

Goliath Performance Monitor v11.7

Prerequisites Guide



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

Goliath Performance Monitor Prerequisites

Component	Requirement																																																
Goliath Server																																																	
Goliath Server	<ul style="list-style-type: none"> Virtual Machine or Physical Server Windows Server 2012 R2 – 2016 64bit <ul style="list-style-type: none"> English version of Windows required Static IP address Minimum of 8 vCPU Minimum of 12 GB RAM Minimum of 25 GB Disk Available Internet Explorer 11 installed 																																																
Database	<ul style="list-style-type: none"> Microsoft SQL Server 2014 – 2017 <ul style="list-style-type: none"> Microsoft SQL Express 2017 is the embedded database option packaged with the product Always On Cluster supported with the Goliath database running in ‘Simple’ mode SQL Server Configuration Recommendations: <ul style="list-style-type: none"> Enable “Boost SQL Priority” for the SQL Server Processors Set the “Max Server Memory” value as indicated in the below chart SQL Server Sizing Recommendations based on environment size: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Small</th> <th>Medium</th> <th>Large</th> <th>Extra Large</th> <th>XXL</th> </tr> </thead> <tbody> <tr> <td># of Citrix XA/XD and/or VMware Horizon Servers, VDI</td> <td>Less than 500</td> <td>Up to 1,500</td> <td>Up to 3,000</td> <td>Up to 8,000</td> <td>Above 8,000</td> </tr> <tr> <td>CPU</td> <td>4vCPU</td> <td>6vCPU</td> <td>8vCPU</td> <td>16vCPU</td> <td></td> </tr> <tr> <td>Memory</td> <td>8 GB RAM</td> <td>16 GB RAM</td> <td>32 GB RAM</td> <td>64 GB RAM</td> <td></td> </tr> <tr> <td># of TempDB's</td> <td>4</td> <td>6</td> <td>8</td> <td>8</td> <td></td> </tr> <tr> <td>Max Server Memory (MB)</td> <td>4860</td> <td>10300</td> <td>25500</td> <td>51245</td> <td></td> </tr> <tr> <td>Drive space</td> <td colspan="5">Please consult our Database Estimator document</td> </tr> <tr> <td>Drive Type</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>SSD drives w/TBs of storage</td> <td></td> </tr> </tbody> </table> <p style="text-align: right; font-size: small;">Technical discussion required for recommendations</p> <p><i>* The above recommendations are assuming the SQL Server is remote</i></p>		Small	Medium	Large	Extra Large	XXL	# of Citrix XA/XD and/or VMware Horizon Servers, VDI	Less than 500	Up to 1,500	Up to 3,000	Up to 8,000	Above 8,000	CPU	4vCPU	6vCPU	8vCPU	16vCPU		Memory	8 GB RAM	16 GB RAM	32 GB RAM	64 GB RAM		# of TempDB's	4	6	8	8		Max Server Memory (MB)	4860	10300	25500	51245		Drive space	Please consult our Database Estimator document					Drive Type	N/A	N/A	N/A	SSD drives w/TBs of storage	
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Firewall	<p>Goliath Server</p> <ul style="list-style-type: none"> HTTPS 443/TCP 47629 opened inbound and outbound for web console connection TCP 8282* opened inbound for agent connection to agent location TCP 135, 445, 49164 open outbound for remote agent installation via web console <p>Goliath Intelligent Agent</p> <ul style="list-style-type: none"> TCP 8282* opened outbound for agent connection to the Goliath Server TCP 135, 445, 49164 open inbound for remote agent installation via web console <p>Hypervisor</p> <ul style="list-style-type: none"> HTTPS 443 opened outbound for connection to VMware vCenter HTTP 80 opened outbound for connection to Citrix XenServer Pool Master TCP 8282* opened outbound for connection from Microsoft Hyper-V to the Goliath Server <p>Epic System Pulse Module</p> <ul style="list-style-type: none"> HTTPS 443 opened outbound for connection to Epic System Pulse <p><i>* Default ports listed and can be modified.</i></p>																																																
Agent Specifications	<ul style="list-style-type: none"> Virtual Machine or Physical Server Windows Server 2008 R2 to 2016 Windows 7 to 10 Unix/Linux & Mac 0.1% CPU of CPU core 1.5 MB on Disk ~ 30 MB RAM on Windows Server, Linux/Unix, Mac ~ 50 MB RAM on Citrix XenDesktop ~ 80 MB RAM on Citrix XenApp 																																																
Supported Browsers	<p>For the best experience we recommend using the latest version of your preferred browser from the list of supported browsers below.</p> <ul style="list-style-type: none"> Chrome v63 and later Firefox v50 and later Internet Explorer v11 																																																
Supported Languages	<p>Goliath Technologies supports user experience monitoring for the following:</p> <ul style="list-style-type: none"> Citrix Virtual Apps and Desktops (formerly Citrix XenApp & XenDesktop): Windows 7-10 (Desktop), 2008 R2 – 2016 (Server) with base operating system languages of English, German, French, Danish, Dutch and Spanish. VMware Horizon: Windows 7-10 (Desktop), 2008 R2 – 2016 (Server) with base operating system languages of English and Spanish. <p>Language packs are not supported for user experience monitoring on either platform (Citrix/VMware).</p>																																																

Hypervisor Monitoring	
VMware v4.0 to 6.7	<ul style="list-style-type: none"> • Service account with Read Only Rights
Citrix XenServer v5.5 to 7.6	<ul style="list-style-type: none"> • Service account with Read Only Rights • NVIDIA GRID K1/ K2 card monitoring supported
Microsoft Hyper-V	<ul style="list-style-type: none"> • 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 (formerly Citrix XenApp & XenDesktop) v6.5 to 7.18, 7 18xx	<ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> ○ 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) <i>(For foreign language support, Windows installation of English, German, French and Spanish is supported.)</i> • 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 NetScaler 10.5+	<i>(This is used for Goliath Performance Monitor's Topology View)</i>
VMware Horizon Monitoring	
VMware Horizon v6.0 to 7.6	<ul style="list-style-type: none"> • 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) <i>(Only English Windows installations supported.)</i> • PowerShell 2.0 required • Full Microsoft SQL suggested for full implementations of Goliath Performance Monitor
Epic System Pulse Module	
Epic System Pulse	<ul style="list-style-type: none"> • 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	
Windows Mobile Device/Tablet	<ul style="list-style-type: none"> • Windows 8 – 10 • 0.1% CPU

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 XenApp/XenDesktop 7.X and 7.18x**	Read-only Citrix Admin, Local Admin on DDC, PVS Farm Admin, Local Admin on PVS	At least read-only admin rights within Citrix Studio and local admin rights on the delivery controller. If using PVS, this account also needs to be a PVS farm admin.
VMware Horizon	Read-only Horizon Admin, Local Admin on Connection Server	At least read-only admin rights within Citrix Studio Horizon Admin Console and Local Admin on the 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, 49164	Inbound	These ports are for the RPC calls used to do the remote installation of the agent from the Web console.

Monitoring Endpoints/Workstations that reside **outside** 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, 445, 49164	Outbound	These ports are for the RPC calls used to 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

- **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
 - mfc90u.dll
 - mfc100.dll
 - mfc90u.dll
 - mfc100.dll
 - Microsoft.VC90.CRT.manifest
 - Microsoft.VC90.MFC.manifest
 - MISNMP.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.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
 - mfc90u.dll
 - mfc100.dll
 - mfc90u.dll
 - mfc100.dll
 - Microsoft.VC90.CRT.manifest
 - Microsoft.VC90.MFC.manifest
 - MISNMP.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.dll
 - msvc90.dll
 - PSInterface35.dll
 - PSInterface40.dll
 - PSInterfaceLink.dll
 - RpmAgent.exe
 - Uninstall.exe

Deployment Architecture

