Goliath Performance Monitor v11.7

Installation Guide



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Note: A valid support agreement is necessary to receive new release and software updates.

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Goliath Performance Monitor Prerequisites

Component	Requirement					
Goliath Server	Virtual Machine or P	hysical Server			Minimum o	f 8 vCPU
	Windows Server 2012 R2 – 2016 64bit Minimum of 12 GB RAM			f 12 GB RAM		
	• English version of Windows required • Minimum of 25 GB Disk Available			f 25 GB Disk Available		
	Static IP address Internet Explorer 11 installed					
Database	Microsoft SQL Serve	r 2014 – 2017				
Database	\circ Microsoft	SOL Express 20	08 R2 is the	embedded dat	abase option packag	ed with the product
		Cluster sunno	rted with the	Goliath datab	ase running in 'Simn	lle' mode
	SOL Server Configure	tion Pocomm	andations:	Conath datab		ine mode
			w ["] for the SC	Sorvor Proco	score	
	 Set the "M 	lav Server Men	norv" value a	s indicated in t	be below chart	
	SOL Server Sizing Re	commendation	noly value a	nvironment si		
		Small	Medium	Large	Extra Large	XXL
	# of Citrix XA/XD and/or	Loss than EOO	Up to 1 E00			Above 8 000
	VMware Horizon Servers, VDI	Less than 500	00 10 1,500	00 10 5,000	Up to 8,000	Above 8,000
	СРИ	4vCPU	6vCPU	8vCPU	16vCPU	-
	Memory	8 GB RAM	16 GB RAM	32 GB RAM	64 GB RAM	4
	# of TempDB's	4	6	8	8	Technical discussion
	Drive space	4860 Pleas		25500	51245	recommendations
	Drive Type	Fied			SSD drives w/TBs of	
		N/A	N/A	N/A	storage	
	* The above recommendations	are assuming	the SQL Serv	er is remote	· · ·	
Firewall	Goliath Server					
	 HTTPS 443/TCP 4762 	29 opened inbo	ound and out	bound for web	console connection	ı
	 TCP 8282* opened it 	hound for age	ent connectio	n to agent loca	ation	
	• TCP 135 445 49164	open outbour	nd for remote	agent installa	tion via web console	2
	Goliath Intelligent Agent	open outbour		agent instand		-
	• TCP 8282* opened of	uthound for a	ant connect	ion to the Goli	ath Sarvar	
			for romoto	agont installati		
	• TCP 155, 445, 49104	open inbound	ior remote a	agent installatio		
	nypervisor				have	
	 HTTPS 443 opened outbound for connection to VMware vCenter HTTP 80 opened outbound for connection to Citrix XenServer Pool Master TCD 22028 opened outbound for connection form Missesoft lymon Vite the Calieth Server 					
	ICP 8282* opened outbound for connection from Microsoft Hyper-V to the Goliath Server					
	Epic System Pulse Module					
	HTTPS 443 opened outbound for connection to Epic System Pulse					
	* Default ports listed and can	be modified.				
Agent	Virtual Machine or P	hysical Server		• 0.1% (CPU of CPU core	
Specifications	Windows Server 200	08 R2 to 2016		• 1.5 M	B on Disk	
	 Windows 7 to 10 			• ~ 30 N	/IB RAM on Window	s Server, Linux/Unix, Mac
	 Unix/Linux & Mac 			• ~ 50 N	/IB RAM on Citrix Xe	nDesktop
				• ~ 80 N	/IB RAM on Citrix Xe	nApp
Supported	For the best experience we recommend using the latest version of your preferred browser from the list of supported					
Browsers	browsers below.					
	 Chrome v63 and late 	er				
	 Firefox v50 and later 					
	 Internet Explorer v1 	1				
Supported	Goliath Technologies supports	user experien	ce monitorin	g for the follov	ving:	
Languages	 Citrix Virtual Apps ar 	nd Desktops (fo	ormerly Citrix	XenApp & Xer	Desktop): Windows	s 7-10 (Desktop), 2008 R2 –
	2016 (Server) with b	ase operating	, system langu	ages of English	, German, French, D	Danish, Dutch and Spanish.
		, 0		5 0 0	. , , -	
	 VMware Horizon: W 	indows 7-10 (F	eskton) 200	8 R2 – 2016 (S	erver) with base one	erating system languages
	of English and Spanish					
	Language packs are not suppo	rted for user e	xperience ma	onitoring on eit	ther platform (Citrix)	/VMware).
				0 0		e e e e e e e e e e e e e e e e e e e
L	1					

	Hypervisor Monitoring
VMware v4.0 to 6.7	Service account with Read Only Rights
Citrix XenServer	Service account with Read Only Rights
v5.5 to 7.6	NVIDIA GRID K1/ K2 card monitoring supported
Microsoft Hyper-V	• Windows Server 2008 R2 – 2016
	Administrator level Credentials to access the Hyper-V Hosts/Servers
	Citrix Virtual Apps and Desktops Monitoring (Citrix XenApp & XenDesktop)
Citrix Virtual Apps and Desktops (formally Citrix XenApp & XenDesktop) v6.5 to 7.18, 7 18xx	 Service Account with Read Only Citrix Admin Rights within Citrix Studio and Local Admin Rights on the Delivery Controller required for Citrix 7.X and 7 18xx Inventory & Metric Collection. If you will also be implementing the Application Availability Monitor, Full Citrix Admin Rights within Citrix Studio are required. If using Citrix PVS, the above service account must also be a member of the PVS Farm Administrator group and have Local Admin Rights on the Provisioning Servers Windows 7-10 (Desktop), 2008 R2 – 2016 (Server) (For foreign language support, Windows installation of English, German, French and Spanish is supported.) PowerShell 2.0 or newer required Full Microsoft SQL suggested for full implementations of Goliath Performance Monitor, please consult the SQL requirements above
Citrix NetScaler	(This is used for Goliath Performance Monitor's Topology View)
NetScaler 10.5+	
	VMware Horizon Monitoring
VMware Horizon v6.0 to 7.6	 Service Account with Read Only Admin Rights within the Horizon Admin Console and Local Admin Rights on the Connection Server Windows 7-10 (Desktop), 2008 R2 – 2016 (Server) (Only English Windows installations supported.)
	 PowerShell 2.0 required Full Microsoft SQL suggested for full implementations of Goliath Performance Monitor, please consult the SQL requirements above
	 PowerShell 2.0 required Full Microsoft SQL suggested for full implementations of Goliath Performance Monitor, please consult the SQL requirements above
Epic System Pulse	 PowerShell 2.0 required Full Microsoft SQL suggested for full implementations of Goliath Performance Monitor, please consult the SQL requirements above Epic System Pulse Monitoring Service Account with Read-Only Rights HTTPS w/ Username enabled for Outgoing Data Services via Epic System Pulse Configuration Editor HTTPS enabled for Incoming Data Services via Epic System Pulse Configuration Editor Valid Certificate applied to Epic System Pulse and the Goliath Server trusts the Epic System Pulse Server Certificate
Epic System Pulse	 PowerShell 2.0 required Full Microsoft SQL suggested for full implementations of Goliath Performance Monitor, please consult the SQL requirements above Epic System Pulse Monitoring Service Account with Read-Only Rights HTTPS w/ Username enabled for Outgoing Data Services via Epic System Pulse Configuration Editor HTTPS enabled for Incoming Data Services via Epic System Pulse Configuration Editor Valid Certificate applied to Epic System Pulse and the Goliath Server trusts the Epic System Pulse Server Certificate Additional Monitoring
Epic System Pulse	 PowerShell 2.0 required Full Microsoft SQL suggested for full implementations of Goliath Performance Monitor, please consult the SQL requirements above Epic System Pulse Monitoring Service Account with Read-Only Rights HTTPS w/ Username enabled for Outgoing Data Services via Epic System Pulse Configuration Editor HTTPS enabled for Incoming Data Services via Epic System Pulse Configuration Editor Valid Certificate applied to Epic System Pulse and the Goliath Server trusts the Epic System Pulse Server Certificate Mindows 8 – 10 1.5 MB on Disk

Goliath Service Accounts

Please see the below guidelines for rights needed within Goliath Performance Monitor. One account can be created with all rights.

Infrastructure Component	Rights	Notes
Remote SQL Server	DBO	Needs to be a domain account and is applied to the
		Goliath Database.
Goliath Server*	Local Admin Rights	The account that has DBO rights to the Goliath database
		will also need local admin rights on the Goliath server.
VMware vCenter	Read-only	Needs to be defined at the vCenter level, not at
		Datacenter or lower for read-only
Citrix XenServer	Read-only	Needs to be defined at the XenServer level, not at
		Datacenter or lower for read-only
Citrix Virtual Apps and	Read-only Citrix Admin,	At least read-only admin rights within Citrix Studio and
Desktops 7.x and 7 18xx**	Local Admin on DDC, PVS	local admin rights on the delivery controller. If using PVS,
	Farm Admin, Local Admin	this account also needs to be a PVS farm admin.
	on PVS	
VMware Horizon	Read-only Horizon Admin,	At least read-only admin rights within Citrix Studio
	Local Admin on	Horizon Admin Console and Local Admin on the
	Connection Server	Connection Server
Epic System Pulse	Read-only	At least read-only rights to Epic System Pulse

*only needed if using an external database

** If also using the Goliath Application Availability Monitor, Full Citrix Admin Rights are required

Goliath Firewall Settings

A. Goliath Intelligent Agent

(Includes Citrix XenApp/VMware Horizon Servers, Citrix XenDesktop/VMware Horizon VDI's, Virtual Machines, and Workstations)

Source	Destination	Port	Traffic	Notes
Agent Location	Goliath Server	TCP 8282	Outbound	Agent connection. Default port listed, port can be modified.
Goliath Server	Agent Location	TCP 135, 445,	Inbound	These ports are for the RPC calls used to do the remote installation of the agent
		49164		from the Web console.

Monitoring Endpoints/Workstations that reside **<u>outside</u>** your network will require the following:

- NAT policy on the firewall to allow agent communication outbound via TCP 8282 (default port, this can be changed)
- Public IP address of the firewall

B. Goliath Server

Source	Destination	Port	Traffic	Notes
Agent Location	Goliath Server	TCP 8282	Inbound	Agent connection. Default port listed,
				port can be modified.
Goliath Server	Agent Location	TCP 135,	Outbound	These ports are for the RPC calls used to
		445, 49164		do the remote installation of the agent
				from the Web console.
(Anywhere)	Goliath Server	HTTP 443	Inbound	Web console connection. Default port
				listed, port can be modified.
Goliath Server	(Anywhere)	HTTP 443	Outbound	Web console connection. Default port
				listed, port can be modified.

C. Goliath Hypervisor Monitoring

Source	Destination	Port	Traffic	Notes
Goliath Server	VMware	HTTP 443	Outbound	VMware connection
Goliath Server	Citrix XenServer	HTTP 80	Outbound	Citrix XenServer Connection
Microsoft Hyper-V	Goliath Server	TCP 8282	Outbound	Agent connection. Default port listed,
				port can be modified.

Goliath Antivirus Exclusions/Filters

While not a-typical, we have been exposed to client environments which require antivirus filtering, or exclusion rules needing implemented due to the antivirus software conflicting with the Goliath Intelligent Agent. For that reasoning, we do recommend implementing exclusion rules which consist of the following:

Main Goliath Server

- Directory Exclusions:
 - Program Files (x86)\MonitorIT** This is the install directory of the Goliath Server, the local Agent, and relevant files (please include all subfolders/files)
 - Ensure recursive exclusions for the subfolders is allowed
- Process Exclusions:
 - RPMAgent.exe This is the process which is launched by the Agent's Service
 - RPMCCS.exe This is the process which is launched by the Server's Service
 - AgentService.exe Process supporting the Agent's Windows Service
 - Java.exe Supports hypervisor API communication
 - MonitorITService.exe Process supporting the Goliath Server's Windows Service
 - Stunnel.exe (Optional component) Used to support sending alerts and notifications via SSL/TLS enabled mail servers

Please Note: Directory level exclusions are required on the Goliath Server due to the fact that some files are created dynamically in the Goliath application directories.

- VMs/Servers with Agents on them (Citrix machines, VMs, etc)
 - Directory Exclusions:
 - Path: \Program Files\MonitorIT
 - Ensure recursive exclusions for the subfolders is allowed
 - Process Exclusions:
 - RPMAgent.exe This is the process which is launched by the Agent's Service
 - AgentService.exe Process supporting the Agent's Windows Service
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- Please Note: File level exclusions should not be combined with Directory exclusions
- OPTIONAL (if Directory exclusions are not allowed) File Exclusions @ \Program Files\MonitorIT:
 - AgentEvents.dll
 - AgentService.exe
 - Lua5.1.dll
 - Mfc90.dll
 - mfc90u.dll
 - mfc100.dll
 - mfcm90.dll
 - mfcm90u.dll
 - mfcm100.dll
 - Microsoft.VC90.CRT.manifest
 - Microsoft.VC90.MFC.manifest

- MISNMP.dll
- msvcm90.dll
- msvcp90.dll
- msvcp100.dll
- msvcr90.dll
- msvcr100.dll
- PSInterface35.dll
- PSInterface40.dll
- PSInterfaceLink.dll
- RpmAgent.exe
- Uninstall.exe

- Goliath Master Agent:
 - Directory Exclusions:
 - Path: \Program Files\MonitorIT
 - Ensure recursive exclusions for the subfolders is allowed
 - Process Exclusions:
 - RPMAgent.exe This is the process which is launched by the Agent's Service
 - AgentService.exe Process supporting the Agent's Windows Service
 - Java.exe Supports hypervisor API communication
 - Please Note: File level exclusions should not be combined with Directory exclusions
 - OPTIONAL (if Directory exclusions are not allowed) File Exclusions @ \Program Files\MonitorIT:
 - AgentEvents.dll
 - AgentService.exe
 - Lua5.1.dll
 - Mfc90.dll
 - mfc90u.dll
 - mfc100.dll
 - mfcm90.dll
 - mfcm90u.dll
 - mfcm100.dll
 - Microsoft.VC90.CRT.manifest
 - Microsoft.VC90.MFC.manifest

- MISNMP.dll
- msvcm90.dll
- msvcp90.dll
- msvcp100.dll
- msvcr90.dll
- msvcr100.dll
- PSInterface35.dll
- PSInterface40.dll
- PSInterfaceLink.dll
- RpmAgent.exe
- Uninstall.exe

Deployment Architecture



Are You Ready to Install?

To complete the installation of Goliath Performance Monitor (GPM), please ensure you have the following items available and prepared:

- 1. Goliath Performance Monitor installation file (gpmserver_setup64.exe)
- 2. Your license key (this should have been provided by Goliath Finance Dept)
- 3. Static IP applied to the server hosting Goliath Performance Monitor
- 4. Confirm the Prerequisites listed above are completed

Goliath Performance Monitor Server Installation Steps

The **Setup** program will install the Goliath Performance Monitor server on the system you want to be designated as the Server computer.

- 1. Exit all programs
- 2. To install GPM, run the downloaded executable, 'gpmserver_setup64.exe'
- 3. The executable will start the install process and display a Welcome installer

5	Goliath Performance Monitor Setup					
G GOLIATH TECHNOLOGIES	Welcome to the installer for Goliath Performance Monitor 1.7.2.5. It is strongly recommended that you exit all Windows programs before continuing with this installation. If you have any other programs running, please click Cancel, close the programs, and run this setup again. Otherwise, click Next to continue.					
	< <u>B</u> ack <u>Next > C</u> ancel					

- Click 'Next' to view the End User License Agreement.
 Note: It is strongly recommended that you exit all open Windows programs before continuing with the installation
- 5. Read the agreement and if you agree with the terms, select 'I agree to the terms of this license agreement' and click 'Next'. If you do not agree or do not wish to continue, select 'I do not agree to the terms of this license agreement' and click 'Cancel' to exit the installer.
- 6. Enter your product license key provided by Goliath Technologies and select 'Next' to continue.

5	Goliath Performance Monitor Setup	x
Goliat Ente	th Performance Monitor License Key r License Key below and click Next to continue. GCCLIATH	5*
lf you key to	have downloaded Goliath Performance Monitor for evaluation, enter EVAL as the License enable the full-featured version for 30-Days.	
Enter `	Your Goliath Performance Monitor License Key:	
EVA	L	
	< <u>B</u> ack <u>Next ></u> <u>C</u> ancel	

7. Please verify and or specify the **'STATIC IP Address'** or **'DNS Name'** for the Goliath Performance Monitor Server and Web Interface **'Console Port'**. When finished select **'Next'** to continue.

5	Goliath Performance Monitor Setup
G GOLIATH TECHNOLOGIES	The Static IP Address is used by Goliath for its browser based (IE, FF, Chrome, Opera, Safari) Console access, and when deploying Agents so the Agents know where to connect to the Goliath Server. The Console Port is where Goliath listens for the browser Console connections. If the Goliath Server machine has multiple NICs, check that the Static IP Address entered here is the one that Goliath will use. As an option, you can enter a DNS Name as long as that name resolves to the IP Address that Goliath will use. Enter a Static IP Address or DNS Name for the Goliath Performance Monitor Server: Enter Console 80
	< <u>B</u> ack <u>Next</u> > <u>C</u> ancel

8. Once **'Next'** is selected, the wizard will verify that the **Console Port** is available. If it is, Goliath Performance Monitor will then connect to it.



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- 9. The next step lets you select where to install the Goliath Performance Monitor program. When the appropriate location is confirmed or entered, click **'Next'** to continue.
 - a. the default location is 'C:\Program Files (x86)\MonitorIT'.

5 x Goliath Performance Monitor Setup Installation Folder GOLIATH Where would you like Goliath to be installed? The software will be installed in the folder listed below. To select a different location, either type in a new path, or click Change to browse for an existing folder. Install MonitorIT to: C:\Program Files (x86)\MonitorIT Change... Space required: 812.8 MB Space available on selected drive: 91.35 GB < Back Next > Cancel

Note: It is recommended that you use the default location

- 10. If this is a full installation with an **official license key**, you will see the following options for configuring the database settings.
 - a. For "Manual Configuration" please see Appendix C for instructions.



11. Please verify that the following installation settings are correct, if so select 'Next' to proceed with the

installation or 'Back' to make the appropriate modifications.

🛃 Goliath Performance Monitor Setup
Ready to Install You are now ready to install GPM 11.7.2.5
The installer now has enough information to install Goliath Performance Monitor on your computer.
The following settings will be used:
Install folder: C:\Program Files (x86)\MonitorIT
Shortcut folder: MonitorIT
SQL Server Database option: (Default) Install and Use a Local SQL Express Database.
Please click Next to proceed with the installation.
< <u>B</u> ack <u>Next</u> <u>C</u> ancel

12. During the installation process, a progress bar will show the progress of installing the Goliath Performance Monitor, as seen in the figure below. You will also see the installation of the SQL Express database installation take place if applicable.

5	Goliath Performance Mon	itor Setup 🗶
Installing Goli Please wait	ath Performance Monitor	GOLIATH
		Cancel

Please Note: At some points during the installation your screen may go blank. This is a normal part of the installation process.

13. Once Goliath Performance Monitor and SQL Express, if applicable, are successfully installed the install program will display a message that the installation is complete. Click **'Finish'** to exit the install program.



15. You have successfully installed Goliath Performance Monitor and can now launch the application.

Monitor Your Environment

Now that Goliath Performance Monitor is installed, next you'll want to configure monitoring. Please see the appropriate sections below for configuring your VMware vSphere, Citrix XenServer, Citrix XenApp/XenDesktop, VMware Horizon or Epic System Pulse environment(s). When going through the product configuration steps, we recommend configuring the relevant hypervisor first, and then Citrix XenApp/XenDesktop or VMware Horizon environments to follow.

Note: In this document, we refer to XenApp as being <u>published applications and desktops</u> and XenDesktop as being <u>VDI</u>.

When configuring VMware and XenServer, for the hosts/pools that you choose to monitor Goliath will populate the technology with all the machines and storage associated.

When configuring XenApp & XenDesktop, for the sites that you choose to configure Goliath will populate the technology with all the sessions hosts and or VDI within the site.

A. VMware vSphere Hypervisor

This section will walk you through the discovery and configuration process for adding VMware vSphere ESX/ESXi and their subsequent virtualized guest machines and storage to your Goliath Performance Monitor inventory.

- 1. From the 'Configuration Wizard', select the icon for 'Virtual Server'
- 2. Choose 'VMware' and then select the 'Next' button



3. You will be prompted for the connection information on the **'Provide Credentials'** page. Select **'Next'** once completed

15

Configuration Wizard		^ - X
Provide Credentials		
Provide your VMware vCenter For multiple vCenters or hosts ple	or Host Credentials: ase repeat the wizard	
IP Address or FQDN: User Name: Password:		
		Next

4. Select the 'Hosts' that you wish to add for monitoring and select 'Next'

scover and License	Hosts			
Select Hosts to Lice	ense for Monitoring:			
	Host Name	Memory	CPU Count	CPU Speed
10.20.20.60		16 GBs	1	2.2 GHz
10.20.20.62		16 GBs	1	2.2 GHz
10.20.20.58		24 GBs	2	2.2 GHz
10.20.20.50		16 GBs	2	2.2 GHz
10.20.20.52		16 GBs	2	2.1 GHz
			Back No	vt Cance

 Select the option 'Finish' and then 'Next'. Then 'Finish' to leave the wizard. Within 3 minutes your VMware inventory will populate into the technology. If you would like to add in another vCenter environment, select 'Repeat Virtual' and then 'Next' to repeat the wizard steps

Configuration Wizard				^ -	×
Virtual Configuration Save	ed				
How would you like to ca	ontinue?				
Repeat Virtual	C Install Agents	C Finish			
			Back	Cance	el



B. Citrix XenServer Hypervisor

This section will walk you through the discovery and configuration process for adding Citrix XenServer and their subsequent virtualized guest machines and storage to your Goliath Performance Monitor inventory.

- 1. From the 'Configuration Wizard', select the icon for 'Virtual Server'
- 2. Check 'XenServer' and then select the 'Next' button

ose solution			
hoose one of the follow	wing to begin configuration:		
Virtual Server	XenApp & XenDesktop	Application	Network
elect the Hypervisor:			
The following configuration rom your selected virtua ninimize what virtual ob	on steps will result in a discover al environment, which will be ad jects are added to Inventory by	y of Hosts, Virtual M ded to Inventory for using the filtering fea	achines and Storage, monitoring. You can ature.
The following configuration from your selected virtua minimize what virtual ob Click 'Inventory Filter' to	on steps will result in a discover al environment, which will be ad jects are added to Inventory by control what will be added to In	y of Hosts, Virtual M. ded to Inventory for using the filtering fea ventory: Inventor	achines and Storage, monitoring. You can ature. y Filter
The following configurati rom your selected virtuu ninimize what virtual ob Click 'Inventory Filter' to OVWwar	on steps will result in a discover al environment, which will be ad jects are added to Inventory by control what will be added to In e	y of Hosts, Virtual M. ded to Inventory for using the filtering fea ventory: Inventor	achines and Storage, monitoring. You can ature. y Filter per-V

3. You will be prompted for the connection information on the **'Provide Credentials'** page. Select **'Next'** once completed

Configuration Wizard		^ - x
Provide Credentials		
Provide your XenServer Pool M For multiple XenServer Pools or h	laster or Host Credentials: osts please repeat the wizard	
IP Address or FQDN: User Name: Password:		
		Next

4. Select the 'Hosts' that you wish to add for monitoring and select 'Next'



5. Select the option **'Finish'** and then **'Next'**. Then the button **'Finish'** to leave the wizard. Within 3 minutes your XenServer inventory will populate into the technology. If you would like to add in another XenServer environment select **'Repeat Virtual'** and then **'Next'** to repeat the wizard steps.

Configuration Wizard				^ - ×
Virtual Configuration Save	ed			
How would you like to c	ontinue?			
Repeat Virtual	C Install Agents	C Finish		
		Ва	ack Next	Cancel

Please see Appendix G for configuring Storage and GPU Monitoring on your XenServer hosts.

C. Microsoft Hyper-V Hypervisor

This section will walk you through the configuration process for adding your Microsoft Hyper-V environment to the technology.

- 1. From the 'Configuration Wizard', select the icon for 'Virtual Server'
 - a. If the wizard is not already displayed on the screen, it can be found by clicking the 'Settings' link in the top right-hand corner of the technology and then choosing the 'Configuration Wizard' option.
- 2. Choose 'Hyper-V' and then select the 'Next' button

Choose one of the follo	wing to begin configuration:			
Virtual Server	XenApp & XenDesktop	Application	Network	
select the Hypervisor:				
The following configuratio irom your selected virtual minimize what virtual obj	n steps will result in a discovery l environment, which will be adde ects are added to Inventory by u	of Hosts, Virtual Machi ed to Inventory for mor sing the filtering featur	nes and Storage, iltoring. You can e.	
Click 'Inventory Filter' to	control what will be added to Inv	entory: Inventory Filt	er	
Click 'Inventory Filter' to	control what will be added to Inv	entory: Inventory Filt • Hype	er-V	
Click 'Inventory Filter' to VMware Do you want to monitor y Then <u>Click here</u> to deploy	control what will be added to Inv e	entory: Inventory Filt	er r-V or vCenter? ent Agents.	

3. You will be prompted for the connection information on the **'Provide Credentials'** page. Enter in an account that has admin rights to the Hosts and VMs. Please note, this account will only be used for one-time authentication and will not be saved in the database. Select **'Next'** once completed

nouldo Administrator loual C	adaptials f	an the Uhme	- N. Comion			nitow	
User Name:		ог ше пуре	-v servers	s you wa		intor.	
Password:							
				-	Deals	Maria	0

4. The technology will then prompt you on how you would like to add your Hyper-V environment. The 'Manual' option is suggested if you will just be adding in a few systems. If adding in 4 or more, it is suggested to do discovery via 'Active Directory'. Select the option that makes the most sense for your use case and then click 'Next'

Select Servers to Monitor	
Choose Method to identify which Hyper-	/ Servers you want to Monitor:
Note: This action will require deployment of a low resource	, intelligent agent which will not require a reboot.
Manual	Active Directory
Configuration Tip:	
For 4 or more servers, we suggest Active Dir	rectory
For 3 or fewer servers, the manual option m address of the server you wish to add	ay be fastest, especially if you already know the hostname or IP
	Back Next Cancel

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5. According to the option you chose, follow the below instructions:

a. Manual

- i. Click the 'Add' button on the side of the pane
- ii. Enter the hostname & IP address for the Host/VM that you'd like to add into the technology and then click **'Apply'**
- iii. Repeat steps i & ii for each Host/VM that you'd like to add. When finished and ready to proceed click 'Next'

Manually Add your Hype	Provide Server Details	
lote: This action will deploy a low	Server Name":	
Host Name	IP Addr or FQDN":	
	Description:	Add
	* Required information Apply Cancel	Edit
		elete

b. Active Directory

i. The technology will connect to your Active Directory and discover all of the OUs. Navigate through the list and select all of the machines that you would like to add into the technology. When finished, click **'Next'**



6. The technology will then use the credentials provided earlier to install the agent onto the specified machines. When the installation is complete, click **'Next'**

If you are finished configuring monitoring, click **'Finish'**. Otherwise, if you would like to add in additional Hyper-V Hosts/VMs or configure XenServer, VMware or XenApp & XenDesktop monitoring, click the button **'Configure More'** to return to the beginning of the wizard.

D. Citrix XenApp and XenDesktop 7.X

These steps will take you through the configuration process to begin monitoring Citrix XenApp & XenDesktop to automatically collect Delivery Group Inventory, User Session Data, and enable Citrix session monitoring. The wizard will also assemble the Network Topology view which will take about 5-10 minutes to create upon completion of the wizard.

- 1. From the 'Configuration Wizard', select the icon for 'XenApp & XenDesktop'
- 2. Select 'Citrix XenApp' or 'Citrix XenDesktop' as appropriate and then select the 'Next' button



3. You will be prompted for the connection information on the 'Add your Citrix Delivery Controllers, Storefronts & NetScaler's' page

ad your Citrix Delivery Contro	pliers, storeFronts & No	etscalers	
Add at least one of each of the Site, and StoreFront or Web 1 Gollath will automatically identify Server, PVS server, Hypervisor Co Note: This action will deploy an agent	ne following: Delivery C Interface server in eac your other role servers in onnections and more, auto t, which will not require a rebo	controller per Citrix Site, Ne h cluster. cluding the remaining Delivery omatically. ot and uses: CPU 0.1%, Memory 2	etscaler (Gateway) pe Controllers, License 14MB, Disk 1.5MB
Host Name	Role	Site Controller	
			Add
			Edit
			Delete

- 4. Click the 'Add' button on the right-hand side and complete the requested information for the <u>Delivery Controller</u>:
 - Enter the Hostname of one of your delivery controllers and then the IP address
 - Click the drop-down menu in the 'Role' field and choose 'Delivery Controller'
 - Provide admin credentials in the form of 'domain\user'. These credentials will be used for one-time authentication to install the Goliath Agent
 - An account with Citrix Admin Rights within Citrix Studio is required for metric collection on an ongoing basis. If the account you would like to use is the same as the above account click 'Apply'. If you would like to use a separate account uncheck the box for 'Also Use...' and enter the appropriate credentials. When finished click 'Apply'
 - If you have more than one Citrix Site that you would like to monitor please repeat this step to add the other delivery controller. Goliath will automatically identify your remaining site delivery controllers.

Provide Configuration Details
Host Name or FQDN: HH-CTXDDC01
IP Address: 10 16
Role: Delivery Controller
Install Credentials: Enter credentials with local Admin rights. Credentials will be used one time.
User Name: lab\jane doe
Password:
□ Also Use These Credentials for Citrix Integration Service Account Should have Read-Only Admin rights
Citrix Service Account: Enter credentials with at least Citrix Read-Only Admin rights.
User Name: lab\svc_citrix
Password:
Apply Cancel

- 5. Click the 'Add' button on the right-hand side and complete the requested information for a *Storefront Server*:
 - Enter the Hostname of one of your storefront/web interface servers and then the IP address
 - Click the drop-down menu in the 'Role' field and choose 'Storefront'
 - Enter the hostname for one of the Citrix Site Delivery Controllers connected to this storefront.
 - Provide admin credentials in the form of 'domain\user'. These credentials will be used for one-time authentication to install the Goliath Agent
 - If you have more than one Citrix Site that you would like to monitor please repeat this step to add the other storefronts. Goliath will automatically identify your remaining site storefront servers.

Provide	Configuration Details
Host Name or FQDN:	HH-CTXSF01
IP Address:	10.10.10
Role:	StoreFront V
Hostname or FQDN for one Site Delivery Controller:	HH-CTXDDC01
Install Credentials: Enter credentials with local Adm	in rights. Credentials will be used one time.
User Name:	lab\jane doe ×
Password:	•••••
	ante Canada
. 4	

- 6. Click the **'Add'** button on the right-hand side and complete the requested information for a *NetScaler*:
 - Enter the Hostname of one of your NetScaler gateways and then the IP address
 - Click the drop-down menu in the 'Role' field and choose 'NetScaler'
 - Enter the hostname for one of the Citrix Site Delivery Controllers connected to this NetScaler.
 - Please note, this is an <u>agentless</u> configuration used for ICMP monitoring and is not dependent on Citrix Session monitoring

Provide	Configuration Details
Host Name or FQDN:	NET-NSVPX01
IP Address:	10.10.10
Role:	NetScaler V
Hostname or FQDN for one Site Delivery Controller:	HH-CTXDDC01

- 7. If you would like to add in other role servers like domain controllers, license servers, SQL Servers, PVS servers etc. (which is recommended for optimal data in the Topology view) click the 'Add' button on the right-hand side and complete the requested information:
 - Enter the Hostname of one of the role server and then the IP address
 - Click the drop-down menu in the 'Role' field and choose 'Other Role Server'
 - Provide admin credentials in the form of 'domain\user'. These credentials will be used for one-time authentication to install the Goliath Agent
 - Repeat the above until all role servers are added

Provide	Configuration Details
Host Name or FQDN:	HH-CTXPVS01 ×
IP Address:	10.10.10
Role:	Other Role Servers
Install Credentials: Enter credentials with local Adm	in rights. Credentials will be used one time.
User Name:	lab\jane doe
Password:	•••••
A	Cancel

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8. When all machines have been added, click the **'Next'** button to continue. The Goliath Agent will now be deployed to the Delivery Controller, Storefront Server and any other role server defined. When deployment is finished click the **'Next'** button.

Deploying Agent to selected Server(s):		
beproying Agent to selected berver(s).		
lote: This action is deploying a low resource, intelligent agent	and will not require a reboot.	
Conver Name	TD Address	Chabura
Server Name	IP Address	Status
HH-CTXDDC01	10.10.10	Installing Agent
HH-CTXPVS01	10.10.10.10	
HH-CTXSF01	10.10.10.10	
		Cance
onfiguration Wizard		~ -
ploying Agent		
Deploying Agent to selected Server(s):		
Note: This action is deploying a low resource, intelligent agent	and will not require a reboot.	
Note: This action is deploying a low resource, intelligent agent Server Name	and will not require a reboot. IP Address	Status
lote: This action is deploying a low resource, intelligent agent Server Name HH-CTXDDC01	and will not require a reboot. IP Address 10.10.10.10	Status 🖌 Successful
lote: This action is deploying a low resource, intelligent agent Server Name HH-CTXDDC01 HH-CTXPVS01	and will not require a reboot. IP Address 10.10.10.10 10.10.10.10	Status Successful Successful
lote: This action is deploying a low resource, intelligent agent Server Name HH-CTXDDC01 HH-CTXPVS01 HH-CTXSF01	and will not require a reboot. IP Address 10.10.10.10 10.10.10.10 10.10.10.10	Status Successful Successful Successful
lote: This action is deploying a low resource, intelligent agent Server Name HH-CTXDDC01 HH-CTXPVS01 HH-CTXSF01	and will not require a rebot. IP Address 10.10.10.10 10.10.10.10 10.10.10.10	Status V Successful V Successful V Successful
lote: This action is deploying a low resource, intelligent agent Server Name HH-CTXDDC01 HH-CTXPVS01 HH-CTXSF01 Agent	and will not require a reboot. IP Address 10.10.10.10 10.10.10.10 10.10.10.10 IN 10.10.10 Install Complete!	Status Successful Successful Successful
Note: This action is deploying a low resource, intelligent agent Server Name HH-CTXDDC01 HH-CTXPVS01 HH-CTXSF01 Agent	IP Address IP Address 10, 10, 10, 10 10, 10, 10, 10 10, 10, 10, 10 10, 10, 10, 10 Install Complete!	Status Successful Successful Successful
Note: This action is deploying a low resource, intelligent agent Server Name HH-CTXDDC01 HH-CTXPVS01 HH-CTXSF01 Agent	IP Address 10, 10, 10, 10 10, 10, 10, 10 10, 10, 10, 10 10, 10, 10, 10 Install Complete!	Status Successful Successful Successful

6. The **Save and Finish** screen will now appear, select **'Finish'** to close the configuration wizard and enter the technology.

Please Note: Upon completing this section, please allow 3-5 minutes for your session hosts/VDI machines to auto-populate into the technology and the current sessions that have been established in the environment. The Network Topology view will take about 5-10 minutes to render based on the size of the environment.

To see examples of what a correct deployment looks like, please see Appendix A.

E. VMware Horizon

These steps will take you through the configuration process to begin monitoring your VMware Horizon environment(s). Please note, these instructions are dependent on Section A for VMware vSphere Hypervisor being completed. If you have not yet completed Section A, please do so before proceeding.

- 1. Navigate to the 'Configure' tab and then the 'Inventory' submenu.
- 2. At the bottom of the page, click the 'Manage Agents' button.
- 3. Select the VMware Horizon VDI, RDSH servers, and the connection servers in which you'd like to install the agent on.
- Once selected, click the 'Deployment Settings' button and enter administrative credentials (domain\user) in order to access the server to install the agent. Click 'Ok' when ready.
- 5. Click the 'Install/Update Agents' bottom at the bottom of the screen.
- 6. Depending on the number of agents that are being installed or updated, the process may take about 2-10 minutes to complete. You will be prompted when the installation/update is complete.
- 7. Once the installation is complete, click the 'Close' button to return to the Inventory page. Here, you can confirm the agents are connecting in by confirming that there is a green box in the 'Stat' column for that machine. <u>Please note, you may need to refresh the screen after a few minutes in order to see page updates.</u>
- 8. Once all of the agents are connected, select the VMware Horizon Connection Server and click 'Edit' at the bottom of the page
- 9. A new pane will appear, there will be a section labeled **'VMware Horizon View Monitoring'** in this section please do the following:
 - a. In the **'User Name'** and **'Password'** fields, please enter the credentials for the Read Only Admin Service account for VMware Horizon in the format of **"domain\user"**

Password:

b. Check the box for 'Enable Application/Desktop and VDI Monitoring'

VMware Horizon View Monitoring: Enter VMware Administrative Credentials to Start Monitoring: User Name: Domain\User Comain\User Comain\User

- 10. Once all information is filled in, click the 'Save' button to complete the configuration
- 11. Now that the authentication information is saved, you'll need to update the agent on the connection server in order for the API Modules to be installed
 - a. At the bottom of the page, click the **'Manage Agents'** button.
 - b. Select the VMware Horizon Connection Servers in which you enable the integration on in step 9.
 - c. Click the 'Install/Update Agents' bottom at the bottom of the screen.
 - d. The agent update process may take about 2-4 minutes to complete. You will be prompted when the installation/update is complete.
 - e. Once the installation is complete, click the 'Close' button to return to the Inventory page.
- 12. Once the new agent is deployed to the Connection Server the API Modules will begin to enable Horizon Monitoring
 - a. It may take about 5 minutes or so before the data will appear. Please see the "Product Overview" section for details on how to view the VMware Horizon session data.

F. Epic System Pulse Module

These steps will take you through the configuration process to begin monitoring your VMware Horizon environment(s).

- Click on the 'Configure' menu option at the top of the page, and select the 'Inventory' submenu option
- 2. On the 'Inventory' page, find and select the line item for the local Goliath Server
- 3. Click on the 'edit' button at the bottom of the page
- 4. A new pane will appear, there will be a section labeled **'Epic EHR Monitoring'** in this section please do the following:
 - a. In the **'User Name'** and **'Password'** fields, please enter the credentials for the Read Only Service account for Epic System pulse in the format of **"domain\user"**
 - b. Check the box for 'Enable Epic Monitoring'
 - c. In the **'Epic Server Address'** field, please enter the IP Address or FQDN of the Epic System Pulse machine
 - d. In the **'Epic Production Resource Group'** field, please enter the name of the Epic resource group.

Epic EHR Monitoring: Enter Epic Administrative Credentials to Start Monitoring:									
User Name: Domain\User	Password:								
Enable Epic Monitoring Epic Server Address:									
Epic Production Resource Group:									

- 5. Once all information is filled in, click the 'Save' button to complete the configuration
 - a. It may take about 5 minutes or so before the data will appear. Please see the "Product Overview" section for details on how to view the Epic System Pulse data.

Deploy Agents

This section with provide instructions on how to deploy the Goliath Intelligent Agent to your VMware, XenServer, Hyper-V, Citrix XenApp/XenDesktop Environment. Please see the section that is applicable to your environment.

Note: The Goliath Intelligent Agent is required to collect the following metrics from your Windows machines:

- Event logs
- Processes
- Services
- Performance Counters & Utilization trends
- File/folder level analysis

In addition to the above, the Goliath Intelligent Agent is required to collect the following metrics from your Citrix Session Hosts/VDI:

- End User Experience Metrics (network latency, ICA RTT, Connection Speed, etc.)
- ICA/HDX Latency
- Logon Duration

In addition to the above, the Goliath Intelligent Agent is required to collect the following metrics from your VMware Horizon Hosts/VDI:

- End User Experience Metrics (network latency, ICA RTT, Connection Speed, etc.)
- Logon Duration

There is no reboot required when installing or updating the agent

A. Automated Agent Installation/Update via the Goliath Console

Below are instructions for installing the Intelligent Agent install/update on Windows 2008 R2 or newer and Windows 7 and newer machines from the Goliath console. This section is recommended for statically built machines, if your machines are created via Gold Image, Master Image or VM Template please see the appropriate section below.

- Open Goliath Performance Monitor and select the 'Configure' tab and then the 'Inventory' submenu.
- 2. At the bottom of the page, click the 'Manage Agents' button.
- 3. If this is the first time an agent is being installed to a server, select the **'Deployment Settings'** button and enter administrative credentials (domain\user) in order to access the server. If you are updating an agent that is connected to the product already, please proceed to the next step.
- 4. Select the server(s)/machines(s) that you would like to install/update the agent on and click the **'Install/Update Agents'** bottom at the bottom of the screen.
- 5. Depending on the number of agents that are being installed or updated, the process may take about 2-10 minutes to complete. You will be prompted when the installation/update is complete.
- 6. Once the installation is complete, click the **'Close'** button to return to the Inventory page. Here, you can confirm the agents are connecting in by confirming that there is a green box in the 'stat'

column for that machine. Please note, you may need to refresh the screen after a few minutes.

B. Gold Image, Master Image or VM Template Agent Installation

This section will guide you through the process of installing or updating the Goliath Intelligent Agent in your Gold Image, Master Image or Template for Windows 2008 R2 or newer, and Windows 7 and newer. For evaluation purposes, if the image/template is not able to be modified please skip this section follow the directions in the next section for Auto-Agent Deployment.

- 1. Launch the Goliath Intelligent Agent setup installer (InstallAgent.exe) and click 'Next'
 - a) This can be copied to the image from the goliath server at "C:\Program Files (x86)\MonitorIT\Agent\Windows"
- 2. Enter the IP Address or FQDN of the Goliath Server.
- 3. Enter the Goliath Agent Port used for communication and click **'Next'**. The default agent port is 8282.
- 4. The installer will ask whether the machine where the installer is currently running is a Gold Image, Master Image or Template. Select the radio button for **'Yes'** and then click **'Next'**
- Confirm the agent install directory and click 'Next'. This should remain "C:\Program Files\MonitorIT" unless there is no C drive. If using Citrix PVS, DO NOT INSTALL TO THE WRITE CACHE DRIVE.
- 6. Confirm the installation setting then click **'Next'** to start the installation.
- 7. After 1-2 minutes the installation will complete, click **'Finish'**.
 - a) Please note, once selecting finish it may take a minute for the installer window to close.
- 8. No additional steps are required to be added to your normal closing process for the agent. Follow your normal process for provisioning the Image or Template.

Appendix

A. Full Deployment Examples

I. XenApp/XenDesktop Sessions

There are few screens that will indicate that the Citrix API has been enabled and is working:

Configure>Inventory

Gph O	s vm	Server/Workstation/Device Nan	ne IP Address	Group	Stat	Agent Ver
1) 🗗	PROD.WS-DEV01	100000	Remote Access VM		11.6.6.4
	6	PROD.WS-F 'OS' column		Remote Access VM		11.6.6.4
) 🗗	PROD.WS-H	10.00710.00	Remote Accese VM		11.6.6.9
) 🚯	PROD.WS-KG	Green boxes in the 'Stat' column	Remote Access VM		
) 🚯	PROD.WS-LG	indicating the agent is installed &	Remote Access ∨M		11.6.6.4
) 🖧	PROD.WS-R	connected	Remote Access VM		11.6.6.4

²⁸ Goliath Performance Monitor Installation Guide Copyright © 2019 Goliath Technologies Version 11.7 – April 2019

View>XenApp/XenDesktop Sessions (App Servers & Published Apps/Desktops)

) Ap	p Servers	Publish	ed Apps & Des	ktops 🛛 🔘	Virtual Desktops				
Farm / Group Name	XA Server Name	IP Address	Users	Sessions	Processes	CPUs	CPU Use	Avg. CPU	Memory Use	XA Load	Avg. XA Load	UpTime	Туре	Memory	OS Version
HSD - Goliath Desktop	SVR-XAOPS001	10.00 (00.00	0	0	65	2	4.5 %	1.4 %	11.0 %	0	16.3	10d 00h 17m	x64-based PC	6 GB	Microsoft Windows Server 2012 R2 Standard 6.3.9600
HSA - TechOps Tools	SVR-XAOPS005	10.00	1	1	77	2	4.3 %	2.5 %	22.0 %	40	28.6	10d 07h 22m	x64-based PC	6 GB	Microsoft Windows Server 2012 R2 Standard 6.3.9600
HSA - TechOps Tools	SVR-XAOPS004	10.00 100.00	1	1	77	2	1.8 %	2.3 %	15.0 %	40	22.9	10d 08h 25m	x64-based PC	6 GB	Microsoft Windows Server 2012 R2 Standard 6.3.9600

View>XenApp/XenDesktop Sessions (Virtual Desktops)

				App Servers	Published Ap	ps & Desktops	O Virtual D	esktops				
XA Server Name	Session State	UserAccount	Client Name	Client Address	Version	Logon	ICA Latency	Avg. ICA Latency	App Name	Farm / Group Name	Connect D/T	Logoff/Disconnect D/T
■ SVR-XAOPS005	HDX - Application LoggedOff	Lee fallian	Laste Max	1000	12.3.0.418199	225.9 secs.	30 ms.	33.9 ms.	Infrastructure Tools\VMware vSphere Client	HSA - TechOps Tools	2017-06-01 10:09:42	2017-06-01 22:16:53
SVR-XAOPS005	HDX - Application LoggedOff	Lee	Louis inter-	ALC: NO.	12.3.0.418199	225.9 secs.	30 ms.	33.9 ms.	Applications\Google Chrome	HSA - TechOps Tools	2017-06-01 10:09:42	2017-06-01 22:16:53
SVR-XAOPS001 SVR-XAOPS001	HDX - Desktop LoggedOff	Raja	Children	No. of Concession, Name	14.5.0.10018	50.2 secs.	15 ms.	15.5 ms.		HSD - Goliath Desktop	2017-05-31 22:47:43	2017-06-01 17:34:24
SVR-XAOPS004	HDX - Application Active	Floy	100000000000	10.000	14.4.1000.16	15.3 secs.	13 ms.	12.9 ms.	Infrastructure Tools\VMware vSphere Client	HSA - TechOps Tools	2017-06-02 12:24:42	
SVR-XAOPS004	HDX - Application LoggedOff	Raja	Children	10.10.000.00	14.5.0.10018	12.1 secs.	24 ms.	18.8 ms.	Infrastructure Tools\Citrix XenCenter	HSA - TechOps Tools	2017-06-01 16:26:12	2017-06-01 21:46:02
SVR-XAOPS004 SVR-XAOPS004	HDX - Application LoggedOff	Raja	036464	No. of Concession, Name	14.5.0.10018	12.1 secs.	26 ms.	21.7 ms.	Applications\Google Chrome	HSA - TechOps Tools	2017-06-01 22:55:17	2017-06-02 01:41:05
SVR-XAOPS005 SVR-XAOPS005	HDX - Application LoggedOff	Lee	Last and the second second	10.00	12.5.0.473188	9.9 secs.	21 ms.	33.6 ms.	Applications\Google Chrome	HSA - TechOps Tools	2017-06-02 09:01:53	2017-06-02 09:40:20
SVR-XAOPS004	HDX - Application LoggedOff	Raja	122.000	1000.000	14.5.0.10018	8 secs.	26 ms.	21.7 ms.	Infrastructure Tools\Citrix XenCenter	HSA - TechOps Tools	2017-06-01 22:55:17	2017-06-02 09:18:18
SVR-XAOPS001	HDX - Desktop LoggedOff	Raja 📰 🔤	Children	10.48.406.24	14.5.0.10018	6.4 secs.	15 ms.	15.5 ms.		HSD - Goliath Desktop	2017-06-01 16:23:51	2017-06-01 17:34:24
SVR-XAOPS004	HDX - Application LoggedOff	Raja	Children	10.404.000.00	14.5.0.10018	5.2 secs.			Infrastructure Tools\Citrix XenCenter	HSA - TechOps Tools	2017-06-02 09:17:22	2017-06-02 09:18:18
SVR+XAOPS005 SVR+XAOPS005	HDX - Application LoggedOff	Lee	Large managements	1010.0047	12.5.0.473188	4.7 secs.	0 ms.	33.4 ms.	Applications\Google Chrome	HSA - TechOps Tools	2017-06-02 09:42:31	2017-06-02 09:54:40
I SVR-XAOPS005	HDX - Application Disconnected	Lee talkan	Lasta analysis for	10.00	12.5.0.473188	3.9 secs.	0 ms.	29.0 ms.	Applications\Google Chrome	HSA - TechOps Tools	2017-06-02 11:13:28	2017-06-02 14:50:24

II. Topology View Monitor>Topology



III. VMware Horizon

There are few screens that will indicate that the VM ware Horizon API has been enabled and is working.

View>VMware Horizon

G GOLIATH	Configure Dashboard	View Report	Log Management	Application	on Availability									Sign Out Settings
Performance Graphs	SNMP Traps Registry	XenApp & XenDe	sktop VMware Horiz	on	RDSH Hosts	Apps & RDS Deskto	virtual D	esktops					Search	▼ <mark>Q</mark> ¢
Full Name	User Account	Farm	Machine	SID	Session Start	Duration	Logon	CPU	Memory	RTT	B/W	Status	Protocol	Session Change
fi	goliathVf 📄 🐂	FARM-WIN2016	RDSH-7WIN162	7	Oct 1, 11:27:44	6h 3m	Os	L	43.4		14.002	DISCONNECTED	PCOIP	Oct 1, 17:31:01
n	goliathV	FARM-WIN2016	RDSH-7WIN161	2	Oct 1, 11:26:00	6h 6m	Os	3.9	81.6		173.605	DISCONNECTED	BLAST	Oct 1, 17:32:03
h	goliathV	FARM-WIN2016	RDSH-7WIN161	5	Aug 13, 16:37:11	19h 59m	Os	3.9	81.0			DISCONNECTED	BLAST	Aug 14, 12:36:44
b	goliath\t	FARM-WIN2016	RDSH-7WIN161	3	Aug 1, 15:28:32	1h 34m	Os	3.9	81.6			DISCONNECTED	BLAST	Aug 1, 17:02:38
k internet	goliathV	FARM-WIN2016	RDSH-7WIN161		Jul 18, 15:16:50	10m	11.9s	[81.6			DISCONNECTED	BLAST	Jul 18, 15:26:52

IV. Epic System Pulse Module

There are 2 dashboards that will be populated if the Epic System Pulse Module is fully configured.

Navigate to the View>Dashboards page and open the dashboards in the 'Epic' Folder



The two dashboards related to monitoring Epic Workflow & Activity will appear and look like this:



B. Connecting to a Remote SQL Server

In this section, we will review the procedure for connecting to a Remote SQL Server Instance from the Installer. See the following link to download the Goliath database file: <u>https://s3.amazonaws.com/goliathpm/Consulting/Database.zip</u>

- 1. Download the database file onto the remote SQL Server and place it in the 'DATA' Directory
- 2. Open SQL Management Studio and connect to the SQL Server
- 3. Attach the **'MonitorIT'** database
- 4. Once the attachment is complete, define an account that has DBO rights to the database. This account will be needed shortly.
- 5. Log onto the server where you will be install Goliath
- 6. Confirm that the DBO account for the database has local admin rights on the Goliath Server.
- 7. Exit all programs
- 8. To install GPM, run the downloaded executable 'gpmserver_setup64.exe'
- 9. The executable will start the install process and display a Welcome installer

5	Goliath Performance Monitor Setup
G GOLIATH TECHNOLOGIES	Welcome Weicome to the installer for Goliath Performance Monitor 1.7.2.5. It is strongly recommended that you exit all Windows programs before continuing with this installation. If you have any other programs running, please click Cancel, close the programs, and run this setup again. Otherwise, click Next to continue.
	< <u>B</u> ack <u><u>N</u>ext > <u>C</u>ancel</u>

- 10. Click **'Next'** to view the End User License Agreement. Read the agreement and if you agree with the terms, select **'I agree to the terms of this license agreement'** and click **'Next'**. If you do not agree or do not wish to continue, click **'Cancel'** to exit the installer.
- 11. Enter your Goliath license key provided by Goliath Technologies and select **'Next'** to continue. <u>If</u> you keep the default key of 'EVAL' the technology will install using SQL Express.

2	Goliath Performance Monitor Setup	×
Goliath Pe Enter Lic	erformance Monitor License Key ense Key below and click Next to continue.	S'
If you have key to enab	downloaded Goliath Performance Monitor for evaluation, enter EVAL as the License le the full-featured version for 30-Days.	e
Enter Your (Soliath Performance Monitor License Key:	
COLUMN STR	and an an an an and a second	
		-
	< <u>B</u> ack <u>Next</u> <u>C</u> ancel	

12. Please verify and or specify the **'STATIC IP Address'** or **'DNS Name'** for the Goliath Performance Monitor Server and Web Interface **'Console Port'**. When finished select **'Next'** to continue.

5	Goliath Perfo	ormance Monitor Setup	x
GOLIATH	SUBJECT OF CONTRACT OF CONTRAC	atic IP Address is used by Goliath for its browser (IE, FF, Chrome, Opera, Safari) Console access, e deploying Agents so the Agents know where to to the Goliath Server. The Console Port is where listens for the browser Console connections. Soliath Server machine has multiple NICs, check th IP Address entered here is the one that Goliath will option, you can enter a DNS Name as long as that resolves to the IP Address that Goliath will use. A Static IP Address or DNS Name for the IP Performance Monitor Server: Console	and at the Il use. t
		< <u>Back</u> <u>Next</u> <u>C</u> ance	I

13. Once **'Next'** is selected, the wizard will verify that the **Console Port** is available. If it is, Goliath Performance Monitor will then connect to it.

Testing Console Port Availability
One moment while the Console Port is checked for availability. Testing: http://10880

- 14. The next step lets you select where to install the Goliath Performance Monitor program. When the appropriate location is confirmed or entered, click **'Next'** to continue.
 - a. On 64-bit versions of Windows, the default location is **'C:\Program Files** (x86)\MonitorIT'



15. You will see the following options for configuring the database settings. Please select 'Manual Configuration' and Click 'Next'



16. Please verify that the following installation settings are correct, if so select **'Next'** to start the installation or **'Back'** to make the appropriate modifications.



17. During the installation process, a progress bar will show the progress of installing the Goliath Performance Monitor, as seen in the figure below. **Please Note:** At some points during the installation your screen may go blank. This is a normal part of the installation process.

5	MonitorIT Setup	x
Installing Monitorl		
Please wait		
Installing Files		
C:\Program Files (x86	\MonitorIT\\ui-bg_smooth_75_e6e6e6_1x400.png	

18. Once Goliath Performance Monitor is successfully installed the installer will display a message that the installation is complete. Click **'Finish'** to exit the install program.



- 20. You have successfully installed Goliath Performance Monitor can click 'Finish'
- 21. Open the Run window and type 'C:\Windows\SysWOW64\odbcad32'

- 22. Once open, go to the System DSN tab
- 23. Click 'Add' and scroll through the list to select the driver type 'SQL Server' or 'SQL Server Native Client'

Create New Data Source	x
Select a driver for which you want to set up a data Name Microsoft ODBC for Oracle Microsoft Paradox Driver (*.db) Microsoft Paradox-Treiber (*.db) Microsoft Text Driver (*.bt; *.csv) Microsoft Text-Treiber (*.bt; *.csv) SQL Server SQL Server SQL Server Native Client 10.0	Source. V ∧ 6 6 6 6 6 6 6 6 2 ∨ >
< Back Finish	Cancel

- 24. Name the connection with the information listed below, when finished click 'Next'
 - a. Define the Name as 'BreakoutRPM'
 - b. Define Description as 'Primary GPM Database'
 - c. For 'Server' use the dropdown menu to pick the appropriate server name

(Create a New Data Source to SQL Server	
	This wizard will help you create an ODBC data source that you can use to connect to SQL Server.	
What name do you want to use to refer to the data source?		
	Name: BreakoutRPM	
	How do you want to describe the data source?	
	Description: Primary Goliath Performance Monitor Database	
	Which SQL Server do you want to connect to?	
	Server: SVR-SQL01 V	
	Finish Next > Cancel Help	

Note: For the SQL Server, be sure to pick the choice with the name in the correct format of the server name/instance name of the new database from the dropdown menu.

25. Keep the default settings to use the Integrated Windows authentication to connect to the database and select 'Next'

26. Check the box next to **'Change the default database to'** and select **'GoliathDB'** from the dropdown menu. Click **'Next'**

C	reate a New Data Source to SQL Server
	 Change the default database to: Change the default database to: Attach database filename: Attach database filename: Use ANSI quoted identifiers. Use ANSI nulls, paddings and warnings. Use the failover SQL Server if the primary SQL Server is not available.
	< Back Next > Cancel Help

- 27. Keep the defaults for the additional options and click 'Finish
- 28. Select the **'Test Data Source'** button to validate the connection. Click **'OK'** to close all windows.
- 29. Navigate to C:\Program Files (x86)\MonitorIT\Bin
- 30. Run 'MonitorITCFU' as administrator
- 31. Once MonitorITCFU is open fill in the below information:
 - a. Root Directory: this is the install directory for Goliath, the default location is C:\Program Files (x86)\MonitorIT
 - b. Server IP Addr: this is the IP address of the Goliath Server
 - c. Web Port: update to 47629
 - d. Agent Port: update to 8282

Unnamed1	_ 0	x
Web Server Configuration		^
Root Directory: Default		
Server IP Addr: Default		
Web Port 80 Default Agent Port: 82 Default		_
Image: System Port: 514 Enable NetFlow Monitoring System Port: 514 NetFlow Listen Port: 2055		-
Database Configuration		
Storage DSN: BreakoutRPM Default		Γ
Analysis DSN: BreakoutRPMAnalyze Default		
Maintenance Cycle:		
✓ Delete collected data older than 7 days.		
✓ Perform deletions automatically at		
Alert Configuration:		~

- 32. File>Save as the file with the below information:
 - a. Filename: Default
 - b. Save as file type: Monitor IT Server Config files (*.btc)
 - c. Save File Location: C:\Program Files (x86)\MonitorIT\Bin

- 33. Once it is saved, you can close the program.
- 34. Right click the **'Goliath Performance Monitor'** desktop icon and run the technology **'as administrator'**
 - a. The technology will error our, this is normal
- 35. Close the product
- 36. Open Windows Services
- 37. Stop the MonitorIT Server Service
- 38. Right click the service to open the properties
- 39. Click the 'Log On' tab
- 40. Specify the DBO account credentials
- 41. Click 'Apply' and then 'OK' to close the window
- 42. Go to C:\Program Files (x86)\MonitorIT\Bin and Run RPMCCS.exe as admin
 - a. The product will probably error again, this is normal wait about 3 mins and refresh the browser

C. Configuring the Inventory Filter

This feature of Goliath allows one to filter in or out particular elements from their VMware, XenServer and Citrix environment. With our API integrations, Goliath is able to populate the entire inventory, but due to the size of your environment, you may not want to see and monitor all components. In this section, I will explain how to use the inventory filter.

	Specify Inventory	Filter Inclusion	is / Exclusions	
INCLUDE Server or Gr you want included Start each Invento The wild-ca Format is: TYPE:	rs or Delivery Groups: oup TYPE from above list, fr in Inventory. All other Ser ry specification on a new li rd, asterisk character, "*", i : ServerName1, ServerN	Select a TYPE ollowed by a comm rers or Groups not ne. Multiple entrie: s accepted as the 1 <i>lame2, ServerNa</i>	Select TYPE to INCLUDE a-delimited list of Server of listed for the selected TYP s of the same or different 1 first or last character in a r ame3, ServerName4,5	v Group names E are ignored. TYPE allowed. name. ServerNameN
EXCLUDE Serve	rs or Delivery Groups: at is the same as INCLUDE of excluded for the selected PE has been specified, then	Select a TYPE for specifying iten TYPE are included an EXCLUDE for I	Select TYPE to EXCLUDE Is that are excluded from J in Inventory. If an INCLU that TYPE is ignored as red	V Inventory. IDE for lundant.

Inventory Filtering from the 'First Time Run Wizard'

The INCLUDE section: Select a Server or Group TYPE from the dropdown list. Then type a comma-delimited list of Server or Group names you want included in Inventory. All other Servers or Groups not listed for the selected TYPE are ignored. Start each Inventory specification on a new line. Multiple entries of the same or different TYPE allowed. The wild-card, asterisk character, '*', is accepted as the first or last character in a name.

The EXCLUDE section: Select a Server or Group TYPE from the dropdown list. Then type a comma-delimited list of Server or Group names you want excluded from Inventory. All other Servers or Groups not listed for the selected TYPE are included in inventory. Start each Inventory specification on a new line. Multiple entries of the same or different TYPE allowed. The wild-card, asterisk character, '*', is accepted as the first or last character in a name.

Inventory Filtering from the 'Inventory' Screen

The INCLUDE section: Select a Server or Group TYPE from the dropdown list. Then type a comma-delimited list of Server or Group names you want included in Inventory. All other Servers or Groups not listed for the selected TYPE are ignored. Start each Inventory specification on a new line. Multiple entries of the same or different TYPE allowed. The wild-card, asterisk character, '*', is accepted as the first or last character in a name.

The EXCLUDE section: Select a Server or Group TYPE from the dropdown list. Then type a comma-delimited list of Server or Group names you want excluded from Inventory. All other Servers or Groups not listed for the selected TYPE are included in inventory. Start each Inventory specification on a new line. Multiple entries of the same or different TYPE allowed. The wild-card, asterisk character, '*', is accepted as the first or last character in a name.

- Once the list of items you'd like to include/exclude are complete, select ok
- Find the items in inventory that you've chosen to exclude or are items that you haven't chosen to include and delete them from inventory

D. Configuring Citrix XenServer Storage & GPU Monitoring

I. Enable Citrix XenServer Storage Monitoring

In order to start collecting information on your host and VM storage, please make sure the following is enabled.

- 1. Log into Citrix XenCenter
- 2. Select a host where you want to enable/confirm storage metric collection
- 3. Click the 'Performance' tab



- 4. Select 'Actions' and then 'New Graph'
- 5. Name the graph **'Storage Performance'**, sort the list by type (Z->A), and select all datasources with a type of **'Storage'**

Nev	v Graph		?
Name			
	Datasource	Туре	▼ ▲
2	IntelliCache Cache Hits	Storage	
7	IntelliCache Cache Misses	Storage	
7	IntelliCache Cache Size	Storage	
2	'STOR-LS02' Inflight Requests	Storage	
7	'STOR-LS02' IO Wait	Storage	
7	'STOR-LS02' Queue Size	Storage	
7	'STOR-LS02' Read IOPS	Storage	
7	'STOR-LS02' Read Throughput	Storage	
7	'STOR-LS02' Total IOPS	Storage	
7	'STOR-LS02' Total Throughput	Storage	
7	'STOR-LS02' Write IOPS	Storage	
⊽	'STOR-LS02' Write Throughput	Storage	
2	'XenServer Tools' Inflight Requests	Storage	
2	'XenServer Tools' IO Wait	Storage	
	XenServer Tools' Queue Size	Storage	
5	'XenServer Tools' Read IOPS	Storage	
С	lear All	ave	Cancel

- 6. When finished, select 'Save'
- 7. Repeat these steps for all of the hosts that you will be monitoring in Goliath Performance Monitor

II. Enable Citrix XenServer NVIDIA Grid Monitoring

In order to start collecting information on your host and VM storage, please make sure the following is enabled.

- 1. Log into Citrix XenCenter
- 2. Select a host where you want to enable/confirm NVIDIA Grid metric collection
- 3. Click the 'Performance' tab



- 4. Select 'Actions' and then 'New Graph'
- Name the graph 'NVIDIA Performance', sort the list by type (A->Z), and select all datasources with a type of 'GPU'

"D	etails		?
lame			
	Datasource	Тур	e 🛆
	io_errors	Cust	om 🔳
	io_errors	Cust	om 🔳
	io_errors	Cust	om 🔳
~	GK104GL [GRID K2] 0000:86:00.0 Free Memory	GPU	
7	GK104GL [GRID K2] 0000:86:00.0 Memory Utilization	GPU	
7	GK104GL [GRID K2] 0000:86:00.0 Power Usage	GPU	
7	GK104GL [GRID K2] 0000:86:00.0 Temperature	GPU	
7	GK104GL [GRID K2] 0000:86:00.0 Used Memory	GPU	
7	GK104GL [GRID K2] 0000:86:00.0 Utilization	GPU	
7	GK104GL [GRID K2] 0000:85:00.0 Free Memory	GPU	
7	GK104GL [GRID K2] 0000:85:00.0 Memory Utilization	GPU	
7	GK104GL [GRID K2] 0000:85:00.0 Power Usage	GPU	
2	GK104GL [GRID K2] 0000:85:00.0 Temperature	GPU	
~	GK104GL [GRID K2] 0000:85:00.0 Used Memory	GPU	
~	GK104GL [GRID K2] 0000:85:00.0 Utilization	GPU	
	'STOR-LS02' Latency	Later	ncy
C	lear All	ОК	Cancel

- 6. When finished, select 'Save'
- 7. Repeat these steps for all of the hosts that you will be monitoring in Goliath Performance Monitor

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