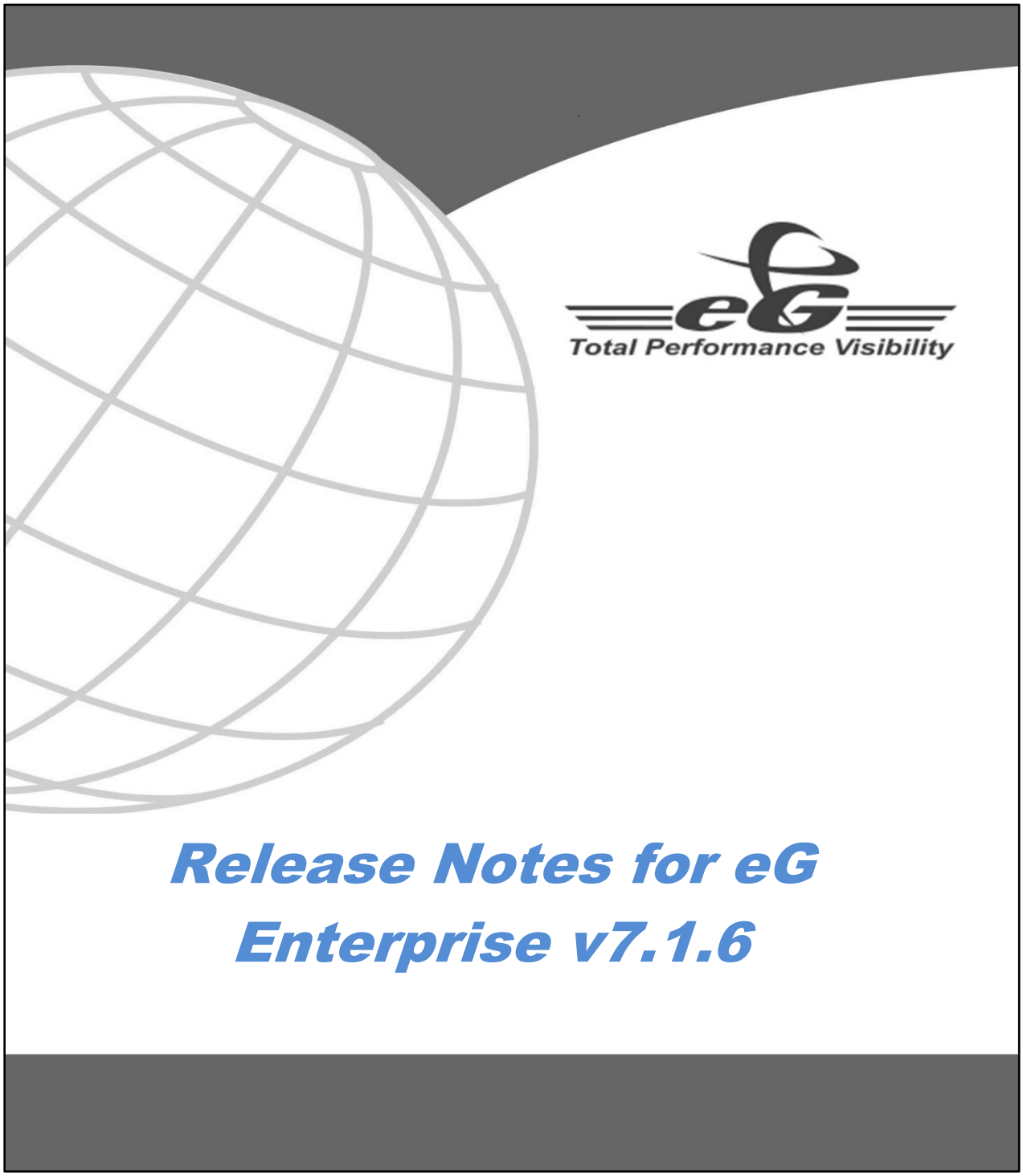

Release Notes for eG Enterprise v7.1.6

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Release Notes for eG Enterprise v7.1.6

Version 7.1.6 is a minor release of eG Enterprise. While this release predominantly has bug fixes and scalability improvements, a few new capabilities have also been added. This document provides a comprehensive list of enhancements and bug fixes that are part of this release.

Note that eG Manager and eG Agent packages are not available for Enterprise v7.1.6. You will need to install the eG Manager/Agents for v 7.1.4 and then upgrade to v 7.1.6.

1.1 Monitoring Enhancements

1.1.1 Citrix NetScaler Monitoring

- **In-depth Monitoring of the Utilization of Citrix NetScaler licenses:** Previously, the **NetScaler License Information** test reported metrics only if the license file was available in the target NetScaler appliance itself. If the license was managed by a Citrix License server or the license pool of the Citrix Application Delivery Management service instead, then this test failed to monitor the license. Starting with this version, the license information can be retrieved regardless of where the Citrix license file is located. This test has also been enhanced to provide additional insights into license usage. This will help administrators identify the licenses that are in grace period and plan their license requirements for the future accordingly.
- **Identifying the count of Secure Ticketing Authority servers in UP/DOWN status:** Starting with this version, if a VPN virtual server is configured with Secure Ticketing Authority, then, for each VPN virtual server, the count of Secure Ticketing Authority servers that are in UP/DOWN status will be reported.

1.1.2 Cloud Monitoring

- **Enhancements to VMware vCloud Director Monitoring:** Starting with this version, eG Enterprise is capable of monitoring the VMware vCloud Director v10. To collect the required metrics from the VMware vCloud Director v10, the eG agent uses a combination of REST API and JMX.
- **Enhancements to Citrix Cloud Site:** Previously, the **Controller Service Details – Cloud** test mapped to the Citrix Cloud Site component reported metrics only for a single connector in the cloud site. This test has now been enhanced to auto-discover and report metrics for all connectors associated with a cloud site.

1.1.3 Business Transaction Monitoring

Starting with this version of eG Enterprise, **eG BTM Monitor** is capable of collecting business transaction metrics from containerized Java applications (Docker, Kubernetes) hosted on AWS ECS cloud.

1.1.4 Database Monitoring

Retrieving the count of successfully completed jobs: By default, the **Oracle Jobs** test (mapped to an Oracle database server) offered in-depth details on the failed/broken jobs. However, administrators of some environments wanted similar insights into jobs that are successfully completed as well. To cater to the needs of such administrators, starting with this version, the count of jobs that were successfully completed will be reported. Detailed diagnostics will reveal the name of the job, the user who executed the job, the last execution time and the next date on which the execution is scheduled along with the description of the job.

1.1.5 SAP ABAP Instance Monitoring

Determining the IP address of users logged into a SAP ABAP Instance: By default, eG Enterprise uses **the User Sessions by Type** test to identify the user logins of each user login type to the SAP ABAP Instance. Though the detailed diagnostics revealed the name of the client terminal through which the user logged in, it did not track the IP address of the client terminal/system from where the user connected. V7.1.6 now reports the IP address of the host through which the user logged in. Additionally, if the user logged into the server through a SAP Router, the IP address of the SAP Router is also reported.

1.2 Usability Enhancements

1.2.1 Admin Interface

- **Improved Search capability when assigning Remote and External Agents:** Earlier, in large environments where several remote/external agents were used to monitor thousands of components, administrators had to painstakingly scroll through the list of remote/external agents to search for a remote/external agent to which they need to associate hosts/components. To avoid such unnecessary scrolling to search for the remote/external agents, starting with this version, a search capability is incorporated by default in the **Hosts managed by** list of the **Assign – External Agents** and **Assign – Remote Agents** pages. By specifying the whole/part of a remote/external agent's name against the **Hosts managed by list**, you can easily filter the list of remote/external agents and quickly identify the agents of interest to you.
- **Enabling/Disabling Descriptors of a Test across components is now easier:** Earlier, to enable/disable the descriptors of a test across components, administrators had to painstakingly do it for one component at a time. To simplify this process, an **Apply to other components** button has been introduced in the **ENABLE/DISABLE TEST DESCRIPTOR** page (see Figure 1).

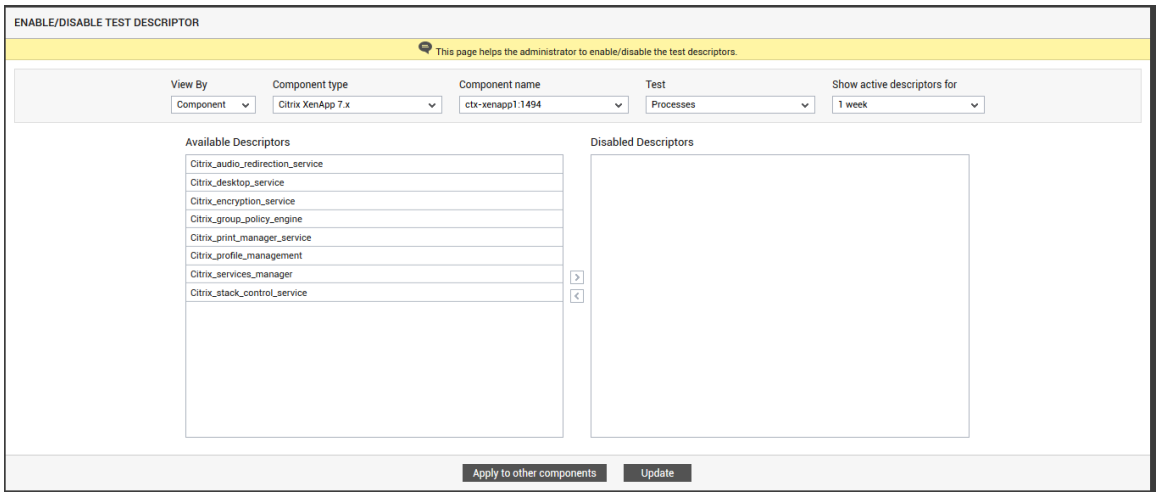

Figure 1: The Apply to other components button in ENABLE/DISABLE TEST DESCRIPTOR page

Choosing one/more descriptors and clicking the **Apply to other components** button will lead you to Figure 2 where you can choose the components to which the chosen descriptors have to be enabled/disabled.

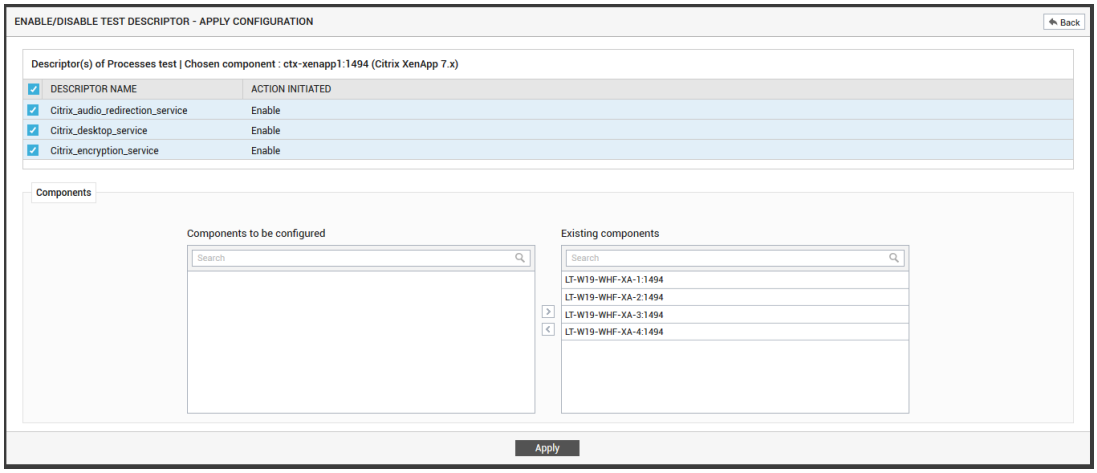

Figure 2: Applying the configuration across components

- **Automatic Registration of eG SuperManager in the eG Manager is now possible:** Earlier, to enable an eG manager to communicate with an eG SuperManager, administrators had to configure:
  - the details of the eG manager in the eG SuperManager and
  - the details of the eG SuperManager in every manager reporting to it.

  To simplify the registration of the eG SuperManager, now an **Allow auto registration from eG SuperManager** flag has been introduced in the SUPERMANAGER page (*Admin -> Settings -> Manager -> MANAGER SETTINGS -> Supermanager Settings*) of the eG admin interface. Setting this flag to **Yes** will automatically enable the eG SuperManager to register with each of the eG managers reporting to it. Once the eG SuperManager automatically registers with the eG manager, the details of the eG SuperManager will be automatically populated in the **SUPERMANAGER SETTINGS** page

of the eG manager. By default, this flag is set to **No**.

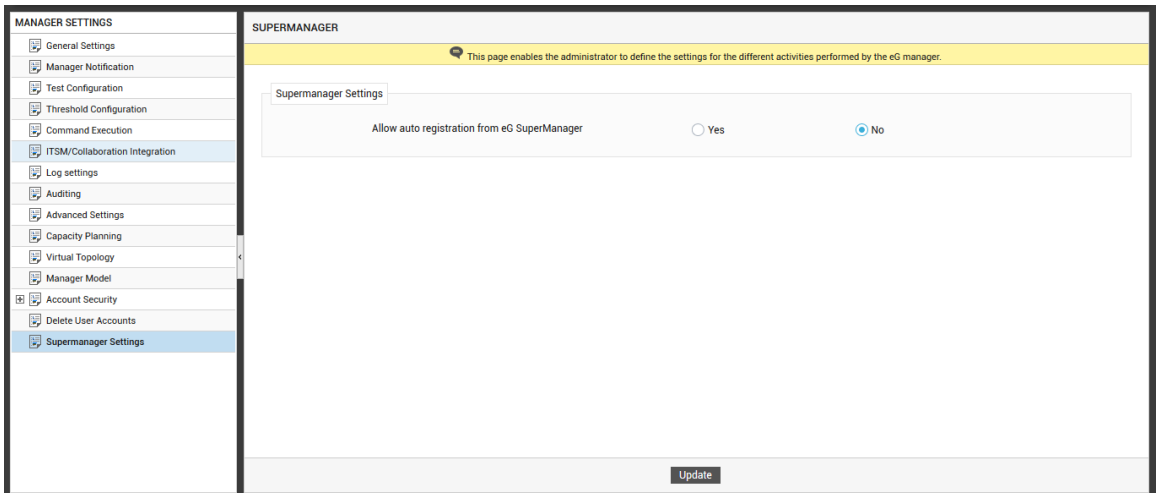

Figure 3: The SUPERMANAGER page

1.2.2 Monitor Interface

Enhancements to My Dashboard:

- **Improved security while accessing My Dashboard through a published URL:** In previous versions, when users accessed the My Dashboard using a published URL, the name of the user who created the dashboard was appended to the URL in plain text. To fix this security vulnerability, starting with this version, administrators have an option to encrypt the Published URL. To do so, administrators can set the **encryptPublishedDashboardURL** flag in the **[DASHBOARD_SETTINGS]** section of the **eg_customdashboard.ini** file available in the **<eG_INSTALL_DIR>/manager/config** folder to **Yes**. By default, this flag is set to **No** indicating that the URL will not be encrypted**. Note that the URLs that were published prior to setting this flag to Yes will not be encrypted even after this flag is turned on.**
- **Restrict Creation of My Dashboard that can be shared to all users:** By default, a user can share a My Dashboard they create with a few chosen users, with all users registered with eG Enterprise, or may choose not to share it at all. However, in some high security environments, administrators may not want users to be able to share any of the My Dashboard they create with all registered users (i.e., make the dashboard public). To restrict public access to My Dashboards, a **RestrictPublicDashboards** flag has been introduced in the **[DASHBOARD_SETTINGS]** section of the **eg_customdashboard.ini** file available in the **<eG_INSTALL_DIR>/manager/config** folder. Setting this flag to **Yes** will remove/hide the **Public** option from the **Sharing** list of the **Add Dashboard** pop up window. By default, this flag is set to **No**.
- **Support for all Component Types in One-Click Dashboard based on Systems Template:** Earlier, the One-Click dashboard could be created only for the Microsoft Windows component based on the **Systems** template. Starting with this version, you can create One-Click Dashboards for any component type using the Systems template.
- **Support for Microsoft SQL Cluster component type in One-Click Dashboard based on Microsoft SQL Template:** Starting with this version, a One-Click dashboard can be generated based on the Microsoft SQL template for the SQL Cluster component type.

User Experience Dashboard now offers session-wise information of a User in a Single Click:

Earlier, if a Citrix user had initiated multiple sessions on different Citrix XenApp servers, then, to analyze the experience of the user across servers, administrators had to painstakingly navigate across multiple USER EXPERIENCE DASHBOARD pages – one per server. To avoid this, starting with this version, a **Sessions On** list box has been introduced in the **USER EXPERIENCE DASHBOARD** page. This list will be populated with all the Citrix XenApp servers to which the user is currently logged in. This enables administrators to quickly switch from one server to another, and effortlessly analyze user experience across servers.

Improved Global Search Capability: Starting with this version, when a user is logged into a virtual desktop and is currently active and if that virtual desktop is searched for using the Global Search capability, then, the result will now display both the user and the desktop. Clicking on the user will lead you to the User Experience dashboard of that user and clicking on the desktop will lead you to the page that displays the key performance metrics of the desktop.

1.2.3 Reporter Interface

- **Improvements to Uptime/Downtime Analysis report:** In prior versions, administrators had to generate two separate Uptime/Downtime Analysis reports – for the Systems and Network devices. This was inconvenient for the administrators when they were to perform Service level Audit across all tiers (System and Network) in their environment. To avoid such inconvenience and to enable the administrators in generating a single Uptime/Downtime Analysis report combining both the Systems and Network devices, starting with this version, an *All* option has been introduced in the **Uptime for** list available in the report configuration.

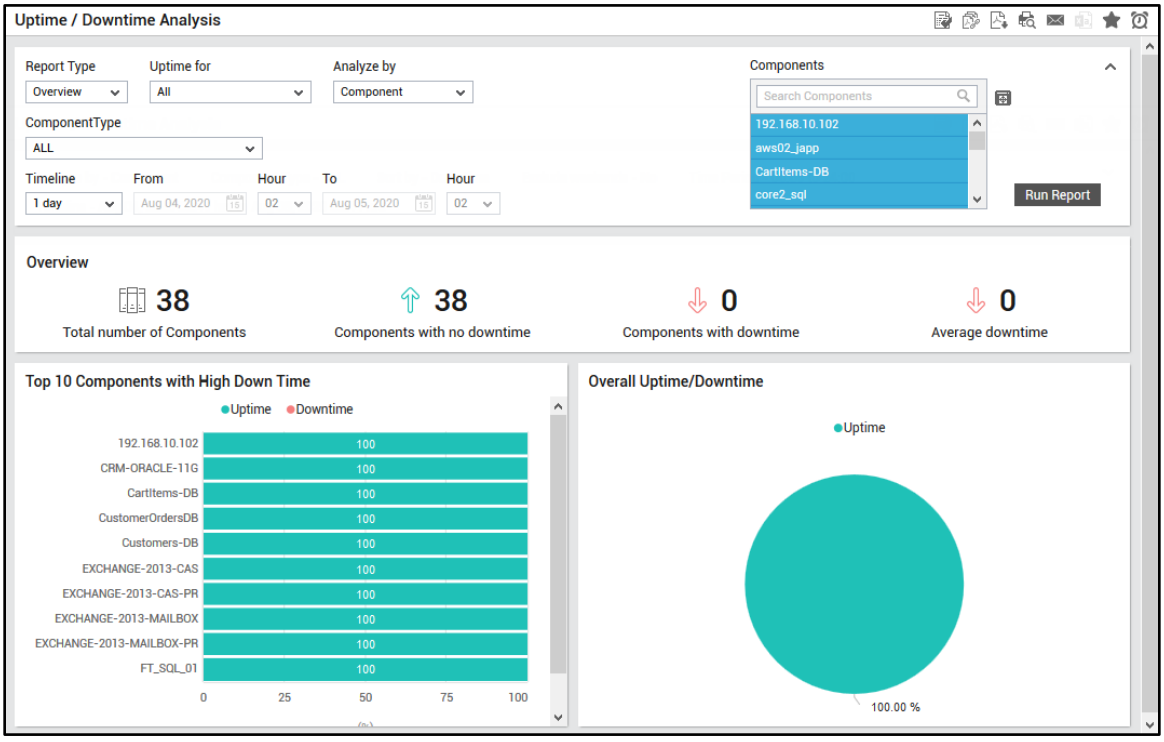

Figure 4: Generating the Uptime/Downtime Analysis report for both Systems and Network devices

- **More granularity when generating Sessions by Delivery Groups report:** In earlier versions, by generating the Sessions by Delivery Groups report, administrators were able to obtain an overview of the sessions initiated on each delivery group in the target environment. This helped the administrators identify the session load on the delivery groups over a period of time. However, administrators of some environments wanted in-depth insights into the sessions initiated on each delivery group per machine

type (Desktop OS machines or Server OS machines). For such administrators, starting with this version, a **Machine Type** list has been introduced in the report configuration. To generate this report per machine type, administrators can either choose the *Desktop* or *Server* option from the Machine Type list.

- **Citrix Reports can now be generated based on Delivery Groups:** Starting with this version, administrators are offered the flexibility to generate all Citrix specific reports based on the Delivery Groups. For this, administrators need to choose the **Group** option from the **Analyze By** list and choose a delivery group of their choice from the **Group** list in the report configuration.
- **Flexibility to export only the Summary section of the NetScaler User Sessions report as PDF**: Starting with this version, administrators are offered the flexibility to export the **Summary** section of the generated **NetScaler User Sessions** report alone as a PDF. To achieve this, administrators need to set the **needDetailsTable** flag available in the **[NETSCALER_USERS]** section of the **eg_report.ini** file to no. By default, this flag is set to yes indicating that the entire report will be exported as PDF.

1.3 Integration Enhancements

- **Support for Trouble-Ticket Integration with OTRS:** eG Enterprise v7.1.6 can now be easily configured to route its alarms to OTRS (Open-Source Ticket Request System), via the web services framework.
- **Support for Trouble-Ticket Integration with ATF via proxy server:** Starting with this version, the eG manager can automatically route alarm information to ATF via a proxy server for trouble ticket generation.
- **Route Alarm Information to different Organizations Created in ServiceNow via ATF:** Starting with this version, the eG manager can automatically route alarm information to appropriate organizations created in ServiceNow via ATF. For this, an additional **Organization** text box has been provided in the page where eG manager integration with ATF is configured.
- **Last Measure Value can now be appended in Alarm Information sent by eG Manager when Integrated with Trouble-Ticketing Systems:** Starting with this version, the last measurement value reported by a problematic measure can be included in the alarm information that is routed to ServiceNow ITOM by the eG manager. To enable this functionality, administrators need to set the **showLastMeasureValue** flag in the **[TT_INTEGRATION]** section in the **eg_services.ini** file available in the **<eG_INSTALL_DIR>/manager/config** folder to **Yes**. By default, this flag is set to **No**.
- **Improvements to Trouble-Ticket Integration via Webhooks:** Starting with this version, the name of the problem test can be included in the event payload that is to be fed into the trouble-ticketing system.

1.4 eG SuperManager Enhancements

Ability to view the License Information of the eG SuperManager: Earlier, administrators did not have the capability to view the license information of the eG SuperManager. Administrators therefore found it difficult to keep track of the license usage – i.e., the count of eG managers reporting to that eG SuperManager and the date on which the license expires. To enable administrators to easily track license usage and validity for an eG SuperManager, starting with this version, a brand-new LICENSE INFORMATION page has been included in the administrative console of the eG SuperManager. Using this page, administrators can figure out the following:

- Version of the eG SuperManager installed in the target environment;
- The date on which the eG SuperManager will expire;
- The mail ID to which the eG SuperManager will report discrepancies;
- The overall count of eG managers that can be configured to report to the eG SuperManager;

- The current count of eG managers reporting to the eG SuperManager; and
- The count of eG managers that can be configured to report to the eG SuperManager in future.

1.5 Other Enhancements

Restricting Access of eG manager from eG Mobile Application: In some environments, users may have to stick to a set of compliance policies. This may include restricting the access to the eG manager from a different network or using a mobile application outside the environment. To impose such restriction on the users, administrators can set the **RestrictMobileAppAccess** flag in the **[MISC_ARGS]** section of the **eg_services.ini** file available in the **<eG_INSTALL_DIR>/manager/config** folder to **Yes**. This change will prohibit users from accessing the manager using the eG Mobile App outside the target environment.

Bug Fixes/Optimizations to the eG Manager

2.1 Admin Interface

- Earlier, when a component was monitored in an agentless manner, the **AGENT STATUS** column in the **Components at a Glance** page wrongly reported the status of the agent as "Never Reported". This is not the case any longer.
- Previously, in environments where thousands of components were managed, the **Components – Manage / Unmanage / Delete page** took a long time to load. This is not the case any longer.
- Earlier, while adding a new component for monitoring, validation check failed when an extraneous tab or space was included in the Host IP/name and Nick name fields. This issue has been fixed now.
- In older versions, if an external agent/remote agent was not associated with any component in an environment where thousands of components were being monitored, then, such external agents/remote agents were unnecessarily listed in **the Hosts managed by** list of the **Assign – External Agents** and **Assign - Remote Agents** pages. This is not the case any longer.
- Previously, if no hosts were assigned to an eG agent, the **AGENTS - STATUS** page wrongly reported that one host was assigned to that eG agent. This issue has been fixed now.
- Earlier, the selection in the **Agent type** list of the **AGENTS – STATUS** page was not maintained when administrators navigated to a different page and returned to the **AGENTS – STATUS** page using the **Back** button. This issue has been fixed now.
- Previously, if security filters were enabled (i.e., the **Enable Security Filters** option was set to **Yes** in the **SECURITY FILTERS** page of the eG admin interface) for the eG manager, a new domain could not be added using the **DOMAIN DETAILS** page. This happened because, the **Domain User's Password** contained special characters which were blocked by the security filters. This issue has been fixed now.
- Earlier, applying a specific test configuration across thousands of components using the **Apply to Other Components** button in the **Specific Test Configuration** page took too long to complete. This page has now been optimized to apply the configuration fast.
- In older versions, **password profile** could not be set for some of the Citrix component types. Now, the password profile can be set for all components monitored by eG Enterprise.
- Earlier, the **Number of sessions** count was incorrect in the **USER SESSION INFORMATION** page. This issue has been fixed now.
- Previously, the peak value of the Named Users/Desktops were wrongly reported in the **LICENSE INFORMATION** page. This issue was noticed only when the **Peak Usage last month** fell on the last day of the month. This issue has been fixed now.
- Earlier, in environments where Concurrent user/desktop licensing was enabled, the **LICENSE INFORMATION** page failed to display the day on which maximum concurrent user licenses were used and the count of concurrent user/desktop licenses that were in use. This has been fixed.
- In older versions, in environments where concurrent user/desktop licensing was enabled, a mismatch was noticed between the total number of concurrent licenses utilized and the sum of licenses utilized

by Citrix Users, VDI Users and Cloud/Terminal Users, in the **LICENSE INFORMATION** page. This issue has been fixed.

- Previously, in environments where thousands of components are monitored, the eG manager hung and required a restart when the user performed operations on the **Mail/SMS Alerts Filtering** page. The eG manager has now been optimized to resolve this issue.
- Earlier, when a **THRESHOLD VIEW** report was exported as a PDF or CSV, the resultant PDF/CSV output did not display the components for which default thresholds were configured. This issue has been fixed.
- Previously, the measure graph for a chosen measure did not appear for a few hours when Automatic threshold computation policy in the **THRESHOLD CONFIGURATION** page was set to Monthly and the Lookback period to compute automatic thresholds was set to 1 month. This was due to the wrong computation of automatic thresholds. This issue has been fixed now.
- Earlier, when a threshold rule was set for a test, the **CONFIGURE THRESHOLDS** page when accessed from the **TEST DETAILS** page wrongly displayed the global thresholds set for the test instead of the settings specified in the threshold rule. This issue was noticed only when the name of the threshold rule contained special characters. This is not the case any longer.
- Previously, in large environments with thousands of components, updating the **Default Thresholds** of a measure across all the components took longer than usual. This issue has been fixed.
- In older versions, the **DISCOVERED COMPONENTS REPORT** page failed to load if a component name contained "##" (double hash) special characters. This issue has been fixed in the discovery process.
- Earlier, in an environment where audit log reports were scheduled to be generated, if components were unmanaged by a user, the audit log reports failed to capture the list of unmanaged components. Hence, the generated PDF was empty. This issue has been fixed now.
- Previously, it took a long time to assign hosts to the external agents using the **Assign – External Agents** page. This issue was noticed in environments where tens of external agents were deployed. This issue has been fixed now.
- In older versions, the test configuration of a component was lost when the monitoring approach for the component was changed from agent-based to agentless and vice versa. This issue has been fixed.
- Starting with this version, the virtual centers listed in the **Virtual Center** list box in the test configuration page of **VMware vSphere ESX** and **VMware vSphere VDI** components is sorted.
- Earlier, if the **Integration Console** was not enabled in the eG license, the **QUICK LINKS** page still allowed users to configure and add new component types using the Integration Console. This issue has been fixed now.
- Previously, in large environments, while upgrading the eG agents to the latest version, a few agents were not listed in the **AGENTS UPGRADE - ADVANCED SEARCH** page. This was due to an incorrect implementation of pagination. This issue has been fixed now.
- In older versions, when a large number of maintenance policies existed, the **Maintenance Policies** page took time to load. This page has been optimized to reduce load time.
- In earlier versions, when the eG manager was configured in SaaS mode, deleting an expired user belonging to an Organizational Unit did not delete the infrastructure elements associated with that user. The deletion did not happen even when the **Do you want to delete the infrastructure elements associated with organizational unit?** flag in the **DELETE USER ACCOUNTS** page was set to Yes. This issue was noticed in environments where an Organization contained both individual users and Organizational Units. This issue has been fixed now.

- Earlier, when the eG manager was configured in SaaS mode, if an administrator attempted to generate an audit log report for the **DELETE USER ACCOUNTS** page, the resultant report did not display the changes made to the **Components to be Deleted** and the **Components not reporting for** flags. This issue has been fixed now.
- In older versions, when the eG manager was integrated with ServiceNow, the incidents (tickets) raised in the environment could not be closed. This issue happened even though the Enable automatic alert closure and intimation flag was set to Yes. This issue has been fixed now.
- Earlier, when the eG manager was integrated with OpsGenie, service incidents were not created on OpsGenie. This issue has been fixed now.
- In earlier versions, when the eG manager was configured in SaaS mode, the subscription period of a self-registered tenant expired as soon as the self-registration process was complete. This is not the case any longer.
- Previously, the downloaded zip file of the eG VM Agent did not contain the silent script for initiating automatic installation. This forced the users to manually install the eG VM agent. This is not the case any longer.
- Earlier, in environments where self-monitoring of the eG agents was enabled, when a user attempted to reconfigure the JVM related tests of the eG agent, the test configuration page was slow to respond. This happened because an incorrect password profile was set for the eG agent component that was collecting its JVM metrics by polling the local Mbean attributes. This is not the case any longer.
- In older versions, a new aggregate component could not be added with a nickname that was earlier assigned to an unmanaged aggregate component. This is not the case any longer.

2.2 Monitor Interface

- In older versions, the **Infrastructure Health** section of the **eG Monitor Home** page failed to display the **VMs/Desktops** available in the target environment. This issue has been fixed now.
- In older versions, if the security filter was enabled (**the Enable Security Filters** option was set to **Yes** in the **SECURITY FILTERS** page of the eG admin interface) for the eG manager, users were unable to drill down into the layer model of the Siebel Application (7.x) component from the **eG Monitor Home** page. This is not the case any longer.
- Previously, when a critical alert was generated for a failed simulation for a **Horizon Logon Simulator** component, the **Current Alarms** window did not display the screenshot icon against that component. This issue has been fixed now.
- Earlier, when users initiated sessions that were brokered through VMware Horizon Connection Server using the Blast protocol, client IP details for such sessions were not displayed in the **User Experience Overview** dashboard. This issue has been fixed now.
- In older versions, the columns in the **User Experience Overview** dashboard for Terminal users could not be sorted. This is not the case any longer.
- In older versions, in environments where users logged into the VMware Horizon desktops, the **User Experience Dashboard** of the users did not display the appropriate widgets based on the protocol (Blast or PCoIP) through which the user sessions were initiated. This issue has been fixed.
- Earlier, when there were many user sessions brokered via VMware Horizon Connection Server in a virtual environment, the **User Experience Overview** dashboard was slow to load. Starting with this release, the dashboard has been optimized to load faster.

- In older versions, in environments where no Citrix users were logged into the VMs/desktops, the **Country** list in the **User Experience Overview** dashboard was populated as "null". This issue has been fixed.
- In older versions, when the users logged into the virtual machines/desktops were scattered across the globe, the **Location** list box in the **User Experience Overview dashboard** page took too long to load. This issue was noticed in environments where there were thousands of users. This issue has been fixed now.
- In older versions, when administrators searched for a user using the Global Search capability and drilled down to USER EXPERIENCE Dashboard for that user, many widgets in the USER EXPEREINCE Dashboard were empty. This issue was noticed even when valid metrics were available in the eG backed database. This issue has been fixed now.
- Earlier, when monitoring large VDI environments characterized by numerous virtual desktops and users, the **USER EXPERIENCE DASHBOARD OVERVIEW** page could not be exported as a CSV file. This is not the case any longer.
- In older versions, the **Session Topology** widget of the **User Experience Dashboard** for a user was slow to load. This issue was noticed in environments where thousands of users logged into the virtual machines/desktops. This issue has been fixed now.
- Earlier, a mismatch was noticed in the logon time of a user in the USER EXPERIENCE OVERVIEW dashboard and the User Experience dashboard of that user. This issue happened only when the user was operating in a different time zone from that of the eG manager. This issue has been fixed now.
- In older versions, the inside view dashboard for a VM/desktop on a Microsoft Hyper - V server was empty even when valid inside view metrics were available for that VM/desktop in the eG backend database. This issue was noticed only when a user zooms into that VM/desktop from the results of a Global Search. This is not the case any longer.
- Previously, the **VDI Resource Usage Analysis** dashboard for hypervisors took a long time to load when thousands of user sessions were active in the target environment. Starting with this version, the dashboard has been optimized to load faster.
- Previously, if the security filter was enabled (**the Enable Security Filters** option was set to **Yes** in the **SECURITY FILTERS** page of the eG admin interface) for the eG manager, the following issues have been fixed:
  - widgets created in **My Dashboards** could not be renamed;
  - users were unable to access a published My Dashboard using the Publish URL and
  - **My Dashboards** failed to load. This issue was noticed only when the dashboard was accessed using a Publish URL and was integrated with third party tools using FrameHTML.
- Previously, in some environments, when a **My Dashboard** was accessed using a Published URL, the dashboard was constantly refreshing. This is not the case any longer.
- In older versions, the **Detailed Diagnosis** widget of the **My Dashboard** was empty even though valid detailed diagnosis was available for the **JVM Threads** test of the Oracle WebLogic component. This is not the case any longer.
- Earlier, when a test was under maintenance, the maintenance icon did not appear against that test in the eG layer model. This issue has been fixed now.
- Earlier, duplicate VM entries were noticed in the **Performance Metrics of VMs/Desktops** page that appears upon clicking the **VMs** tab page when you navigate through the menu sequence: **Monitor-> Dashboards -> Virtualization -> Host and Clusters**. This issue was noticed in environments where Site Recovery Manager was available and persistent VDIs were offline. Starting with this version, the VMs that are offline will not be listed in this page.

- Previously, empty measure graphs appeared for the tests in environments where users assigned with VMs/desktops logged into the eG Monitor interface. This is not the case any longer.
- Earlier, the **SYNTHETIC MONITORING** dashboard intermittently failed to display the captured simulations when the tests were executing with a default test frequency of 15 minutes. To consistently display the simulations in the dashboard, starting with this version, the cut off factor for the tests has been increased. By default, the cut off factor is the time duration for which the measurement data of a test is retained for display in the dashboard.
- Previously, the **Virtual Dashboards** could not be rendered when *Citrix Director 7.x* was chosen as the **Component Type**. This is not the case any longer.
- Earlier, the **VIRTUAL APPS** dashboard took a long time to load in environments where hundreds of virtual servers were being monitored. The dashboard has now been optimized to load faster.
- In older versions, the widgets in the **SERVICE USAGE** page of the **Office 365 Dashboard** were empty even though valid metrics were available in the eG backend database. This issue has been fixed now.
- Previously, a few widgets of the **OVERVIEW** page of the **Office 365 Dashboard** were not populated even when valid metrics were available in the eG database. This issue has been fixed now.
- In older versions, the value displayed for the **HDX Latency** measure while hovering over a Country/Region in the **Geo Maps** of the **VIRTUAL APPS** dashboard was incorrect. This issue has been fixed now.
- Previously, when users logged in from one/more cities that shared the same name but belonged to different countries, the wrong country name was sometimes displayed for such cities in the **Geo Maps** of the **VIRTUAL APPS** dashboard. This issue has been fixed now.
- In older versions, the key performance metrics for the Microsoft SharePoint components were not displayed in the **METRICS VIEW** dashboard page, though valid metrics were reported. This issue has been fixed now.
- Previously, the Heap Memory Usage measure column was empty in the METRICS VIEW page for the Oracle WebLogic components even when valid metrics were available in the eG backend database. This issue has been fixed now.
- Earlier, in environments where thousands of components were monitored, the **Global Search** capability offered by eG Enterprise took too long to render the results. This issue has been fixed.
- Previously, in environments where thousands of components were monitored, drilling down the result set obtained from the **Global Search** capability offered by eG Enterprise, listed the entities that did not contain the search string. This issue has been fixed now.
- Previously, in environments where aggregate components were in an unmanaged state, the **COMPONENT DETAILS** page still displayed the information of an aggregate component that was created based on a chosen component. The users were also allowed to drill down to the layer model of the aggregate component which should not be the case. This issue has been fixed now.
- In older versions, the SID field in the **PROCESS DETAILS** pop up window that appeared upon clicking the **Process Details** icon in the detailed diagnosis of the **Blocked Connections** measure (pertaining to Oracle User Connections test) did not display the link to the blocked connections. This issue happened due to an incorrect query executed to fetch the detailed diagnosis data from the eG backend database. This issue has been fixed now.
- Earlier, by default, the **Detailed Diagnosis** page of a measure displayed the detailed diagnostics pertaining to 10 measurement periods in a single page. However, this default setting was retained for a test that was configured to display the detailed diagnosis for a specific count of measurement periods. This issue has been fixed now.

2.3 Reporter Interface

- Earlier, if an Oracle Database server was configured with multiple SIDs and a **Prediction Analysis** report was generated for each SID, the generated report did not contain the SID of the Oracle Database instance. This issue has been fixed.
- In older versions, when a custom report was generated by picking a template from the **eG Custom Reports** page, the name of the user who logged into the eG console was displayed along with the name of the generated report. This is not the case any longer.
- In previous versions, the **Applications - Usage by Servers** report could not be generated for a timeline of 1 month if the backend database of the eG manager was an Oracle Database server. This issue has been fixed now.
- Previously, when a user configured with *1 month* as the **Maximum timeline for reports** logged into the eG Reporter and tried to generate a report for a month that contained 31 days (by choosing Timeline as Any and providing the dates of the entire month in the **From** and **To** options), the report could not be generated. This issue has been fixed now.
- In older versions, sometimes, when the **Machine Failures by Reason** report was generated, the **Server OS machine Failure Details** section showed meaningful records while the **Server OS Machine Failures Trend** was reported as '0'. This issue has been fixed now.
- Earlier, when the generated **User Experience Assessment** report was exported as a PDF, inconsistencies were noticed in the alignment of the report in the PDF. This issue has been fixed now.
- Previously, the following reports could not be generated for a Real User Monitor component associated with a Service.
    - Geography – Overview
    - Geography – Cities
    - Geography – Regions
    - Geography – Countries
    - Technology – Browsers
    - Technology – Devices
    - Page Requests – Page Types
    - Page Requests – Page Groups

  This issue has been fixed now.
- Earlier, in some environments, when the **Sessions by Users** report was generated, the *Summary of a user's session* pop up window (which appears upon clicking the Details icon) displayed a value of '0' against the **Applications Accessed** field even when applications were actually accessed by a user. This issue has been fixed now.
- In older versions, when the **Uptime/Downtime Analysis** report was generated with **Summary** as **Report Type** and exported as a PDF file, the values in the PDF did not match with the values shown in the foreground report. This inconsistency has been addressed now.
- Previously, when the **System Analysis – By Component** report was generated for a Solaris server, hyphens were noticed in the CPU Utilization and Disk Activity columns. This issue occurred even though valid metrics were collected and stored in the eG backend database. This is not the case any longer.

- Earlier, when the **KPI Health** report was generated for an Active Directory Server or a Microsoft File Server, the generated report contained duplicate values in the CPU, Memory and Disk columns. This issue has been fixed now.
- In older versions, connections leaks were noticed when the **Sessions by Users** report was generated. This issue has been addressed now.
- Earlier, when a custom report was to be generated for two or more SIDs of an Oracle Database server using the Report Builder capability, the actual report was generated for a different SID too apart from the chosen SIDs. This is not the case any longer.
- In older versions, the **Client Session Simulation** report could not be generated even though valid data was available for the generating the report. This issue has been fixed.
- Earlier, duplicate user logons were noticed when **User Logon Performance** report was generated with **Details** as the **Report Type** and the **Report by Logons** flag was set to **Users**. This issue occurred only in environments where more than 250 virtual servers were being monitored. This issue has been fixed now.
- Previously, slowness was noticed while generating the **Sessions by Users** report. This issue was due to a sudden spike in the Disk IO operation when the data for the report was being fetched from the eG backend database. This report has been optimized now to load faster.
- In previous versions, the **Personal Favorites** page took too long to load. Starting with this version, this page has been optimized to load faster.
- Earlier, PDF files were empty when the generated reports were exported as a PDF using a separate thread process (achieved by setting the PD4MLAsProcess flag in [EXEC] section of the eg_services.ini file was set to Yes). This issue has been fixed now.
- Earlier, in environments where thousands of users logged in through the Citrix NetScaler, the **User** list box available in the **NetScaler User Sessions** report took longer than usual to populate the name of the users. To optimize this issue, eG Enterprise now offers the capability to search for a user from the User text box to generate the report. Accordingly, the **needUserasCombo** flag available in the **[NETSCALER_USERS]** section of the **eg_report.ini** file is set to **yes**. To disable this feature and to view the **User** list box, set this flag to **no**.
- Previously, the **Users by Application** report could not be generated when multiple applications were chosen from the Application list box. This issue has been fixed now.
- In older versions, the **Remarks** against the **JVM Heap memory usage** and the **JVM Non-heap memory usage** in the **STATUS** column of the **JVM** tab were incorrectly computed and displayed in the generated **eG Manager Health** report. This issue has been fixed now.
- Earlier, if Configuration management was not enabled on an eG manager and if the eG Manager Health report was generated for that eG manager, the **XMX Settings** and the **JDK version** of the eG manager was incorrectly displayed in the **REMARKS** column of the **JVM Configuration** tab. This issue has been fixed now.
- Previously, when **Top-10** option was chosen from the **Show Top** list and **All Users** option was chosen from the Users list to generate the ICA Virtual Channel Analytics report, the Summary section of the report displayed the metrics computed for the Top-10 users alone which should not be the case. This issue has been addressed now.
- In older versions, 95th percentile of memory when plotted in **the Resource Consumption Per Session Per Day** graph of the **Capacity Analysis for Virtual Applications** report was greater than 100%. This issue has been fixed now.
- Previously, when the Detailed Diagnosis pop up window was invoked from the generated Comparison – Test report, the Component Type and Component list box in the Detailed Diagnosis window was

not populated. Hence, the detailed diagnosis graph did not appear even though metrics were available. This issue was noticed only when tests pertaining to the Oracle Database component was chosen for generating the report. This issue has been fixed now.

- In older versions, the *Zone* list in the **Top-N Analysis** report listed concatenated zone names. This issue was noticed only when the name of the zones contained the special character dot (.). This issue has been fixed now.
- Previously, the **Timeline** and **Time Period** for generating the **VDI Resource usage – Top Applications** report could not be changed. This was because, the **Timeline** and **Time Period** text boxes were invisible in the report configuration page. This issue has been fixed now.
- Earlier, when the **Real User Monitoring – Page Groups** report was generated and exported as a PDF, the resultant PDF file did not display the measurement unit (%) in the Summary pie chart. This issue has been fixed now.
- In older versions, when the **Sessions by Users** report was scheduled to be emailed in CSV format, the emails so sent out contained empty reports. This is not the case any longer.
- Previously, when a report booklet was scheduled to be emailed, the PDF attachment in the email was empty. This issue has been fixed now.
- Previously, where thousands of descriptors were available for selection, the page used for creating Custom Report Template hung when choosing a Descriptor Filter. This page has now been optimized to support thousands of descriptors.

2.4 eG CLI

- In older versions, when components were discovered and managed in the target environment with a hostname in lowercase, eG Enterprise failed to add components with the same hostname in uppercase using the eG CLI. This issue has been fixed now.

2.5 eG SuperManager

- Earlier, in environments where multiple eG managers monitoring thousands of components were reporting to the eG SuperManager, the eG SuperManager consumed more CPU resources to process the data received from the managers. Starting with this version, the resource usage of the eG SuperManager has been optimized.

2.6 eG Mobile Application

- Earlier, when a user belonging to an Active Directory domain logged into the eG Mobile Application using iOS, an empty screen was displayed even though components were associated with that user. This issue has been fixed now.

2.7 Database/Data Storage

- In older versions, in environments where database partitioning was enabled on Microsoft SQL server, the measurement data was not cleaned up from the partitions creating back logs. This issue has been fixed now.
- Earlier, in environments where database partitioning was enabled, the clean up process cleaned up only partial data from the partitions. This issue was noticed in environments where the cleanup process was running for more than 20 hours a day. The cleanup process has now been optimized to address this issue.

- In older versions, if the backend database of the eG manager was Microsoft Azure, frequent database connection failures were noticed on the eG manager. Starting with this version, the eG manager has been optimized to reduce such connection failures.
- In older versions, database connection leaks were noticed in the eG backend database. This issue happened in environments where one/more database connection pools were created in addition to the default database connection pool. This is not the case any longer.
- In older versions, in environments where database partitioning was enabled on an Oracle Database server, the cleanup of the default tables was not performed on the partition and instead the records in the tables were deleted. This issue has been fixed now.

2.8 Manager Operations

- Earlier, in some environments, email alerts were not sent from the eG manager even though valid email IDs were configured for receiving the alerts. This issue has been fixed now.
- In older versions, when eG manager was integrated with third party tools to which the alarms were being routed, the alarm description was not in a readable format. This issue was noticed only in alarm descriptions where eG Enterprise offers dynamic information such as port number, users etc. This issue has been fixed now.
- In older versions, the eG manager was forced to restart when the threshold manager process failed. This issue was noticed when there were invalid database connections in the connection pool of the eG backend database. The eG backend database has now been optimized to remove invalid connections.
- Previously, in environments where the eG manager sent eG alarms as SNMP traps to one/more SNMP management consoles, connection leaks were noticed on the eG backend database which led to the restart of the eG manager. This issue has been fixed now.
- At high load, thread blocking occurred in different places in the eG manager. This caused the manager to become very slow to respond at times. Synchronization across eG manager threads has been minimized to improve scalability.
- In earlier versions of v7, when aggregate components were configured on the eG manager and auto discovery by the agents was enabled, the agents downloaded multiple configuration files from the eG manager every few minutes. This resulted in bandwidth overhead on the network and additional load on the eG manager. This issue has been fixed now.
- For improved scalability, printing of error messages from the eG manager have been optimized. Previously, the manager printed error messages whenever it encountered a problem. At high load (e.g., thousands of agents reporting), this resulted in excessive thread blocking in the eG manager's JVM, and caused the manager to become very slow or restart.
- In prior versions, when a user clicked on the URL for open alerts in an email, the user was allowed to access the eG console without password validation. This was a security concern. Now, the user will be redirected to the login page by default. If direct launch of the eG manager in the context of the alarm being viewed in email is required, you will need to manually enable this functionality. To do so, change the **quick_launch** flag in the **[QUICK_LAUNCH]** section of the **eg_services.ini** flag to **true** and restart the eG manager. This change is required if you are integrating the eG manager with Microsoft SCOM and you need the ability to launch the eG manager console from the Microsoft SCOM console.
- In earlier versions of v7, if auto-discovery by agents is enabled and metric aggregation is configured, the agents downloaded aggregation configurations every few minutes, increasing the load on the

manager and the bandwidth usage between the manager and agents. This issue is resolved now.

- Previously, connection leaks were noticed in the eG backend database when eG DB CLI was used to extract data from the eG database. This resulted in the eG manager restarting. This issue has been fixed.

Bug Fixes/Optimizations to the eG Agent

3.1 Citrix Monitoring

Citrix Logon Simulator

- In older versions, logon simulation failures were noticed in environments where simulations were performed on a Citrix Cloud Workspace. This was due to an additional login page that appeared when the Citrix Cloud Workspace was integrated with Citrix ShareFile or Citrix Content Collaboration. Starting with this version, the logon simulator can perform the simulation on endpoints where additional login page appears.
- Earlier, the state of the tests pertaining to the Logon Simulators was wrongly reported as "Normal" when the user used for simulation was disconnected from the simulation endpoint. This issue has been fixed now.

Citrix Virtual Apps (XenApp) Servers

- In older versions, users belonging to a sub domain could not be discovered by eG Enterprise and hence, metrics of such users could not be reported in the **Citrix Users by Countries**, **Citrix Users by Regions** and **Citrix Users by Cities** tests. Similarly, the exact location of the users belonging to a sub domain could not be plotted in the **Geo Maps** section of **the VIRTUAL APPS** dashboard. Starting with this version, users belonging to a sub domain are discovered and relevant metrics are reported.

Citrix Delivery Controller and Site

- In older versions, the tests pertaining to the Citrix Cloud Site component did not report metrics. This was because, the eG agent could not read the ID and Secret stored in the latest **secureclient.csv** file to connect to the Citrix Cloud API. This issue has been fixed.
- Earlier, incorrect values were reported for the *Daily users usage*, *Monthly users usage*, *Daily devices usage* and *Monthly devices usage* measures of the **CVAD License Usage – Cloud** test pertaining to the Citrix Cloud Site component. This issue has been fixed now.
- Earlier, false alerts were generated for the **DNS Check** and **Domain Controller Time Check** tests pertaining to the Citrix Delivery Controller 7.x component. This is not the case any longer.
- Previously, false alerts were generated for the *Database availability* measure of the **Controller Database Connectivity** test pertaining to the Citrix Delivery Controller v7.x. This was because, eG Enterprise did not consider all the relevant event IDs that were triggered in the delivery controller if the database connection was available. This issue has been fixed now.
- In older versions, the **Applications** test pertaining to Citrix Delivery Controller v7.x also discovered applications that were in a disabled state on the Delivery Controller. False alerts for these applications were then triggered. Now, a **SHOW HIDDEN APPS** flag has been introduced in the test configuration page. Setting this flag to false will suppress the alerts for all the applications that are disabled. By default, this flag is set to true.

Citrix NetScaler

- In older versions, the **SSL Certificate** test of the Citrix NetScaler VPX-MPX failed to report metrics for a valid SSL Certificate. This test also auto discovered an expired certificate and raised an alert for the same. These issues have been fixed.
- Earlier, alerts were generated for the *Has the NetScaler device been rebooted?* measure of the **NetScaler Uptime** test even when NetScaler device did not reboot. To avoid such false alerts, an additional **REBOOT TIMEOUT IN MINS** parameter has been introduced and is set to 60 minutes by default. This implies that alerts will be generated only when the uptime of the NetScaler during the last measure period measure reports a value of less than 60 minutes.
- Previously, the **Geo Maps** could not be plotted for the XenApp and Virtual desktop users logged in through Citrix NetScaler. This was because of a mismatch in the format of the username and domain name combination in the NetScaler Sessions test and the Citrix Users test. To avoid this mismatch, starting with this version, a **DOMAIN ALIAS** parameter has been introduced in the **NetScaler Sessions** test. You can configure this parameter with a comma-separated list of possible alias names of the users. If a configured alias name of the user matches with the domain name, then, the location of the user could be retrieved and plotted in the Geo Maps. By default, this parameter is set to none.
- In earlier versions, alerts were generated for the *Percent server in UP state* measure reported by the **Load Balancing Service Groups** test even when the *Available servers* measure was '0'. This issue has been fixed now.

Citrix StoreFront

- In older versions, in some environments, the **Citrix StoreFront Resource Availability** test did not report metrics if the .Net Framework 4.0 on which the target Citrix StoreFront is installed did not support TLS security protocol v1.2. This issue has been fixed.
- Earlier, the *ICA file download availability* measure of the **Citrix StoreFront Resource Availability** test was incorrectly reported as available even if the downloaded ICA file contained errors. This issue has been fixed now.
- Previously, the *Login availability* measure of the **Citrix StoreFront Resource Availability** test incorrectly reported the value *0* when the user credentials (username and password) required for connecting to the StoreFront Web API contained special characters. This issue has been fixed now.

Citrix Provisioning Servers

- Previously, *Store path availability* measure of the **PVS Default Store Path** test reported a value of '0' when the default store path was lengthy. This issue has been fixed now.

Citrix Director

- Earlier, detailed diagnostics were not reported for the tests pertaining to the Citrix Director 7.x component when monitored in an agentless manner. This is not the case any longer.

Citrix ShareFile

- Previously, the **ShareFile Account & Users** and **ShareFile Files and Folders** tests reported metrics for a few users and not all users. The test period configured for executing these tests has been changed to 24 hours by default.
- Earlier, the **ShareFile Status** test did not report metrics when the eG agent communicated with the Citrix ShareFile via a Proxy server. This is not the case any longer.

3.2 Virtual Desktop Monitoring (Citrix and VMware Horizon)

- Earlier, when multiple user sessions were initiated through Horizon Client on a VMware Horizon RDS server, sometimes, the **Blast Session Details** and the **PCoIP Session Details** tests failed to report metrics. This issue has been fixed now.
- In older versions, the **User Logon Details** test and the **User Logon Details – VM** test did not report metrics when users logged in to virtual desktops provisioned on VMware Horizon RDS server. This issue has been fixed now.
- Previously, the eG VM agent could not discover users who initiated sessions on the virtual desktops through HTML5 Receiver. As a result, inside view metrics were not reported for such users. This is not the case any longer.
- Earlier, the **VDI Applications** test wrongly reported the name of files opened by the applications as the descriptors, instead of the application names. This issue has been fixed now.

3.3 Virtualization Monitoring

VMware vSphere ESX

- In older versions, duplicate Virtual Machine entries were reported in the detailed diagnosis of the **Distributed vSwitch PortGroups** test leading to abnormal growth of the eG backend database. This issue has been fixed now.
- Earlier, administrators could not drill down to the **Virtual Topology** page from the layer model of the VMware vSphere ESX servers. This issue was noticed only when the monitored VMware vSphere ESX server was managed using hostname. This issue has been fixed now.
- In older versions, the tests pertaining to the VMware vSphere ESX and VMware vSphere VDI components did not report metrics. This issue was noticed only when the administrators chose to specify the credentials of a vCenter using the **ADD VCENTER DETAILS** pop up window (that appears when Other option was chosen from the **Virtual Center** list) in the test configuration page. This issue has been fixed now.
- When agentless monitoring was configured, some tests would turn to the unknown state after some time and remain that way until the remote agent was restarted. This issue was noticed in tests that did not complete within the timeout period. This issue affected monitoring of all components enabled for agentless monitoring, including monitoring of VMware, Nutanix and other hypervisors. This issue has been fixed now.

VMware vCenter

- In older versions, the *VMs created* and *Removed VMs* measures of the **VM Movement** test incorrectly reported the value *0* always. This issue has been fixed.

Others

- Previously, the configuration of the **VM Device Status** test associated with the VMware vSphere VDI component was lost when the test was disabled and enabled back. This issue has been fixed now.
- In older versions, false alerts were generated for the *Space utilization* measure of the **App Volumes – Storage** test mapped to the **VMWare App Volumes Manager** component. This was because of

incorrect calculation of the *Used Space* measure. This issue has been fixed now.

- Earlier, inside view monitoring could not be performed on virtual machines with an IPv6 address. This issue was noticed in environments where the virtual machines were running on RHEV Hypervisors. This issue has been fixed now.

3.4 AWS Cloud Monitoring

- Earlier, eG Enterprise failed to auto-discover a region on the AWS Cloud. The instances of that region were also not discovered. Subsequently, a few instance related tests such as **AWS-EC2 Instance Resources** test failed to report metrics. This is not the case any longer.

3.5 Microsoft RDS Monitoring

- In older versions, the **Terminal Applications** test of the **Microsoft RDS** component and **Horizon RDS Applications** test mapped to the **VMware Horizon RDS** component failed to discover and report metrics for the application processes that contained more than 15 characters. This issue has been fixed now.
- Earlier, inconsistencies were noticed in the metrics reported by the **RemoteFX User Experience** test (mapped to the Microsoft RDS component). This was because the metrics were collected from Perfmon counters. To avoid such inconsistencies, starting with this version, this test will collect metrics using WMI.
- Previously, the value of the *Licenses in use* measure for the Total descriptor of the **RDS CAL Licenses Utilization** test was greater than the value of the *Total licenses* measure. This was because, when computing Licenses in use, eG Enterprise included 'temporary' licenses that were in use as well, which should not be the case. This issue has been fixed now.
- In older versions, the *Available licenses* measure of the **RDS CAL Licenses Utilization** test reported the value '0' even when valid licenses were available for use. This issue has been fixed now.

3.6 Business Transaction Monitoring and Real User Monitoring

- In older versions, the **RUM dashboard** did not display the exact location of the intranet users even though *geolocation-local-map.xml* file was uploaded with the relevant location details. This issue has been fixed now.
- Earlier, in some environments, JVM and BTM metrics could not be collected from a BTM-enabled application server (e.g., Oracle WebLogic server). This happened in environments where both IPv4 and IPv6 lookback addresses were used for establishing socket connection for transactions due to which the eG agent could not communicate with BTM.jar. This issue has been fixed now.
- In older versions, false alerts were raised for *Slow transactions* and *Stalled transactions* measures of the **Java Business Transactions** test when thresholds for the measures were set to None. This issue has been fixed now.
- Earlier, when an application server installed on HPUX was BTM-enabled, the **Java Business Transactions** test did not report metrics. This issue has been fixed.
- In older versions, if Microsoft SQL On Cloud was the backend database of the eG manager monitoring Java business transactions, administrators could not zoom into the database server from the **Cross-Application Transaction flow** page. This issue has been fixed now.

- Previously, by default, the detailed diagnosis of the **.Net Business Transactions** test revealed both the Public IP address and the Private IP address of the users initiating the transactions. In highly secure environments, administrators did not want eG Enterprise to reveal the IP address of the users. For this purpose, starting with this version, **MASK PUBLIC IP** and **MASK PRIVATE IP** flags have been introduced in the test configuration page. By default, these flags are set to false. To mask the IP address of intranet users initiating the transactions, set the **MASK PRIVATE IP** flag to true and to mask the Public IP address of the users, set the **MASK PUBLIC IP** flag to true.
- Previously, when the eG .Net Business Transaction Monitor was enabled on an IIS Web Server, incorrect values were reported for the *CLR Exceptions* measure of the **ASP .NET CLR Exceptions** test. This issue has been fixed.
- Starting with this version, AJAX requests are captured and reported by the eG .Net Business Transaction Monitor.
- Earlier, a stored procedure call to the database with a transaction time of more than a minute was not captured as a Slow transaction by the eG .Net Business Transaction Monitor. The same transaction was instead captured as a Stalled Transaction. This issue has been fixed now.
- Previously, in environments where eG .Net Business Transaction Monitor was enabled on an IIS Web server where multiple worker processes were executing in a web garden, eG Enterprise failed to capture all the transactions. This was because, a few worker processes could not communicate with the eG agent. This issue has been fixed now.
- In older versions, false alerts were raised for the *Slow transactions percentage* measure of the **.Net Business Transactions** test when thresholds were set for more than one measure. This issue has been fixed now.

3.7 Web App Simulation

- Earlier, if the name of the user logging into the eG manager where security filters were enabled contained special characters, the Web App Simulator Recorder failed to upload/download the script. This issue has been fixed now.

3.8 Web and Java Monitoring

- In earlier versions, the **Apache Server Status** test mapped to the **Apache Web Server** component did not report metrics if user credentials were required to collect metrics from the target Apache Web Server. This issue has been fixed now.
- Earlier, the **IIS Web Site Requests** test associated with the **IIS Web** component did not report metrics. This issue has been fixed now.
- Earlier, the **W3 WP Pools** and **SiteMinder Web Access** tests pertaining to the **IIS Web** component did not report metrics. This issue has been fixed now.
- Earlier, the *Content Validity* measure of the **HTTP** test was not reported when the metrics of the test were collected using cURL utility. This issue has been fixed now.
- Earlier, the **HTTP** test did not report metrics when the metrics were collected using cURL utility. This issue was noticed in environments where the target web server was installed on a Non-english locale.
- In older versions, the *Web availability* measure of the **HTTP** test was reported as *100%* even when the *TCP connection availability* measure was reported as *0*. This issue was noticed only when the metrics of the test were collected using the cURL utility. This is not the case any longer.

3.9 Microsoft Windows and Unix Server Monitoring

- Earlier, in highly secure environments, agentless monitoring using SSH could not be performed on a Linux host. To enable monitoring of the Linux hosts in such environments, starting with this version, a **HIGH SECURITY FLAG** has been introduced in the test configuration page. By default, this flag is set to **No**. Turn on the flag to enable agentless monitoring using SSH.
- In older versions, the **Domain Time Sync** test did not report metrics when the test was executed on a Unix/Solaris server. This issue has been fixed now.
- Previously, when multiple Shares are configured for monitoring in the **Windows Shares** test, false alerts were raised for the last Share that was configured. This issue happened because the password of that Share could not be parsed. This issue has been fixed now.
- In older versions, detailed diagnosis could not be captured and reported for the **Failover Cluster Disks** test when the disks were offline. eG Enterprise was reporting "Not Applicable" in all columns of the detailed diagnosis for those disks. Starting with this version, detailed diagnosis will not be reported for disks that are offline.

3.10 Application Server Monitoring

Oracle WebLogic Application Server

- Earlier, the tests pertaining to the Oracle WebLogic Application Server did not report metrics. This was because the eG agent timed out since the server was unresponsive. This issue has been fixed now.
- Previously, in some environments, both performance and configuration tests pertaining to the Oracle WebLogic Application Server did not report metrics when the target Oracle WebLogic Application Server was SSL-enabled. This issue has been fixed now.

Tomcat

- Earlier, a few tests pertaining to the Tomcat server (v7.x and above) did not report metrics when **egtomcat.war** file was used to collect the required metrics (i.e., **Measurement Mode** flag is set to **War file** while configuring the tests). This issue has been fixed now.

3.11 Database Monitoring

Oracle Database Server

- The **Oracle Processes** test did not report metrics when the target Oracle Database Server being monitored was installed on a HPUX Operating system. This issue has been fixed now.
- In older versions, in environments where a single remote agent was collecting metrics from more than one Oracle Cluster component, false alerts were generated for the *Has oracle cluster node been restarted?* measure of the **Oracle RAC Uptime** test. This issue has been fixed.

Microsoft SQL Database Server

- In older versions, in some environments, sometimes, the *Percentage of free space* measure of the **SQL Database Space by File Groups** test always reported a value of *100 percent* for all file groups being monitored (i.e., the *Free space* measure reported was equal to the *Max file size* measure). This is not the case any longer.
- Previously, false alerts were generated for the *Percentage of free space* measure reported by the **SQL Database Space by File Groups** test. This issue was noticed in environments where auto growth was not enabled for the file groups that were being monitored. This issue has been fixed.

- Earlier, in environments where the availability databases being monitored were case-sensitive, the **SQL AlwaysOn Replica Database Status** test failed to report metrics. This is not the case any longer.
- In older versions, the **SQL Missing Indexes** test failed to auto-discover the descriptors (databases) and hence did not report metrics for the individual descriptors. This is not the case any longer.
- Earlier, the **SQL Cached Queries** test did not report metrics. This issue has been fixed.

3.12 Microsoft Office 365/Microsoft Teams Monitoring

- In older versions, the tests pertaining to the **Microsoft Office 365** component did not report metrics. This issue has been fixed.
- Earlier, the **File and Page Activities**, **Folder Activities**, **Sharing and Access Activities**, **Site Administration Activities** and **Synchronization Activities** tests pertaining to the Microsoft Office 365 component failed to report metrics. This issue has been fixed now.
- In older versions, the **OneDrive File/Page Activities**, **OneDrive Folder Activities**, **OneDrive Sharing/Access Request Activities**, **OneDrive Site Admin Activities** and **OneDrive Synchronization Activities** tests pertaining to the **Microsoft OneDrive for Business** component failed to report metrics. This issue has been fixed now.
- Previously, the **Mailbox Statistics** test pertaining to the **Microsoft Exchange Online** component did not report metrics. This issue has been fixed now.
- Earlier, the **Malware Detections** test pertaining to the **Microsoft Exchange Online** component reported a value of '0' for all the measures even if valid metrics were collected. This issue has been fixed now.
- Previously, the **License Usage** test pertaining to **Microsoft Office 365** component did not report metrics. This happened in environments where the data format was not parsed properly. This issue has been fixed now.
- In older versions, the values reported for the *Unique users by private chat messages* and *Private chat messages* measures of the **Teams User Activities** test mapped to the **Microsoft Teams** component were interchanged. This issue has been fixed now.
- In older versions, the **SharePoint Online File Operations** test mapped to the **Microsoft SharePoint Online** component did not report metrics. This was because, the name of the **Shared Document** required for executing the test was in Dutch language. This issue has been fixed now.
- Previously, the **OneDrive File Operations** test of the **Microsoft OneDrive for Business** component did not report metrics. This issue has been fixed now.
- Earlier, the **Teams Connectivity** (Microsoft Teams component), the **OneDrive Site Connectivity** test (Microsoft OneDrive component) and the **SharePoint Online Site Connectivity** tests (Microsoft SharePoint Online component) did not report metrics. This issue has been fixed now.
- Previously, the **Mail Deliverability** test pertaining to the Microsoft Exchange Online component did not report metrics when SSL-enabled SMTP communication used a TCP port other than 587. To avoid this issue, starting with this version, administrators can configure the port of their choice in the test configuration page.

3.13 SAP Monitoring

- In older versions, a few user login types were not discovered and listed as descriptors for the **User Sessions by Type** test of the **SAP ABAP Instance** component. As a result, metrics could not be reported for those descriptors. This is not the case any longer.
- Earlier, if errors related to the SAP ABAP Instance component were not recorded in the Syslog, the **Syslog Errors** test and the **Application Log** test failed to report metrics for the default set of descriptors. This issue has been fixed now.
- Previously, errors were logged in the Syslog for the RFC destinations that were unavailable while executing the **RFC Destinations** test for the SAP ABAP Instance component. In environments where too many destinations were unavailable, the Syslog file was dumped with errors indicating the same. This led to an increase in size of the Syslog file which the administrators wanted to avoid. Accordingly, starting with this version, the availability of the RFC destinations will not be checked for those destinations that were unavailable during the previous measurement period.

3.14 Storage Monitoring

- In older versions, the tests pertaining to the **Pure Storage** component did not report in environments where the version of the Pure Storage REST API was 2.0 and above. This is not the case any longer.
- Earlier, false alerts were generated for the *Operational status* measure of a few tests pertaining to the **HP 3PAR Storage** and **Storage RAID** components. This issue has been fixed now.

3.15 Network Elements Monitoring

- Earlier, the tests pertaining to **Cisco Meraki** component did not report metrics. This has been fixed now.
- Previously, in some environments where multi-core CPU is present in the target systems being monitored, the *CPU utilization* measure of the **Host Process** test was reported as greater than 100 percentage. This is not the case any longer.
- Previously, false alerts were generated for the *Has the system been rebooted*? measure of the **Device Uptime** test. This is not the case any longer.
- Earlier, in environments where the **Cisco ASA** devices installed with 64-bit firmware were being monitored, the **ASA Memory** test reported incorrect metrics. This issue has been fixed now.
- In older versions, the *Virtual server available status* and the *Virtual server health* measures pertaining to the **F5 Virtual Server Status** test (mapped to the **F5 BIG-IP Traffic Manager** component) were wrongly reported if a virtual server was in a disabled state. This is not the case any longer.
- Previously, if security filters were enabled (i.e., the **Enable Security Filters** option was set to **Yes** in the **SECURITY FILTERS** page of the eG admin interface) for the eG manager, the tests pertaining to the Cisco Nexus Switch did not report metrics. This issue has been fixed now.

3.16 Self-Monitoring of eG Agent/eG Manager

- In older versions, false alerts were raised for the **Agent Errors** test of the eG Agent component. This issue occurred in environments only when the search pattern of the errors matched with the name of the log file. This issue has been fixed now.

- Earlier, false alerts were generated for the **Time since last threshold update** measure of the **Threshold Manager** test of the eG Manager component. This issue was noticed only when the configured test frequency was 15 minutes. This issue has been fixed now.

3.17 Others

- Previously, in environments where an **IBM WebSphere MQ** component was monitored, false alerts were generated for the *MQ channel availability* measure (reported by the **WebSphere MQ Channels** test) if the status of the channel was reported as "Binding". This issue has been fixed now.
- In older versions, when a virtual machine hosted on AWS Cloud was being monitored, eG Enterprise wrongly considered the virtual machine as a physical server and reported metrics for the tests pertaining to the Hardware layer. This issue has been fixed now.
- Previously, in environments where multiple NVIDIA licenses of the same type were deployed, eG Enterprise picked a license at random and reported the allocation and utilization of that license. Due to this, sometimes, alerts were generated for the non-availability of licenses even when valid licenses were available. To report license statistics accurately, starting with this version, license allocation and utilization metrics will be reported for each License ID associated with a License Type.