify menu sequence is followed. Remember that components manually added are managed automatically.

**COMPONENT** BACK

This page enables the administrator to provide the details of a new component

Category: All Component type: Citrix Director 7.x

**Component information**

Host IP/Name: 192.168.10.1

Nick name: citdir7

Port number: 80

**Monitoring approach**

Agentless: ☐

Internal agent assignment: ☒ Auto ☐ Manual

External agents: eCDP129

**Add**

Figure 1.1: Adding a Citrix Director 7.x

- Specify the **Host IP** and the **Nick name** of the Citrix Director 7.x in Figure 1.1. Then click the **Add** button to register the changes.
- When you attempt to sign out, a list of unconfigured tests will appear as shown in Figure 1.2.

| List of unconfigured tests for 'Citrix Director 7.x' |                        |                          |
|--|------------------------|--------------------------|
| Performance  |                        | citdir7:80               |
| Desktop OS Machines                                  | Failed Machines        | Logon Performance        |
| Server OS Machines                                   | Session Details        | User Connection Failures |
| User Connections                                     | User Logon Performance |                          |

Figure 1.2: List of Unconfigured tests to be configured for the Citrix Director 7.x

- Click on the test names to configure them. To know how to configure the tests, refer to [Monitoring the Citrix Director 7.x](#) chapter.
- Once all the tests are configured, signout of the eG administrative interface.

## Chapter 2: Monitoring the Citrix Director 7.x

eG Enterprise Suite provides eG Enterprise groups the metrics so collected into a set of hierarchical layers. The top 2 layers of this model use the ODATA API to collect metrics on user activity and delivery group management from a XenDesktop broker in a site. The other layers monitor the availability and health of the system hosting the Citrix Director and reports abnormalities in accessibility and resource usage of the Director.

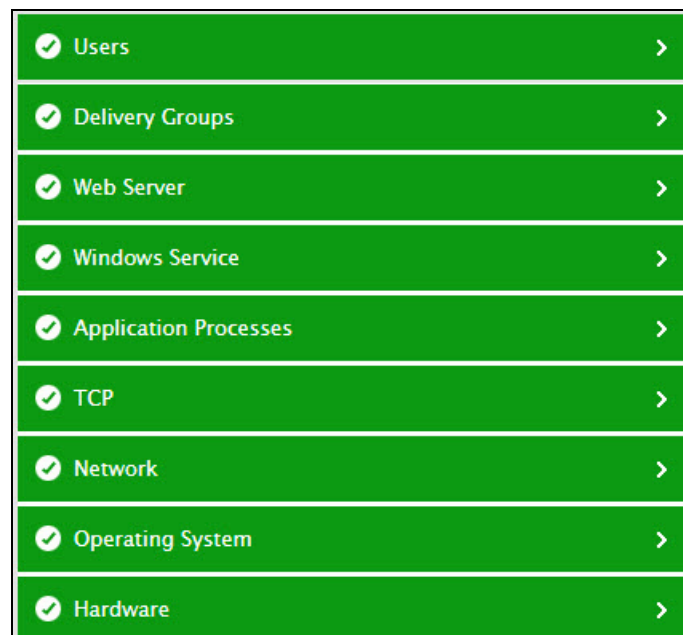


Figure 2.1: The layer model of the Citrix Director 7.x component

**Note:**

eG Enterprise does not require the Citrix Platinum License for monitoring the Citrix Director 7.x.

Typically, to enable the eG agent to run the tests mapped to each layer of Figure 2.1 above and pull out metrics, Section 1.1 should be fulfilled.

Using the metrics so collected, administrators can find quick and accurate answers for the following performance queries:

- Which delivery group is overloaded with desktop sessions?
- Are any machines in the site waiting for image updates? Which ones are these and which delivery group do they belong to?

- Which machines are in the 'Suspended' or 'Powered off' state currently?
- Which machines in the site have failed to start?
- Which machines are stuck on boot?
- Which are the machines that have violated their maximum load limit?
- Is any machine in the maintenance mode?
- Which machine has the highest load evaluator index? What is contributing to this - high CPU/memory/disk space usage? or high user session load?
- Which user's logon is taking the maximum time? Where is the user experiencing delays - when brokering? at VM startup? during HDX connection? during authentication? when applying GPOs? at the time of logon script execution? when loading user profile? when handing off keyboard and mouse control to the user?

## 2.1 The Delivery Groups Layer

The tests mapped to this layer monitor the desktop OS and server OS machines in each delivery group configured on the broker in a site and report the status of these machines.

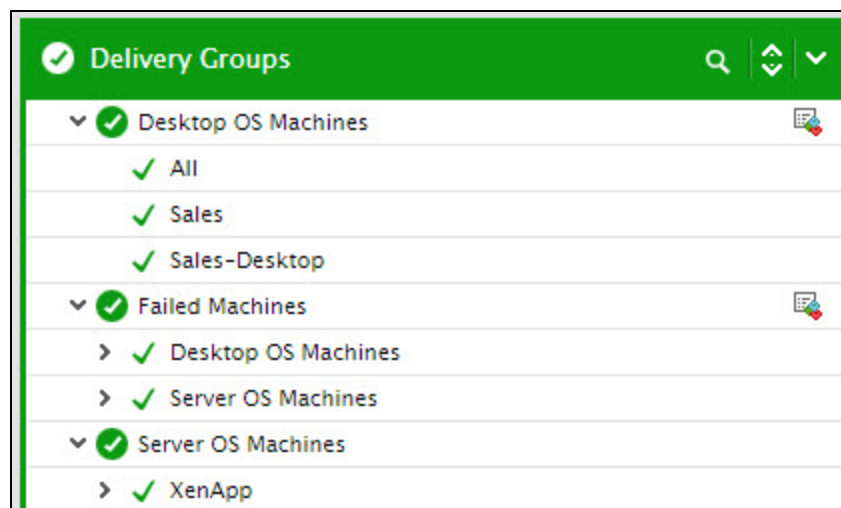


Figure 2.2: The tests mapped to the Delivery Groups layer

### 2.1.1 Desktop OS Machines Test

Citrix Director 7.x supports two types of Delivery Agents: one for Windows Server OS machines and one for Windows Desktop OS machines. **Desktop OS Machines** are VMs or physical machines based on the Windows Desktop operating system used for delivering personalized desktops to users, or applications from desktop operating systems.



Delivery groups consist of virtual desktops and applications that are pooled, pre-assigned, or assigned on first use. Each group can contain only one type of desktop or application.

To track the status of desktop OS machines in each delivery group configured in a site, use the **Desktop OS Machines** test.

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each delivery group containing desktop OS machines in the site

### 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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** - Specify the IP address of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
5. **CONTROLLER PORT** - Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** - To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** - Confirm the **PASSWORD** by retyping it here.
8. **FULLY QUALIFIED DOMAIN NAME** - Here, specify the fully-qualified name of the domain to which the specified controller belongs.
9. **SSL** - Indicate whether/not the controller used for metrics collection is SSL-enabled. By default, this flag is set to **Yes**.
10. **SHOW TOTAL MACHINES DD** - By default, this flag is set to **No**. This indicates that, by default, the test will not report detailed metrics for the *Total machines* measure. To enable the test to collect detailed metrics for the *Total machines* measure, set this flag to **Yes**.
11. **SHOW POWEREDOFF MACHINES DD** - By default, this flag is set to **No**. This indicates that, by default, the test will not report detailed metrics for the *Powered off machines* measure. To

enable the test to collect detailed metrics for the *Powered off machines* measure, set this flag to **Yes**.

12. **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.

### Measurements made by the test

| Measurement                   | Description   | Measurement Unit | Interpretation  |
|-------------------------------|---|------------------|---|
| Total machines:               | Indicates the total number of machines in this group.   | Number           |   |
| Preparing machines:           | Indicates the number of machines in this group that are currently preparing sessions for users.         | Number           |   |
| Pending update machines:      | Indicates the number of machines managed by this delivery group to which updates are currently pending. | Number           | Use the detailed diagnosis of this measure to know which machines are awaiting updates. |
| Machines in maintenance mode: | Indicates the number of machines in this group that are currently under maintenance.                    | Number           |   |
| Powered on machines:          | Indicates the number of   | Number           | Use the detailed diagnosis of this measure to know which machines                       |

| Measurement                          | Description   | Measurement Unit | Interpretation   |
|--------------------------------------|---|------------------|--|
|                                      | machines in this desktop group that are currently powered on.   |                  | are currently powered on.  |
| Machines with suspended power state: | Indicates the number of machines in this delivery group that are currently in the Suspended state.  | Number           | Use the detailed diagnosis of this measure to know which machines are currently in the Suspended state.  |
| Powered off machines:                | Indicates the number of machines in this delivery group that are currently powered off.   | Number           | Use the detailed diagnosis of this measure to know which machines are currently in the powered off.  |
| Machines with unknown power state:   | Indicates the number of machines in the following power states: <ul style="list-style-type: none"> <li>• Unavailable</li> <li>• Unmanaged</li> <li>• Unknown</li> </ul> | Number           | A low value is desired for this measure.<br><br>The detailed diagnosis of this measure will reveal the complete details of the unavailable machines, such as, the machine name, IP address, the machine type, the delivery group and catalog to which the machine belongs, the hosting server on which the machine operates, the name of the hypervisor and the controller on which the machine operates, the user who is active on the session, the location at which the changes made by the user is stored, the provision type of the machine, and the application published on the machine, if the machine is a XenAPP server. |
| Assigned machines:                   | Indicates the number of machines that are   | Number           | Use the detailed diagnosis of this measure to know which machines  |

| Measurement                                     | Description   | Measurement Unit | Interpretation  |
|---|---|------------------|---|
|   | assigned to users in this delivery group.   |                  | are assigned to users.  |
| Unassigned machines                             | Indicates the number of machines in this delivery group that are not assigned to users.   | Number           | Use the detailed diagnosis of this measure to know which machines are not assigned to users.  |
| Resuming machines                               | Indicates the number of machines in this group that are in the <i>Resume</i> state currently.                                     | Number           | Use the detailed diagnosis of this measure to know which machines are in the Resume state.  |
| Total sessions                                  | Indicates the total number of user sessions to this delivery group.   | Number           |   |
| Percentage of assigned machines                 | Indicates the percentage of machines that are assigned to users in this delivery group.   | Percent          |   |
| Unregistered machines                           | Indicates the number of machines that are configured in this delivery group but are in an unregistered state with the controller. | Number           | If a machine is in an unregistered state, it means that registration has not successfully completed for that machine. The value 0 is hence desired for this measure. In case the measure reports a non-zero value, you may want to enable the detailed diagnosis for this measure, so that you can view which machines in the group are unregistered. |
| Percentage of unregistered machines             | Indicates the percentage of machines that are configured in this delivery group but are in an unregistered state.                 | Percentage       | A low value is desired for this measure.  |
| Percentage of maintenance mode enabled machines | Indicates the percentage of machines in this group for which maintenance mode has been enabled.                                   | Percentage       |   |

## 2.1.2 Failed Machines Test

Using this test, administrator can figure out how many machines of which type are currently in a state of failure. The names of these machines and the precise failure state they are in presently can also be ascertained.

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each delivery group configured for the XenDesktop broker site

**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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** – Specify the IP address of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
5. **CONTROLLER PORT** – Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** – To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **FULLY QUALIFIED DOMAIN NAME** – Here, specify the fully-qualified name of the domain to which the specified controller belongs.
9. **SSL** – Indicate whether/not the controller used for metrics collection is SSL-enabled. By default, this flag is set to **Yes**.
10. **REPORT BY MACHINE TYPE** – If you want the results of this test to be grouped by machine type – i.e., grouped into **Desktop OS Machines** and **Server OS Machines** – then set this flag to **Yes**. If not, set this flag to **No**.
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.

### Measurements made by the test

| Measurement                    | Description   | Measurement Unit | Interpretation   |
|--------------------------------|---|------------------|--|
| Machines that failed to start: | Indicates the number of machines in this delivery group that failed to start. | Number           | <p>The value of this measure refers to the number of failures that occurred due to a guest machine being unable to start as in disk is detached when attempting to boot or the hosting server reported that the VM could not be booted up.</p> <p>Use the detailed diagnosis of this measure to know which machines failed to start.</p> |
| Machines stuck on boot:        | Indicates the number of machines that are stuck on boot.                      | Number           | <p>This measure refers to the number of failures that occurred due to the guest operating system being unable to boot up fully. For example, OS BSOD during boot or unable to locate the boot partition.</p> <p>Use the detailed diagnosis of this measure to know which machines were stuck on boot.</p>                                |
| Unregistered                   | Indicates the number of   | Number           | Machine registration can fail due to   |

| Measurement   | Description  | Measurement Unit | Interpretation   |
|---------------|--|------------------|--|
| machines:     | machines in this delivery group that are not registered with the broker.                             |                  | <p>loss of network connectivity between the machine and the broker, the clocks on the two being out of sync or the Desktop Service not running on the desktop.</p> <p>Use the detailed diagnosis of this measure to identify the unregistered machines.</p>  |
| Maximum load: | Indicates the number of machines in this delivery group that have violated their maximum load limit. | Number           | <p><b>This measure applies only to Server OS Machines.</b></p> <p>The value of this measure refers to the number of failures that occurred owing to too many sessions on the machine or because CPU or memory usage of the machines crossed the threshold specified for the delivery group.</p> <p>Use the detailed diagnosis of this measure to identify the loaded machines.</p> |

### 2.1.3 Server OS Machines Test

**Server OS Machines** are VMs or physical machines based on the Windows Server operating system used for delivering applications or hosted shared desktops to users.

This test auto-discovers the Server OS Machines in the site and reports the session load on, resource usage of, and current state of each machine. This way, administrators can quickly identify machines that are experiencing heavy load and those that are consuming resources abnormally.

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each server OS machine running in the XenDesktop broker site

### 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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** – Specify the IP address of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
5. **CONTROLLER PORT** – Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** – To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **FULLY QUALIFIED DOMAIN NAME** – Here, specify the fully-qualified name of the domain to which the specified controller belongs.
9. **SSL** – Indicate whether/not the controller used for metrics collection is SSL-enabled. By default, this flag is set to **Yes**.
10. **REPORT BY DELIVERY GROUP** – If you want the results of this test to be grouped by delivery group then set this flag to **Yes**. In this case therefore, the delivery groups containing the server OS machines will be the primary descriptors of this test; expanding them will reveal the secondary descriptors – i.e., the server OS machines in each delivery group. If you want the results of this test to be indexed only by the names of the server OS machines, then set this flag to **No**.
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.

### Measurements made by the test

| Measurement       | Description  | Measurement Unit | Interpretation   |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
|-------------------|--|------------------|--|---------------|---------------|---------|---|-------------|---|-----|---|----|---|-----------|---|------------|---|-------------|---|------------|---|----------|---|-----------|---|
| Power state:      | Indicates the current power state of this server OS machine.             |                  | <p>The values this measure can report and their corresponding numeric values are listed in then table below:</p> <table><tr><th>Measure Value</th><th>Numeric Value</th></tr><tr><td>Unknown</td><td>0</td></tr><tr><td>Unavailable</td><td>1</td></tr><tr><td>Off</td><td>2</td></tr><tr><td>On</td><td>3</td></tr><tr><td>Suspended</td><td>4</td></tr><tr><td>Turning on</td><td>5</td></tr><tr><td>Turning Off</td><td>6</td></tr><tr><td>Suspending</td><td>7</td></tr><tr><td>Resuming</td><td>8</td></tr><tr><td>Unmanaged</td><td>9</td></tr></table> <p><b>Note:</b></p> <p>By default, this measure reports the <b>Measure Values</b> in the table above to indicate the power state of a server OS machine. However, in the graph of this measure, the same will be represented using the corresponding numeric equivalents only.</p> | Measure Value | Numeric Value | Unknown | 0 | Unavailable | 1 | Off | 2 | On | 3 | Suspended | 4 | Turning on | 5 | Turning Off | 6 | Suspending | 7 | Resuming | 8 | Unmanaged | 9 |
| Measure Value     | Numeric Value  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Unknown           | 0  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Unavailable       | 1  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Off               | 2  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| On                | 3  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Suspended         | 4  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Turning on        | 5  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Turning Off       | 6  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Suspending        | 7  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Resuming          | 8  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Unmanaged         | 9  |                  |  |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |
| Maintenance mode: | Indicates whether/not this machine is in the maintenance mode currently. |                  | <p>The values this measure can report and their corresponding numeric values are listed in then table below:</p>   |               |               |         |   |             |   |     |   |    |   |           |   |            |   |             |   |            |   |          |   |           |   |

| Measurement                | Description   | Measurement Unit | Interpretation   |               |               |     |   |     |   |
|----------------------------|---|------------------|--|---------------|---------------|-----|---|-----|---|
|                            |   |                  | <table><tr><th>Measure Value</th><th>Numeric Value</th></tr><tr><td>Off</td><td>0</td></tr><tr><td>On</td><td>1</td></tr></table> <p><b>Note:</b></p> <p>By default, this measure reports the <b>Measure Values</b> in the table above to indicate whether/not a server OS machine is in the maintenance mode. However, in the graph of this measure, the same will be represented using the corresponding numeric equivalents only.</p>   | Measure Value | Numeric Value | Off | 0 | On  | 1 |
| Measure Value              | Numeric Value   |                  |  |               |               |     |   |     |   |
| Off                        | 0   |                  |  |               |               |     |   |     |   |
| On                         | 1   |                  |  |               |               |     |   |     |   |
| Pending image update:      | Indicates whether/not image updates are pending on this machine.  |                  | <p>The values this measure can report and their corresponding numeric values are listed in then table below:</p> <table><tr><th>Measure Value</th><th>Numeric Value</th></tr><tr><td>No</td><td>0</td></tr><tr><td>Yes</td><td>1</td></tr></table> <p><b>Note:</b></p> <p>By default, this measure reports the <b>Measure Values</b> in the table above to indicate whether/not image updates are pending on this server OS machine. However, in the graph of this measure, the same will be represented using the corresponding numeric equivalents only.</p> | Measure Value | Numeric Value | No  | 0 | Yes | 1 |
| Measure Value              | Numeric Value   |                  |  |               |               |     |   |     |   |
| No                         | 0   |                  |  |               |               |     |   |     |   |
| Yes                        | 1   |                  |  |               |               |     |   |     |   |
| Is this physical machine?: | Indicates whether this server OS machine is a physical or virtual |                  | <p>The values this measure can report and their corresponding numeric values are listed in then table below:</p>   |               |               |     |   |     |   |

| Measurement           | Description  | Measurement Unit | Interpretation  |               |               |    |   |     |   |
|-----------------------|--|------------------|---|---------------|---------------|----|---|-----|---|
|                       | machine.   |                  | <table><tr><th>Measure Value</th><th>Numeric Value</th></tr><tr><td>No</td><td>0</td></tr><tr><td>Yes</td><td>1</td></tr></table> <p><b>Note:</b></p> <p>By default, this measure reports the <b>Measure Values</b> in the table above to indicate whether/not a server OS machine is a physical machine. However, in the graph of this measure, the same will be represented using the corresponding numeric equivalents only.</p>   | Measure Value | Numeric Value | No | 0 | Yes | 1 |
| Measure Value         | Numeric Value  |                  |   |               |               |    |   |     |   |
| No                    | 0  |                  |   |               |               |    |   |     |   |
| Yes                   | 1  |                  |   |               |               |    |   |     |   |
| Total sessions:       | Indicates the total number of user sessions on this server OS machine. | Number           | This is a good indicator of the current session load on a server OS machine. Compare the value of this measure across machines to know which machine is overloaded with sessions.   |               |               |    |   |     |   |
| Load evaluator index: | Indicates the load evaluator index of this machine.                    | Percent          | <p>A server's load index may be the aggregate of:</p> <ul style="list-style-type: none"><li>• Various computer performance counter based metrics, namely CPU, Memory and Disk Usage</li><li>• Session Count</li></ul> <p>It is designed to indicate how suitable a XenApp Worker is to receive a new user session. It is the Delivery Controller's responsibility to calculate the load index based on the aggregate of the normalized load rule indexes generated by the various</p> |               |               |    |   |     |   |

| Measurement    | Description   | Measurement Unit | Interpretation  |
|----------------|---|------------------|---|
|                |   |                  | <p>load rules. As only the Delivery Controller can determine the session load, a server's overall load index is calculated on the Delivery Controller and not the Virtual Delivery Agent.</p> <p>By comparing the value of this measure across server OS machines, you can figure out whether or not load is uniformly balanced across all servers in the site.</p> |
| CPU:           | Indicates the CPU load evaluator index of this server OS machine.           | Percent          | A high value is indicative of excessive CPU usage by the machine over time.   |
| Memory:        | Indicates the memory load evaluator index of this server OS machine.        | Percent          | A high value is indicative of excessive memory usage by the machine over time.  |
| Disk:          | Indicates the disk load evaluator index of this server OS machine.          | Percent          | A high value is indicative of excessive disk usage by the machine over time.  |
| Session count: | Indicates the session count load evaluator index of this server OS machine. | Percent          | A high value indicates that the machine has been consistently handling many user sessions.  |

## 2.2 The Users Layer

Use the tests mapped to this layer to monitor user logons to the broker, assess user load, capture bottlenecks in the logon process, and detect user connection failures.

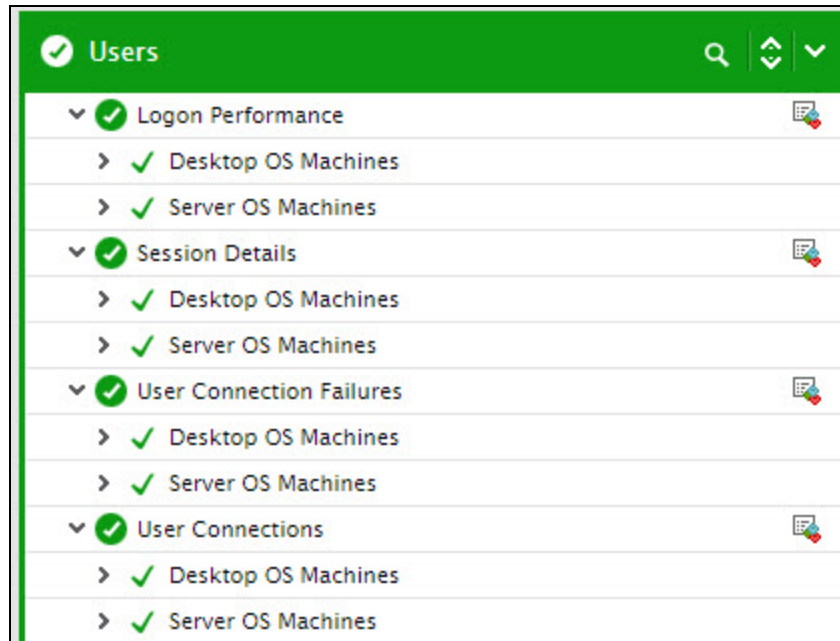


Figure 2.3: The tests mapped to the Users layer

### 2.2.1 Logon Performance Test

The process of a user logging into a desktop/server OS machine managed by a XenDesktop Broker is complex. First, the user's login credentials are authenticated. Then, the corresponding user profile is identified and loaded. Next, group policies are applied and logon scripts are processed to setup the user environment. Then, a HDX connection is established with the VM, subsequent to which, the VM starts and hands off keyboard and mouse control to the user. In the meantime, additional processing may take place for a user – say, applying system profiles, creating new printers for the user, and so on. A slowdown in any of these steps can significantly delay the logon process for a user and may adversely impact the logins for other users who may be trying to access desktops/applications at the same time. Hence, if a user complains that he/she is unable to access an application/desktop, administrators must be able to rapidly isolate exactly where the logon process is stalling and for which user.

The **Logon Performance** test tracks user connections to each delivery group, measures the average time taken for users to access desktops/applications delivered by each group, isolates the group to which user logins are slow, and accurately pinpoints where the login process is bottlenecked. Detailed diagnostics provided by this test point to the precise user who is experiencing the slowness.

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each delivery group configured in the XenDesktop broker site

### 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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** – Specify the IP address of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
5. **CONTROLLER PORT** – Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** – To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **FULLY QUALIFIED DOMAIN NAME** – Here, specify the fully-qualified name of the domain to which the specified controller belongs.
9. **SSL** – Indicate whether/not the controller used for metrics collection is SSL-enabled. By default, this flag is set to **Yes**.
10. **REPORT BY MACHINE TYPE** – If you want the results of this test to be grouped by machine type then set this flag to **Yes**. In this case therefore, the machine types (desktop or server OS machines) will be the primary descriptors of this test; expanding them will reveal the secondary descriptors – i.e., the delivery groups containing machines of each type. If you want the results of this test to be indexed only by the names of delivery groups, then set this flag to **No**.
11. **DD FREQUENCY** - Refers to the frequency with which detailed diagnosis measures are to be generated for this test. The default is *1:1*. This indicates that, by default, detailed measures will be generated every time this test runs, and also every time the test detects a problem. You can modify this frequency, if you so desire. Also, if you intend to disable the detailed diagnosis capability for this test, you can do so by specifying *none* against **DD FREQUENCY**.
12. **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.

### Measurements made by the test

| Measurement             | Description  | Measurement Unit | Interpretation   |
|-------------------------|--|------------------|--|
| Average logon duration: | Indicates the average time taken for users to login to desktops/applications offered by this delivery group.   | Secs             | <p>If this measure reports a high value consistently, it could indicate a slowdown in the logon process.</p> <p>You can use the detailed diagnosis of this measure to understand the logon experience of each user to the delivery group, identify that user who took the maximum time to login, and accurately isolate where he/she experienced slowness.</p> |
| Logons:                 | Indicates the number of users who recently logged into desktops/applications delivered by this delivery group. | Number           | This is a good indicator of the current user load on a delivery group.   |
| Brokering duration:     | Indicates time taken to complete the process of brokering sessions to this delivery group.                     | Secs             | <p>A high value indicates that brokering is taking a long time.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Time</i></p>   |

| Measurement                 | Description  | Measurement Unit | Interpretation   |
|-----------------------------|--|------------------|--|
|                             |  |                  | <p><i>taken for starting VM, HDX connection duration, Authentication time, GPOs duration, Logon scripts duration, Profile load time, and Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p>  |
| Time taken for starting VM: | Indicates the time taken for starting the machines in this delivery group. | Secs             | <p>A high value indicates that machines are taking too long to startup.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration, HDX connection duration, Authentication time, GPOs duration, Logon scripts duration, Profile load time, and Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon</p> |



| Measurement              | Description   | Measurement Unit | Interpretation  |
|--------------------------|---|------------------|---|
|                          |   |                  | scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?   |
| HDX connection duration: | Indicates the time taken to complete the steps required for setting up the HDX connection from the client to the machines in this delivery group. | Secs             | <p>A high value indicates that HDX connections are taking time to be established.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>Time taken for starting VM</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Logon scripts duration</i>, <i>Profile load time</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p> |
| Authentication time:     | Indicates the time taken to authenticate remote sessions to the machines in this delivery group.  | Secs             | <p>A high value indicates authentication delays.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the</p>   |

| Measurement    | Description   | Measurement Unit | Interpretation  |
|----------------|---|------------------|---|
|                |   |                  | <p><i>Brokering duration, Time taken for starting VM, HDX connection duration, GPOs duration, Logon scripts duration, Profile load time, and Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p>   |
| GPOs duration: | Indicates the time taken to apply group policy settings on the machines in this delivery group. | Secs             | <p>A high value indicates that GPO application is taking time.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration, Time taken for starting VM, HDX connection duration, Authentication time, Logon scripts duration, Profile load time, and Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while</p> |

| Measurement             | Description  | Measurement Unit | Interpretation   |
|-------------------------|--|------------------|--|
|                         |  |                  | loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?   |
| Logon scripts duration: | Indicates the time taken for logon scripts to be executed on the machines in this delivery group.      | Secs             | <p>A high value indicates that logon script execution is taking time.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>Time taken for starting VM</i>, <i>HDX connection duration</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Profile load time</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p> |
| Profile load time:      | Indicates the time taken by the logon process to load the profile of the users to this delivery group. | Secs             | <p>A high value indicates that profiles are taking too long to load.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>Time taken</i></p>   |

| Measurement                   | Description  | Measurement Unit | Interpretation   |
|-------------------------------|--|------------------|--|
|                               |  |                  | <p><i>for starting VM, HDX connection duration, Authentication time, GPOs duration, Logon scripts duration, and Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p>   |
| Interactive session duration: | Indicates the time taken by the logon process to handoff keyboard and mouse control to the users to this delivery group. | Secs             | <p>A high value indicates delays in handing off keyboard and mouse control to users.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration, Time taken for starting VM, HDX connection duration, Authentication time, GPOs duration, Logon scripts duration, and Profile load time</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while</p> |

| Measurement | Description | Measurement Unit | Interpretation   |
|-------------|-------------|------------------|--|
|             |             |                  | loading user profiles? Is it when starting the VM? Or is it when handing over control to the user? |

### 2.2.2 Session Details Test

By tracking sessions to each delivery group configured on a site, administrators can not only assess the load on the delivery groups, but can also quickly identify problematic sessions – these could be sessions that are disconnected, sessions that are in an Unknown state, sessions that are reconnecting for some reason. This is what the **Session Details** test does! This test monitors the user sessions to each delivery group in a site, points administrators to overloaded groups, and also reports the status of sessions to each group, so that problem sessions can be isolated and their problems can be investigated.

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each delivery group configured in the XenDesktop broker site

#### 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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** – Specify the IP address of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
5. **CONTROLLER PORT** – Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** – To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.

8. **FULLY QUALIFIED DOMAIN NAME** – Here, specify the fully-qualified name of the domain to which the specified controller belongs.
9. **SSL** – Indicate whether/not the controller used for metrics collection is SSL-enabled. By default, this flag is set to **Yes**.
10. **REPORT BY MACHINE TYPE** – If you want the results of this test to be grouped by machine type then set this flag to **Yes**. In this case therefore, the machine types (desktop or server OS machines) will be the primary descriptors of this test; expanding them will reveal the secondary descriptors – i.e., the delivery groups containing machines of each type. If you want the results of this test to be indexed only by the names of delivery groups, then set this flag to **No**.
11. **DD FREQUENCY** - Refers to the frequency with which detailed diagnosis measures are to be generated for this test. The default is *1:1*. This indicates that, by default, detailed measures will be generated every time this test runs, and also every time the test detects a problem. You can modify this frequency, if you so desire. Also, if you intend to disable the detailed diagnosis capability for this test, you can do so by specifying *none* against **DD FREQUENCY**.
12. **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.

### Measurements made by the test

| Measurement      | Description   | Measurement Unit | Interpretation   |
|------------------|---|------------------|--|
| Active sessions: | Indicates the number of user sessions that are currently active on this delivery group. | Number           | This is a good indicator of the current session load on a delivery group. A consistent zero value however could indicate a connection issue. |

| Measurement            | Description   | Measurement Unit | Interpretation   |
|------------------------|---|------------------|--|
|                        |   |                  | <p>You can compare the value of this measure across delivery groups to know which delivery group is handling the maximum number of sessions currently.</p> <p>To determine the details of the currently active sessions, use the detailed diagnosis of this measure.</p> |
| Connected sessions:    | Indicates the number of sessions that are currently connected to this delivery group.                       | Number           | Use the detailed diagnosis of this measure to view the details of connected sessions.  |
| Disconnected sessions: | Indicates the number of sessions that are currently disconnected from this delivery group.                  | Number           | If all the current sessions suddenly log out, it indicates a problem condition that requires investigation. The detailed diagnosis of this measure lists the sessions that were logged out.  |
| Reconnecting sessions: | Indicates the number of sessions that are reconnecting with this delivery group soon after a disconnect.    | Number           |  |
| Preparing sessions:    | Indicates the number of sessions to this delivery group that are currently in the Preparing state.          | Number           |  |
| Non-brokered sessions: | Indicates the number of user sessions that are not brokered by the machines managed by this delivery group. | Number           |  |
| Unknown sessions:      | Indicates the number of   | Number           |  |

| Measurement       | Description  | Measurement Unit | Interpretation |
|-------------------|--|------------------|----------------|
|                   | sessions to this delivery group that are currently in Unknown state.                       |                  |                |
| Other sessions:   | Indicates the number of sessions to this delivery group that are currently in Other state. | Number           |                |
| Pending sessions: | Indicates the number of sessions to this delivery group that are currently pending.        | Number           |                |

### 2.2.3 User Connection Failures

If a user complains that his/her connections to a desktop/application failed, then administrators must be able to quickly detect the failure and accurately zero-in on the reason for the failure, so that the problem can be fixed and the user connection can be restored. The **User Connection Failures** test helps administrators do just that! This test monitors the user connections to each delivery group in a site, promptly detects connection failures, and accurately indicates what caused the failure – is it due to a problem at the client side? is it owing to configuration errors? is it because of machine failures? is it due to the exhaustion of delivery group capacity? or is it due to the absence of a license?

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each delivery group configured in the XenDesktop broker site

**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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** – Specify the IP address of the delivery controller (i.e., broker) in the



site with which the eG agent should communicate for collecting performance metrics.

5. **CONTROLLER PORT** – Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** – To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **FULLY QUALIFIED DOMAIN NAME** – Here, specify the fully-qualified name of the domain to which the specified controller belongs.
9. **SSL** – Indicate whether/not the controller used for metrics collection is SSL-enabled. By default, this flag is set to **Yes**.
10. **REPORT BY MACHINE TYPE** – If you want the results of this test to be grouped by machine type then set this flag to **Yes**. In this case therefore, the machine types (desktop or server OS machines) will be the primary descriptors of this test; expanding them will reveal the secondary descriptors – i.e., the delivery groups containing machines of each type. If you want the results of this test to be indexed only by the names of delivery groups, then set this flag to **No**.
11. **DD FREQUENCY** - Refers to the frequency with which detailed diagnosis measures are to be generated for this test. The default is *1:1*. This indicates that, by default, detailed measures will be generated every time this test runs, and also every time the test detects a problem. You can modify this frequency, if you so desire. Also, if you intend to disable the detailed diagnosis capability for this test, you can do so by specifying *none* against **DD FREQUENCY**.
12. **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.

**Measurements made by the test**

| Measurement                 | Description  | Measurement Unit | Interpretation  |
|-----------------------------|--|------------------|---|
| Client connection failures: | Indicates the number of connections to this delivery group that failed due to a problem at the client side.                          | Number           | The value of this measure indicates the number of connection failures that occurred due to the inability of the client side to complete the session connection; for example, connection timed out, server was not reachable.  |
| Configuration errors:       | Indicates the number of connections to this delivery group that failed due to configuration errors.                                  | Number           | Connection failures can also occur when administrators change the configuration of the broker; for instance, a failure may occur when administrators put a delivery group or a machine in maintenance mode.   |
| Machine failures:           | Indicates the number of connections to this delivery group that failed due to machine failures.                                      | Number           | This refers to connections that failed because the machines that need to launch the sessions itself failed. For probable reasons, refer to the measures of the Failed Machines test.  |
| Unavailable capacity:       | Indicates the number of connections to this delivery group that failed because the configured capacity of the machines was consumed. | Number           | This refers to failures that occurred due to the configured capacity of a particular delivery group having been completely consumed. For example, too many users logged into a Server Desktop OS delivery group or a user accessing a Pooled Random delivery group once all the machines in the delivery group are already assigned to other users. |
| Unavailable licenses:       | Indicates the number of connections to this  | Number           | These are failures that occur due to the inability of the delivery  |

| Measurement | Description   | Measurement Unit | Interpretation   |
|-------------|---|------------------|--|
|             | delivery group that failed because of the absence of a license. |                  | controller to acquire a license from the license server to launch a session. |

## 2.2.4 User Connections Test

This test reports the number of users who recently connected with the machines/applications in each delivery group configured in the broker site. Sudden spikes in user connections to a delivery group can thus be identified.

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each delivery group configured in the XenDesktop broker site

**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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** – Specify the IP address of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
5. **CONTROLLER PORT** – Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** – To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **FULLY QUALIFIED DOMAIN NAME** – Here, specify the fully-qualified name of the domain to which the specified controller belongs.
9. **SSL** – Indicate whether/not the controller used for metrics collection is SSL-enabled. By

default, this flag is set to **Yes**.

10. **REPORT BY MACHINE TYPE** – If you want the results of this test to be grouped by machine type then set this flag to **Yes**. In this case therefore, the machine types (desktop or server OS machines) will be the primary descriptors of this test; expanding them will reveal the secondary descriptors – i.e., the delivery groups containing machines of each type. If you want the results of this test to be indexed only by the names of delivery groups, then set this flag to **No**.
11. **DD FREQUENCY** - Refers to the frequency with which detailed diagnosis measures are to be generated for this test. The default is **1:1**. This indicates that, by default, detailed measures will be generated every time this test runs, and also every time the test detects a problem. You can modify this frequency, if you so desire. Also, if you intend to disable the detailed diagnosis capability for this test, you can do so by specifying *none* against dd frequency.
12. **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.

### Measurements made by the test

| Measurement      | Description   | Measurement Unit | Interpretation   |
|------------------|---|------------------|--|
| New connections: | Indicates the number of new connections to this delivery group since the last measurement period. | Number           | Use the detailed diagnosis of this measure to view the details of each new connection. |

## 2.2.5 User Logon Performance Test

The **Logon Performance** test monitors the user logon process from a delivery group perspective; in other words, it monitors user logins to the desktops/applications in a delivery group, measures the 'aggregate' duration of the login across all users to that group, and thus points to bottlenecks in the user logon process to that group.

The **User Logon Performance** test on the other hand, takes the user-perspective to logon monitoring. In other words, this test tracks each user who logs into a desktop or accesses an application via the XenDesktop broker, reports in real-time the logon experience of that user, and pinpoints where exactly that user's logon slowed down. When a user complains of delays in accessing his/her virtual desktop, this test will lead administrators straight to what is causing the delay. Detailed diagnostics provided by this test reveal which machines/applications a user is accessing and which delivery group these machines/applications belong to.

**Target of the test :** A Citrix Director 7.x

**Agent deploying the test :** An internal agent

**Outputs of the test :** One set of results for each user to the XenDesktop broker in the site

**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 number at which the specified **HOST** listens to. By default, this is 80.
4. **CONTROLLER IP ADDRESS** – Specify the IP address of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
5. **CONTROLLER PORT** – Specify the port number of the delivery controller (i.e., broker) in the site with which the eG agent should communicate for collecting performance metrics.
6. **USERNAME** and **PASSWORD** – To connect to a delivery controller and pull out metrics from it, the eG agent requires **Farm Administrator** rights. In order to configure the eG agent with **Farm Administrator** privileges, specify the credentials of the **Farm Administrator** in the **USERNAME** and **PASSWORD** text boxes.
7. **CONFIRM PASSWORD** – Confirm the **PASSWORD** by retyping it here.
8. **FULLY QUALIFIED DOMAIN NAME** – Here, specify the fully-qualified name of the domain to which the specified controller belongs.

9. **SSL** – Indicate whether/not the controller used for metrics collection is SSL-enabled. By default, this flag is set to **Yes**.
10. **DD FREQUENCY** - Refers to the frequency with which detailed diagnosis measures are to be generated for this test. The default is *1:1*. This indicates that, by default, detailed measures will be generated every time this test runs, and also every time the test detects a problem. You can modify this frequency, if you so desire. Also, if you intend to disable the detailed diagnosis capability for this test, you can do so by specifying *none* against **DD FREQUENCY**.
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.

### Measurements made by the test

| Measurement             | Description  | Measurement Unit | Interpretation   |
|-------------------------|--|------------------|--|
| Average logon duration: | Indicates the average time taken for this user to login to desktops/access applications. | Seconds          | <p>If this measure reports a high value consistently, it could indicate a slowdown in the logon process.</p> <p>Compare the value of this measure across users to know which user's logon is taking the longest.</p> |
| Logons:                 | Indicates the number of times this user has logged in since the last measurement period  | Number           |  |
| Brokering duration:     | Indicates time taken by  | Seconds          | A high value indicates that  |

| Measurement                 | Description   | Measurement Unit | Interpretation   |
|-----------------------------|---|------------------|--|
|                             | this user to complete the process of brokering sessions.                            |                  | <p>brokering is taking a long time.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Time taken for starting VM</i>, <i>HDX connection duration</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Logon scripts duration</i>, <i>Profile load time</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p> |
| Time taken for starting VM: | Indicates the time taken by the broker to start the machines accessed by this user. | Seconds          | <p>A high value indicates that machines are taking too long to startup.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>HDX connection duration</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Logon scripts duration</i>, <i>Profile load time</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon</p>   |

| Measurement              | Description  | Measurement Unit | Interpretation  |
|--------------------------|--|------------------|---|
|                          |  |                  | process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?   |
| HDX connection duration: | Indicates the time taken by the broker to complete the steps required for setting up the HDX connection from this user to the machines accessed by the user. | Seconds          | <p>A high value indicates that HDX connections are taking time to be established.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>Time taken for starting VM</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Logon scripts duration</i>, <i>Profile load time</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p> |
| Authentication time:     | Indicates the time taken by the broker to authenticate this user's   | Seconds          | A high value indicates authentication delays.   |



| Measurement    | Description  | Measurement Unit | Interpretation   |
|----------------|--|------------------|--|
|                | sessions.  |                  | If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i> , <i>Time taken for starting VM</i> , <i>HDX connection duration</i> , <i>GPOs duration</i> , <i>Logon scripts duration</i> , <i>Profile load time</i> , and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user? |
| GPOs duration: | Indicates the time taken to apply group policy settings on the machines accessed by this user. | Seconds          | <p>A high value indicates that GPO application is taking time.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>Time taken for starting VM</i>, <i>HDX connection duration</i>, <i>Authentication time</i>, <i>Logon scripts duration</i>, <i>Profile load time</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection?</p>  |

| Measurement             | Description  | Measurement Unit | Interpretation   |
|-------------------------|--|------------------|--|
|                         |  |                  | Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?   |
| Logon scripts duration: | Indicates the time taken for logon scripts to be executed on the machines accessed by this user. | Seconds          | <p>A high value indicates that logon script execution is taking time.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>Time taken for starting VM</i>, <i>HDX connection duration</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Profile load time</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p> |
| Profile load time:      | Indicates the time taken by the logon process to load the profile of this user.                  | Seconds          | <p>A high value indicates that profiles are taking too long to load.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure</p>   |

| Measurement                   | Description   | Measurement Unit | Interpretation  |
|-------------------------------|---|------------------|---|
|                               |   |                  | <p>with that of the <i>Brokering duration</i>, <i>Time taken for starting VM</i>, <i>HDX connection duration</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Logon scripts duration</i>, and <i>Interactive session duration</i> measures to know where exactly the user logon process slowed down - is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user?</p>  |
| Interactive session duration: | Indicates the time taken by the logon process to handoff keyboard and mouse control to this user. | Secs             | <p>A high value indicates delays in handing off keyboard and mouse control to users.</p> <p>If the <i>Average logon duration</i> is very high, you may want to compare the value of this measure with that of the <i>Brokering duration</i>, <i>Time taken for starting VM</i>, <i>HDX connection duration</i>, <i>Authentication time</i>, <i>GPOs duration</i>, <i>Logon scripts duration</i>, and <i>Profile load time</i> measures to know where exactly the user logon process slowed down – is it during authentication? Is it during brokering? Is it when establishing the HDX connection? Is it when applying GPOs? Is it during logon</p> |

| Measurement | Description | Measurement Unit | Interpretation  |
|-------------|-------------|------------------|---|
|             |             |                  | scripts execution? Is it while loading user profiles? Is it when starting the VM? Or is it when handing over control to the user? |

## About eG Innovations

eG Innovations provides intelligent performance management solutions that automate and dramatically accelerate the discovery, diagnosis, and resolution of IT performance issues in on-premises, cloud and hybrid environments. Where traditional monitoring tools often fail to provide insight into the performance drivers of business services and user experience, eG Innovations provides total performance visibility across every layer and every tier of the IT infrastructure that supports the business service chain. From desktops to applications, from servers to network and storage, from virtualization to cloud, eG Innovations helps companies proactively discover, instantly diagnose, and rapidly resolve even the most challenging performance and user experience issues.

eG Innovations is dedicated to helping businesses across the globe transform IT service delivery into a competitive advantage and a center for productivity, growth and profit. Many of the world's largest businesses use eG Enterprise to enhance IT service performance, increase operational efficiency, ensure IT effectiveness and deliver on the ROI promise of transformational IT investments across physical, virtual and cloud environments.

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