

Goliath Performance Monitor for Hospitals Using Allscripts

Technical Overview



Table of Contents

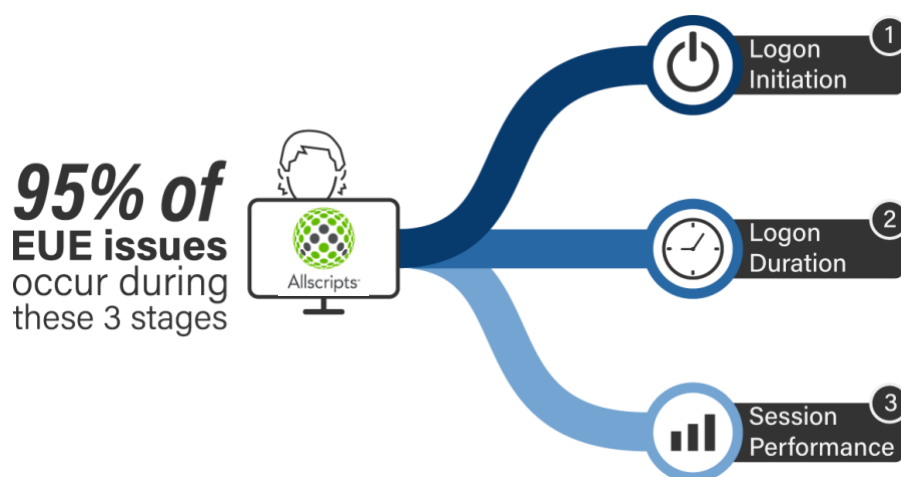
I.	<i>Proactively Identify and Resolve End User Experience Issues with Allscripts</i>	3
II.	<i>Allscripts Integration</i>	4
III.	<i>Solution Components</i>	6
	Goliath Performance Monitor with Allscripts Module.....	6
	Goliath Topology View for Citrix	6
	Goliath Application Availability Monitor	6
IV.	<i>Sample Deployment</i>	7
V.	<i>Embedded Intelligence and Automation</i>	8
VI.	<i>The Goliath Topology View for Citrix</i>	9
VII.	<i>Goliath Virtual User Deployment at Remote Locations</i>	10
VIII.	<i>End User Experience Monitoring and Management Capabilities</i>	11
	Real-Time ICA Channel Drill Down from Session Display	12
	Real-Time Citrix Logon Duration Drilldown.....	13
IX.	<i>Reporting</i>	15
	Allscripts Health Report.....	15
	Citrix XenApp & Xen Desktop Reports	15
	Citrix XenApp & XenDesktop End User Experience Reports & VMware Reports	16
X.	<i>Advanced Reporting and Analytics Module</i>	16
XI.	<i>The Health IT Standard</i>	17

I. Proactively Identify and Resolve End User Experience Issues with Allscripts

In this technical overview, we will review the Goliath Performance Monitor as it is used to proactively troubleshoot end user experience for health systems using Citrix, VMware Horizon, Allscripts and other business applications on-premises in a healthcare setting. We will describe the technical elements that make up the healthcare IT-specific functionality and how to leverage the specific features to ultimately be proactive and anticipate, troubleshoot, and prevent end user experience issues.

Goliath Performance Monitor for hospitals using Allscripts is purpose-built to proactively anticipate, troubleshoot and prevent issues with the entire on-premises virtual desktop infrastructure used to deliver mission-critical applications including Allscripts. Goliath Technologies' troubleshooting capabilities, combined with Allscripts server and database metrics, provide healthcare organizations with advanced warning of potential end user experience issues and objective technical evidence of root cause to prevent future issues. This results in faster detection, identification and resolution of these issues before users, or patients, are impacted. Our technology has automatic application availability monitors for Allscripts and business applications that run behind the scenes 24/7 at the hospital location and trigger alerts before a clinician or healthcare worker experiences a problem. This is what we call better than real-time, or before an issue is actually realized by the end user community. In the context of a Citrix environment, administrators need advance warning in the three key areas where users most often encounter difficulty: logon initiation, logon process and session use.

Anticipate, Troubleshoot and Prevent End User Experience Issues at Key Failure Points

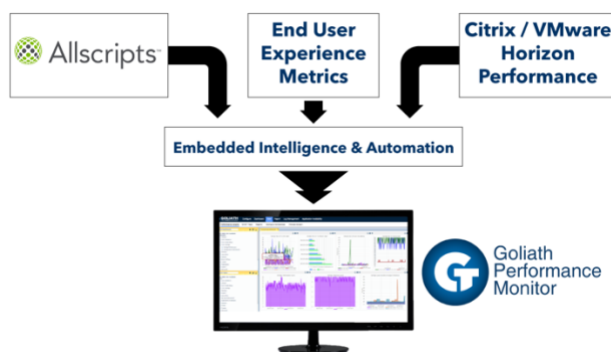


Goliath Performance Monitor for hospitals using Allscripts offers complete visibility into user experience from the hospital endpoint to the datacenter where the electronic health records are hosted. Using this unique technology Healthcare IT will:

- have better than real-time visibility that solves issues before they occur;
- resolve remaining issues that may occur faster and more efficiently; and
- obtain actionable intelligence that promotes productive collaboration with Allscripts in hosted models.

II. Allscripts Integration

Goliath Performance Monitor's module for hospitals using Allscripts provides a unified view combining performance metrics for the Allscripts servers and databases, end user experience and the underlying Citrix or VMware Horizon virtualization delivery infrastructure. This is the only IT operations software with purpose-built technology to integrate these three data sources to help Healthcare IT proactively anticipate, troubleshoot and prevent end user experience issues.



Many factors external to Allscripts core systems can affect application access, user logon speed, network latency and system latency. These areas are key to the end user experience and are often root causes of end user frustration and support requests. With integrated metrics from these three areas, system administrators can easily isolate root cause anywhere in this complex environment. Additionally, the software's embedded intelligence and automation provides performance thresholds to proactively monitor events and conditions that precede end user experience issues and resolve them before users are impacted. This combination of a proactive solution with broad and deep visibility alleviates frustration for end users and system administrators alike.

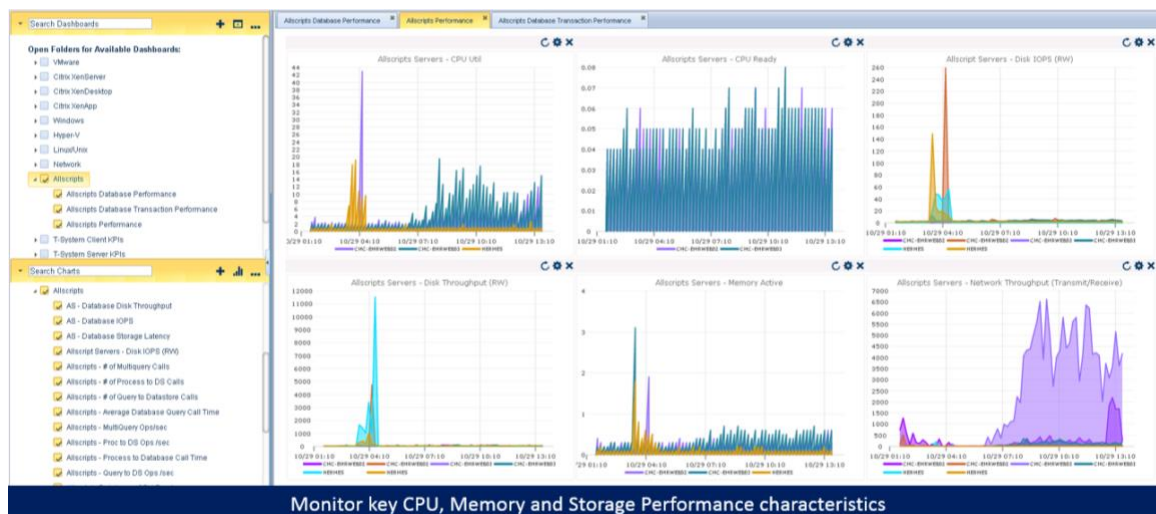
The Goliath Performance Monitor for hospitals using Allscripts integrates Allscripts performance metrics for both servers and database. Sample Allscripts metrics include:

Sample Allscripts Server Metrics	Sample Allscripts Database Metrics
CPU Utilization	Disk Throughput
CPU ready	Disk IOPS
Disk IOPS	Storage Latency
Disk Throughput	CPU Utilization
Memory Activity	CPU Ready
Network Throughput	Network Utilization

These are combined and correlated with the end user experience metrics and Citrix or VMware Horizon performance metrics. This unique integration and end-to-end visibility allows corrective action before end users are impacted.

In addition, an overall Allscripts Health Report is available that shows the health and detailed condition for key Allscripts modules.

The below images show sample dashboards of Allscripts performance metrics and the health reports. The dashboards are customizable and can be automatically refreshed or cycled to show multiple dashboards on a single monitor.



III. Solution Components

Comprehensive end user experience monitoring, troubleshooting and management consists of several components. Collectively, these technologies allow administrators to monitor, identify, and troubleshoot issues in better than real time.

Goliath Performance Monitor with Allscripts Module

Goliath Performance Monitor enables proactive IT performance monitoring and troubleshooting for virtual servers, virtual desktops, hybrid cloud and healthcare environments. Goliath Performance Monitor is the primary engine for delivering visibility, metrics, alerting, reporting and self-healing capabilities to IT and, specifically, Allscripts and Citrix or VMware administrators. Additionally, it provides the primary lens into both the on-premises virtual desktop delivery infrastructure and Allscripts server and database performance metrics, allowing for enhanced and more productive collaboration with vendors, partners and other members of the Healthcare IT organization.

Goliath Topology View for Citrix

The Goliath Topology View provides a visual guide to the logical relationships and connections of your entire Citrix infrastructure and shows the health of each individual component at a glance. It provides detailed information on the status of your delivery groups, machine catalogs, images, clusters and hosts that allows you to quickly identify and troubleshoot macro-level events affecting locations, regions and other large groups of users. This allows you to identify and troubleshoot any Citrix issues that may be creating a false impression of Allscripts performance, especially when Allscripts performance metrics do not find any issues.

Goliath Application Availability Monitor

The Goliath Application Availability Monitor provides an early warning system that ensures Allscripts Sunrise applications, or any Citrix- or VMware Horizon-delivered applications, are always available to your end users. This unique product proactively tests the entire delivery infrastructure and confirms that applications will launch when end users attempt to access them. By simulating actual user access and application launches from the hospital or clinic where users are located, in the exact same way that a real end user does, the technology allows for advance discovery of issues by validating that the entire virtual desktop delivery workflow will execute properly. The key benefit is that when an issue is discovered by a simulated user, it can be addressed *before* end users are ever impacted. In short, the Goliath Application Availability Monitor is leveraged for confirming the process of logon availability, logon duration and application launch to ensure that Allscripts applications are available from any hospital, anywhere, in better than real-time.

IV. Sample Deployment

Goliath's module for hospitals using Allscripts provides end-to-end correlation between the key Allscripts performance metrics, the underlying Citrix or VMware infrastructure and end user experience. This information is leveraged to proactively anticipate, troubleshoot and prevent problems that might otherwise adversely impact end user experience, reducing support requests and increasing overall productivity. These products are available hosted in the cloud or on-premises for maximum deployment flexibility.

In this sample deployment, Goliath Performance Monitor manages and troubleshoots all aspects of the end user experience, while the Goliath Application Availability Monitor proactively tests the entire delivery infrastructure from the physical end points where users are located, using the same profiles and processes a real user would, to ensure that all required components, permissions, and connections are working properly to deliver Allscripts and other applications.

Goliath Performance Monitor is deployed with your on-premises infrastructure for Citrix or VMware Horizon. The Goliath Application Availability Monitor is deployed at user end points to automatically connect to your data center to confirm the entire delivery infrastructure is working in concert, and applications and desktops including Allscripts are accessible.

Sample Healthcare Deployment

- Deployed at remote locations.
- No software installed in data center.



V. Embedded Intelligence and Automation

Goliath IT operations software with Embedded Intelligence and Automation guides users on what to monitor and how, along with specific metrics and analytics that empowers Healthcare IT Professionals, to proactively anticipate Citrix XenApp issues before they happen, troubleshoot them when they do occur and prevent them from happening in the future.

Our out-of-the box-software will:

- Automatically deploy to your IT infrastructure
- Automatically Monitor over 250 known failure points & conditions
- Alert on performance threshold events, conditions & failures
- Automatically, 24/7/365, ensure applications and infrastructure are operational
- Remediate issues on demand
- Resolve issues at the help desk level that would historically be escalated
- Schedule reports for insights and long-term planning

In addition to the out-of-the-box monitoring rules, Goliath empowers users with self-healing and advanced remediation options that can act quickly to restart servers or services as needed when adverse conditions are detected, or thresholds are exceeded.

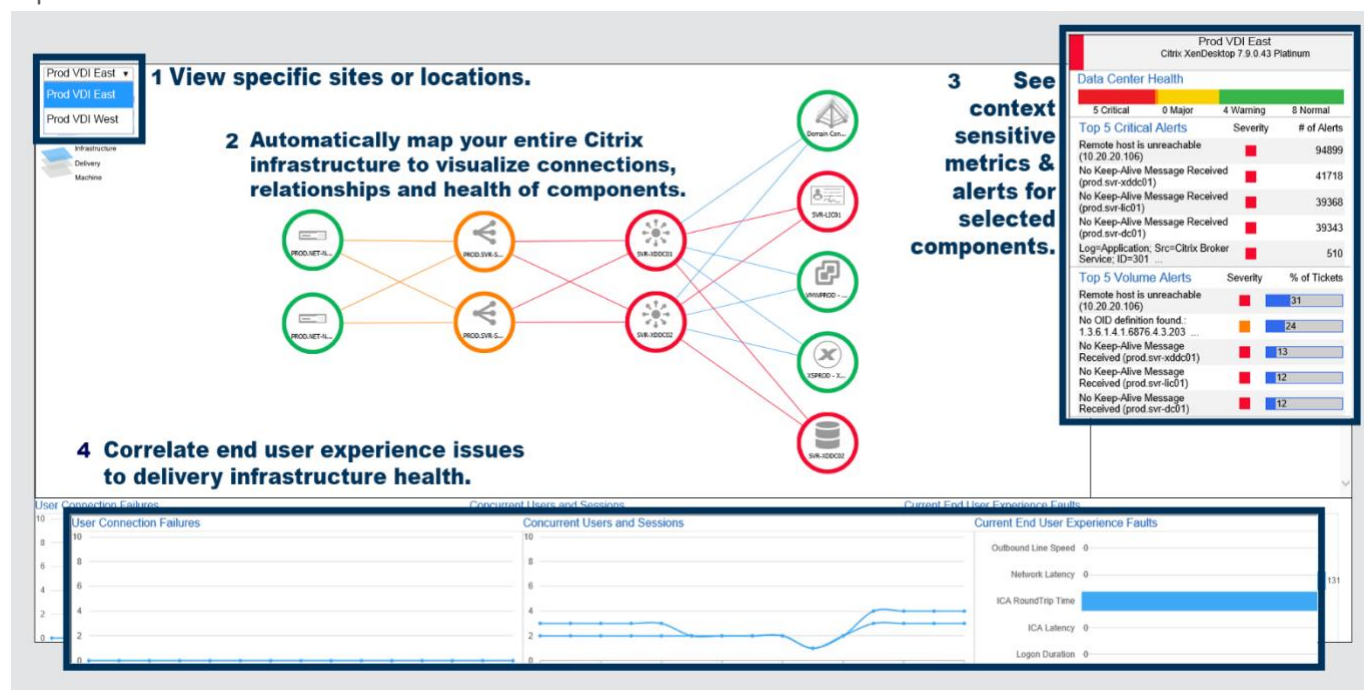
This Embedded Intelligence and Automation allows Healthcare IT to focus on other critical areas, confident that end user experience issues are being managed by Goliath's expert systems.

Embedded Intelligence and Automation <ul style="list-style-type: none"> • Auto Deploy • Auto Discover • Intelligent Alerts • Self-Healing • Logon Testing 	Anticipate <ul style="list-style-type: none"> • Threshold-Based Alerts • Events, Conditions, Failures • Deep API Integration • Detailed Citrix EUE Perspective • Confirm Application Availability
	Troubleshoot <ul style="list-style-type: none"> • Unique ICA/HDX Metrics • 33+ Detailed Logon Stages • Screenshot Evidence of EUE • Alert Resolution Instructions
	Prevent <ul style="list-style-type: none"> • True Root Cause • Identification • Advanced Analytics • Dashboards

VI. The Goliath Topology View for Citrix

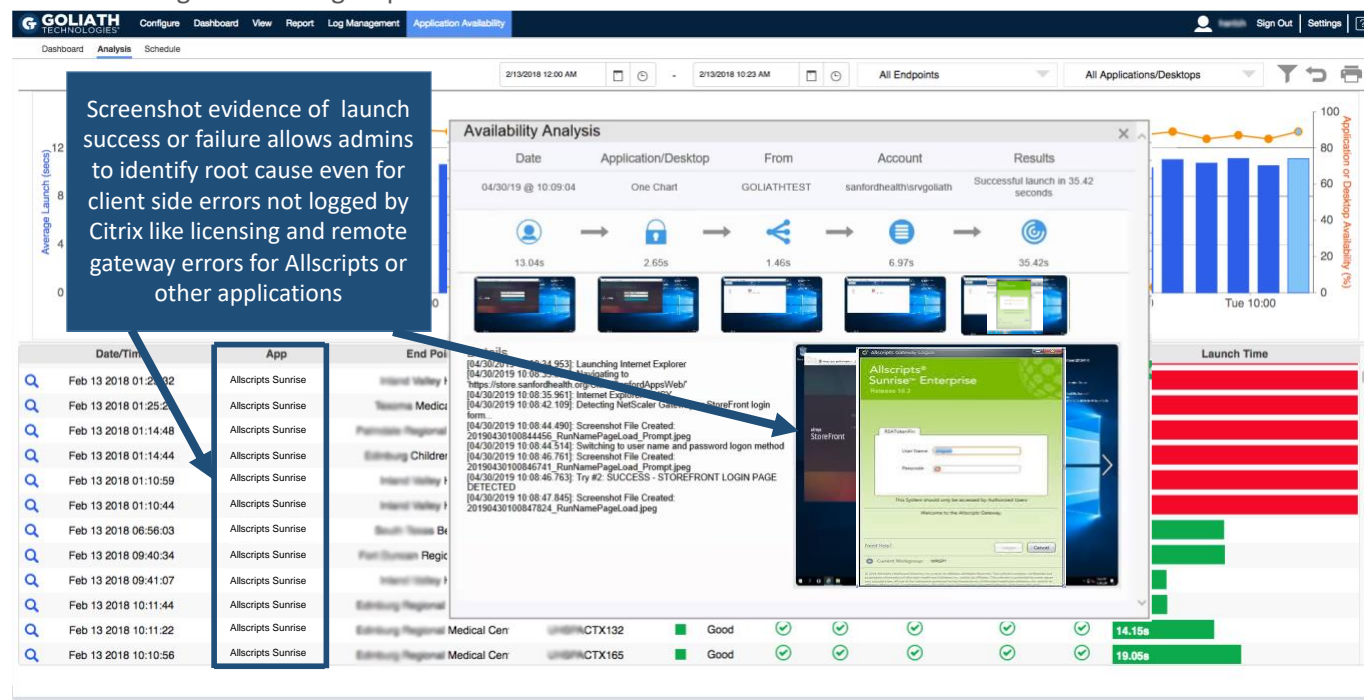
The Goliath Topology View, part of the Goliath Performance Monitor, provides an overarching view, which allows you to understand specific issues at the delivery group, machine catalog, image, cluster or host level. Clients use this to determine if a reported user issue is actually indicative of a much larger problem, or to understand the health and performance of the architecture as a whole. Instead of tracking a specific end user issue, this tool allows you to see macro-level events impacting entire groups of users.

The screenshot below shows the machine level view of this system, with faults made evident in the display by changing the health color to red and orange when problems are identified. The right side shows aggregate resource and end user experience metrics for the entire selected Delivery Group, so administrators can determine if all users may be experiencing high network latency, ICA Latency, CPU, Memory or storage performance issues. The lower window shows concurrent users and average logon duration for the delivery group as well as the different Citrix receiver versions currently active, with the relative number of each version represented.



VII. Goliath Virtual User Deployment at Remote Locations

When deployed at remote locations, Goliath Application Availability Monitor launches real application sessions with virtual users on an automated schedule. This technology provides insight into what an actual end user will experience before they access Citrix or VMware and launch Allscripts or other applications. This is better than real-time because access failures and slowness-related issues are identified and dramatically reduced by knowing about them before end users are impacted. This image contains a screen capture of the live launch dashboard which allows administrators to have a complete view of end user experience from a single pane of glass. As you can see below, there is a failure of an application at one of the hospital locations. By having the failures appear in red at the top of the page, it makes the identification of the issues easier to see and puts the necessary information right at IT's fingertips.



This image is a screen capture of a launch drilldown, showing a successful launch. In the case of a failure, the Application Availability Monitor will send an alert, and this screen will show the detailed log and screenshot evidence required to identify the root cause and resolve the issue. Screenshots provide details only visible from the client side and are a powerful tool when collaborating with other departments or vendors to resolve the issue.

All phases of the launch are timed and tracked. Because the Goliath Application Availability Monitor is fully integrated into the Goliath Performance Monitor, administrators can easily troubleshoot any slowness even on an otherwise successful launch.

Goliath Performance Monitor and Goliath Application Availability Monitor, the Goliath End User Experience Monitoring and Management products, are a complete end-to-end visibility toolset that will empower your organization with advance warning and actionable intelligence, ensuring that your Allscripts end users have the highest quality user experience possible.

VIII. End User Experience Monitoring and Management Capabilities

Goliath end user experience monitoring and management products include pre-configured monitoring rules, alerts, dashboards and reports. This level of visibility provides actionable intelligence for differentiating Allscripts application-related issues from environmental issues such as network latency, device malfunction or hospital IT infrastructure.

The Application Availability Monitor, combined with comprehensive monitoring of the application access process, empowers IT administrators to discover and resolve problems with session initiation, duration and application launch in advance of lost productivity.

In addition to comprehensive monitoring of application performance and availability, Goliath can send real-time alerts. In the image below, you can see a screen capture of our alerting dashboard. Highlighted is an end user whose logon duration was significantly higher than the defined threshold triggering an email to be sent to the administrators.

Product Screenshot: Real-Time XenApp & XenDesktop Session Display - Published Apps & Desktops

Configure

Monitor

View

Report

Log Management

Performance Graphs

SNMP Traps

Registry

XenApp/XenDesktop Sessions

View > XenApp/XenDesktop Sessions

App Servers

Published Apps & Desktops

Virtual Desktops

XA Server Name	Session	State	UserAccount	Client Name	Client Address	Version	Logon	ICA Latency	Avg. ICA Latency	App Name
SVR-XAOPS002	HDX - Application	LoggedOff	Todd Matzelle	SVR-ADMIN01	10.20.200.50	14.4.1000.16	209.7 secs.	3 ms.	3.2 ms.	
SVR-XA76WIN1202	HDX - Application	LoggedOff	Mike McLeod	VDI-PERF004	10.20.100.63	14.4.0.8014	99.8 secs.	2 ms.	12.5 ms.	SAP
SVR-XAOPS001	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	86.3 secs.	3 ms.	3.0 ms.	Infrastructure Tools\VMware vSphere Client
SVR-XAOPS001	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	86.3 secs.	3 ms.	2.0 ms.	Infrastructure Tools\VMware vSphere Client
SVR-XAOPS002	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	50.9 secs.	3 ms.	1.5 ms.	Word 2016
SVR-XAOPS001	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	46.7 secs.	3 ms.	3.1 ms.	Infrastructure Tools\VMware vSphere Client
SVR-XAOPS002	HDX - Application	LoggedOff	Amir Rajesh	SVR-ADMIN01	10.20.200.50	14.4.1000.16	46.2 secs.	5 ms.	1.7 ms.	
SVR-XAOPS002	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	46.2 secs.	24 ms.	8.0 ms.	Infrastructure Tools\VMware vSphere Client, Monitoring
SVR-XAOPS002	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	45.2 secs.	2 ms.	0.1 ms.	Goliath TechOps\Amazon AWS
SVR-XAOPS002	HDX - Application	LoggedOff	Amir Rajesh	LT-RAMATZELLE	10.10.100.70	14.4.1000.16	46.2 secs.	24 ms.	8.0 ms.	Infrastructure Tools\VMware vSphere Client, Monitoring\Citrix NMAS, Monitoring
SVR-XAOPS002	HDX - Application	LoggedOff	Todd Matzelle	LT-TMATZELLE	10.10.100.70	14.4.1000.16	46.2 secs.	24 ms.	8.0 ms.	Monitoring
SVR-XAOPS003	HDX - Application	LoggedOff	Mike McLeod	GOLIATH-DEV01	192.168.1.165	14.4.1000.16	45.3 secs.	17 ms.	15.9 ms.	Goliath TechOps\GPM - Demo, Remote Desktop Connection
SVR-XAOPS002	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	45.2 secs.	8 ms.	4.0 ms.	Infrastructure Tools\VMware vSphere Client
SVR-XA76WIN1202	HDX - Application	LoggedOff	LOSTEST01	GLS-EP01	10.20.100.225	14.3.0.5014	45 secs.	0 ms.	0.0 ms.	SAP
SVR-XA76WIN1201	HDX - Application	LoggedOff	LOSTEST03	GLS-EP03	10.20.180.21	14.3.0.5014	44.8 secs.	0 ms.	0.0 ms.	Microsoft Powerpoint 2013
SVR-XAOPS002	HDX - Application	LoggedOff	Stacy Anderson	VDI-PERF001	10.20.100.16	14.4.0.8014	42.1 secs.	6 ms.	1.6 ms.	Goliath TechOps\GPM - Demo, LINQPad 5, Word 2016

Toggle between sessions

Key session metrics

Click to drill into a user's session

Identify Allscripts users experiencing session slowness by analyzing ICA latency and slow logon times. Alert notifications via email, text message, or integration into other ticketing systems notify admins to problems before the end users report them. Admins can drill down through the dashboard to identify root cause in infrastructure configuration, user behavior, or resource utilization.

Goliath provides industry-leading visibility into Citrix session performance by breaking down the ICA/HDX protocol and returning precise metrics around individual ICA/HDX channel performance. As seen in the below image, Goliath has the ability to trend ICA Latency for a user session, as well as the 50 ICA/HDX channels, which can help identify performance bottlenecks. Similarly, Goliath Performance Monitor will provide detailed protocol and channel metrics for PCoIP and Blast for VMware Horizon deployments.

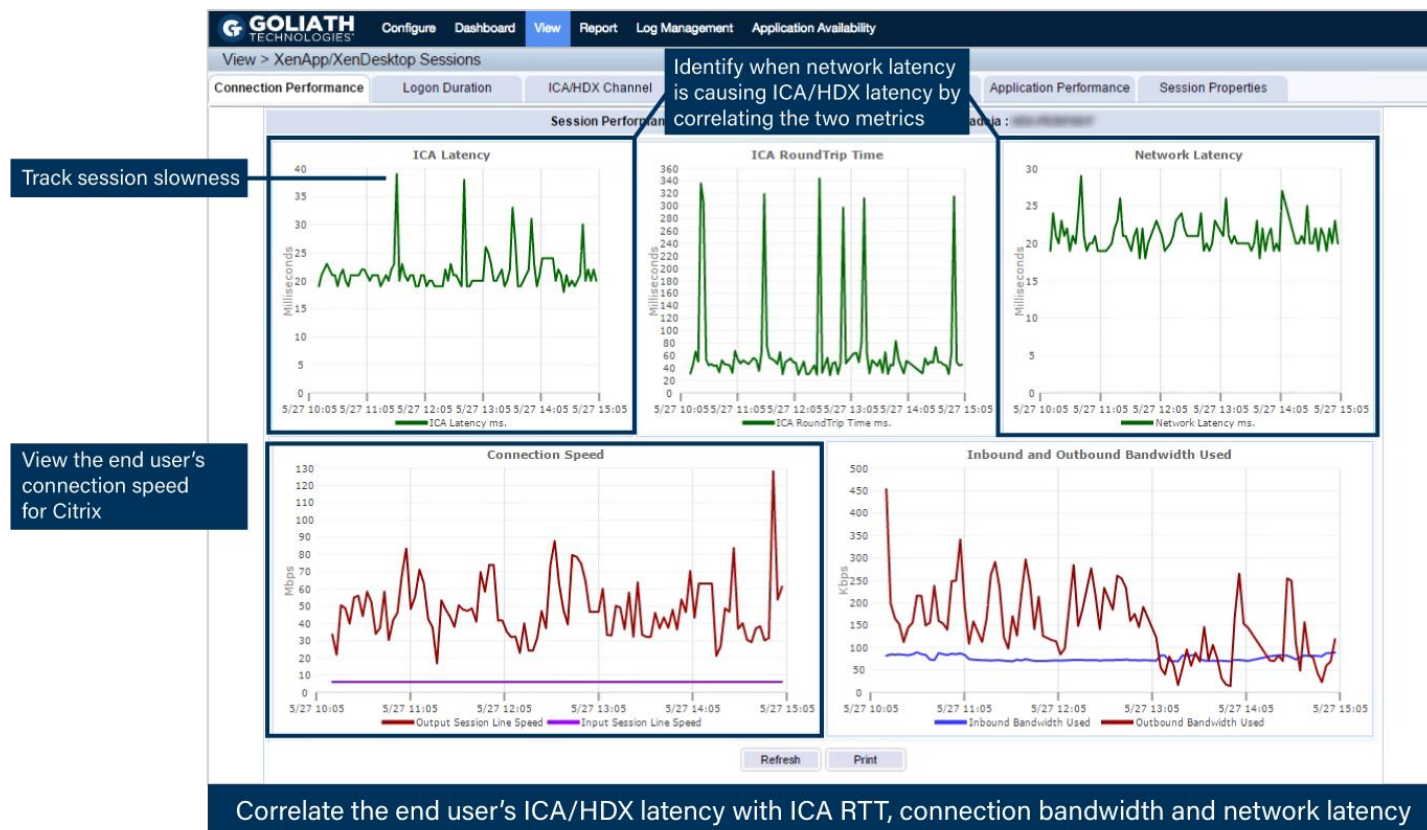
Real-Time ICA Channel Drill Down from Session Display

Goliath provides industry-leading visibility into Citrix session performance by breaking down the ICA/HDX protocol and returning precise metrics around individual ICA/HDX channel performance.

Detailed ICA/HDX Channel Metrics Include:

User Connection Performance
Printing Bandwidth
Audio Bandwidth
Clipboard Bandwidth
Keyboard and Mouse Bandwidth

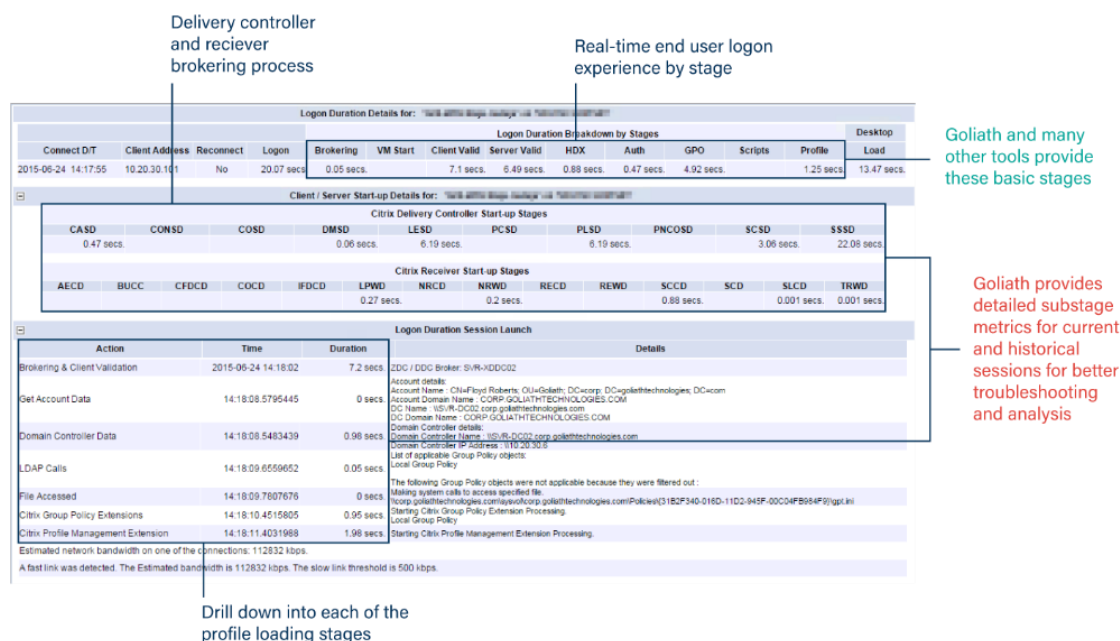
Thinwire Bandwidth
DCR Bandwidth
Multimedia Bandwidth
And more!



Real-Time Citrix Logon Duration Drilldown

If you can't drill down into all 33 stages of the Citrix logon process, then you can't isolate and fix root cause of logon slowness. With the Citrix Logon Duration monitoring and troubleshooting functionality of Goliath Performance Monitor, you can now capture real-time Logon Duration times and get alerted to end user logon slowness on any of the 33 Logon Duration Stages.

The real-time Citrix Logon Duration Drilldown breaks down a user's logon process into each of the stages to help understand what needs to be optimized to improve logon times. This report can also be used to identify and troubleshoot session load problems by identifying what may be getting stuck or taking too long to process. Threshold-based alerting on user logon times is also possible.



The logon duration drilldown allows an administrator to parse logon times into each of the stages and sub stages. This includes the details of the brokering process that the Citrix Delivery Controller and Receiver is responsible for and the breakdown of the session launch from mouse click to being delivered onto the XenApp/XenDesktop Server or VDI, including but not limited to:

- End User Mouse Click to Launch Application or Desktop to Session Host
- ICA/HDX File Download
- XML Service Name Resolution of an App or Desktop to a Session Host
- User Authentication
- Time to Request Session Creation
- Determine the Session Host
- STA Ticket Retrieval
- Logon Script Execution
- Profile Load and Drive Mapping
- Session Creation
- Desktop Load

When the Session is established on the **XenApp/XenDesktop Server** or **VDI**, **GPM** further breaks down the policy and profile load stages to determine the root cause of which script or stage caused the logon delay. This is accomplished by providing the details of how long each process took and iterating each execution stage and how that occurs including:

- Identifying and establishing connection to the Domain Controller for authentication
- LDAP calls to copy over policies
- Copying over each script file

Execution of each group policy and script to determine the execution time of:

- Registry Extensions
- Citrix Group Policy
- Folder Redirection
- Citrix Profile Management
- Drive Mapping
- Printer Mapping
- OU Policy Execution

Alerting, Self Healing and Remediation

Goliath Technologies vastly improves the time to resolution with auto-detection and self-healing capabilities. End user experience is often impacted by issues related to application components such as processes or services failing. The self-healing capability enables the IT administrator to resolve issues immediately when they are discovered.

Server/Device Alert Details

Server/Device: **UNIPACT-1048** IP Addr: **172.17.0.10** Desc: Citrix Presentation Server, Platinum edition

OS Ver: Microsoft Windows Server 2008 R2 Enterprise , 6.1.7601, Service Pack 1 Group: **UNIPACT-1048**

Ack	Sev	Alert Type	Inf	First Date/Time	Last Date/Time	Count	Action Taken	Tkt	Status
<input type="checkbox"/>	High	ServerWatch- XAA	6/16/2016 12:08:23	6/16/2016 12:13:31	2	Email Sent	XAXD Logon Duration for [redacted] on 'ica-tcp#39' is 31 secs; Threshold is 30 secs		
<input type="checkbox"/>	High	ServerWatch- XAA	6/16/2016 11:58:05	6/16/2016 12:13:31	4	Email Sent	XAXD Logon Duration for [redacted] on 'ica-tcp#27' is 167 secs; Threshold is 30 secs		
<input type="checkbox"/>	High	EventLogWatch- Application / Error	6/16/2016 11:32:28	6/16/2016 11:32:28	1	Email Sent	ID= 1000; Src= Application Error; User= ; Catg= Application Crashing Events ; D/T= 06/16/2016 11:32:28		
<input type="checkbox"/>	High	ServerWatch- XAA	6/16/2016 10:33:55	6/16/2016 11:18:56	8	Email Sent	XAXD ICA Session Latency for [redacted] on 'ica-tcp 14' is 412; Threshold is 300		
<input type="checkbox"/>	High	ServerWatch- XAA	6/16/2016 10:17:37	6/16/2016 10:39:34	5	Email Sent	XAXD Logon Duration for [redacted] on 'ica-tcp#28' is 149 secs; Threshold is 30 secs		
<input type="checkbox"/>	High	ServerWatch- XAA	6/16/2016 09:44:48	6/16/2016 12:13:31	9	Email Sent	XAXD Logon Duration for [redacted] on 'ica-tcp#4' is 134 secs; Threshold is 30 secs		

Alert notifications are sent immediately when a problem or fault is identified

This image shows an example of the self-healing functionality applied to an alert notification. Out-of-the-box, IT staff can monitor their Windows services and direct them to stop instantly, or for a period of time, Goliath will attempt to restart the service and notify the end user.

Specify Monitoring Rule Parameters and Properties

Rule Name: **Print Error - Print Spooler Stck (splwow64.exe)**

Description: **Restart Print Spooler Service to resolve printing issues**

Severity: **Caution**

ProcessWatch | Schedule | Notifications | Remediation | Suspend Rule

Process Name: **splwow64.exe** Process Path: **C:\Windows\splwow64.exe**

Should be: ☒ Running ☐ Not Running Notify Only: ☒ Restart ☐ Terminate Delay: **0**

Thresholds: **Instance Count:** WildCard Exclusions: Incl All: ☐

Selections

Groups : Servers/Workstations Tree

- Auto Register Group (System generated group for auto-registered computers.)
 - ☒ DEVVDI-XD56WIN701
 - ☒ VDI-DEVCUSTA02
- DEV Delivery Controllers
 - ☒ DEVSVR-XDDC03
 - ☒ DEVSVR-XDDC06
- DEV Infrastructure
 - ☒ DEVGPM-DEV01
 - ☒ DEVSVR-LIC02
 - ☒ DEVSVR-SF03
 - ☒ DEVSVR-WI01
 - ☒ DEVWS-MZAPPA

Open All Select All Unselect All Close All

Save Cancel

Self-healing feature provides automated fix actions

IX. Reporting

66 Out of The Box Reports for Full Visibility into Your Infrastructure, Performance Issues & End User Experience

Allscripts Health Report

The below Allscripts Health Report shows detailed events, conditions and thresholds over time and provides an overview of the status of your environment.

Allscripts Health Report											
Log	Type	ServerName	EventID	Source	Category	UserName	Time	Count	Description	Exact description of condition	
Sys	Information	CMC-ANALYTICS	3	AeLookupSvc			8:38:32	3	The Application Experience Lookup service started succe		
Sys	Information	CMC-CONNECTR	3	AeLookupSvc			11:44:05	1	The Application Experience Lookup service started succe		
Sys	Information	CMC-ANALYTICS	26	Application Popup			8:39:36	4	Application popup: Service Control Manager : At least o		
Sys	Information	CMC-CONNECTR	26	Application Popup			11:41:27	1	Application popup: Windows : Other people are logged i		
App	Information	CMC-ANALYTICS	1017	ASP.NET 2.0.50727.0	Setup		8:32:53	4	Start registering ASP.NET (version 2.0.50727.0) (internal		
App	Information	CMC-ANALYTICS	1023	ASP.NET 2.0.50727.0	Setup		8:33:08	4	Restarting W3SVC		
App	Information	CMC-ANALYTICS	1025	ASP.NET 2.0.50727.0	Setup		8:33:09	4	Finish restarting W3SVC		
App	Information	CMC-ANALYTICS	1019	ASP.NET 2.0.50727.0	Setup		8:33:09	4	Finish registering ASP.NET (version 2.0.50727.0). Detaile		
Sys	Information	CMC-ANALYTICS	12	b06bdrv			8:38:07	6	\Device\NTPNP_PCI0041: Driver initialized successfully.		
Sys	Information	CMC-ANALYTICS	18	b06bdrv			8:38:11	6	\Device\NTPNP_PCI0041: Ndis device bound successfull		
Sys	Information	CMC-CONNECTR	12	b06bdrv			11:43:27	2	\Device\NTPNP_PCI0035: Driver initialized successfully.		
Sys	Information	CMC-CONNECTR	18	b06bdrv			11:43:38	2	\Device\NTPNP_PCI0035: Ndis device bound successfull		
Sys	Information	CMC-CONNECTR	9	Blfm			11:43:42	2	Successfully bind to adapter \DEVICE\{7AA7897D-678D-4		
Sys	Information	CMC-CONNECTR	17	Blfm			11:43:43	3	Network adapter \DEVICE\{7AA7897D-678D-4DF6-8DEA-		
Sys	Information	CMC-CONNECTR	18	Blfm			11:43:43	1	Network adapter \DEVICE\{7AA7897D-678D-4DF6-8DEA-		
App	Information	CMC-ANALYTICS	34	ccSvcHst		SYSTEM	8:38:31	6	The 'ccSetMgr' service is starting.		
App	Information	CMC-ANALYTICS	35	ccSvcHst		SYSTEM	8:38:31	6	The 'ccSetMgr' service has started.		
App	Information	CMC-CONNECTR	34	ccSvcHst		SYSTEM	11:44:03	2	The 'ccSetMgr' service is starting.		
App	Information	CMC-CONNECTR	35	ccSvcHst		SYSTEM	11:44:03	2	The 'ccSetMgr' service has started.		
Sys	Information	CMC-ANALYTICS	24581	Cissesrv			8:35:59	1	The HP Smart Array SAS/SATA event notification service		
Sys	Information	CMC-ANALYTICS	24578	Cissesrv			8:38:32	3	The HP Smart Array SAS/SATA event notification service		
App	Error	CMC-CONNECTR	122	ConnectRProcess			6:03:56	21	Description cannot be found. Failed to Open Event Log i		
App	Information	CMC-ANALYTICS	60	cpqvcagent	Service		8:38:33	3	Started the Version Control Agent (normal startup).		
App	Error	CMC-ANALYTICS	11	crypt32			6:49:38	2	Failed extract of third-party root list from auto update c		
App	Information	CMC-ANALYTICS	7	crypt32			6:49:38	1	Successful auto update retrieval of third-party root list s		
App	Information	CMC-ANALYTICS	2	crypt32			6:49:39	1	Successful auto update retrieval of third-party root list c		

Citrix XenApp & Xen Desktop Reports

With the XenApp & XenDesktop reports in Goliath Performance Monitor (which includes modules for NVIDIA vGPU & EMR/EHR Apps), you get complete end-to-end visibility into the underlying delivery infrastructure so you can see how your environment is performing.

XenApp Reports

- Client Report
- End User Activity Report
- Environment Summary Report
- License Usage Report
- Peak Usage
- Server Health
- Session Activity

XenDesktop Reports

- Client Report
- End User Activity Report
- Environment Summary Report
- License Usage Report
- Peak Usage
- Session Activity
- Gold Image Health

Citrix XenApp & XenDesktop End User Experience Reports & VMware Reports

To proactively manage the Citrix XenApp/XenDesktop end user experience, using this set of reports will allow you to proactively detect and troubleshoot issues such as printing, profile and logon failures, and high ICA latency in order to remediate issues before end users complain.

Citrix End User Experience Reports

- XenApp Logon Duration
- XenDesktop Logon Duration
- XenApp ICA Latency
- XenDesktop ICA Latency
- XenApp End User Experience
- XenApp End to End Connection
- RDS & Terminal Services Errors
- User Logon Problems

VMware & XenServer Performance Reports

- Citrix XenServer – Host Performance
- Citrix XenServer – Virtual Machine Performance
- Citrix XenServer – Storage Usage
- VMware ESX/ESXi – Host Performance
- VMware ESX/ESXi – Virtual Machine Performance
- VMware ESX/ESXi – Storage Usage

Application Availability Monitor Reports

- Simulation Success or Failure Analysis

X. Advanced Reporting and Analytics Module

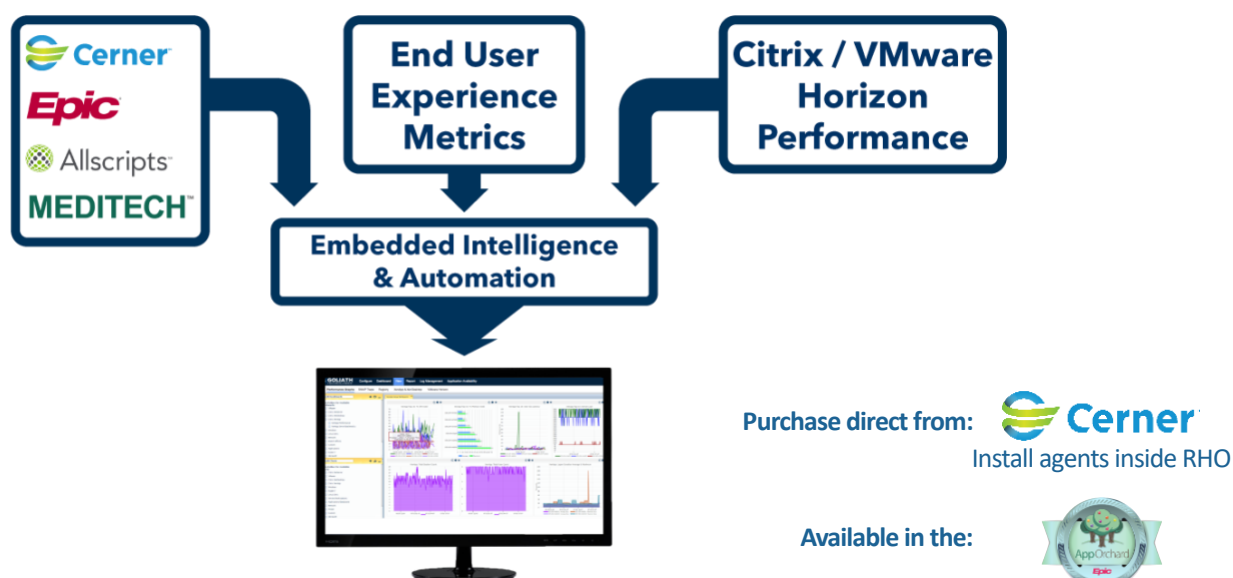
With Goliath Technologies' new Advanced Reporting and Analytics Module, customers can now leverage third-party reporting platforms such as Microsoft Power BI, Microsoft Excel and Tableau. Goliath Technologies offers several advanced reporting and analytics options:

- **Microsoft Power BI Templates:** Goliath offers Microsoft Power BI templates with this module. These templates are included free for customers with active maintenance.
- **Template Design Services:** Goliath offers services to build custom templates at an average estimated additional cost of \$1,500 per template.
- **Client Reports:** Users may develop their own reports and templates by accessing the SQL server database views and tables available in Goliath Performance Monitor 11.7.7.6 or later.

A Reference Guide is available to help you understand and define the key reporting elements as well as the additional tables that are exposed in the database.

XI. The Health IT Standard

Goliath Technologies has partnered with Healthcare IT to solve end user experience issues for more than a decade. In addition to the Allscripts capabilities described in this document, we have purpose-built modules, experience, and relationships with the top EHR platforms.



For more information on how Goliath Technologies can enhance your Allscripts end user experience, contact a member of the Goliath Technical team.

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ABOUT THE AUTHORS



Goliath Technical Support Team

The team members collaborated to bring together this guide by calling on their past customer experiences and expert knowledge of end user performance troubleshooting. In addition to creating technical documentation, this team also provides superior support to Goliath customers and product feature/function guidance to our development team.