Introducing eG Enterprise 6.3

eG Innovations is proud to announce the general availability of the latest version of its flagship performance monitoring software – eG Enterprise Version 6.3. This release introduces many new monitoring and diagnosis capabilities, reports and platform enhancements. These new capabilities are focused on:

- **Expanding the reach of monitoring** to new applications, devices and technologies
- **Furthering the depth of monitoring** to provide greater visibility to solve today's complex IT problems
- **Improving the speed and ease of diagnostics and problem triage** with increased automation and intelligent analytics

Based on over a year of development and innovation, eG Enterprise 6.3 covers new ground in providing converged application performance and infrastructure monitoring capabilities.

Our product evolution is based on valuable inputs we receive from our customers and partners, so keep your inputs coming.

Here's to a great 2018!

eG Innovations Team

Summary of New Capabilities in eG Enterprise 6.3

- **Application performance monitoring (APM)**
  - Business transaction monitoring and application code-level visibility expanded to support Microsoft .NET web applications
  - Extensions to Java business transaction tracing to support new technologies
  - Improvements to real user monitoring for web applications

- **Enhanced visibility and deeper monitoring of Citrix environments**
  - Monitoring of Citrix adaptive transport protocol for Citrix XenApp and XenDesktop
  - Deeper visibility into Citrix user logon user experience
  - Monitoring of Microsoft Outlook add-in load times
  - Measurement of connection quality indicators for user sessions
  - Monitoring support for Linux VDAs
  - Enhancements to the Logon Simulator for Citrix
  - New monitoring capabilities for NetScaler, Provisioning services, and XenMobile
  - Application process level NVIDIA vGPU monitoring
  - Monitoring support for Citrix Cloud and XenApp/XenDesktop Essentials

- **Expanding the scope of monitoring virtualized infrastructures**
  - New Logon Simulator for VMware Horizon
  - Deeper visibility into Horizon user logon experience
  - Monitoring of Horizon Unified Access Gateway
  - Enhancements to VMware ESXi monitoring

- **Extended visibility into public cloud environments**
  - Monitoring support for AWS services
  - Support for monitoring Azure Resource Manager (ARM)
  - New capability to monitor virtual desktops hosted in the cloud

- **Deeper performance insights of network, server, storage, and other IT infrastructure components**
  - New built-in NetFlow Traffic Collector and Analyzer
  - Configuration change tracking for Cisco routers
  - Deeper diagnostics for IBM System i (AS/400) and Windows servers
  - Monitoring support for a number of new devices, platforms and applications

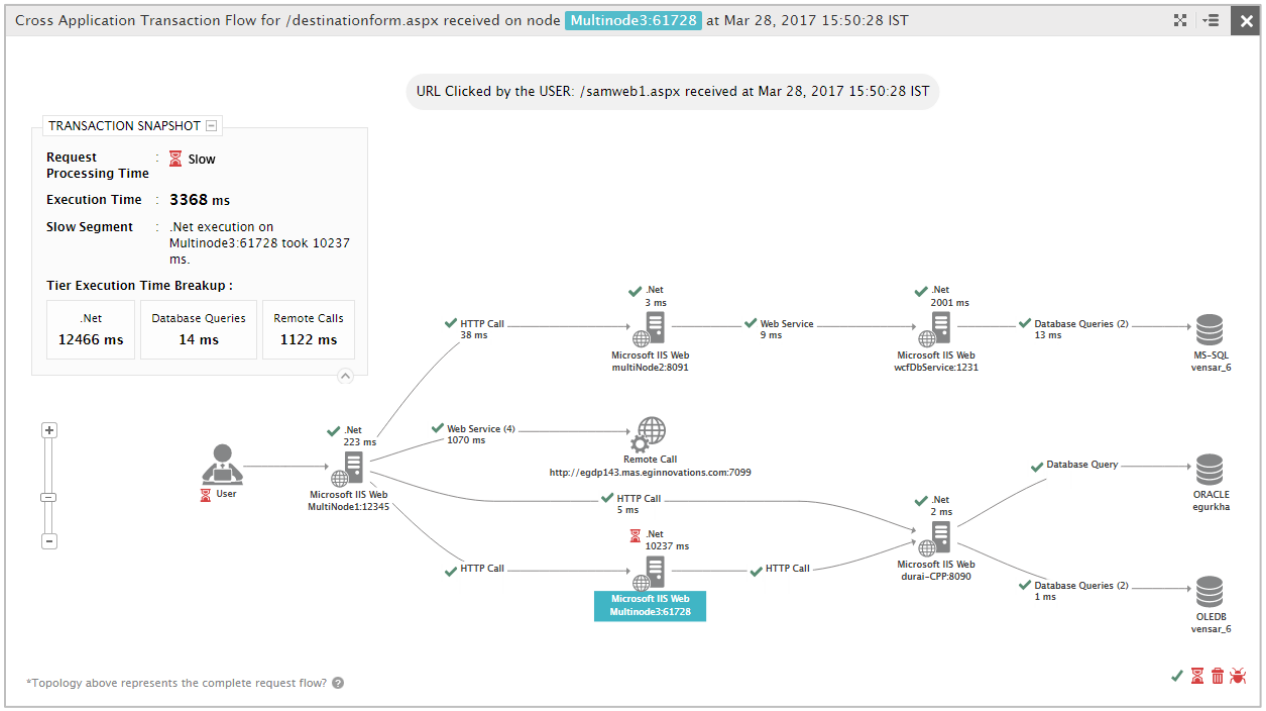
- **Provide greater visibility with new reports and historical data analytics**

- **Platform enhancements to improve scalability and ease of use**

A Quick Tour of The New Features and Enhancements

Application Performance Monitoring (APM)

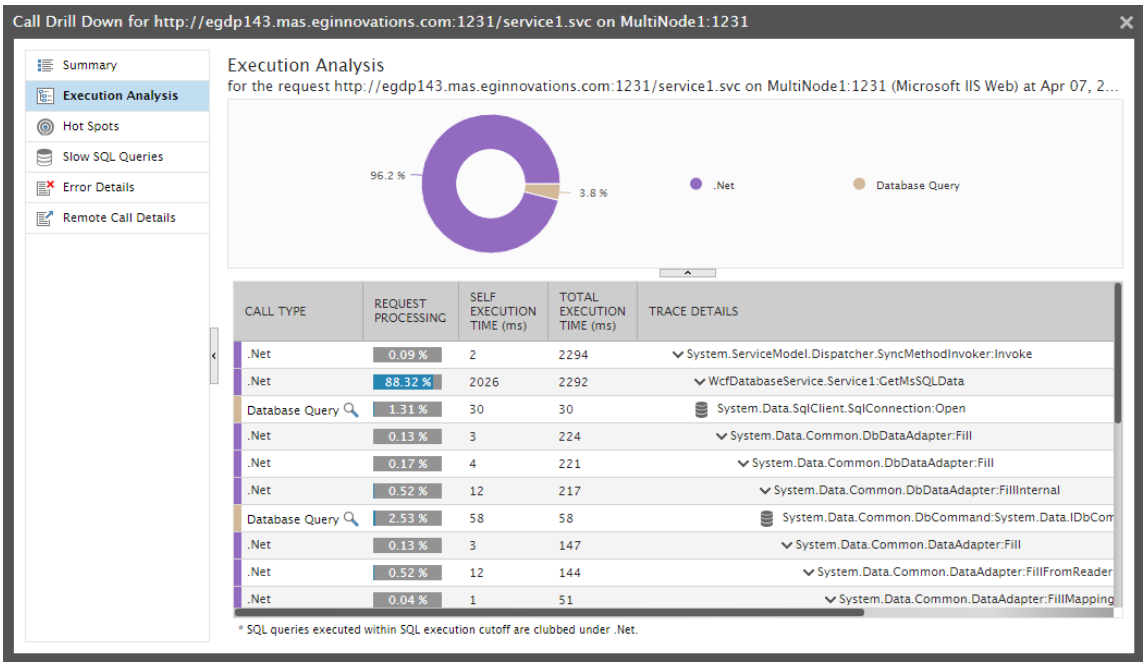
Business Transaction Monitoring for Microsoft .NET Web Applications: eG Enterprise 6.3 expands its APM capabilities to Microsoft .NET web applications. The previous version of eG Enterprise, 6.2.1, provided APM functionality for Java applications, enabling end-to-end business transaction tracing and digital experience monitoring. Now, eG Enterprise 6.3 includes a built-in .NET profiler to trace application transactions across complex, multi-tiered, and distributed .NET web applications. Using an advanced tag-and-follow approach, the .NET profiler traces .NET business transactions across .NET CLRs all the way to the database and back. Application managers can visualize the transaction flow in real time and get response time split by each .NET tier for distributed web applications, and understand which tier in the server-side architecture or which remote service call is causing slowness.



Transaction flow analysis to find the cause of application slowdown

In a single click, application owners and developers can get method-level visibility to pinpoint the exact line of application code that is causing application slowness. eG Enterprise 6.3 also provides database query-level visibility to identify erroneous or badly-written queries that take a long time to execute, thus slowing down transaction processing.

With the new APM capabilities for .NET, eG Enterprise 6.3 also supports business transaction tracing for cross-platform hybrid Java and .NET application architectures.



Code-level visibility and analysis for .NET web applications

eG Enterprise APM for .NET is licensed by the number of Windows Server operating system instances hosting .NET CLRs. Multiple websites/web applications running on a single Windows Server OS can be monitored with a single eG Agent license. This capability can be used for custom Microsoft .NET applications as well as off-the-shelf applications such as Microsoft SharePoint, Microsoft CRM, etc.

Enhancements to Java Business Transaction Monitoring: In eG Enterprise 6.3, Java business transaction monitoring has been enhanced to support additional Java technologies and frameworks. Queries to IBM DB2 and IBM Informix database backend, calls to the JSF web framework, and invocation of external programs using the Runtime.exec() interface (synchronously and asynchronously) can now be traced. Additionally, for each transaction, new metrics such as CPU time, block time and wait time for the transaction are collected, so resource intensive transactions can be identified.

Enhancements to Real User Monitoring (RUM): eG Enterprise 6.3 improve its digital experience monitoring capabilities. Ajax asynchronous requests and other synchronous requests are now distinguished in the RUM details provided. RUM code injection can also be automated using script injection capabilities supported by popular load balancers such as F5 Load Balancer and Citrix NetScaler. RUM can also be enabled for Atlassian Confluence.

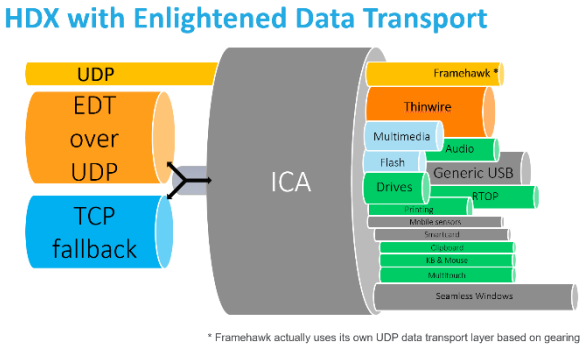
Monitoring Support for Azul Zing JVM: Zing is more robust and scalable than conventional JVMs, and finds use in performance-sensitive low-latency applications used for banking, trading, etc. Unlike other JVMs where heap memory once allocated is fixed, Zing provides flexibility for the heap memory to expand based on application demand on every JVM instance. It eliminates the "stop-the-world" GC pauses that limit scalability in the case of conventional JVMs. eG Enterprise 6.3 adds monitoring support for Azul Zing

JVM. Since memory management is handled differently in Azul, eG Enterprise has developed a customized monitoring model to capture Zing JVM metrics.

Enhanced Visibility and Deeper Monitoring of Citrix Environments

XenApp and XenDesktop Monitoring Enhancements

Monitoring of Citrix Adaptive Transport: Adaptive transport is a new data transport mechanism for XenApp and XenDesktop 7.13 and above. Citrix has introduced the new Enlighted Data Transport (EDT) protocol that allows ICA virtual channels to automatically respond to changing network connections, especially over long-haul WAN and Internet connections. XenApp and XenDesktop will use EDT protocol (that works over UDP) as the primary protocol and fall back to TCP as and when needed, by intelligently analyzing network connection quality, to deliver faster, scalable and reliable performance.



eG Enterprise 6.3 adds support to monitor user sessions using EDT. Discover sessions using EDT, monitor key metrics such as bandwidth, roundtrip time, packet retransmission, dropped packets, congestions, and so on.

Deeper visibility into Citrix user logon user experience: eG Enterprise 6.3 provides deeper visibility to identify user logon slowness arising from server start-up, client start-up, GPO processing, and due to the connectivity between the XenApp/XenDesktop VM and the Delivery Controller.

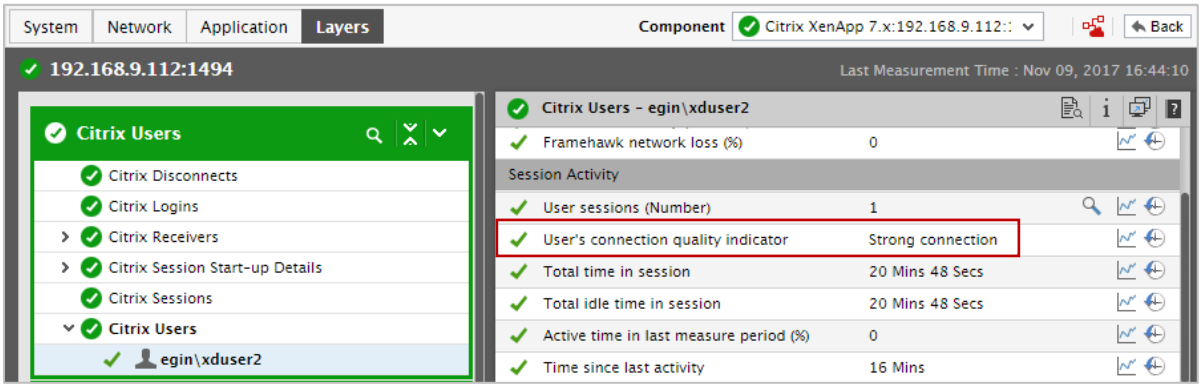
Group Policy Breakup	
✓ Group Policy processing status	Success
✓ User account discovery (Seconds)	0
✓ LDAP bind time to active directory (Seconds)	0.03
✓ Domain Controller discovery time (Seconds)	0.33
✓ Total Group Policy Object file access time (Seconds)	0
✓ Total Client-side extensions applied (Number)	2
✓ Client-side extensions with success state (Number)	2
✓ Total Client-side extension process time (Seconds)	0.27
✓ Estimated network bandwidth between VM and Domain Controller (kbps)	1000000
✓ Is link between VM and Domain Controller slow?	No(connection is fast)
✓ Group Policy applied on	Foreground
✓ Group Policy processing mode	Synchronize

Deeper visibility of Citrix user logon performance

Microsoft Outlook Add-ins Monitoring: Many organizations deliver Microsoft Outlook via Citrix. Many a time, slowness in loading Outlook add-ins could be misunderstood as a problem in Citrix. eG Enterprise 6.3 provides visibility of Outlook add-ins and their load times. Citrix admins can easily find out the which

add-ins were loaded during Outlook time and how much time they took, and view the details of the add-in as part of the detailed diagnosis.

Measurement of User's Connection Quality: Citrix offers a tool called Connection Quality Indicator, that has to be installed on a user's virtual desktop and provides real-time feedback about the user's connection strength to the Citrix XenApp server or XenDesktop VM. eG Enterprise 6.3 now reports each user's connection quality when monitoring the Citrix XenApp Server and XenDesktop VM. No additional software needs to be loaded on the XenApp server or XenDesktop VM to report this metric. Administrators can now easily determine if a user's connection quality to XenApp/XenDesktop is strong/weak/poor.



Connection quality indicator for a XenApp user session

Support for monitoring Linux VDAs: Citrix allows the delivery of Linux virtual desktops and applications using the Linux VDA. Linux virtual desktops and applications can be created based on an RHEL, CentOS, SUSE, or Ubuntu distributions. eG Enterprise 6.3 now offers agent-based monitoring of Linux VDAs.

Enhancements to the Logon Simulator for Citrix: The Logon Simulator is now only supported on Google Chrome. Internet Explorer support has been deprecated. New enhancements include support for two-factor authentication-enabled and disclaimer-enabled environments. A new pre-requisite checker, which can be run after agent installation, alerts to any missing requirements in the target endpoint where the logon simulation will be configured to run.

eG Enterprise 6.3 **supports monitoring of Citrix XenApp and XenDesktop 7.16,** and **XenMobile 10.6**.

Enhancements for Monitoring NetScaler, Provisioning Services, and XenMobile

- eG Enterprise 6.3 adds monitoring support for NetScaler SDX appliances.
- For NetScaler VPX/MPX components, VPN sessions can now be tracked. Detailed diagnosis indicates the client that is connected. Throughput metrics are also tracked and compared with the licensed limit, so alerts can be generated when NetScaler utilization is at the licensed limit.
- Configuration and change tracking is now supported for NetScaler.

- The eG Agent now monitors the availability and responsiveness of a Citrix Provisioning server by simulating TFTP downloads from the server.
- To detect situations when the Provisioning server's key services are up, but the server is not listening for incoming requests, availability monitoring of UDP port is now supported.
- Syslog messages from XenMobile are now processed by the agent to report successful and failed application launches.

Monitoring Support for Citrix Cloud

Citrix Cloud is a cloud management platform that allows organizations to deploy cloud-hosted desktops and apps to end-users. The Citrix components deployed in the datacenter in a traditional on-premises environment are split into two groups in a Citrix Cloud deployment:

Plane	Component	Deployment	Managed By
Control Plane	Delivery Controller, StoreFront, NetScaler Gateway, SQL Server, Studio, License Server, Director	Citrix Cloud	Citrix
Resource Plane	XenApp Server, XenDesktop VDA, Active Directory, Citrix Cloud Connector	On-premises, public cloud, private cloud, or hybrid cloud infrastructure	Customer/ Partner

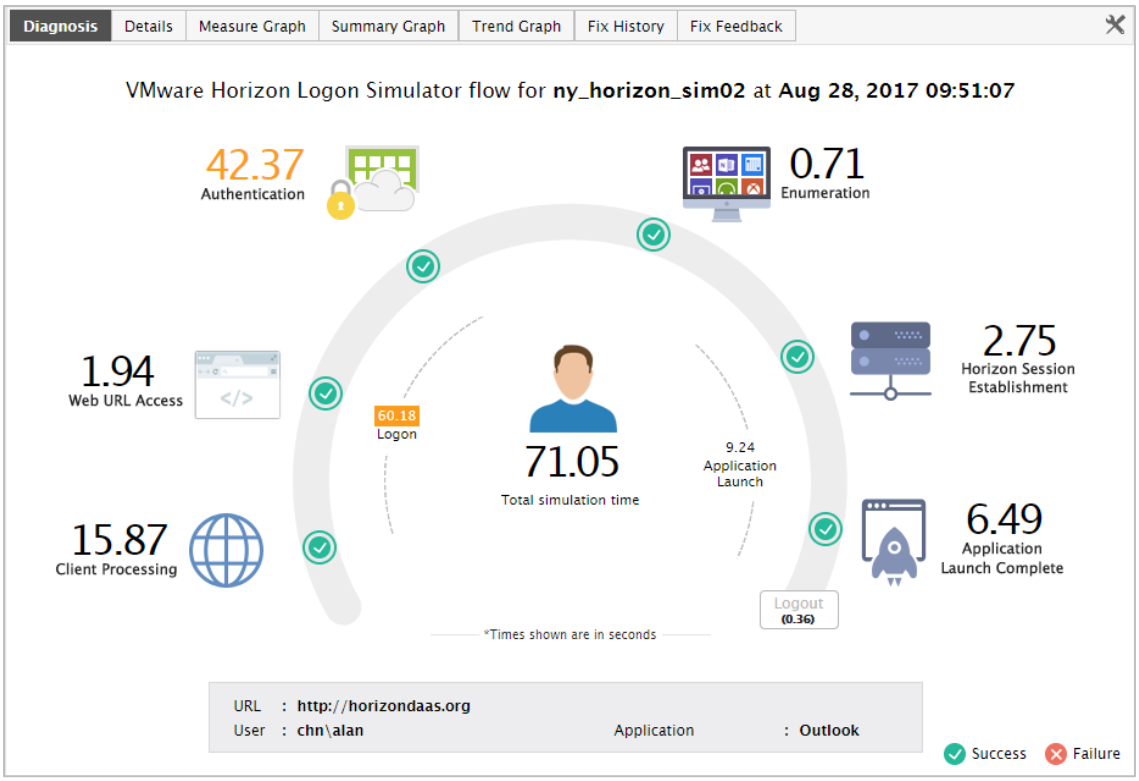
eG Enterprise already provided monitoring of the resource plane components. Now, it expands monitoring support to the Delivery Controller in the Citrix Cloud, and the new Citrix Cloud Connector component which serves as a channel for communication between Citrix Cloud and the resource plane.

- eG Enterprise monitors the Cloud Delivery Controller in an agentless manner since it is running in the control plane in Citrix Cloud
- eG Enterprise uses an agent-based approach to monitor the Cloud Connector, since it is installed in the resource plane on a machine running Windows Server 2012 R2 or 2016.

Expanding the Scope of Monitoring Virtualized Infrastructures

VMware Monitoring Enhancements

New Built-In Logon Simulator for VMware Horizon: eG Enterprise 6.3 introduces a Logon Simulator for VMware Horizon that functions the same way as the existing Logon Simulator for Citrix XenApp and XenDesktop. VMware admins can use the Logon Simulator to run synthetic tests of logon scenarios, and proactively monitor Horizon logon performance and uncover logon slowness and application availability issues before real users are affected.



Pinpoint the cause of logon slowness with eG Enterprise Logon Simulator for VMware Horizon

Deeper Visibility of VMware Horizon Real User Logon Performance: eG Enterprise 6.3 provides more in-depth monitoring of Horizon real user logon metrics to help identify Group Policy processing slowness and user profile loading delays.

Monitoring Support for Horizon Unified Access Gateway: eG Enterprise 6.2 had out-of-the box support to monitor many components of the VMware Horizon infrastructure, including the Connection Server, vSphere hypervisor, vCenter, Identify Manager, Security Server, and Composer. eG Enterprise 6.3 adds monitoring support for Horizon Unified Access Gateway (formerly known as Access Point) and provides KPIs to measure its performance and availability.

Monitoring vSphere Distributed Switch Ports: eG Enterprise's monitoring of vCenter now adds the functionality to monitor distributed vSwitch ports. Some key metrics provided include unicast, multicast, and broadcast traffic and packets.

In-Depth Visibility of VMware ESXi Host: There are dozens of new performance metrics added to the existing VMware ESXi monitoring mode. These include additional memory, CPU, and network metrics as part of both the 'Outside View of VMs' layer and 'Operating System' layer in eG Enterprise dashboard.

Other Virtualization Monitoring Enhancements

User Experience Monitoring of VDI Sessions on RDP: Some organizations use Microsoft RDP protocol for virtual desktop delivery. RemoteFX protocol is an add-on to RDP, that creates high-quality user experience for Windows virtual desktops. eG Enterprise now discovers user sessions using the RDP/RemoteFX protocol, and reports user experience metrics including frame quality, graphics compression ratio, TCP and UDP bandwidth, retransmission ratio, and more.

Monitoring NVIDIA vGPU: eG Enterprise 6.3 integrates with the latest NVIDIA APIs and provides in-depth monitoring of vGPU. For contextual visibility, eG Enterprise provides additional metrics in the detailed diagnosis which includes, memory utilization, encoder and decoder utilization, etc. eG Enterprise v6.3 also supports monitoring NVIDIA vGPUs on Linux servers.

Extended Visibility into Public Cloud Environments

Monitoring Support for AWS Services: eG Enterprise extends AWS monitoring capabilities with support for Auto Scaling, CloudSearch, CloudFront, CloudTrail, Elastic Beanstalk, ElastiCache, Lambda, OpsWorks, Simple Storage Service, Simple Notification Service, VPC Flow Logs, WorkSpaces, and many other services.

Support for Monitoring Azure Resource Manager (ARM): Microsoft Azure has two deployment models: Classic and Azure Resource Manager (ARM). eG Enterprise already had support for Classic deployment. Now support has been extended for ARM in eG Enterprise 6.3.

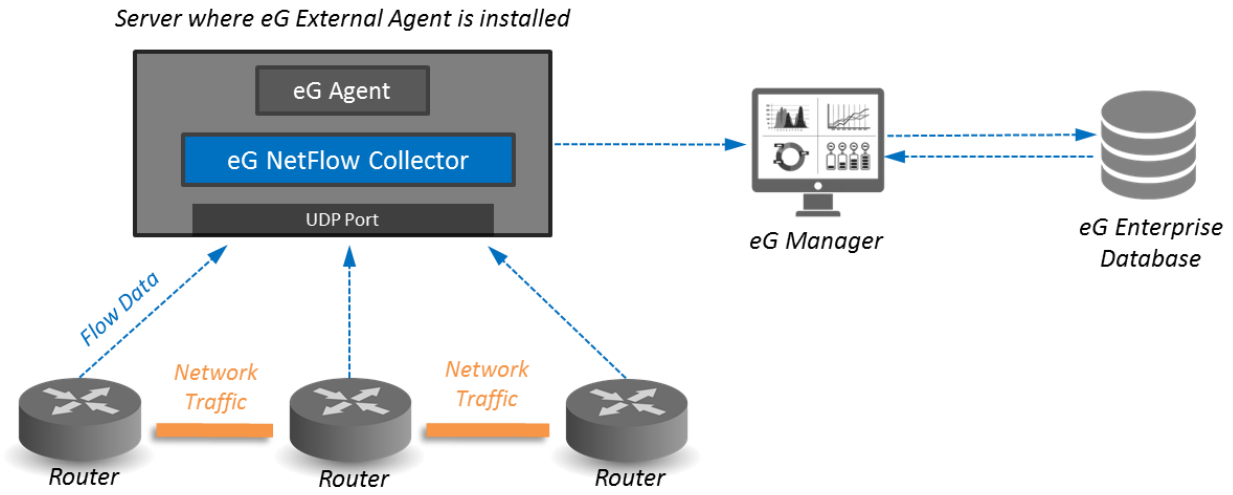
New Monitoring Model for Virtual Desktops Hosted in the Cloud: Many organizations are hosting virtual desktops in the public cloud, such as AWS, Azure, etc. Cloud desktops encounter similar performance problems as do on-premises VDI. eG Enterprise 6.3 introduces a new monitoring model called Cloud Desktops. Using a light-weight eG VM Agent installing on the cloud VM, eG Enterprise collects metrics about user experience, CPU, memory, disk space, disk activity, and more. Based on whichever VDI protocol – ICA, PCoIP, Blast, RDP – is used for the user session, eG Enterprise will report corresponding user experience metrics. Cloud desktop monitoring is licensed by the number of concurrent/named users only.

Deeper Performance Insights of Network, Server, Storage, and Other IT Infrastructure Components

Network Monitoring Enhancements

NetFlow Traffic Analyzer: NetFlow is a network protocol developed by Cisco to collect and monitor IP network traffic. It has now become the de facto industry standard and is supported by devices from multiple vendors in addition to Cisco. NetFlow records exported by NetFlow-enabled devices are a useful source of information on network traffic, and help administrators troubleshoot network-related issues.

With eG Enterprise v6.3, these valuable NetFlow records can be collected and processed by an eG NetFlow Collector and exposed to the eG Agent for further analysis. These analytics provide administrators with in-depth insights into traffic sources, destinations, applications/protocols engaged in network conversations, the volume of data exchanged over the network, and bandwidth used.



How the NetFlow Traffic Analyzer in eG Enterprise works

NetFlow monitoring by eG Enterprise is licensed by the number of eG External Agents used for collecting flow data from NetFlow-enabled devices. Each eG External Agent includes one NetFlow Collector that supports collection of up to 20,000 flows/second.

Configuration Change Tracking for Cisco Routers: eG Enterprise 6.3 adds out-of-the-box support for tracking configuration changes in Cisco routers. In addition to real-time config change tracking, eG Enterprise allows comparing router's current config against a last known config to detect any changes.

Support for Monitoring More Network Devices: eG Enterprise 6.3 adds support for the following network devices:

- HPE Networking Switches
- 3Com Switches
- Dell Networking S-Series and N-Series Switches
- Cisco Wireless Access Points
- Radware Alteon Load Balancer
- Array Networks Load Balancer

Server Monitoring Enhancements

- Windows Server firewall status monitoring
- Monitoring NIC teaming in Windows Server
- Deeper diagnostics for IBM System i (AS/400) servers
- Print queue monitoring on IBM AIX operating system

Storage Monitoring Enhancements

eG Enterprise 6.3 adds monitoring support for more storage devices, including:

- Pure Storage All-Flash Array
- Dell EMC XtremIO All-Flash Storage Array
- Dell EMC VNXe Series Storage
- HPE LeftHand P4000 SAN

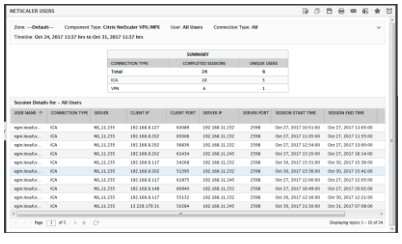
Other IT Infrastructure Monitoring Enhancements

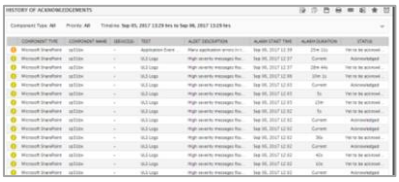
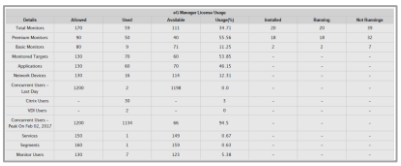
eG Enterprise 6.3 adds monitoring support for more IT infrastructure components, including:

- Postgres 9.6
- PostgreSQL on Amazon RDS
- MariaDB
- RabbitMQ
- HAProxy
- Oracle Data Guard
- Oracle WebLogic Server 12c
- IBM WebSphere Liberty
- BIND DNS Server on Linux
- TFTP Server

Provide Greater Visibility with New Reports and Historical Data Analytics

eG Enterprise 6.3 includes a host of new reports and reporting enhancements to make historical data analysis more data-rich, intuitive and actionable. Given below is the list of some of the new reports included in eG Enterprise 6.3:

Citrix Logon Simulator Reports	eG Enterprise now offers logon simulation reports for Citrix and VMware Horizon logon simulators. These reports help analyze historical trends of logon performance, identify problematic patterns, and get the overall picture of logon health over time. There are two reports: • Logon Simulations by Application • Logon Simulations by External Agent	
Citrix NetScaler Users Report	This report allows Citrix admins to see which users are connected to Citrix sessions via NetScaler. For each connection type (ICA or VPN) report on the number of completed sessions and unique users, and view the connection details, port and IP details, session start/end time for each user session.	

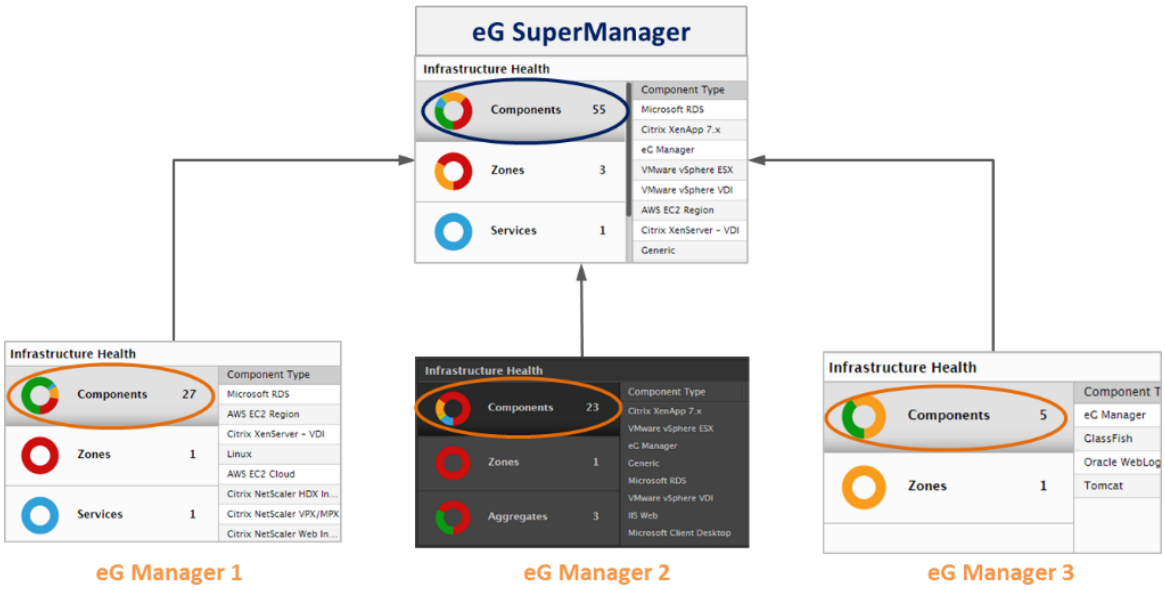
SharePoint Site Traffic Analysis	This is a new out-of-the-box report to analyze the historical trend of SharePoint site visits, monitor unique visitors to SharePoint sites, and track end-user experience (satisfied, tolerating or frustrating).	
Business Transaction Monitoring Reports	There are 3 new reports included in eG Enterprise 6.3 provide historical analysis of business transaction health: • Business Transaction Health Report • Business Transaction Health vs. Time Report • Top Business Transactions Report	
History of Alarm Acknowledgements	This report helps view the history of alarms and their acknowledgement status, so admins can easily determine if an alarm has been acknowledged, when & by whom.	
Scheduled eG Enterprise License Usage Reports	Until 6.2.1, eG Enterprise had the functionality to show license usage information by eG Manager on the web console. Now in v6.3, eG Enterprise supports scheduled delivery of the license usage report (PDF/CSV) by email.	

Platform Enhancements to Improve Scalability and Ease of use

eG SuperManager: As enterprise networks grow and there are thousands of servers, applications and devices to monitor, organizations tend to use multiple eG Managers. While this helps support monitoring large environments, centralized monitoring across all eG Managers is a challenge. The same challenge exists in organizations where there are different domains of control and they have implemented multiple eG Managers. Even in MSP environments, service providers may need unified view across multiple customer deployments, for whom they have deployed separate eG Managers.

To address this challenge and aggregate data across multiple eG Managers on a single pane of glass, eG Innovations introduces the eG SuperManager. The eG SuperManager polls individual eG Managers to collect meta data about the infrastructure managed (components, zones, services, etc.) and details about the state of these elements. Acting as a unified monitoring dashboard, the eG SuperManager presents a consolidated view of all the infrastructure components monitored by different eG Managers.

The eG SuperManager has been tested to successfully work with up to 10 individual eG Managers.



Monitoring data from multiple eG Managers rolled up into eG SuperManager

Conclusion

Based on customer feedback and market analysis, eG Innovations will continue to build new monitoring, diagnosis and reporting functionality to address the performance management the needs of the modern technology landscape. We are committed to make eG Enterprise even more robust, intelligent, automated, scalable and easy to use in future product releases.

Contact Us

To contact eG Innovations sales team, email sales@eginnovations.com.

For support queries and feature requests, email support@eginnovations.com.

About eG Innovations

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. To learn more visit www.eginnovations.com.