

ArcGIS Monitor Help

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Get Started

Introducing ArcGIS Monitor

What is ArcGIS Monitor?

ArcGIS Monitor is a tool for collecting data and information on the status, usage, availability, and resource utilization in your Enterprise GIS. It can also provide alerts, notifications, and reports with statistics for monitored systems and sites.

ArcGIS Monitor is a tool uniquely tailored to audit the health of your ArcGIS implementations. ArcGIS Monitor will show you insightful information about your system usage and performance, while ensuring that Esri can support you throughout the lifecycle of your GIS.

ArcGIS Monitor operates as an independent application that is installed on a separate machine from any production ArcGIS Enterprise software.

Audience and value

ArcGIS Monitor provides value to:

1. Administrators:
 - a. Detect, diagnose, and resolve issues with availability, configuration, performance and usage
 - b. Gather actionable, quantifiable operational metrics and usage trends over time
2. Managers:
 - a. Increase communication among GIS and IT staff and senior management
 - b. Reduce administration costs
3. Users:
 - a. Access real time status
 - b. Improve end-user satisfaction

It is designed to help ArcGIS administrators overcome common enterprise GIS challenges, e.g.

1. Multiple administrators
2. Multiple disparate monitoring/diagnostic tools
3. Data collected in a reactive fashion: on demand and for limited time
4. Correlation of data with different timestamp is difficult
5. ArcGIS administrators do not have access to all tools, data and reports
6. Challenging to quickly identify the root cause and take appropriate measures

Components of ArcGIS Monitor

ArcGIS Monitor is comprised of two functional components.

Administrator, a desktop application, is used to manage Server and Monitoring Service.

Server	ArcGIS Monitor Server installation creates: <ul style="list-style-type: none">• MongoDB data repository• Windows service (Server) that handles connections between monitoring service and MongoDB• Web site for viewing, reporting, and analyzing data stored in MongoDB.
Monitoring Service(s)	<ul style="list-style-type: none">• Windows services that connect to target machines and collects monitoring metrics

See [Deployment scenarios](#) in Server Installation Guide for additional information.

What's included in ArcGIS Monitor?



ArcGIS Monitor includes common counter types such as System, Process, ArcGIS Server, Portal, Database, Http, RDP, and Amazon stored in the ArcGIS Monitor database. Additional monitoring capabilities are provided through several extensions that are not included with ArcGIS Monitor installation.

Counter types	System, Process, ArcGIS, Portal, DB, Http, RDP, Amazon.
Core extensions	Will be available in the ArcGIS Monitor Gallery, only supported by Esri Professional Services.
Standard Report Categories	Reports organized by counter types.

What's new in ArcGIS Monitor 10.6

New product terminology

When ArcGIS Monitor became an Esri product, several components from the previous System Monitor tool had to be renamed to prevent product confusion and standardize with other Esri products. To help users move to ArcGIS Monitor terminology, the following table lists the old System Monitor names beside the new ArcGIS Monitor product terminology. If needed, refer to the [Glossary](#) for detailed definitions.

System Monitor 	ArcGIS Monitor 
System Monitor Desktop	ArcGIS Monitor Administrator
Report Server	ArcGIS Monitor Server
Portal	Sharing
Collector	Monitoring Service (Open button in Server Connections)
Account	Collection
SM <Name> service	ArcGIS Monitor <Name> service
3.x	10.6.x

Compatibility of ArcGIS Monitor 10.6 with earlier versions

ArcGIS Monitor is a new product. Recommended workflow is to:

1. create a new installation and a new repository.
2. import collection definition from previous versions.

Note: Upgrading or migrating database repositories from older version 3.x is possible with Esri Professional Service engagement.

Planning for ArcGIS Monitor deployment

ArcGIS Monitor deployment is a straightforward process and typically can be completed within a couple of hours. However, there are several key prerequisites that require advanced planning ahead of the installation:

Approve mongodb and other software prerequisites

See Installation Guide for the list of prerequisites.

The key prerequisite is MongoDB 3.4.x software and might require advanced IT approval. User is responsible for acquiring and installing MongoDB software. A free community version is licensed under GNU Affero General Public License and available at <https://www.mongodb.com/download-center#community>.

Installing mongodb software is a very straightforward process and does not require dba skills. ArcGIS Monitor install will create and manage the database.

Identify environments and solutions to be monitored

Separate environments based on:

1. environment type, e.g. Production, Staging
2. solution type, e.g. Electric, Gas
3. geographic location (if distributed), e.g. US, AU, CA

Administrator should understand solution architecture, all software components and depended infrastructure. Use this knowledge to select and configure appropriate default counters and extensions.

Select deployment option

Centralized deployment (all components on one server) is the best option for most environments. Consider distributed option only if you have geographically distributed environments with a network latency met. See [Deployment scenarios](#) in Server Installation Guide for additional information.

Allocate hardware

1. Ensure hardware requirements (CPU, RAM, disk size) are met, see the Installation Guide.
2. Select a local disk drive for repository (requires 50 GB space)

Prepare credentials and connectivity

Assign ArcGIS Monitor administrator

Assign a person in your organization to be the “ArcGIS Monitor administrator” that will have the authority to manage the tool, add/edit counters, create and publish reports, set alert conditions, follow up on alerts, and grant/revoke user access.

Steps to get ArcGIS Monitor up and running

1. Verify System Requirements
2. Install Server
3. Install Administrator
4. Follow [Getting started after install](#)

Installation Guides

Server

Step 1: Verifying system requirements

System Requirements

Operating system requirements

64-bit Operating System: Windows 2008 R2, 2012, 2012 R2, 2016, 7, 8.x, 10

Hardware requirements

1. Minimum Sizing 4 CPU cores, 16 GB RAM. Additional 2 CPU, 4 GB RAM per Monitoring Service.
2. Dedicated server class machine that does not host other production operations (do not install on production ArcGIS Server/Portal machine)
3. Laptops, VMs on Laptops, or tablet computers are not reliable hosts for ArcGIS Monitor due to power settings and network connectivity.

vc_redist.x64.exe 2015

Microsoft Visual C++ 2015 Redistributable Update 3 RC

Download and install **vc_redist.x64.exe**: <https://www.microsoft.com/en-us/download/details.aspx?id=52685>

.Net Framework 4.5 or 4.6

Download: <http://www.microsoft.com/en-us/download/details.aspx?id=30653> or <http://www.microsoft.com/en-us/download/details.aspx?id=48130>

Firewall settings

ArcGIS Monitor Server requires the following ports

1. 443 or assigned for server

Note: It is not recommended to run IIS on the same machine as ArcGIS Monitor. If IIS is running on test machine, port 443 is likely already in use. Pick another port e.g. 444.

2. 27017 or assigned for mongodb

If your server admin has manually set the “MaxUserPort” parameter, check registry setting for MaxUserPort= 65534 in HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters

SSL certificates

ArcGIS Monitor comes pre-configured with a self-signed certificate, which allows the server to be initially tested and to help you quickly verify that your installation was successful. You must request a certificate from a trusted certificate authority (CA) and configure the server to use it. This could be a domain certificate issued by your organization or a CA-signed certificate.

Supported web browsers

Chrome, Firefox, Internet Explorer 11, Microsoft Edge* (Internet Explorer 9 or 10 is not supported)

Note: *If using Microsoft Edge browser, must use fully qualified domain name syntax (https://hostname.domain.com:port).

Supported databases

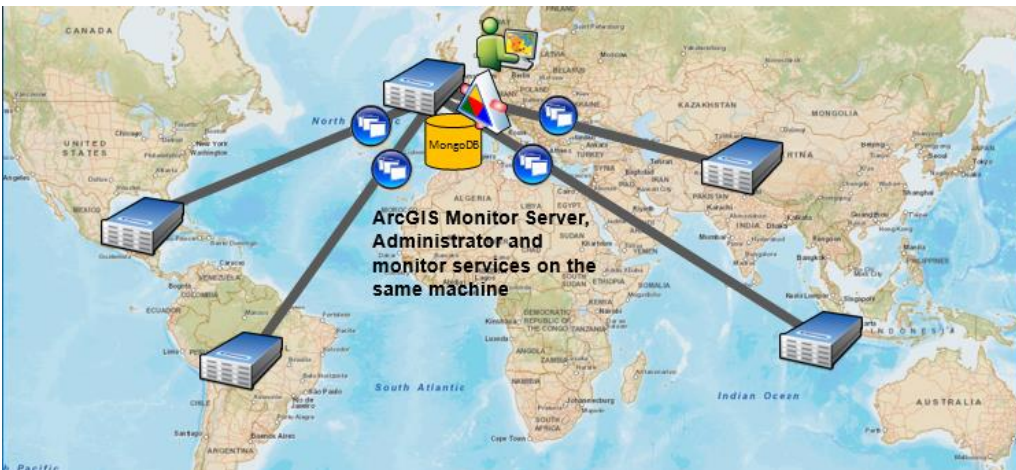
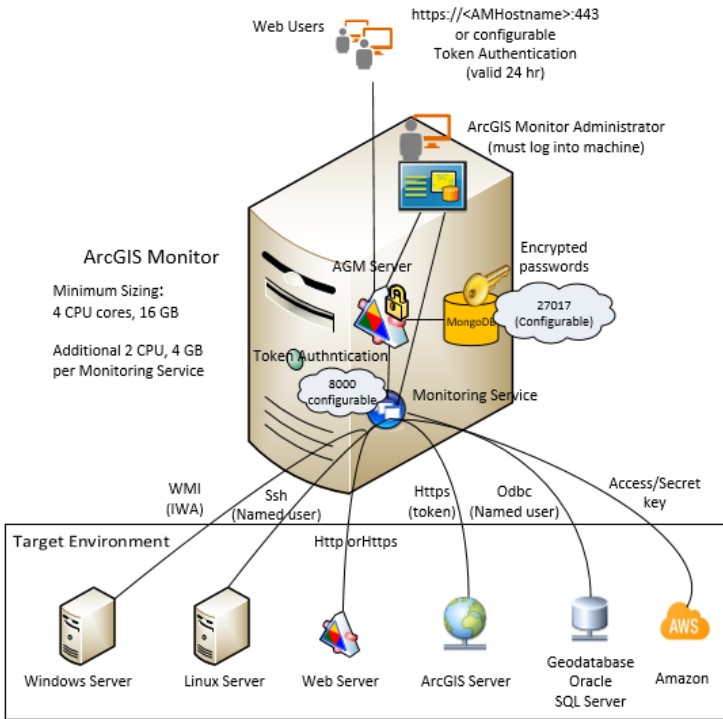
MongoDB 3.4x (Windows Server 2008 R2 64-bit and later, with SSL support x64) must be installed before you install ArcGIS Monitor. User is responsible for acquiring and installing the software. A free community versions is licensed under GNU Affero General Public License and available at <https://www.mongodb.com/download-center#community>. MongoDB is the only supported database. Installing the software is a very straightforward process and does not require dba skills.

Step 2: Planning ArcGIS deployment

Deployment scenarios

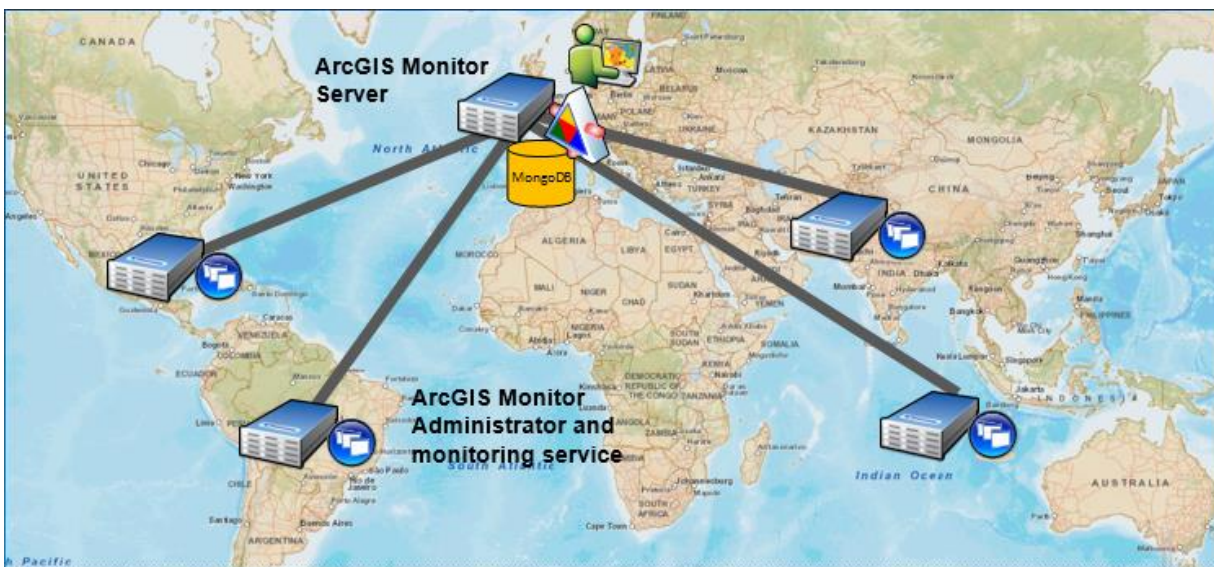
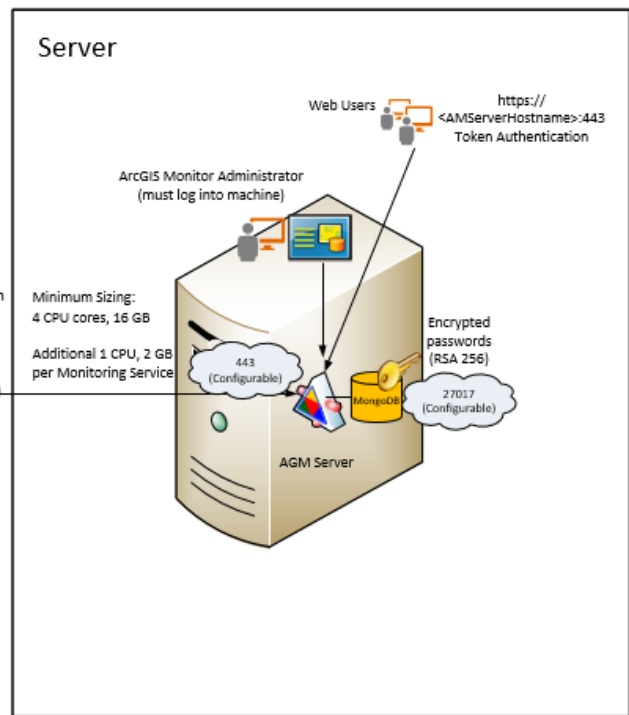
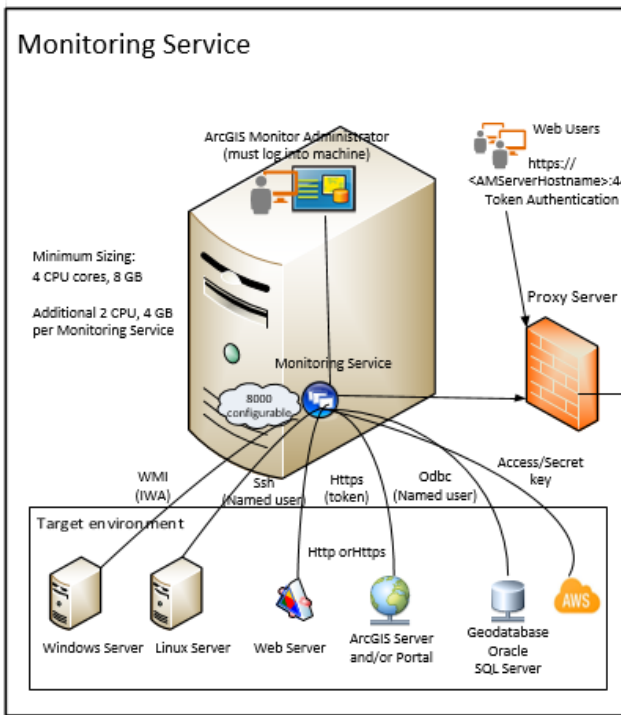
Centralized

In this deployment, ArcGIS Monitor Server and ArcGIS Monitor Administrator is installed on the same machine. This is preferred option. It works best if there is marginal network latency between the ArcGIS Monitor machine and target environment.



Distributed

This option should be used when there is significant network latency between ArcGIS Monitor Server and target environment



Monitoring as Service

This is Distributed model, but with separate administration.

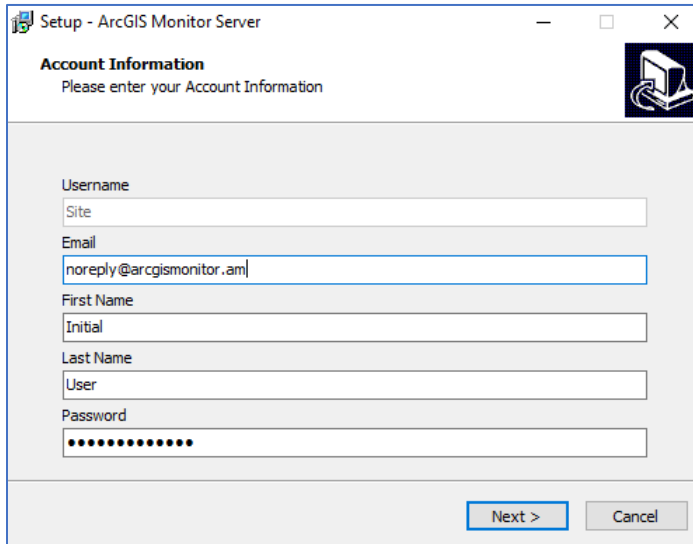
A service provider creates the Collection, users and is responsible for hosting and managing Server (typically in the cloud). Monitoring services are configured at customer office (only administrator software is required) and sent one way information to the cloud server.

Step 3: Installing

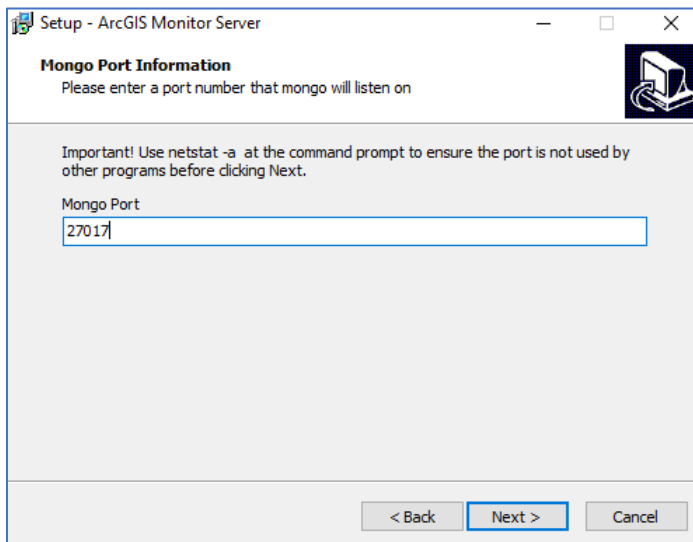
1. Log in to Windows as an administrative user.
2. Double click on the **AM_Server Installer.exe**
3. Click **Yes** in the User Account Control dialog.
4. Type in the following account information:
 - a. Email: an existing email address that will be the FROM address for ArcGIS Monitor alerts. (required)

- b. First Name of person who will be ArcGIS Monitor admin user (optional)
- c. Last Name of person who will be ArcGIS Monitor admin user (optional)
- d. Password for admin user (default is SystemMonitor) (required)

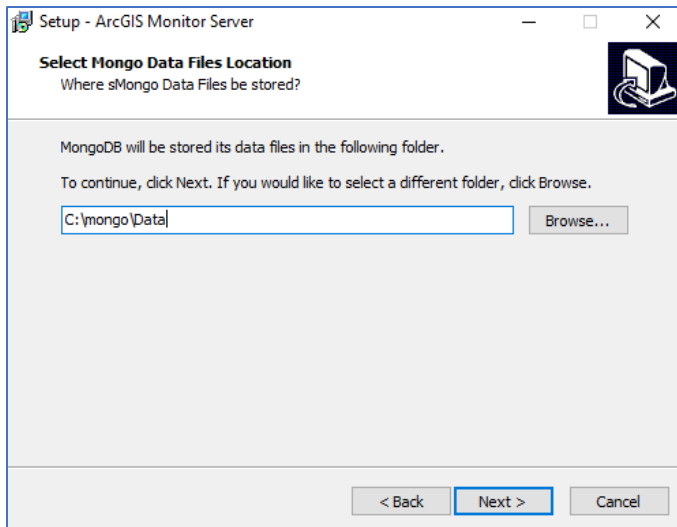
Note: The default **Username** is Site in MongoDB and this cannot be changed.



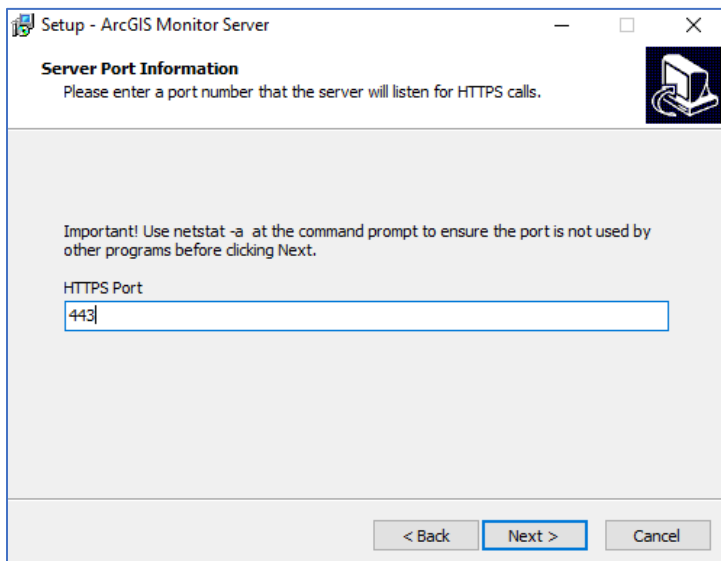
- 5. Click **Next**.
- 6. Enter the MongoDB Port number. Default port is 27017.



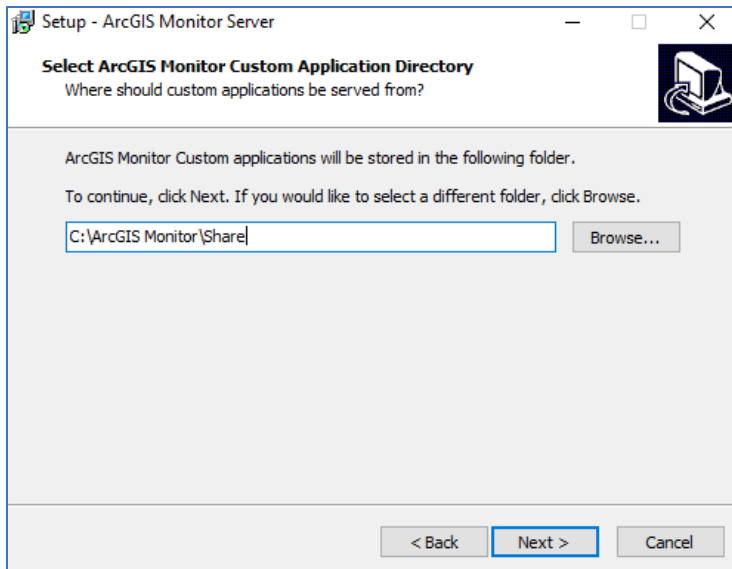
- 7. Click **Next**.
- 8. Choose the MongoDB data files location.
Note: A local drive is recommended for best performance.



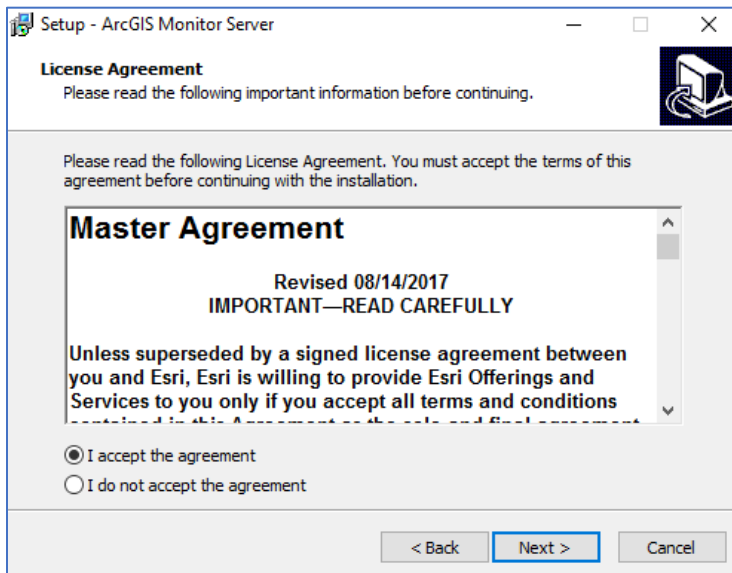
9. Click **Next**.
10. Enter https port 443 or other available:



11. Click **Next**.
12. Choose the folder location where shared reports will be stored for ArcGIS Monitor.
Note: A local drive is recommended for best performance.



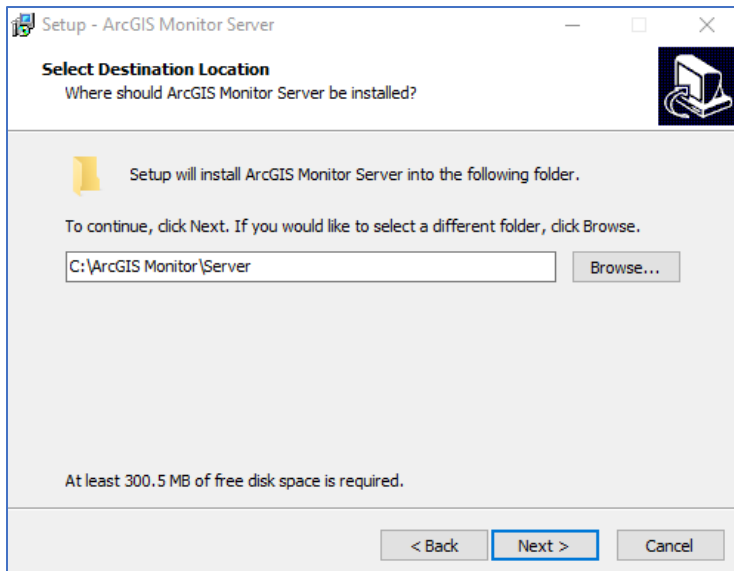
13. Click **Next**.



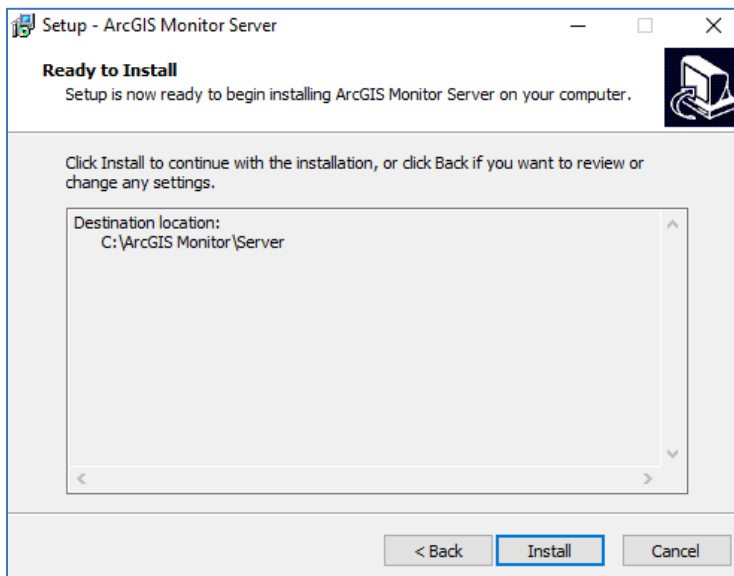
14. Accept the License Agreement and click **Next**.

15. Choose the install location for the ArcGIS Monitor Server. A local drive is recommended for best performance.

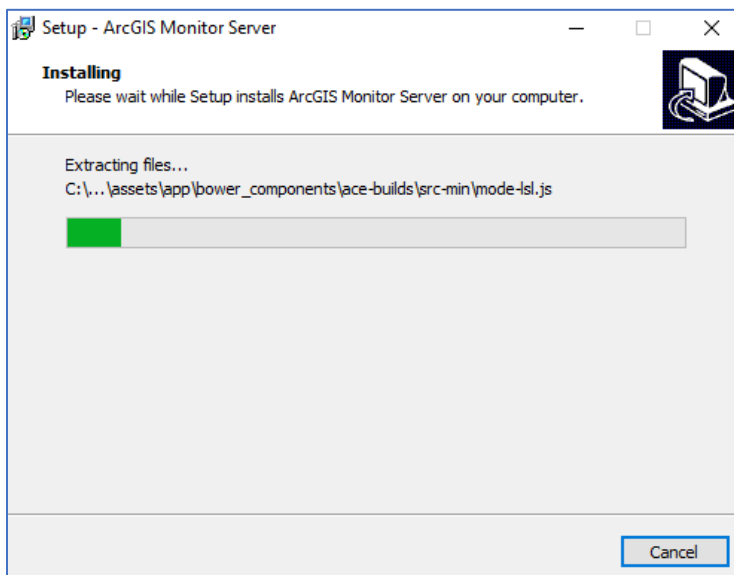
Note: If you are doing an upgrade, this dialog will be skipped because it auto-detects the path.



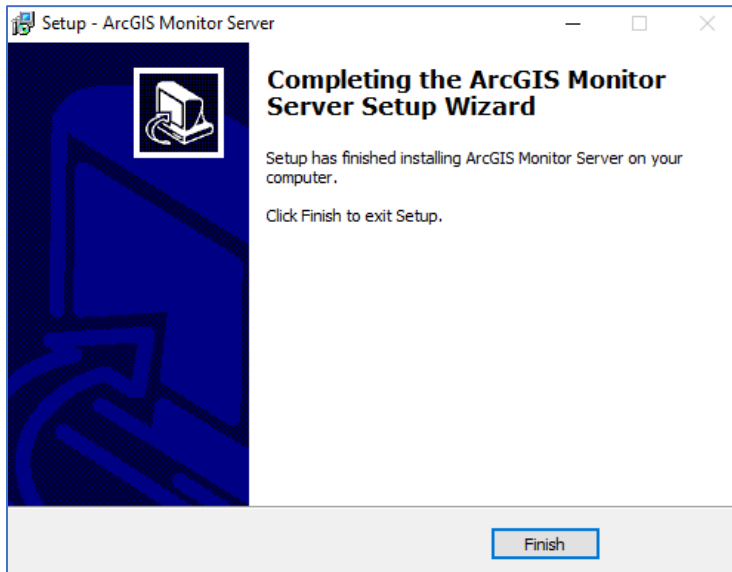
16. Click **Next**.



17. Click **Install**.



18. Wait until all files are extracted and installed.



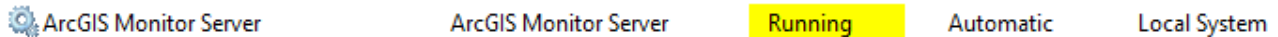
19. Click **Finish**.

20. Skip this step if MongoDB software is installed in default directory, e.g. C:\Program Files\MongoDB\Server\3.4. Otherwise edit <Drive>:\ArcGIS Monitor\Server\settings\config.db file, find the "mongoPath" and set to your mongo directory, e.g.

```
"mongoPath": "C:\\mongo34\\MongoDB\\Server\\3.4\\bin\\mongod.exe",
```

21. Save changes.

22. Restart the **ArcGIS Monitor Server** service in the Windows services panel. If the service did not start, go to the [troubleshooting](#) section.



Troubleshooting

When you run into a problem, check the following troubleshooting sections for common issues that arise from missed steps.

Server service does not start or paused

Review <Drive>:\ArcGIS Monitor Server\logs\ReportServerLog.log . Common causes are mongo process not running or ports are not available:

Mongo process not running

Check in task manager and logs if mongo process is running.

1. Missing Visual C++ 2015 Redistributable Update 3 RC for Visual Studio 2015. Install per [system requirements](#).

2. Mongo port not available

```
{"level":"error","message":"Mongo ERROR !!!!!!!!!!!!!!! The defined Mongo port: 27017 is already in use. !!!!!!!!!!!!!!! Mongo ERROR", "timestamp":1457558561933}
```

3. Mongo installed not in default path and does not match <Drive>:\ArcGIS Monitor\Server\settings\config.db

```
{"level":"error","message":"ERROR: MONGO: <DRIVE>:\\Program Files\\MongoDBcc\\Server\\3.4\\bin\\mongod.exe is not available? ", "timestamp":1503354033503}
```

```
{"level":"error","message":"Please check that mongod is installed and that the directory specified in the folder<DRIVE>:\\System Monitor Server/settings/config.db property mongo.mongoPath", "timestamp":1503354033503}
```


Server port error

You would see the following error. Run `netstat -a -n -o` at the command prompt to check if the port number is already used by another application

```
use. {"level":"error","message":"TCP ERROR !!!!!!!!!!!!!!!!!!!!!!! The defined port: 443 is already in  
!!!!!!!!!!!!!!!!!!!!!! TCP ERROR ", "timestamp":1457558561933}
```

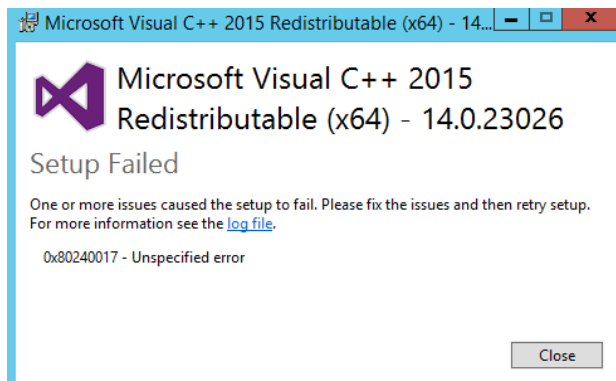
MongoDB errors

For any MongoDB issues, refer to <https://docs.mongodb.com/manual/tutorial/install-mongodb-on-windows/>

Setup failed for Microsoft Visual C++ 2015 Redistributable (x64)

If you get the following error during the installation, you will need to apply a Windows update (Windows8.1-KB2999226-x64) before the Visual C++ Redistributable can install:

<http://stackoverflow.com/questions/31536606/while-installing-vc-redist-x64-exe-getting-error-failed-to-configure-per-machi>



When you view the log file, you should see the following error details:

```
[1EE8:1A2C][2017-01-12T09:38:43]e000: Error 0x80240017: Failed to execute MSU package.  
[22B0:1CD0][2017-01-12T09:38:43]e000: Error 0x80240017: Failed to configure per-machine MSU package.  
[22B0:1CD0][2017-01-12T09:38:43]i319: Applied execute package: Windows81_x64, result: 0x80240017, restart: None  
[22B0:1CD0][2017-01-12T09:38:43]e000: Error 0x80240017: Failed to execute MSU package.  
[1EE8:1A2C][2017-01-12T09:38:43]i372: Session end, registration key:  
SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{e46eca4f-393b-40df-9f49-076faf788d83}, resume: ARP, restart: None, disable  
resume: No  
[1EE8:1A2C][2017-01-12T09:38:43]i371: Updating session, registration key:  
SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\{e46eca4f-393b-40df-9f49-076faf788d83}, resume: ARP, restart initiated: No,  
disable resume: No  
[22B0:1CD0][2017-01-12T09:38:43]i399: Apply complete, result: 0x80240017, restart: None, ba requested restart: No
```

Microsoft Visual C++ 2015 not installed

The ArcGIS Monitor Server service log will have the following error if the required Microsoft Visual C++ 2015 Redistributable is not installed:

```
{"level":"info","message":"----- Starting Mongo: <DRIVE>:\mongo\bin\mongod.exe --port 27018 --logpath  
<DRIVE>:\mongo\logs\mongo.log --dbpath <DRIVE>:\mongo\Data --storageEngine wiredTiger --bind_ip 127.0.0.1 -----  
-----","timestamp":1484242413046}  
{"level":"info","message":"----- Mongo Port : 27018 -----","timestamp":1484242413049}  
{"level":"info","message":"----- Mongo Data : <DRIVE>:\mongo\Data -----  
","timestamp":1484242413049}  
{"level":"info","message":"----- Mongo Logs : <DRIVE>:\mongo\logs\mongo.log -----  
","timestamp":1484242413049}  
{"level":"info","message":"----- Mongo Storage Engine : wiredTiger -----  
","timestamp":1484242413049}  
{"level":"info","message":"Mongo Connection Failed! Will attempt to reconnect","timestamp":1484242419045}  
{"level":"info","message":"Mongo Connection Failed! Will attempt to reconnect","timestamp":1484242422042}
```

```
{"level":"info","message":"Mongo Connection Failed! Will attempt to reconnect","timestamp":1484242425054}
```

Uninstall

1. Stop the **ArcGIS Monitor Server** service in the Windows service panel.
2. Go to **Add or remove programs** in Windows.
3. Select ArcGIS Monitor Server and click **Uninstall**.
4. If prompted to Uninstall, click **Yes**.
5. Wait until uninstall is complete.
6. Delete the **ArcGIS Monitor Server** folder (eg. <Drive>:\ArcGIS Monitor Server).
7. **Optional:** If you want to uninstall MongoDB, refer to documentation at:
<http://docs.mongodb.org/manual/tutorial/install-mongodb-on-windows>

Administrator

All administrative tasks are done using Administrator. The concurrent administration is not allowed. Therefore, only one Administrator application can be open at a time on give machine. In centralized deployment, Administrator and Server are installed on the same machine. In that case, only one administrator can manage ArcGIS Monitor collections and server.

Step 1: Verifying system requirements

System Requirements

Firewall settings

1. Ports: 7999, 8000, plus one open/available port for each additional collector you create/import. Check that nothing else is connected to these ports as a listener and that it's not blocked by firewall rules.
2. **Note:** Each application to be monitored has its own product documentation that covers what default ports are used in communication. Then, based on an organization's security policy, the default ports may be changed to match restrictions in each environment. For Esri ArcGIS Server default ports, refer to ArcGIS Product documentation: <http://server.arcgis.com/en/server/latest/install/windows/ports-used-by-arcgis-server.htm> For other application ports, please refer to the product/vendor documentation for default ports used. Then check if the default has been changed. Also check if there are any port restrictions specific to the environment.

vc_redist.x86.exe 2015

Microsoft Visual C++ 2015 Redistributable Update 3 RC

Download and install **vc_redist.x86.exe**: <https://www.microsoft.com/en-us/download/details.aspx?id=52685> .

Obtaining an authorization file

Each machine with an installation of ArcGIS Monitor Administrator requires an authorization file. There are several ways to register ArcGIS Server. You can visit My Esri to obtain an authorization file (by email, fax, phone, or mail) before proceeding with the installation. You can also register ArcGIS Server using the Software Authorization Wizard that launches after the setup installation completes (this is the recommended method).

Note: If installing on the same machine as server, the following requirements are already met.

Operating system requirements

64-bit Operating System: Windows 2008 R2, 2012, 2012 R2, 2016, 7, 8.x, 10

Hardware requirements

1. Minimum Sizing 4 CPU cores, 8 GB RAM. Additional 2 CPU, 4 GB RAM per Monitoring Service.
2. Dedicated server class machine that does not host other production operations (do not install on production ArcGIS Server/Portal machine)

3. Laptops, VMs on Laptops, or tablet computers are not reliable hosts for ArcGIS Monitor due to power settings and network connectivity.

vc_redist.x64.exe 2015

Microsoft Visual C++ 2015 Redistributable Update 3 RC

Download and install **vc_redist.x64.exe**: <https://www.microsoft.com/en-us/download/details.aspx?id=52685>

.Net Framework 4.5 or 4.6

Download: <http://www.microsoft.com/en-us/download/details.aspx?id=30653> or <http://www.microsoft.com/en-us/download/details.aspx?id=48130>

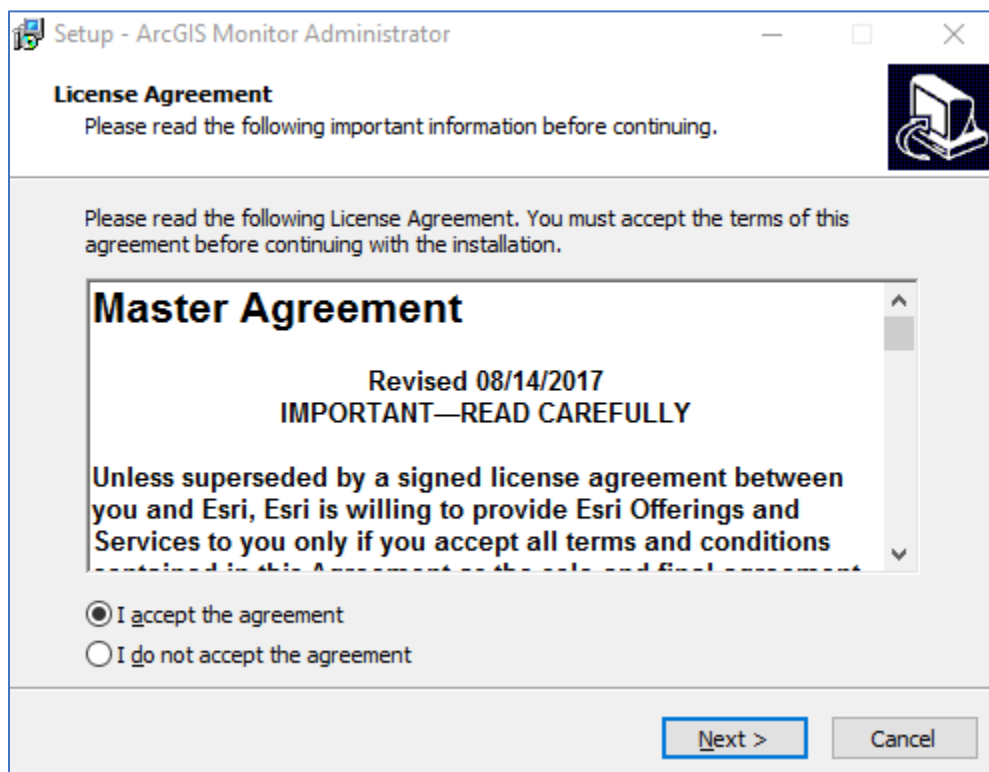
Step 2: Planning ArcGIS deployment

Deployment scenarios

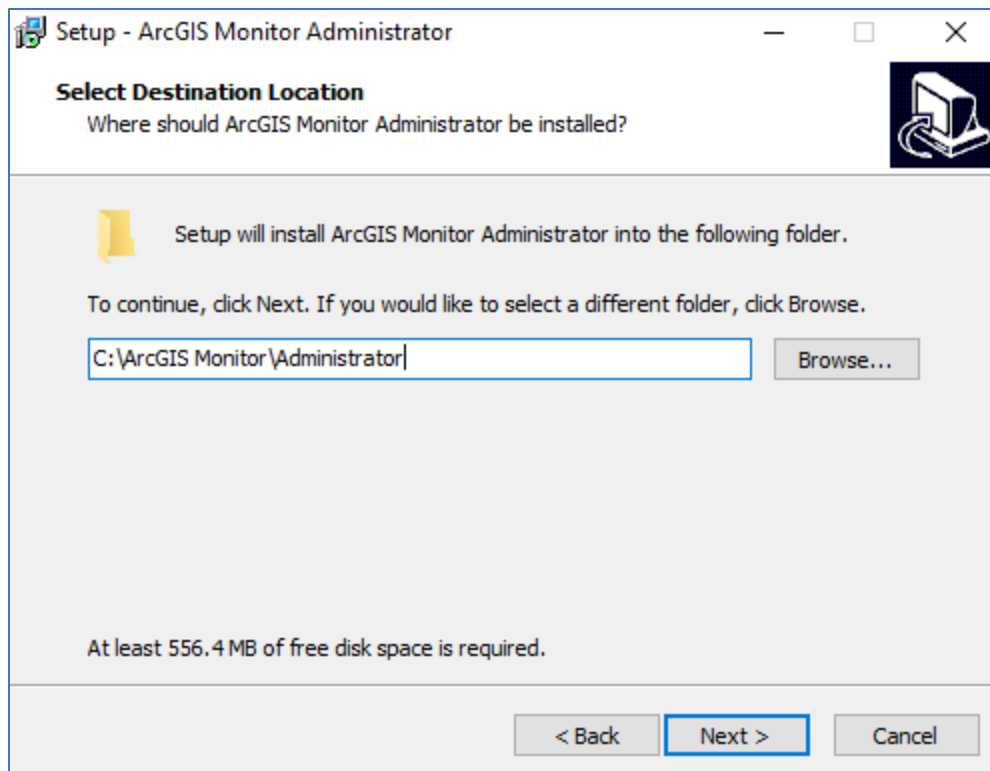
See [Deployment scenarios](#) in Server Installation Guide.

Step 3: Installing

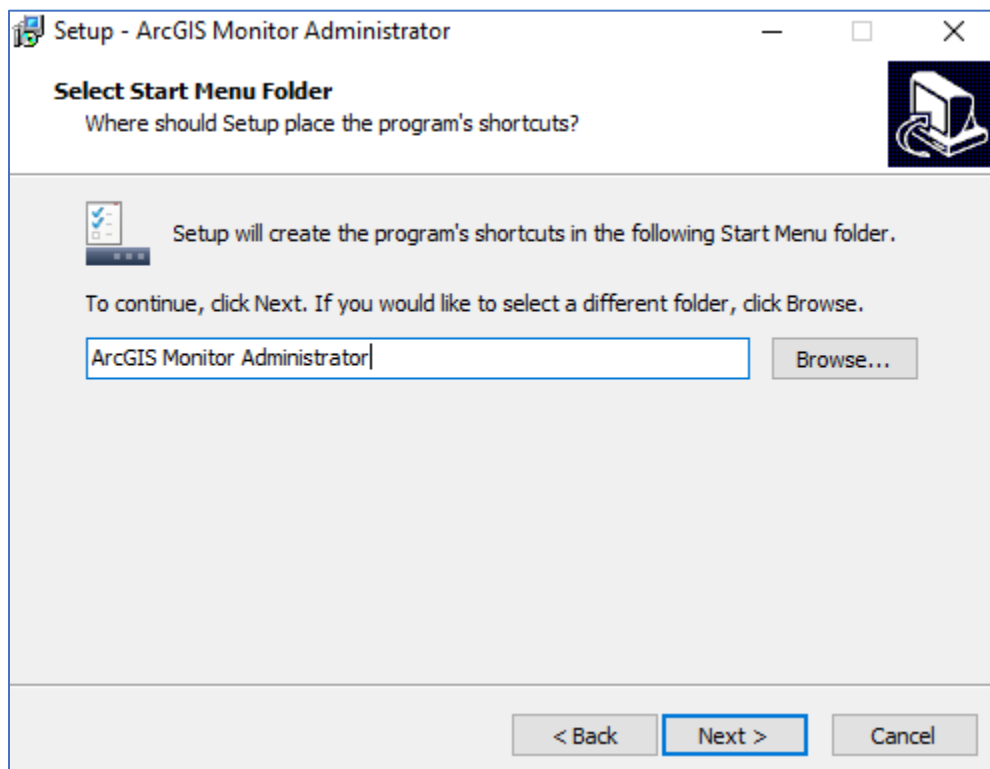
1. Log in to Windows as an administrative user.
2. Double click on the **AM_Administrator.exe**.
3. Click **Yes** in the **User Account Control** dialog.



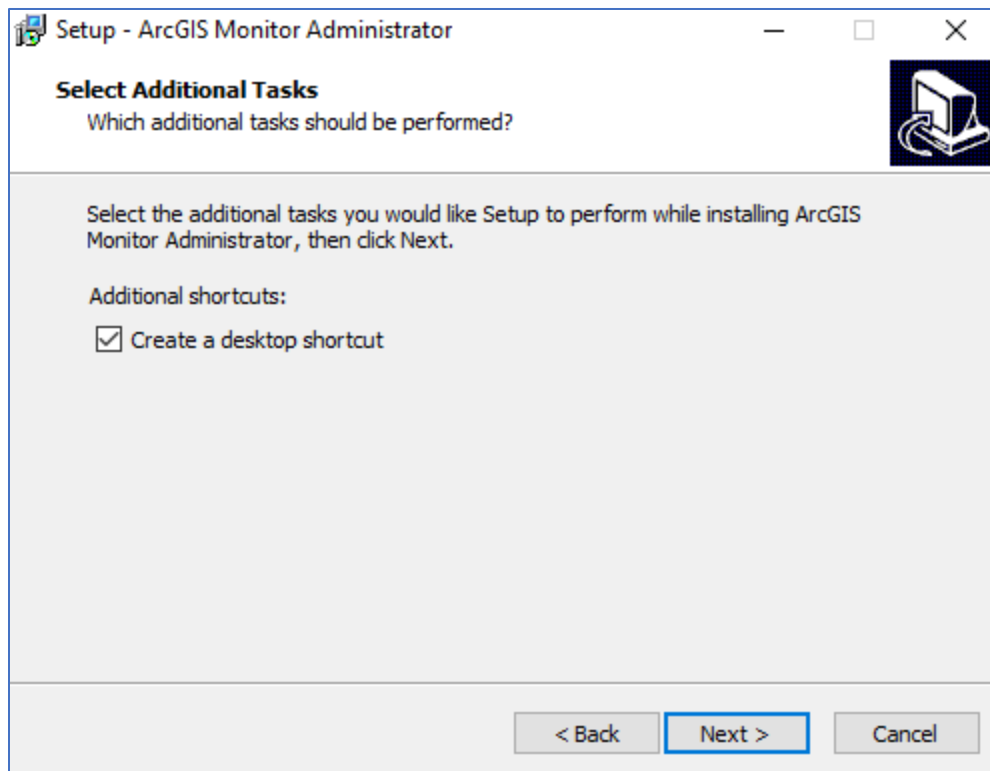
4. Accept the license agreement and click **Next**.
5. Choose the install location for ArcGIS Monitor Administrator. A local drive is recommended for best performance.



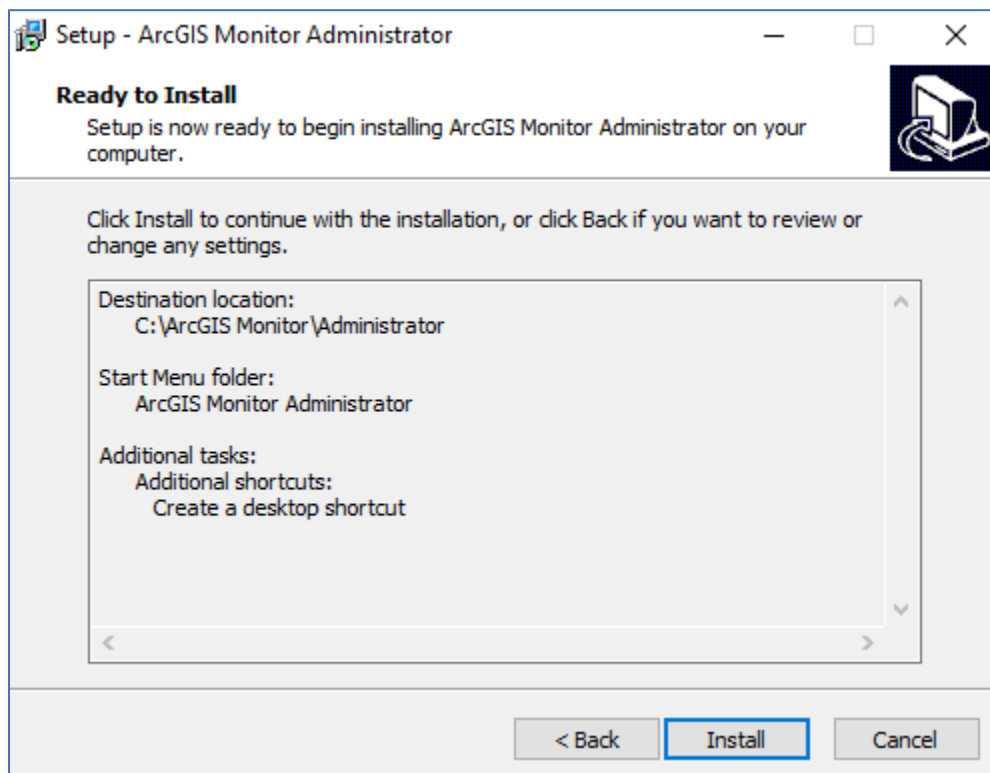
6. Click **Next**.



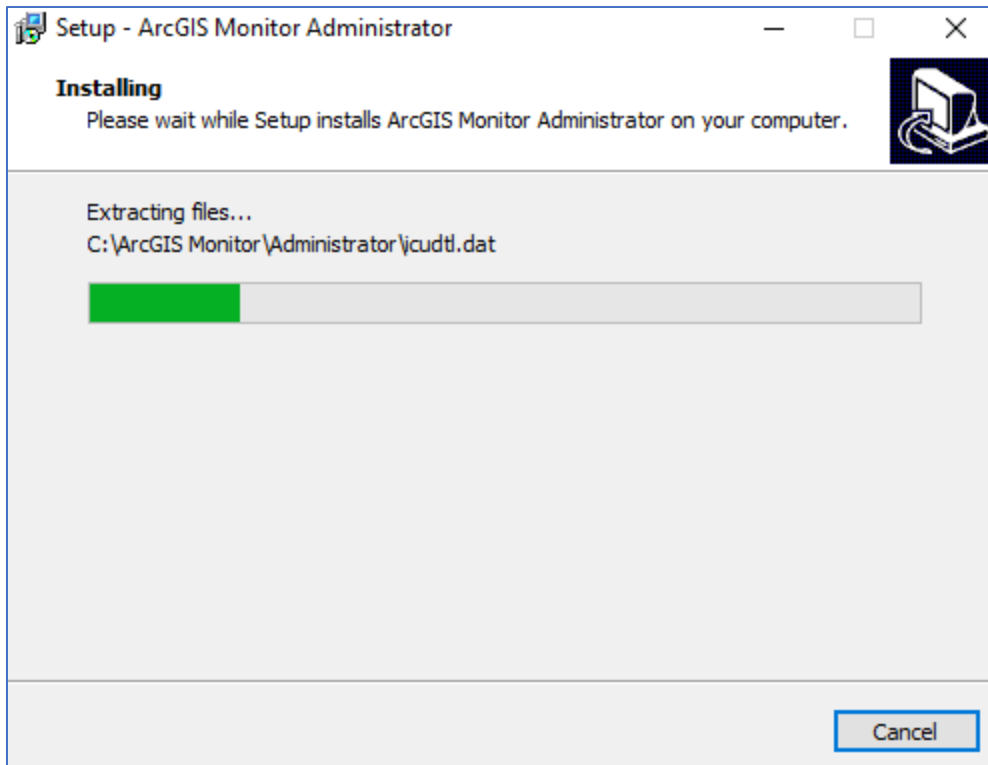
7. Choose the Start Menu folder name.
8. Click **Next**.



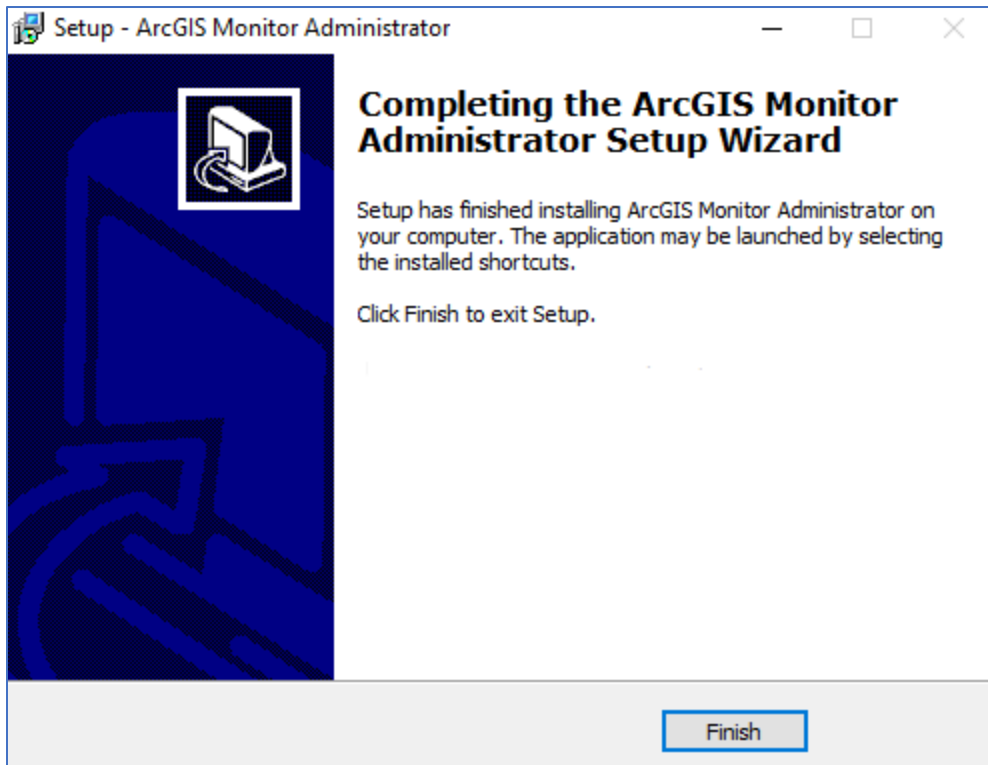
9. Choose **Create a desktop shortcut** if you would like a desktop icon shortcut for ArcGIS Monitor Administrator.
10. Click **Next**.



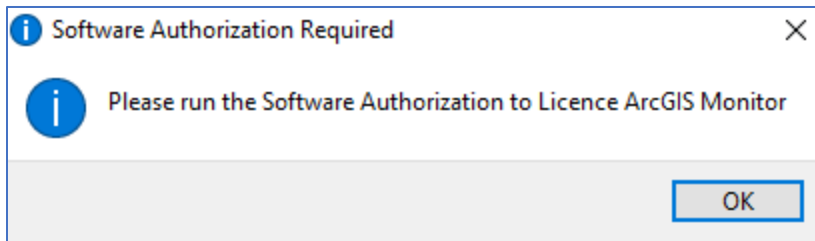
11. Click **Install**.



12. Wait until all files are installed.



13. Click **Finish**.



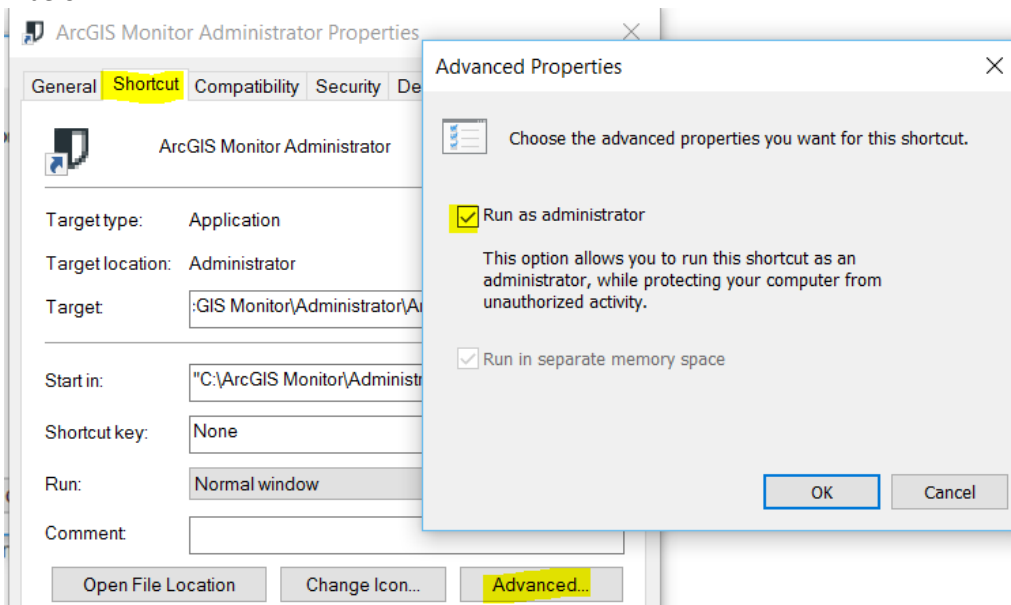
14. Click **OK**.

Step 4: Software authorization

1. Navigate to <Drive>:\ArcGIS Monitor\Administrator
2. Click SoftwareAuthorization.exe
3. Select option **I have installed my software and need to authorize it**. Then choose **ArcGIS Monitor** product.
4. Follow the wizard.

Step 5: Set Shortcut properties (Optional)

In some cases, user might have write privileges to Administrator folder and not able to save edits. In that case, user should run as administrator. To ensure the program always run as administrator, user can set this in shortcut properties as shown below.



Troubleshooting

Error when opening Administrator

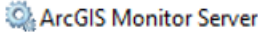
1. Check .NET Framework 4.5 or 4.6 was installed: <https://www.microsoft.com/en-us/download/details.aspx?id=48130>
2. Check all the [System Requirements](#) were met on the machine running ArcGIS Monitor Administrator.

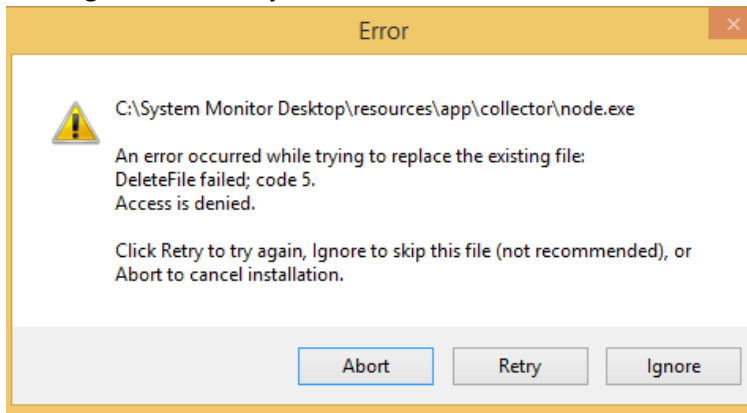
Uninstall

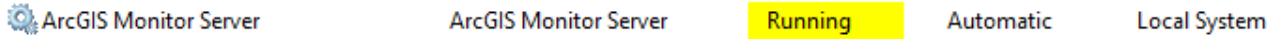
1. Stop all **ArcGIS Monitor <Name>** services in the Windows services panel and make sure the ArcGIS Monitor Administrator application is closed.
2. Go to **Add or Remove programs** in Windows.
3. Right-click **ArcGIS Monitor Administrator** and select **Uninstall**.
4. When prompted, click **Yes**.
5. Wait until uninstall is complete.

6. Click **OK**.
7. Delete the **ArcGIS Monitor Administrator** folder (eg. <Drive>:\ArcGIS Monitor Administrator).

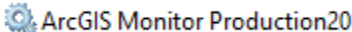
Upgrade ArcGIS Monitor Server

1. Log in to ArcGIS Monitor Server machine an administrative user.
2. Stop the **ArcGIS Monitor Server** service in the Windows service panel.
 
3. Make sure the following files and folders are backed up on another drive:
 - a. Share folder (in <Drive>:\ArcGIS Monitor\Share) that contain any custom reports.
 - b. Server config file (in <Drive>:\ArcGIS Monitor\Server\settings\config.db) contains your MongoDB path, and any modified External Mail Host.
 - c. Any customized SSL certificates (in <Drive>:\ArcGIS Monitor\Server\ssl)
4. **Note:** When running the new **AM_Server Installer.exe** for “upgrade”, make sure to use all the same existing folder path and ports as previous ArcGIS Monitor Server install (for MongoDB data files, same “Site” user password, and same port number for same server).
Note: If you get a replace file error, make sure there are no node.exe running or ArcGIS_Administrator.exe running and click **Retry**.



5. If you previously made customized SSL certificates, move your backup copy of the ssl folder back to <Drive>:\ArcGIS Monitor\Server\ssl to overwrite the default files.
Note: If you had any modified External Mail Host before the upgrade, you will need to re-enter it in the new config.db file (“email” section) located in <Drive>:\ArcGIS Monitor\Server\settings\config.db
6. **Important:** In the new config.db file (located in <Drive>:\ArcGIS Monitor\Server\settings\config.db), make sure the database named line 80 matches the same database name in your backup config.db. Doing this step ensures that your historical data will still be available after the upgrade.
7. Restart the **ArcGIS Monitor Server** service in the Windows service panel.
 
8. Congratulations! The ArcGIS Monitor server upgrade is complete.

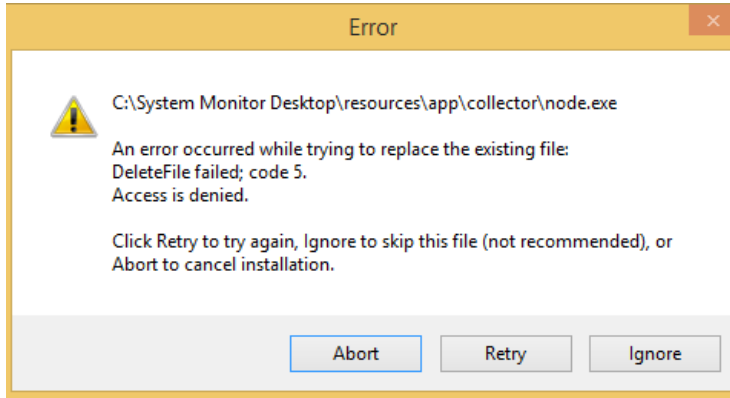
Upgrade ArcGIS Monitor Administrator

1. Log in to ArcGIS Monitor Administrator machine as an administrative user.
2. Stop the **ArcGIS Monitor <Name>** services in the Windows service panel.
 
3. Make sure the following files and folders are backed up on another drive:
 - a. All .cpj files located in <Drive>:\ArcGIS Monitor Administrator\resources\app\collector\defs

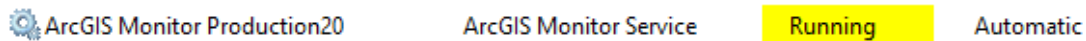
- b. Windows User Profile AppData (eg. <Drive>:\Users\username\AppData\Roaming\ArcGIS_Administrator)
- c. Extensions folder (eg. <Drive>:\ArcGIS Monitor Administrator\resources\app\bin)

4. Run **AM_Administrator Installer.exe**.

Note: If you get a replace file error, make sure there are no node.exe running or ArcGIS_Administrator.exe running and click **Retry**.



5. Restart the **ArcGIS Monitor <Name>** services in the Windows service panel.



6. Start **ArcGIS Monitor Administrator**.

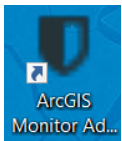
Administer

All administrative tasks are done using Administrator. Concurrent administration by multiple users on the same machine is not allowed. Therefore, only one Administrator application can be open at a time on given machine. In centralized deployment, Administrator and Server are installed on the same machine. In that case, only one user can log in and administer the collections and server config.

Getting started after install

Open Administrator

Double click on ArcGIS Monitor icon on your desktop.



Or execute "<Drive>:\ArcGIS Monitor\Administrator\ArcGIS_Administrator.exe"

Create Connection

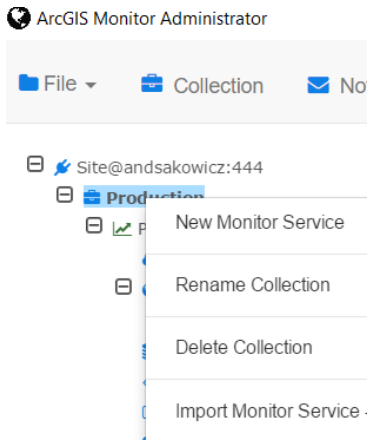
1. File > **Connection**. Follow the dialog box and enter all parameters.
2. Click **Open**.

Register Collection

1. File > **Register**. Follow the dialog box and enter all parameters.
2. Click **Add**.

Create monitoring service

Right click collection and select **New Monitor Service** or **Import Monitor Service**.



Prepare credentials and connectivity

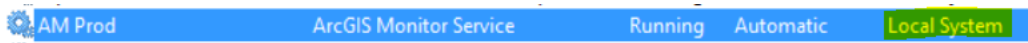
Prepare the following credentials and connectivity for applicable items, including

1. Windows admin and WMI access, see [Setting WMI access for non-admin Windows account tutorial](#)
2. Linux admin, see [Setting Linux access](#)
3. AWS keys and monitoring prerequisites (see AWS documentation, e.g. <https://aws.amazon.com/blogs/aws/amazon-cloudwatch-monitoring-scripts-for-microsoft-windows/> .
4. Portal initial administer account credentials and URL (see [Portal](#) documentation)
5. ArcGIS Server admin credentials and URL (see [ArcGIS Server](#) documentation)
6. Database credentials and 64 bit ODBC (see [Setting ODBC](#) and Microsoft documentation, e.g. <https://msdn.microsoft.com/en-us/eea94d94-f53b-4289-ae75-9cccccde15333>)
7. Optional SSL certificate public and private keys, contact your IT.
8. Custom web application login (user and password).

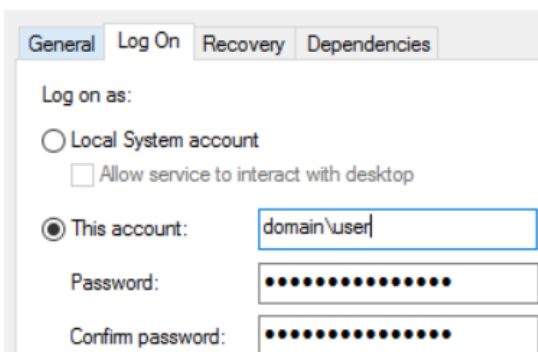
Set windows service permissions

The credentials of windows monitoring service are used for Windows System, Process, RDP and DB ODBC counters. “This account” user must have windows **administrator** privileges or equivalent (see [Windows non-admin monitoring service account](#)). It recommended this service account has **password never expires**.

1. Open Windows Services panel (command: services.msc)
2. Right click service and in Properties, set Log On properties.



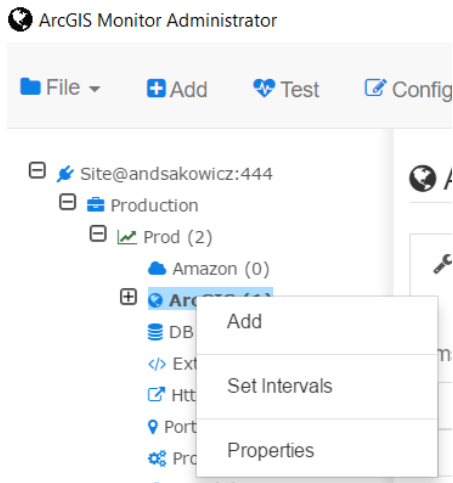
AM Prod Properties (Local Computer)



Note: You can use domain\user or another remote admin.

Add monitoring counters

1. Decide on the naming convention and description for each counter type. It is recommended to use short, but descriptive names.
Important: Counters are accessed using their name. After renaming, the old data will not be deleted, however it will not be accessible anymore through standard UI.
2. Select a counter category. Then right-click counter category and click **Add**.
3. Review inline help.
4. Fill out **Config** tab parameters and click **Test**.



5. Click **Save**.

Set alerts

To modify default or add new alerts, select a counter and click Alert tab. Follow the UI.

Configured Alerts

Name	Alert Type	Value	Note	Delete
% Processor Time (_Total)	Greater Than	85	High processor utilization	Delete
Available Memory GB (_Total)	Less Than	1	Running low on memory	Delete
Available Disk GB (default-alert)	Less Than	1	Running low on disk space	Delete

Add Email Notifications

1. Select the collection name in the left panel.

ArcGIS Monitor Administrator

2. Select **Notifications** from the menu bar.
3. The Notifications page is where you set the TO: Email addresses who will receive alert email when a threshold violation occurs. Notification can be sent optionally for **All** types of counter types that have alerts or you can specify to only receive alert emails for **System, Process, ArcGIS, Portal, DB, Http, RDP, Amazon, or Ext** counter types.

Note: The FROM: address is automatically set as the Admin email address you entered for the collection (when ArcGIS Monitor was installed) and cannot be edited in this dialog.

4. Enter an email address in the **Email** field and click **Add**.
5. Select **File > Save**.

Note: After you have set up notifications, you can expect to receive a dynamic email sent only once after a new alert has occurred. Historical or pre-existing alerts will not trigger an email. Then, every 4 hours, another email is sent if the alert condition still exists. In addition, the email sent every 4 hours includes a report for the failing counters and alerting counters.

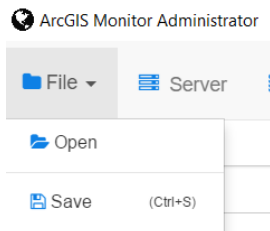
6. To remove an email address from receiving alert email, click the **Delete** button.
7. **File > Save**.

Set SSL certificates (optional)

ArcGIS Monitor comes pre-configured with a self-signed certificate, which allows the server to be initially tested and to help you quickly verify that your installation was successful. You must request a certificate from a trusted certificate authority (CA) and configure the server to use it. This could be a domain certificate issued by your organization or a CA-signed certificate.

By default, ArcGIS Monitor .pem files are located in <Drive>:\ArcGIS Monitor Server\ssl.

1. Open config.db. Click **File > Open** and navigate to <Drive>:\ArcGIS Monitor\Server\settings\config.db



2. Select the **Server** tab. Then set private and public keys

3. Click **File > Save**.
4. Restart **ArcGIS Monitor Server** service.

Maintaining ArcGIS Monitor

Backup and restore

Administrator

1. **CRITICAL.** Backup collection definition folder “xxx.cpj” - <Drive>:\ArcGIS Monitor Administrator\resources\app\collector\defs. If these files are lost, a user must re-add all counters.
2. Connection folder - <Drive>:\Users\username\AppData\Roaming\System_Monitor
3. Extensions folder - <Drive>:\ArcGIS Monitor Administrator\resources\app\bin

Server

1. Shared items folder - <Drive>:\ArcGIS Monitor\Share.
2. Configuration file - <Drive>:\ArcGIS Monitor Server\settings\config.db
3. SSL certificates - <Drive>:\ArcGIS Monitor Server\ssl
4. MongoDB database backup:
 - a. Open command prompt as administrator and navigate mongodb\bin directory, e.g. <Drive>:\Program Files\MongoDB\Server\3.4\bin
 - b. **CRITICAL.** Backup auth databases. If this database is lost, user would will not be able to connect and the must re-create all databases.
`mongodump --db auth --out <exportDataDestination> --port 27017`
 - c. Backup ArcGISMonitor databases. This database contain data. If this database is lost, a new database can be recreated and ArcGIS Monitor will resume collection (if collection definition files “xxx.cpj” and auth database are in place and valid).
`mongodump --db ArcGISMonitor --out <exportDataDestination> --port 27017`

For more information, refer to <https://docs.mongodb.com/manual/reference/program/mongodump/>.

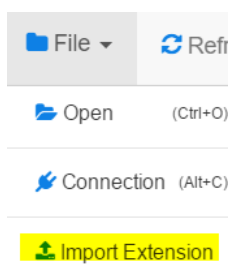
5. To restore, execute the following.
`mongorestore --db auth <exportDataDestination> --port 27017`
`mongorestore --db ArcGISMonitor <exportDataDestination> --port 27017`
For more information, refer to <https://docs.mongodb.com/manual/reference/program/mongorestore/>.

Common administrative tasks

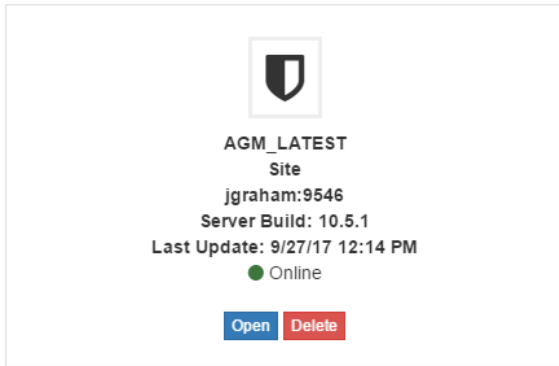
Import Extensions (Optional)

Note: Extensions are only supported by Esri Professional Services.

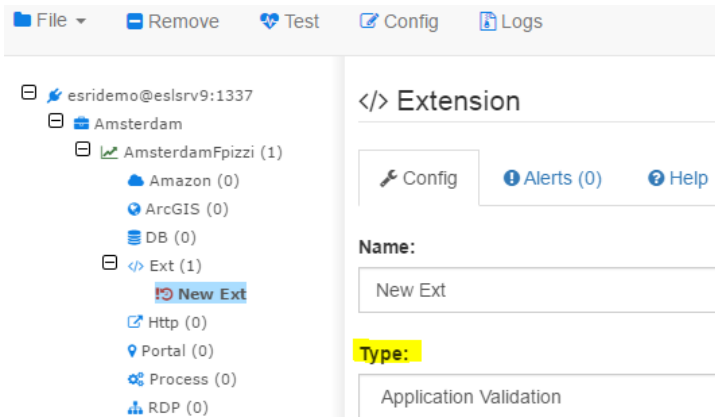
1. Review available extensions in ArcGIS Monitor [gallery](#).
2. Import using Administrator.



3. Browse to downloaded .zip file and click **Open**.
4. **Open** Connection.



5. Select **Ext**. Then right-click **Ext** and **Add**. The imported extension should be available in the dropdown under **Type**.



Log in with stored user and password

If you do not want to be prompted for user name and password in the web browser, complete the following steps:

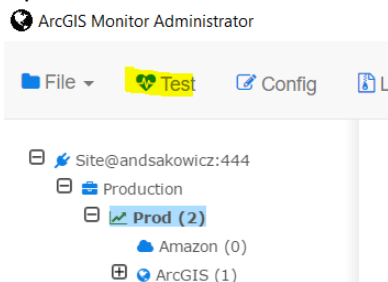
1. Browse to the <Drive>:\ArcGIS Monitor Server\views\auth folder.
2. Right-click on **login.ejs** and open with Notepad ++.
3. Type in your username and password:


```

$scope.username = "Site";
$scope.password = "SystemMonitor";
      
```
4. **Save** changes.
5. Next time you start the Web browser and go to <https://<ArcGISMonitorServer>.domain.com:port> , your user and password will be entered for you. Click the **Login** button.

Test monitoring service

1. Open Administrator and select a monitoring service name in the tree.



2. Click the **Test** button on the menu bar.

- Each monitoring service item will be tested. If it is valid, a green check box will appear in the Valid column and the Tested At column will be updated.

Results Errors (1)

System

Name	Type	Valid	Tested At
ESLLAB01			2/11/16 3:05 PM
ESLLAB04			2/11/16 3:05 PM
ESLLAB05			2/11/16 3:05 PM
ESLSRV1			2/11/16 3:05 PM
ESLSRV12			2/11/16 3:05 PM
ESLSRV2			2/11/16 3:05 PM
ESLSRV4			2/11/16 3:05 PM
ESLSRV9			2/11/16 3:05 PM
JGRAHAM8			2/11/16 3:05 PM

Process

Name	Type	Valid	Tested At
collector			2/11/16 3:05 PM
ArcGISPortal			2/11/16 3:05 PM
ArcGISServer			2/11/16 3:05 PM
ArcSOC			2/11/16 3:05 PM

- Click the Errors tab. If there are any errors, you will need to remove the counter item with the error and re-add it with new parameters (eg. Token Url) that tests successfully.

Results Errors (1)

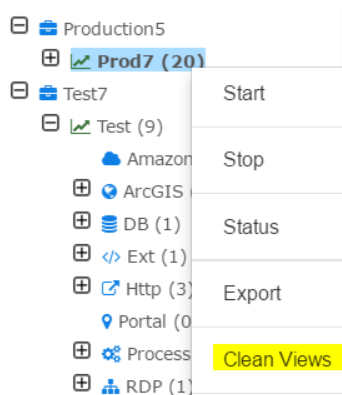
Name	Type	Error	Valid
ArcGIS 10.4		Error: Token Request failed?	

Clean views

Some items, e.g. Extensions and Tasks are not automatically deleted from Repository.

Use the **Clean Views** command after deleting or renaming counters so they do not remain in the **Catalog** view.

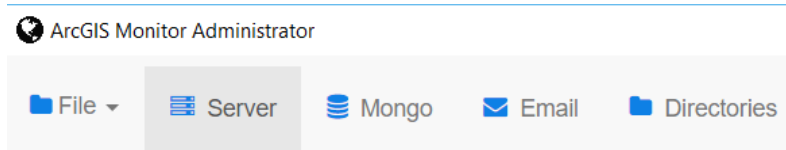
Note: Clean Views does not apply to custom reports. Custom reports will need to be cleaned up manually if there's references to deleted items.



- Right-click the selected monitoring service and select **Clean Views**.
- Optionally, you can **Clean Views** at the collection level that would apply to all monitoring services in that collection. This may be required if older extensions (such as License) are not being cleaned up after cleaning views at the monitoring service level.
- Click **File > Close**. When you view the **Catalog**, the **Collection Status** will be blank momentarily until the next collection cycle (such as 5 minutes) updates the status view.

Change server properties: config.db

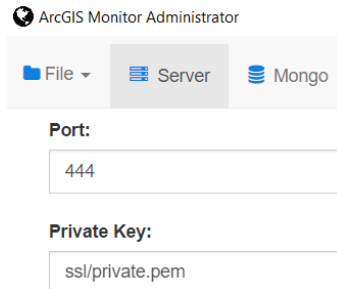
1. Open config.db. Click **File > Open** and navigate to <Drive>:\ArcGIS Monitor\Server\settings\config.db



Change ports

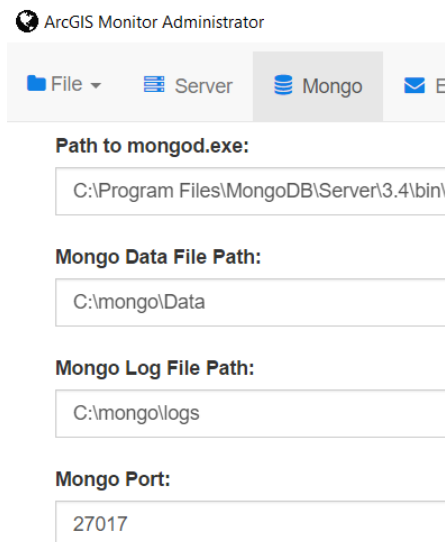
Server

1. Open config.db. Click **File > Open** and navigate to <Drive>:\ArcGIS Monitor\Server\settings\config.db
2. Click Server tab



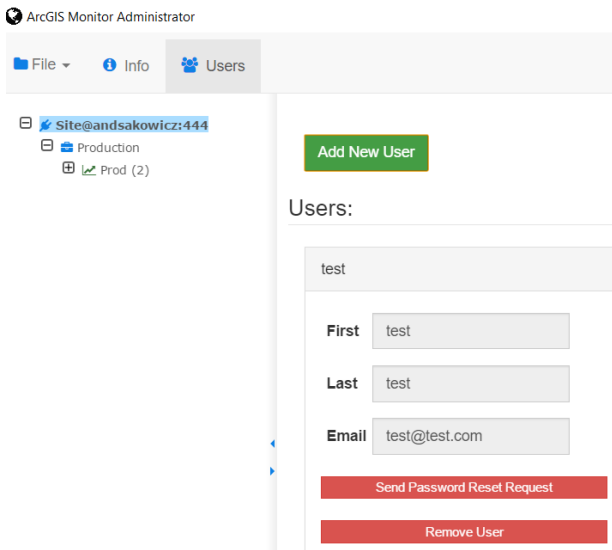
Mongo

1. Open config.db. Click **File > Open** and navigate to <Drive>:\ArcGIS Monitor\Server\settings\config.db
2. Click Mongo tab



Add users or change password

Click Connection and Add New User



Change Site user's password

1. In Notepad ++, open the lost.js file in <Drive>:\ArcGIS Monitor Server\maintenanceServer
2. Edit the port number in line 2 to match your ArcGIS Monitor Server.

```
2 var server = 'localhost:443'.
```

3. Edit the port number in line 22 to match your MongoDB.

```
22 var db = new Mongo('auth', new Server(server, 27017), {safe: false});
```

4. **Save changes and Close File.**
5. On the machine running the ArcGIS Monitor Server, open command prompt as administrator.
6. Go to the <Drive>:\ArcGIS Monitor Server directory and enter the following command:
node ./maintenanceServer/lost.js > out.txt

```
C:\System Monitor Report Server>node ./maintenanceServer/lost.js > out.txt
```

7. Open the Out.txt file. In Line 2, copy the url to a web browser.
2 Please use the following link: <https://localhost:443/reset?resetcode=iLostmyPassword1494869315721>
8. Enter your new password and click submit. Your password has been changed.

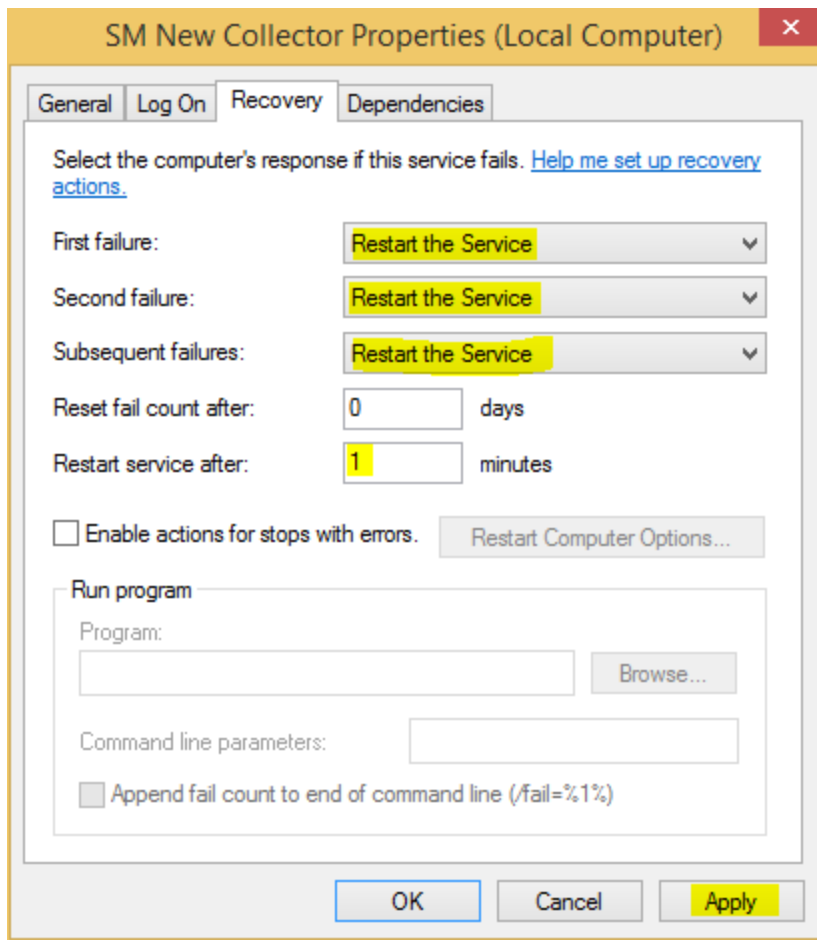
Change windows service credentials

If a service account password expires:

1. In the Windows services panel, right click the **ArcGIS Monitor <Name>** monitoring service and select **Properties**. Re-enter the Windows user and password running the monitoring service and click Apply and OK.
2. Restart the **ArcGIS Monitor <Name>** monitoring service.

Restart windows service after reboot

1. In the Windows services panel, right-click the ArcGIS Monitor <Name> monitoring service and select Properties.
2. Select the Recovery tab.
3. Select "Restart the Service" for First, Second, and Subsequent failures. Set restart service after 1 minute. Click "Apply". Then click "OK".



Offsetting monitoring services collection time

It is important to offset collection time when many monitoring services are running. By default, all monitoring services start collection and the same time. This will cause CPU utilization spikes. To mitigate run the following:

1. Open Command Prompt as Administrator.
2. Go to <Drive>:\ArcGIS Monitor Administrator\resources\app\collector
3. Enter:

```
smRestartCollectors.vbs
C:\System Monitor Desktop\resources\app\collector>smRestartCollectors.vbs
Microsoft (R) Windows Script Host Version 5.8
Copyright (C) Microsoft Corporation. All rights reserved.

echo Stopping System Monitor Collector Services.....
stop service: smnewcollector.exe

echo Starting System Monitor Collector.....1 Collector Services
net start smnewcollector.exe
timeout /t 27
```

4. All ArcGIS Monitor <Name> monitoring services will be started in Windows Services panel.

Securing ArcGIS Monitor

ArcGIS Monitor is secured by the Windows Operating System. Only the administrator should be able to log into the machine.

External access is available only through port 443 (or the selected port you picked).

Storing user names and passwords

All passwords are encrypted using symmetrical RSA 256 encryption and stored at:

1. MongoDB database.
2. Windows user profile. The user name is not encrypted.
3. Collection definition file.
4. By default, the user name and password is **not** stored in a web browser. If desired, the username and password can be stored for the login page by manually editing the <Drive>:\System Monitor Report Server\views\auth\login.ejs file.

Metadata stored

At MongoDB repository (accessed through token)

1. Hostname.
2. IP address.
3. Geolocation when IP is public.
4. ArcGIS Server service name and usage statistics.

Common problems and solutions

Windows services

Server service does not start or paused

See [Server service does not start or paused](#) in Server Installation guide.

Windows service does not restart automatically after machine reboot

See [Restart windows service after reboot](#).

Missing monitoring service

If the monitoring service you created is not showing up in Administrator, there are two known cases when this can happen:

Case #1:

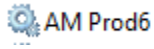
1. User starts ArcGIS Monitor Administrator.
2. User opens **Monitor**.
3. User stops **ArcGIS Monitor Server**.
4. User creates a monitoring service.
5. Mongo update fails as **ArcGIS Monitor Server** does not register monitoring service.
6. Windows service is created but is now an orphan.

Case #2:

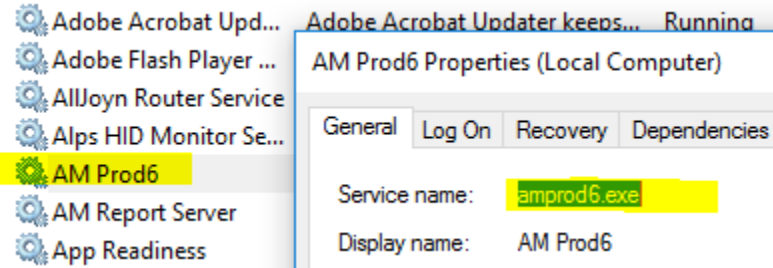
1. User start ArcGIS Monitor Administrator.
2. User opens **Monitor**.
3. User leaves open for a very long time and token times out.
4. User creates a monitoring service
5. MongoDB update fails as **ArcGIS Monitor Server** does not register monitoring service
6. Windows service is created but is now an orphan.

Solution:

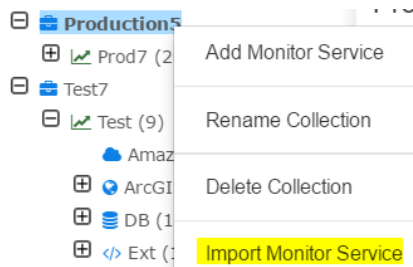
1. **Stop** the monitoring service in the Windows services panel.



2. Open a command line with administrative privileges.
3. Get the service name in the **Properties > General** tab.



4. At the command line, type:
`sc delete <service name>`
5. Make sure the **ArcGIS Monitor Server** is running.
6. Start **ArcGIS monitor Administrator**.
7. Click **Open** button.
8. Select the collection name and choose **Import Monitor Service**.



9. Browse to the .cpj file for the monitoring service (in <Drive>:\ArcGIS Monitor\Administrator\resources\app\collector\defs)
10. Click **Open**.
11. Right-click the imported monitoring service and choose **Register**.
12. Click **Yes** to the Windows prompts.
13. In the Windows services panel, in the **Properties** for the monitoring service, change the **Log On** credentials (Domain\user) running service.
14. **Restart** the monitoring service.

Connection

Connection error

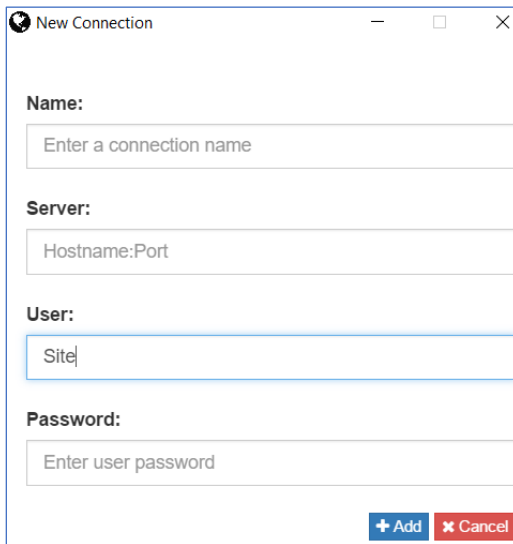
1. Check the InitParams.ini file in <Drive>:\ArcGIS Monitor Server. After a fresh install, the username, password, and port number there must match exactly in the new connection dialog for it to **Add** successfully.

```

[USERINFO]
FNAME=Initial
LNAME=User
EMAIL=myemail@esri.com
[AUTH]
USERNAME=Site
PASSWORD=SystemMonitor
[SERVER]
SERVERPORT=9546
[PORTAL]
APPSDIRECTORY=C:\SysMonApps
PORTALNAME=System Monitor Information Portal
[MONGO]
MONGOPORT=27018
DATA=C:\mongo\Data

```

2. **Note:** The InitParams.ini file contains a plain text User/Password.
 - a. This file is read only during the initial start and all values will be encrypted and stored in the repository.
 - b. If needed for security reasons, this file can be deleted. However, the admin **must remember the Site credentials**.
 - c. The Site password cannot be changed by editing this file or in the Administrator application after the installation.



Server connections are missing

1. Check if you are logging into Windows as a different user from the one that established ArcGIS Monitor and created counters. The server connections are stored under user profile (eg. C:\Users\username\AppData\Roaming\System_Monitor)
2. Check if the user profile was lost due to a System/Windows failure. If you have lost your profile, follow the [connection section](#) to create the Server Connection again.

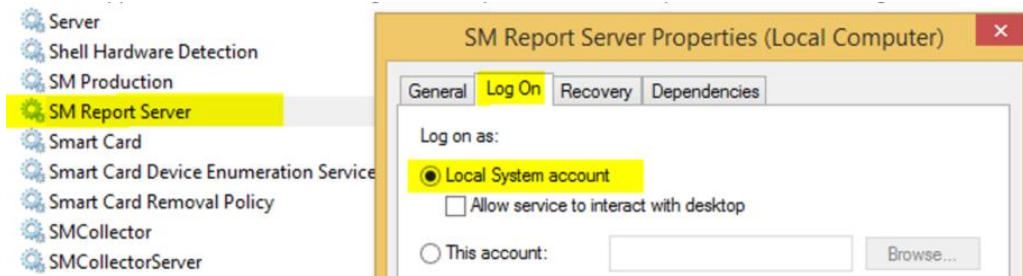
Note: If the definition file is lost in <Drive>:\ArcGIS Monitor Administrator\resources\app\collector\defs, you will need to either restore it from a backup or uninstall and re-install ArcGIS Monitor.

Offline red circle for server connection

1. Check the **ArcGIS Monitor Server** and **ArcGIS Monitor <Name>** monitoring service are running.
2. Click the **Refresh** button in the menu bar.
3. Try closing ArcGIS Monitor Administrator and re-opening the application.
4. Check the ArcGIS Monitor Server log in <Drive>:\ArcGIS Monitor Server\logs for errors, specifically:
 - a. "TCP ERROR! The defined port: 9546 is already in use"

This error can happen if the ArcGIS Monitor Server was not completely shut down when the upgrade was run. To solve this specific TCP error, stop all **ArcGIS Monitor <Name>** services, check the port is available (use `netstat -a -n -o` at command prompt), and re-run the server installer to do the upgrade again.

5. Check if permission of the user running the AM ArcGIS Monitor Server service have changed. To fix, log in to the ArcGIS Monitor machine as an administrator and in the Windows services panel, set the service to run as "Local System account". Then restart the service.



How to find full error message in log

1. Open log file (<Drive>:\ArcGIS Monitor Administrator\resources\app\collector\logs) with capable editor such as Notepad++
2. Slide to the bottom of log
3. To find crashing monitoring service that stops full collection ArcGIS Monitor cycles, simply search for **"date"** in the monitoring service logs
4. You can find the problem searching for the string **"date"**: as this is our stack trace dump signature.

Items not visible in Server

1. After creating new counters, make sure to click **Save** after adding/editing each counter item. If an item was not saved, it expected to disappear on restart of ArcGIS Monitor Administrator.
2. Wait 2 collection cycles after creating new service or after clicking Clean View.

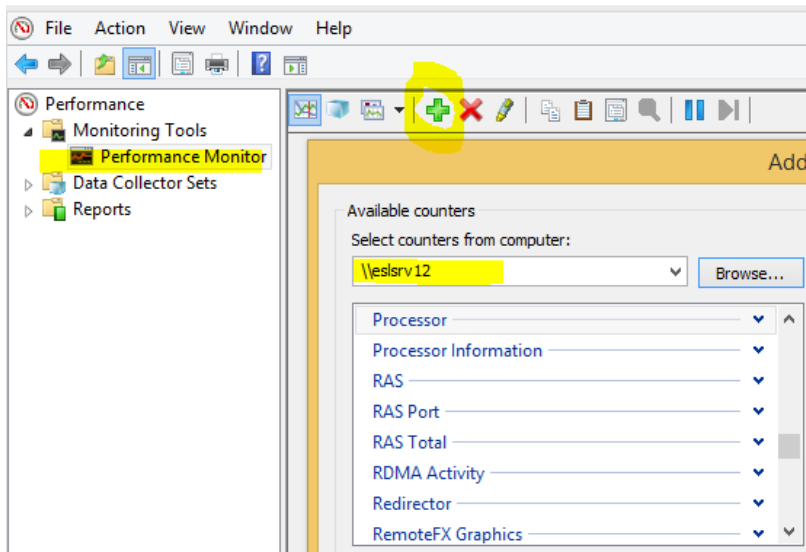
Collection

Common problems that cause failed collection

1. Incorrect input.
2. Target collection not reachable, e.g. machine, ArcGIS Server or Portal not running.
3. Target collection user credentials changed.
4. **ArcGIS Monitor <Name>** service windows account password changed causing failure to collect for Systems, Process, and RDP.

System, Process or RDP collection fails

1. Type `perfmon.exe` from command line. Try to add counters from the remote machine that you couldn't collect (eg. Processor CPU % for System)



2. If you get counter errors, rebuild Perfmon counters using the following document:
<http://support.microsoft.com/kb/2554336>

ArcGIS Server collection fails

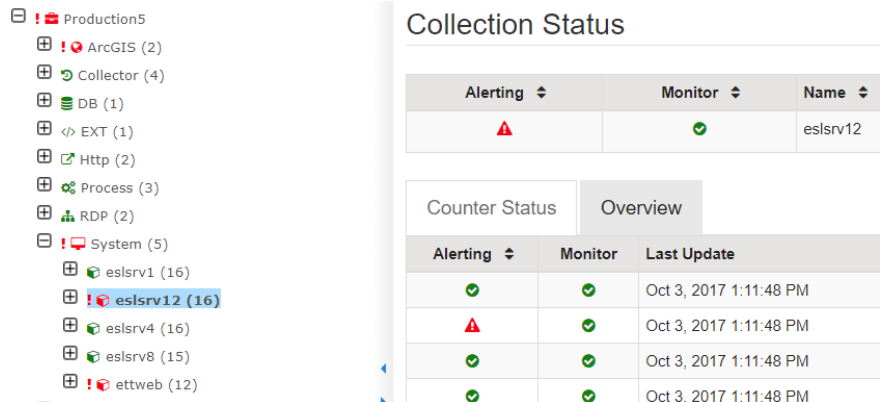
1. If you get an error "Cannot GET /rest/services", then check if your admin access via web adaptor is disabled.
2. Try <http://localhost/arcgis/rest/admin/>. If you get an error, then try to access admin by either <http://localhost:6080/arcgis/rest/admin> or <https://localhost:6443/arcgis/rest/admin> if https enabled.
3. Check if the ArcGIS Server Manager and the ArcGIS Server Administrator Directory was not available through the Web Adaptor because the default Value is false.
4. Check if the ArcGIS Server License has expired. If yes, renew the license and restart the **ArcGIS Monitor <Name>** monitoring service in the services panel. After a few minutes, statistics should be working again.
5. Check if the user account for the monitoring service is correct.

ArcGIS Server Test throws ETIMEDOUT

When the **Test** button gives this error for an ArcGIS Server site, the ArcGIS Server log file size has grown so large that the request times out. Backup and delete the logs in ArcGIS Server manager to solve this. The log level and log content should be checked for errors to determine why the log got so large.

Node.exe spawning numerous scripts

1. The counters that create cscripts are **System, Process and RDP**. In general, when Node.exe spawns numerous cscripts, this is caused by broken Windows Perfmon counters in the target environment.
2. Make sure your target machines are up and reachable.
3. Stop the **ArcGIS Monitor <Name>** monitoring service and clean up the cscripts (will be cleaned up as monitoring service(node) is the parent.)
4. Next the **ArcGIS Monitor <Name>** monitoring service.
5. Leave ArcGIS Monitor alone for 15 minutes.
6. Open the **Catalog** view in ArcGIS Monitor Server.
7. Answer this question: What machine is not collecting (red) ? Check Each **Red** item in the tree and look for the Monitor column under Collection Status.

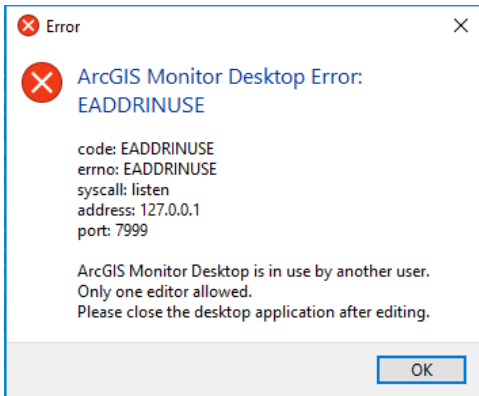


8. Go to ArcGIS Monitor Administrator and remove the machine(s) where Monitor column is **Red**.
9. Restart the monitoring service. Observe the cscript behavior.
10. Rebuild the Windows counters by following the instructions at:
<https://support.microsoft.com/en-us/help/2554336/how-to-manually-rebuild-performance-counters-for-windows-server-2008-64bit-or-windows-server-2008-r2-systems>

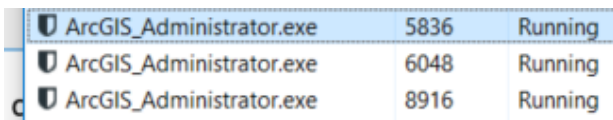
Administrator UI errors

Starting throws EADDRINUSE

The following error is expected when ArcGIS Monitor Administrator is in use by another user (ArcGIS_Administrator.exe is running and using port 7999). This is solved by closing the application (ArcGIS_Administrator.exe) after editing has completed.



Note: After closing the application, check in Task Manager if a ArcGIS_Administrator.exe is still running. All ArcGIS_Administrator.exe should be removed.



Save, Close, or Exit buttons not working

1. Check the user who is editing and saving changes in ArcGIS Monitor Administrator is either an administrator or member of the administrators group.
2. Right-click the ArcGIS Monitor Administrator shortcut on your desktop and select **Properties**.
3. On the Compatibility tab, check the box **Run this program as an administrator**.
4. Click the **Change settings for all users** and set **Run this program as an administrator**. Click **Apply** and **OK**.

Right-click menu not working

1. Left click to select the item you want a menu for. Then right-click the selected item to open the menu.

Extension dropdown list not working

1. This problem is caused when a user places an unsupported file or folder into <Drive>:\ArcGIS Monitor\Administrator\resources\app\bin directory.

Unable to add extension or task

1. **Close** ArcGIS Monitor Administrator. Go to the folder <Drive>:\ArcGIS Monitor Administrator\resources\app\bin.
2. Check all the expected folders are present for the extension that you imported.
3. Restart ArcGIS Monitor Administrator. Try to add a new Extension or Task.

MongoDB

For MongoDB issues, refer to the open-source MongoDB documentation at: <https://docs.mongodb.org/v3.4/>

Email notifications

1. Check the syntax of the smtp server parameters and port number. See the [Change Server Properties > Email tab](#) section for details.
2. Check with your organization's IT group if certain email addresses needs to be whitelisted/approved to work.
3. **Note:** You will get one immediate email only – when the violation occurs. To get another violation, the issue must be cleared for a full cycle. Every 4 hours, we check if you are still alerting and if yes, it will send one follow up email. If the 4 hour check detects that the alert is no longer a problem, it clears the counter for the ability to notify you again about a new alert.

Database query error

1. Check the syntax of the query is valid by looking at the key values.
2. Check for spaces in the values.
3. If the query is for a database, test the query in SQL directly (eg. SQL*Plus for Oracle, SQL Server Management Studio) to see if it returns a valid value.

Use

Prerequisite knowledge

Although configuration can be completed with minimum knowledge, the analysis requires broader and deeper understating of software stack, performance tuning, capacity and administrations. User should read the following section carefully before using ArcGIS Monitor Server web pages.

In addition, users may want to consider ArcGIS Monitor Jumpstart packages offered by **Esri Professional Services**.

Solution architecture

Administrator user should understand the architecture of the solution to be monitored, including all software components and depended infrastructure. Use this knowledge to select and configure appropriate default counters and extensions.

Subject knowledge

Administrator user should understand the **fundamentals** of the software stack to be monitored, like:

1. Windows
2. Linux

- 3. Portal
- 4. ArcGIS Server

In addition, ArcGIS Monitor can be configured with extensions that require **advanced** knowledge of the subject to configure and analyze, e.g.

- 1. ArcGIS Server instance configuration
- 2. Web servers
- 3. RDBMS
- 4. VMWare

Finally, administrator user should review the following sections.

Statistics

For large number of counters and longer time spans, analyzing tabular statistics is more effective than analyzing charts. ArcGIS Monitor makes a full use of statistics. Therefore, the administrator user should be familiar with basic statistics: min, max, average, percentile.

For example, **percentile** is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below given value.

The following charts show relationship between the core statistics. **Note:** These charts are not from ArcGIS Monitor. They are only to help users understand core statistics

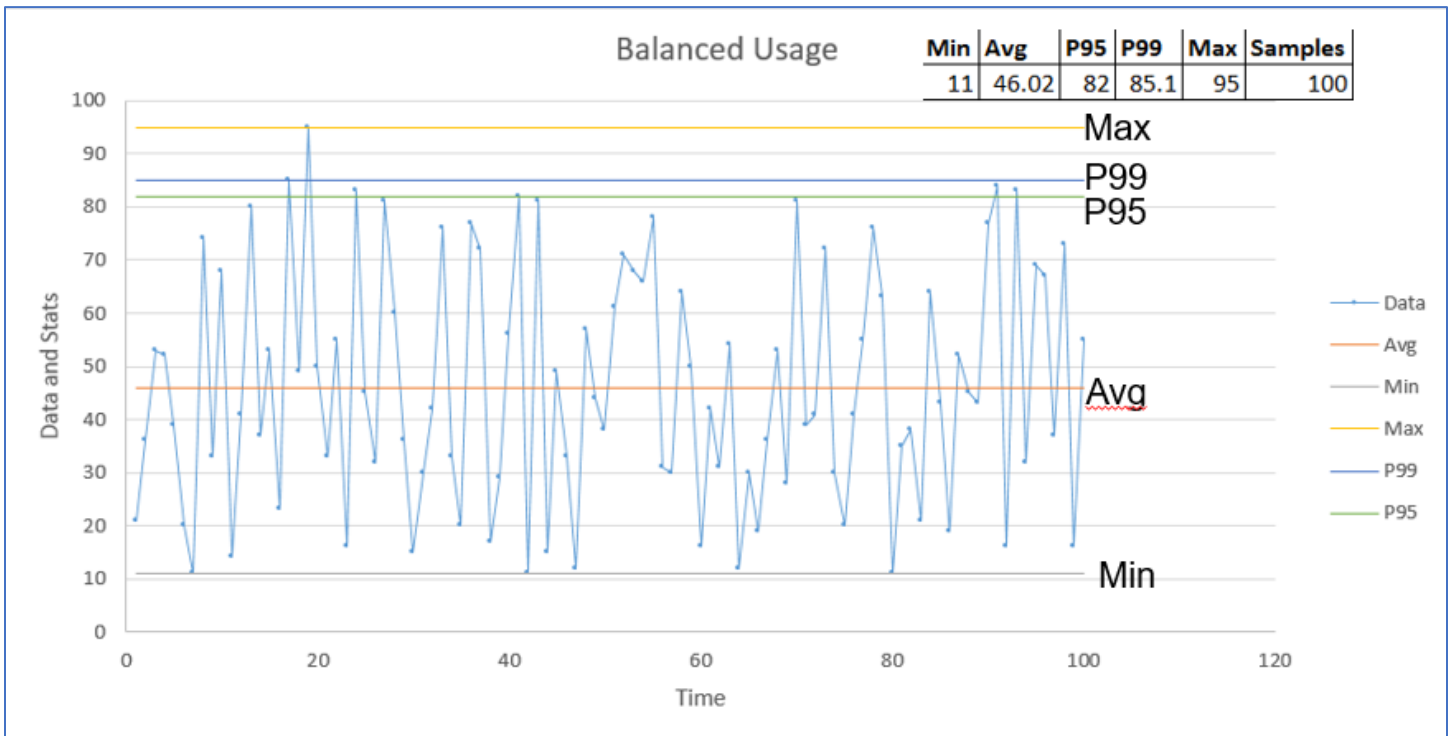


Figure 1: Balanced usage statistics

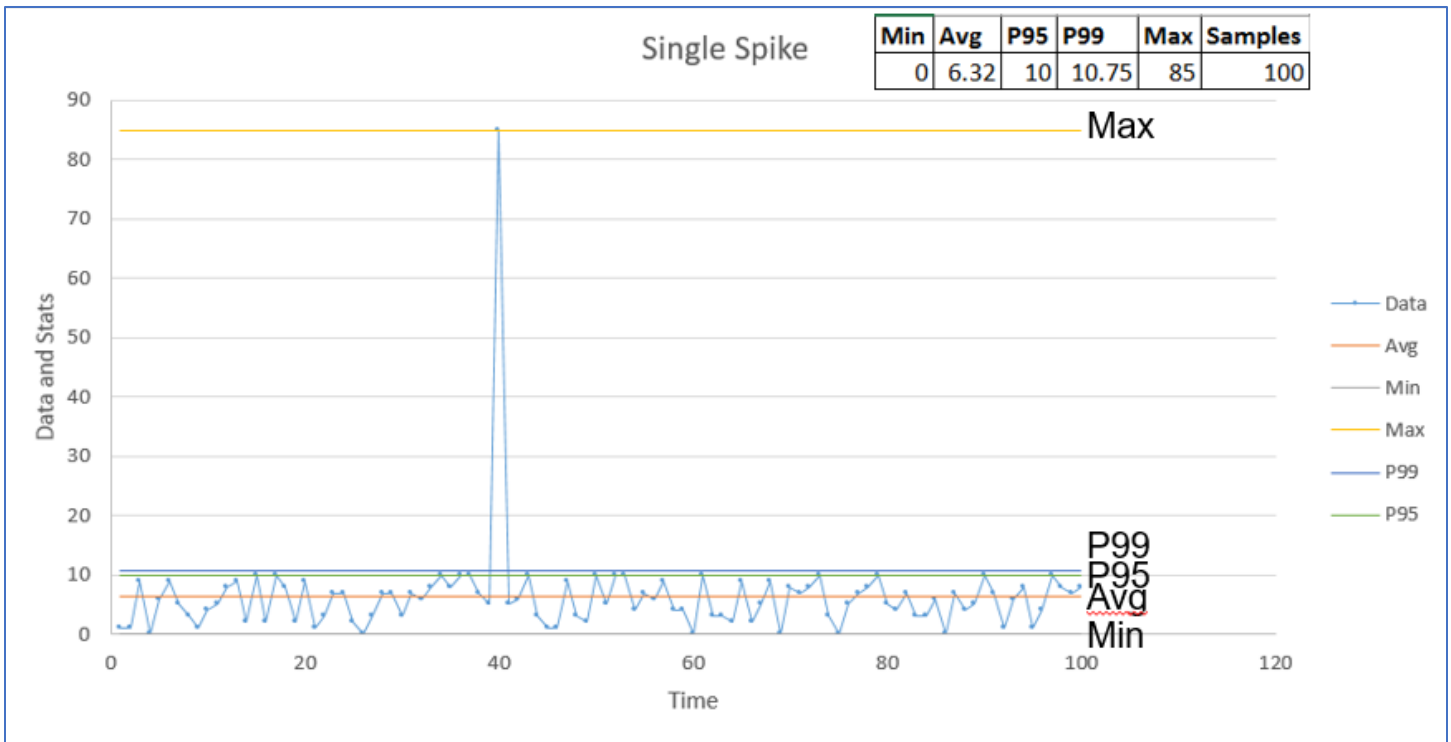


Figure 2: Single spike statistics

Audience and Time span

The use will depend on the type of audience and analysis time span.

For example, administrator and users might be interested in the status now or the last 12 hrs. On the other hand, manager might focus on weekly or monthly trends.

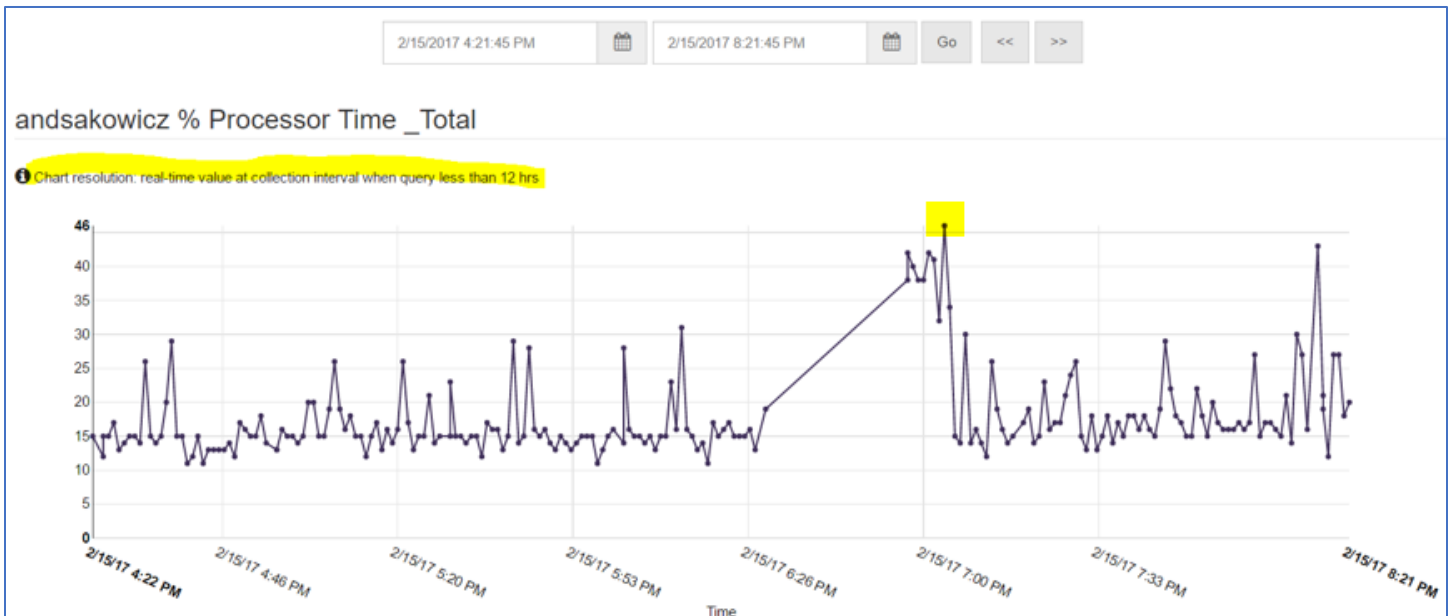
Audience	Time span				
	Now	12 hrs	Day	Week	Month
Administrator	✓	✓	✓		
Manager				✓	✓
User	✓	✓			

Chart resolution and table statistics

Chart resolution depends on the time span.

Less than 12 hrs report

When time span is less than 12 hours, charts show real-time value at collection interval. User should pay attention to information message highlighted in the example below. Notice that **max** value in the chart and the table are the same.

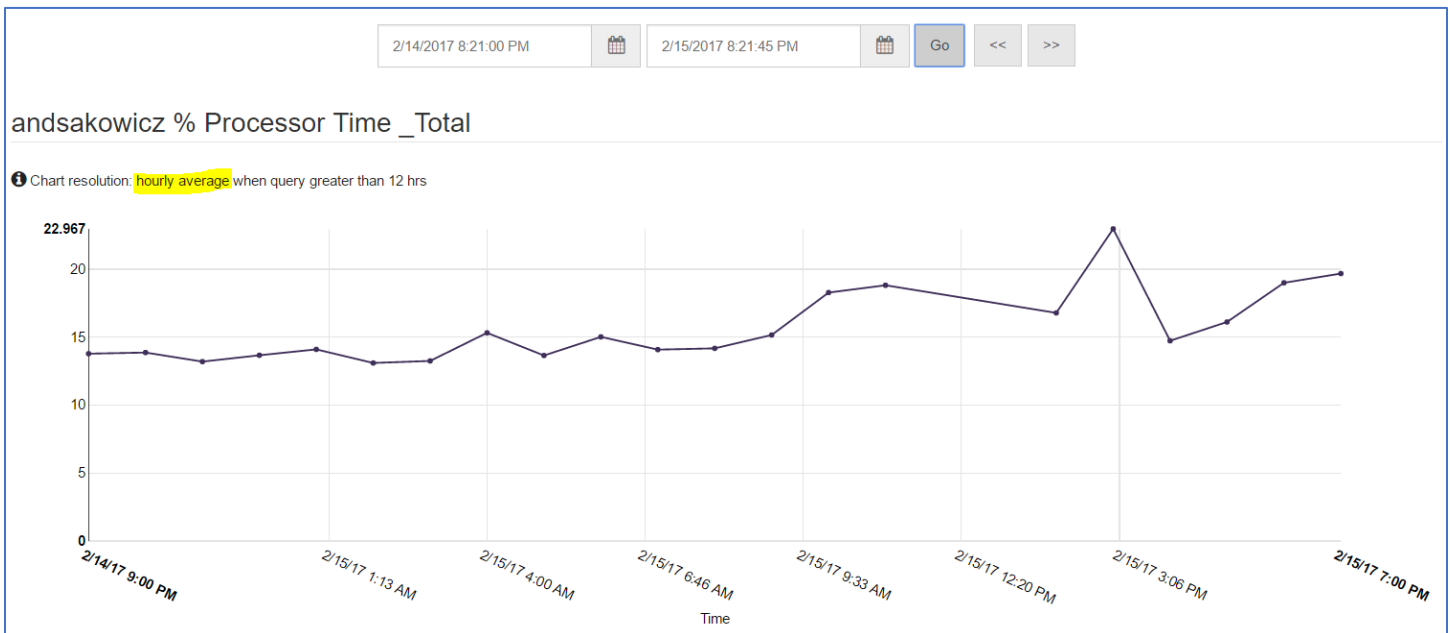


Statistics: both chart and table reflect true statistics like min, max, percentile

Counter	Min	Avg	P5	P50	P90	P95	P99	Max	Sum	Samples	Coverage %
andsakowicz % Processor Time _Total	11.000	17.836	12.000	15.000	27.000	32.000	42.000	46.000	3,799.000	213	89.120

Greater than 12 hrs report

When time span is greater than 12 hours, the chart shows **hourly average**. As a result, the chart is “flattened” and does not show maximum value. Table statistics, on the other hand, are always “true”, regardless of the time span. Notice max value in the table is 100, but the max hour average shown on the chart is less than 23.



Statistics: only table reflects true statistics like min, max, percentile

Counter	Min	Avg	P5	P50	P90	P95	P99	Max	Sum	Samples	Coverage %
andsakowicz % Processor Time _Total	0.000	15.463	11.000	14.000	19.000	26.000	40.000	100.000	16,654.000	1,077	81.590

Common use cases

There are several common use cases.

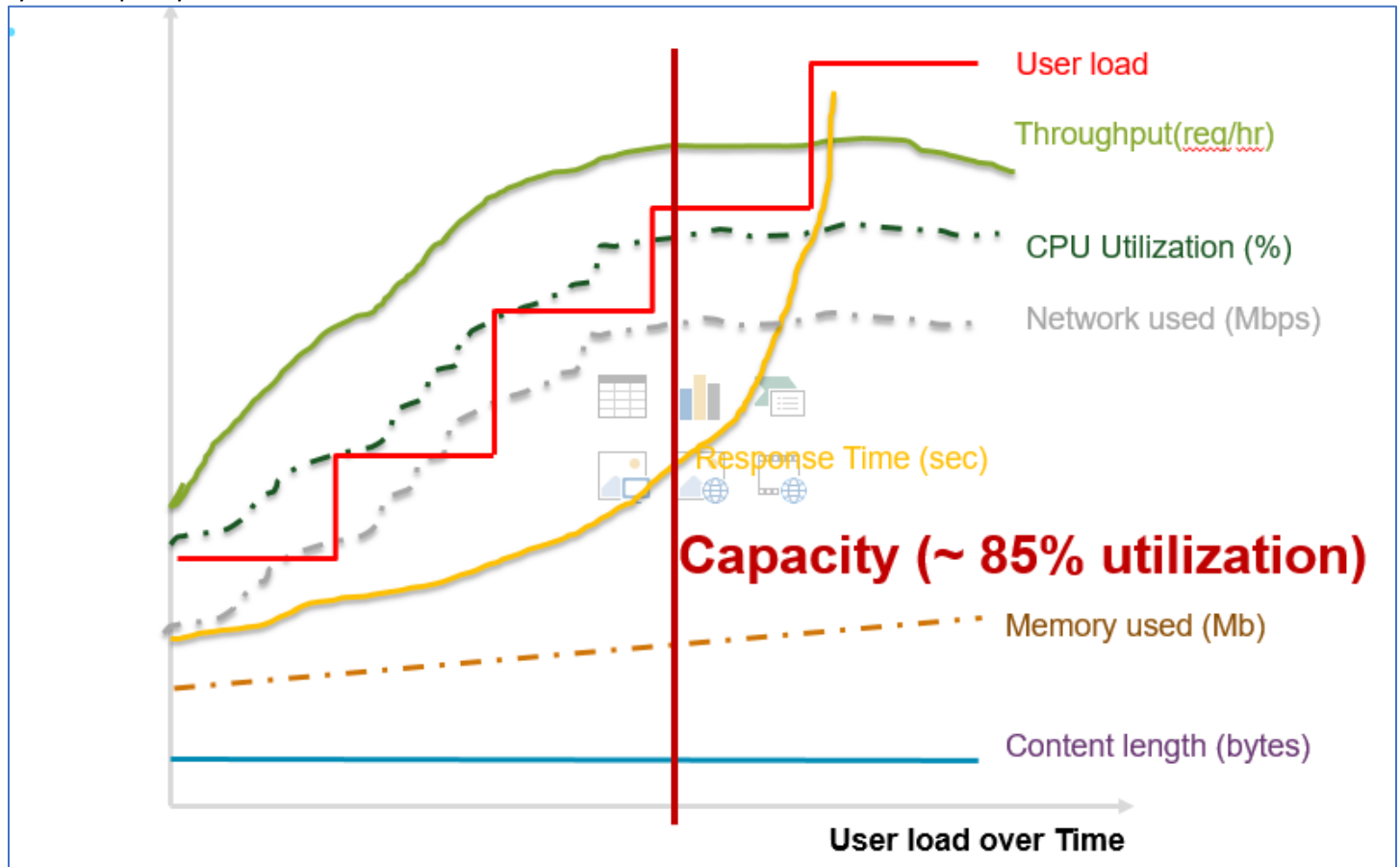
1. System availability or uptime (Administrator, Manager, User) , e.g. [Web application outage](#)
2. Performance (Administrator, User) e.g. [Performance alerts](#)
3. User load and infrastructure utilization (Administrator) e.g. [Infrastructure alerts](#)
4. Bottleneck (Administrator, Manager)

Note: For all user cases, it is recommended to review the sections below.

User load, infrastructure and performance relationship

These categories are interconnected. For example, increased user **load** (increased req/hr or users) requires additional **infrastructure** resources. If the resources are not available, the system operates over **capacity** (e.g. 90% CPU Utilization). This in turn results in degraded **performance** (increased Response Time) or in severe cases, system **outages**.

The following graph shows the common counters and the relationship between user load, Infrastructure counters and system capacity.



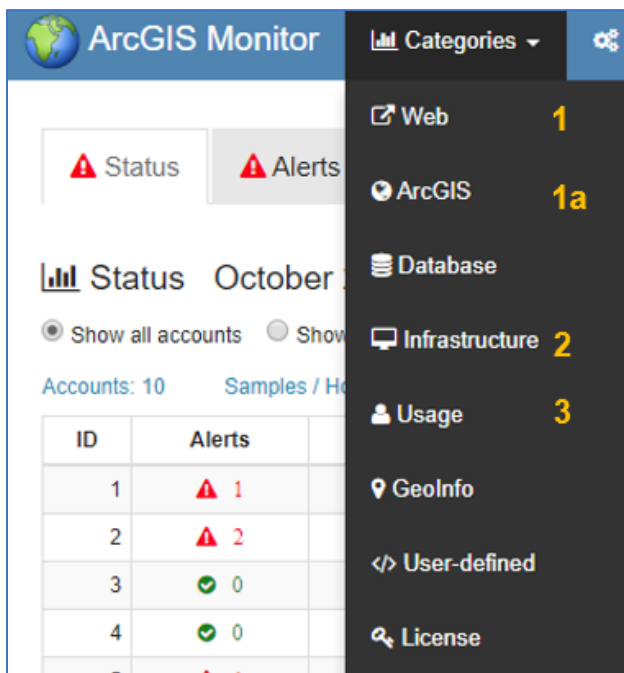
ArcGIS Monitor Key Categories and Counters

The following table lists counter names for each Category and Counter Type. It is a useful guide to effectively navigate user interface. For example, if user receives an HTTP performance alert, such as Response Time (sec) > 5, it is recommended to check other performance counters, like ArcGIS or IIS logs and see if there is a correlation between tiers and which tier is responsible for this performance degradation. The next step is to review user load counter for correlation between performance and user load. See the following sections for specific examples.

Table 1: ArcGIS Monitor Key Categories and Counters

ArcGIS Monitor Category	Counter Type	Default Counter or Ext	Performance Counter Name	Use load Counter Name	Error Counter Name
Web	Http	Default	Response Time (sec)	n/a	Response Code
Web	Url	Extension	Response Time (sec)	n/a	Response Code
Web	HAR	Extension	Response Time (sec)	n/a	Failed Requests
ArcGIS	ArcGIS Server	Default	Busy Time per Tr(sec)	Throughput(Tr/sec); Free	Error
ArcGIS	Portal	Default	n/a	Users Total	n/a
ArcGIS	ArcGIS Server Log	Extension	n/a	Tr/Hour	Errors/hr
Database	DB	Default	user defined	user defined, e.g. Connections	user defined
Infrastructure	Amazon	Default	n/a	% CPU, Memory, Disk, Network	n/a
Infrastructure	System	Default	n/a	% CPU, Memory, Disk, Network	n/a
Infrastructure	Process	Default	n/a	Count Active	n/a
Infrastructure	RDP	Default	n/a	Count Active	n/a
Usage	ELB or IIS Logs	Extension	Response Time (sec) (ExcelReport); Tr/Hour Response Time Histogram;	Tr/Hour;IP/Hour	HTTP Error/Hour
GeoInfo	ELB or IIS Logs	Extension	n/a	Total Requests, Ips	n/a
License	Desktop License	Extension	n/a	Licenses used	n/a

Performance alert

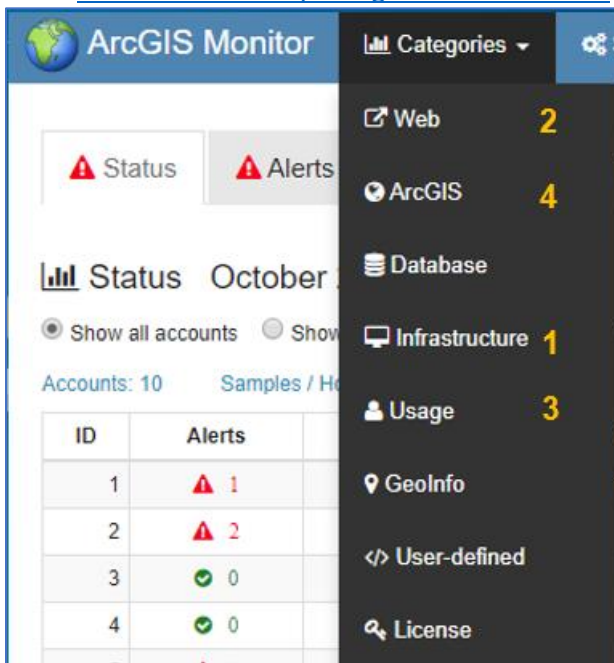


When receiving an HTTP performance alert, use the following guidelines. Note, you'll have to reference [ArcGIS Monitor Key Categories and Counters](#) table.

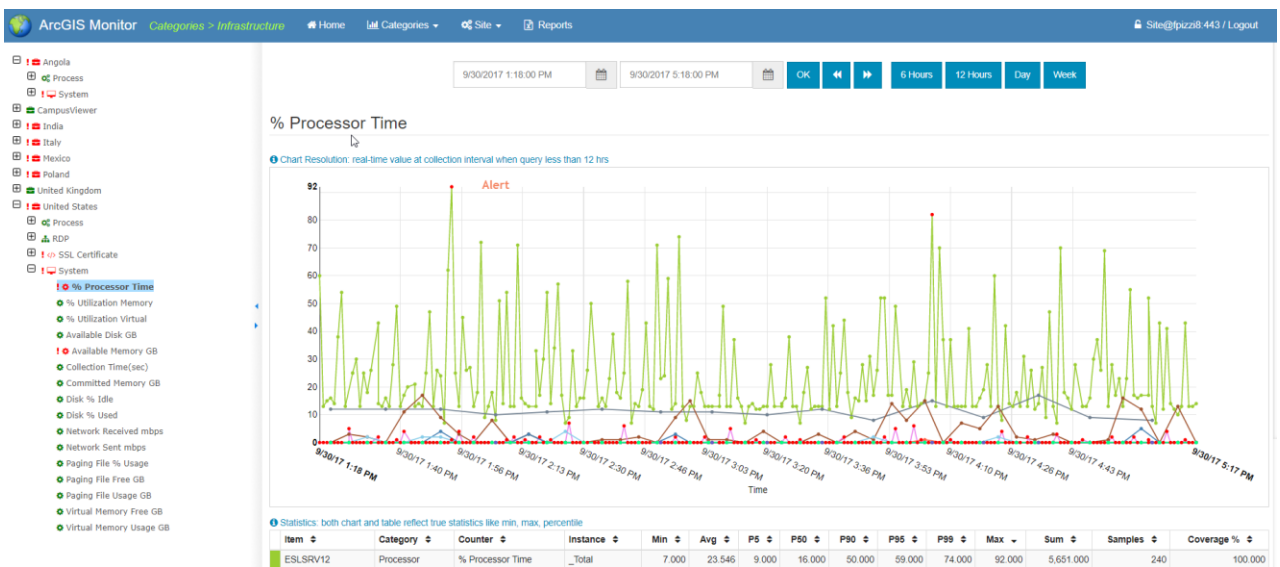
1. **Web.** Select appropriate Response Time (sec) counter and analyze chart. Make note of times and if this is an isolated spike or long-lasting event.
 - a. Check other performance counters, like ArcGIS or IIS logs (Usage) for correlation between tiers and which tier is responsible for this performance degradation.
2. Analyze **Infrastructure** utilization counters for correlation between performance and infrastructure
3. Analyze **Usage** (user load counters) for correlation between performance alerts

Infrastructure alerts

When receiving an infrastructure alert, e.g. CPU or memory spike, use the following guidelines. Note, you'll have to reference [ArcGIS Monitor Key Categories and Counters](#) table.



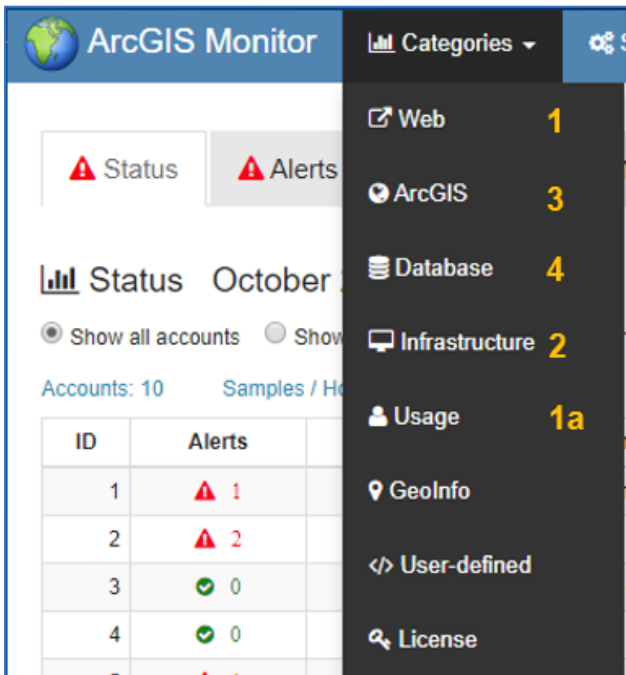
1. **Infrastructure.** Select appropriate counter and analyze chart. Make note of times and if this is an isolated spike or long-lasting event.



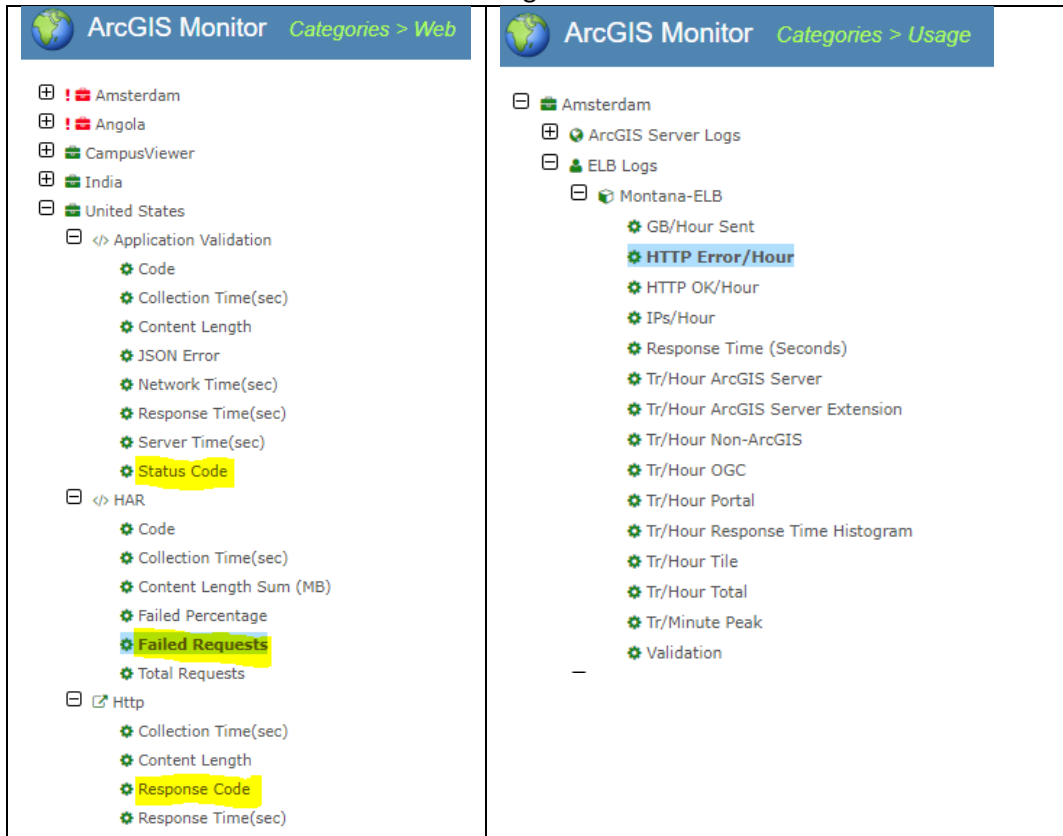
2. Analyze **Web performance** counters for correlation between performance and infrastructure utilization.

- Analyze **usage** (user load counters) for correlation between performance, infrastructure and user load.
- Analyze ArcGIS performance and usage counters for correlation between performance, infrastructure and user load.

Web application outage



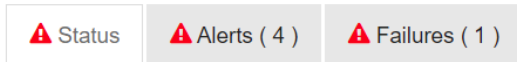
- Web and Usage.** Select appropriate errors counter and analyze chart. Make note of times and if this is an isolated spike or long-lasting event. Check other related error counters, like ArcGIS or IIS logs (Usage) for correlation between tiers and which tier might be the root cause of this alert.



- Analyze **infrastructure** utilization, errors and uptime counters for correlation Analyze **usage** (user load counters) for correlation between performance alerts
- Analyze **ArcGIS** error and uptime counters for correlation
- If configured, analyze **Database** error and uptime counters for correlation

Views

- Start the web browser and go to <https://<yourArcGISMonitorServer>.domain.com:port>.
- Type in your **User** and **Password**. The default user is Site.
- Click the **Login** button.



Status

Status page shows the number of alerts and collection failures in the last sample interval. It shows the status and the health of the system “as of now”.

Alerts are occurrences when collected value exceeded a predefined threshold.

Alerts column shows the total alerts for given collection. This total is broken down for each collection categories and shown on the right. ArcGIS Monitor comes with many predefined alerts, e.g. CPU, memory. However, if user defined collection does not have set alert, it will always show as green.

Collecting Failures are occurrences when target collection did not return a valid response within expected time interval.

Typical cases are:

- Target collection not reachable, e.g. machine, ArcGIS Server or Portal not running
- Target collection user credentials changed
- Slow response time due to network latency or busy target collection



Status October 24, 2017 5:42 PM

Show all accounts Show only accounts with alerts or monitor failures

Accounts: 10 Samples / Hour: 60,067

ID	Alerts	Failures	Collection	Samples / Hour	Web	ArcGIS	Database	Infrastructure	Usage	User-defined	Monitor Service
1	0	0	Amsterdam	1,331	2/2				10/10	1/1	4/4
2	4	6	Angola	6,124	4/6			4/4			8/8
3	2	0	CampusViewer	5,478	2/9	1/1		1/1	1/1		4/4
4	0	0	China	5,032						10/10	4/4

Alerts

The Alerts tab shows a detailed view on the latest alerting conditions. If email [notifications](#) had already been set up for the counter type, someone in your organization has received an email about this alert. The Hours column indicates how long the alert condition has been observed.

Alerting October 24, 2017 5:42 PM

Alerting Items: 16

Category	Counter Type	Hours	Email	Collection	Name	Counter	Instance	Value	Rule	Validation	Note
Web	Http	0	✓	Angola	Test	Response Code	Test	500.00	>	399.00	Failed HTTP error code
Web	Http	0	✓	Angola	New Httpss	Response Time(sec)	New Httpss	9.40	>	3.00	Slow HTTP performance
Web	Http	0	✓	Angola	Test	Response Time(sec)	Test	5.20	>	3.00	Slow HTTP performance
Web	Http	0	✓	Angola	New Httpss	Response Code	New Httpss	500.00	>	399.00	Failed HTTP error code
Web	</> Ext	0	✘	CampusViewer	AppValidation	Response Time(sec)	Validation	5.68	>=	3.00	Response Time(sec) slow
Web	</> Ext	0	✘	CampusViewer	AppValidation	Response Time(sec)	HTTP-query-slow	3.34	>=	3.00	Response Time(sec) slow
Infrastructure	</> Ext	71	✘	India	File Test Remote	ReadSec	File Test Remote	0.13	>	0.00	Test

Monitor failures

This page shows details on counter that failed to get statistics in the latest collection cycle. In this screen, a system named ESLSRV16 stopped collecting 1,279 hours ago.

When editing the configuration, or increasing sample interval, a monitor may temporarily show a failed status.

Failed October 24, 2017 5:42 PM

Failed items: 19

Category	Counter Type	Hours	Last Update	Sample Interval	Collection	Name
Web	Http	79	10/21/2017 10:15 AM	60	Angola	Test
Monitor	Monitor	80	10/21/2017 09:44 AM	3600	Angola	AngolaTest-1 hour
Monitor	Monitor	79	10/21/2017 10:14 AM	900	Angola	AngolaTest-15 minutes
Monitor	Monitor	79	10/21/2017 10:14 AM	300	Angola	AngolaTest-5 minutes
Monitor	Monitor	79	10/21/2017 10:15 AM	60	Angola	AngolaTest-60 seconds
Infrastructure	System	79	10/21/2017 10:15 AM	60	Angola	fpizzi
ArcGIS	Portal	186	10/16/2017 11:53 PM	900	India	Portal India

Categories

The Categories dropdown contains standard reports for each group of counters. The counters included in each report is as follows.

Report Name	Counters Included in Group	</> Extension
-------------	----------------------------	---------------

Web	Http	No
	Application Validation	Yes
	HAR	Yes
ArcGIS	ArcGIS Server	No
	Portal	No
	System Log Parser (Errors for ArcGIS only)	Yes
Database	DB counters (SQL Server, Oracle, etc...)	No
Infrastructure	Amazon	No
	System	No
	Process	No
	RDP	No
	SSL Certificate	Yes (as Task)
	File Read Write	Yes
Usage	System Log Parser (ArcGIS, Elastic Load Balancer for Amazon Cloud)	Yes (as Task)
GeoInfo	System Log Parser (IIS)	Yes (as Task)
Extensions	Custom Extension counters (Command, Python Config, etc.)	Yes (see your custom code)
License	Desktop License Extension	Yes
Monitor	Monitoring service (60,300,900,3600 second intervals)	No

Note: These standard reports are designed to function as follows:

- If one or more counters inside a group is available in the Catalog view, then the **Categories** report data for that counter will also become available, otherwise it is expected the report page will be blank.
- Provides a quick view of all counters from all machines in a standardized report based on user's collection permissions.
- If you want to create custom reports (eg. include only some machines or some counters), you will need to contact Esri Professional Services for a consulting engagement.
- Currently alerting items and counters with collecting failures will be included in the standard **Categories** report.
- If you are not using any extensions, it is expected that the following reports will be blank: Usage, GeoInfo, </> Extensions, and License.

Note: Up to 12 hours of raw data can be viewed from now going backwards. Going back more than 12 hours will change the view to hourly average data. This is by design to maintain fast query performance.

Site

Catalog

The collection name is listed on the left side. A **green** check mark in Alerting indicates that there's currently no alerts. A **red** exclamation mark under **Alerting** indicates that a threshold violation has occurred for one or more counters and should be investigated to determine what counter is the source of the alert and why.

Monitor column shows collecting status. If the **red** triangle with exclamation mark is under the, that item is no longer collecting data and should be investigated to determine what parameters have changed (such as password expired, permissions changed, etc..) for the monitoring service.

ArcGIS Monitor Site > Catalog Home Categories Site Reports

Amsterdam
 Angola
 CampusViewer
 China
 India
 Italy
 Mexico
 Ontario
 Poland
 United Kingdom
 United States

Collection Status

Alerting	Monitor	Name	Type	Interval	Last Update
⚠	✔	Test Ama	Amazon	900	Oct 3, 2017 2:43:11 PM
✔	✔	New Amazon	Amazon	60	Oct 3, 2017 2:54:40 PM
✔	✔	Test Arc	ArcGIS	900	Oct 3, 2017 2:42:56 PM
⚠	✔	LoadTest2010	DB	900	Oct 3, 2017 2:42:47 PM
✔	✔	AV	EXT	60	Oct 3, 2017 2:55:06 PM
✔	✔	Python Parameters 2	EXT	300	Oct 3, 2017 2:54:46 PM
✔	✔	Python Parameters	EXT	300	Oct 3, 2017 2:54:46 PM
✔	✔	Python Ext	EXT	300	Oct 3, 2017 2:54:46 PM
✔	✔	Python Test	EXT	300	Oct 3, 2017 2:54:46 PM
✔	✔	Portal for Italy	Portal	900	Oct 3, 2017 2:43:08 PM
✔	✔	FPIZZI8-node	Process	300	Oct 3, 2017 2:54:49 PM

Configuration

Read the notes below the table to understand the configuration status, alerts, and failures.

Collection Time

These tables show the status, alerts, and monitor service failures along with charts of the Time (seconds) required to collect samples in each interval (60 seconds, 5 minutes, 15 minutes, 1 hour). You can also expand the tree items to view charts for specific counters.

Italy
 Monitor

- Amazon Time(sec)
- ArcGIS Server Time(sec)
- Collection Time(sec)
- Db Time(sec)
- Extension Time(sec)
- Portal Time(sec)
- Process Time(sec)
- RDP Time(sec)
- System Time(sec)
- Url Time(sec)

ArcGIS Server Time(sec)

Chart Resolution: real-time value at collection interval when query less than 12 hrs

Time (sec)
7.5
7.3
7.5
6.9
7.1
8.0
8.2
9.2
7.2
9.3
10.443
7.8
7.5
10.0
7.7
8.8
9.2

Reports

1. Follow the user interface instructions and input all parameters.
2. Click **Execute**.
3. The report will be downloaded in your browser.
4. Open report in Microsoft Excel.

Glossary

The glossary is organized by counter type for easy access. There is also an [Excel Report](#) glossary.

System

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*
- **Collecting:** *Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)*
- **Counters:** *The number of perfmon counters being monitored for that host name.*
- **Last Update:** *The time when the last data sample was collected.*
- **% Processor Time:** *The percentage of elapsed time that the processor spends to execute a non-Idle thread. It is calculated by measuring the percentage of time that the processor spends executing the idle thread and then subtracting that value from 100%.*
- **Available Memory GB:** *The amount of physical memory immediately available for allocation to a process or for system use. It is equal to the sum of memory assigned to the standby (cached), free and zero page lists.*
- **Committed Memory GB:** *The physical memory in use for which space has been reserved in the paging **File** should it need to be written to disk. The commit limit is determined by the size of the paging **File**.*
- **Disk % Idle:** *Reports the percentage of time during the sample interval that the disk was idle. A low % Idle Time value (under 10%) indicates that the disk is being heavily utilized and could potentially be a bottleneck for performance.*
- **Disk % Used:** *Reports the percentage of each disk that is occupied with stored data.*
- **Network Sent mbps:** *The rate at which bits are sent over each network adapter, including framing characters. Units in Megabits per second.*
- **Network Received mbps:** *The rate at which bits are received over each network adapter, including framing characters. Units in Megabits per second.*
- **C:\pageFile.sys % Usage:** *Reports the percentage of page**File** that is currently in use by the system.*
- **C:\pageFile.sys Usage GB:** *Reports the size of page**File** in GB that is currently in use by the system.*
- **Sample Interval:** *The amount of time in seconds between collection of data from the host.*
- **Value:** *The value from the last data sample.*

Process

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*
- **Collecting:** *Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)*
- **Counters:** *The number of counters being monitored for that host-process name.*
- **Last Update:** *The time when the last data sample was collected.*
- **% Processor Time:** *The percentage of elapsed time that the processor spends to execute a non-Idle thread. It is calculated by measuring the percentage of time that the processor spends executing the idle thread and then subtracting that value from 100%.*
- **Count Total:** *The number of processes with that name.*
- **Count Active:** *The number of active processes with that name.*
- **Count Idle:** *The number of idle processes with that name.*

- **Virtual GB:** *The total amount of memory (GB) created on the system by using the hard disk to simulate additional random-access memory.*
- **Private GB:** *The amount of memory (GB) exclusively used for a specific process.*
- **Sample Interval:** *The amount of time in seconds between collection of data from the host-process.*
- **Value:** *The value from the last data sample.*

ArcGIS

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*
- **Collecting:** *Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)*
- **Type:** *The service type as defined in ArcGIS Server Manager.*
- **Last Update:** *The time when the last data sample was collected.*
- **Folder:** *The folder name in ArcGIS Server manager where the service was published.*
- **Service:** *The ArcGIS Server service name.*
- **Cluster:** *ArcGIS Server cluster name.*
- **Nodes:** *Number of machines in the cluster.*
- **State:** *Service is either started or stopped.*
- **MinPerNode:** *The minimum number of instances of the service to create on each node within the cluster. The default is 1.*
- **MaxPerNode:** *The maximum number of instances of the service to create on each node within the cluster. The default is 2.*
- **MinTotal:** *The total minimum instances across all nodes.*
- **Max:** *The maximum number of instances of a SOC process. Each SOC process can have one or more service instances of the same service configuration running within it.*
- **Busy:** *The number of instances of a SOC process that are currently busy. Each SOC process can have one or more service instances of the same service configuration running within it.*
- **Free:** *The number of instances of a SOC process that are currently free. Each SOC process can have one or more service instances of the same service configuration running within it.*
- **Errors:** *The count of errors in the ArcGIS service log.*
- **Throughput (Tr/sec):** *Amount of work (in transactions per second) performed by a system. Throughput can be established based on demand by defining user workflows. Throughput, specifically maximum throughput, is a characteristic of a given system for a type of work. This is a supply-side definition of throughput.*
- **Busy Time per Tr (sec):** *The total time (seconds) per transaction consumed by a specific service in the ArcGIS Server site.*
- **Transactions:** *The total count of all the transactions performed since the ArcGIS Server service was started.*

Http

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*
- **Collecting:** *Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)*
- **Counters:** *The total number of http counters being monitored.*

- **Last Update:** *The time when the last data sample was collected.*
- **Response Time(sec):** *The time in seconds it takes to receive a response from a request.*
- **Content Length:** *The amount of bytes used in a http request for a specific URL.*
- **Response Code:** *A three-digit number that indicates the status of a response received after making an Http request. A value of 200 to 202 is desired, indicating success.*
- **Sample Interval:** *The amount of time in seconds between collection of data from the URL.*
- **Value:** *The value from the last data sample.*

Portal

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*
- **Collecting:** *Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)*
- **Counters:** *The total number of Portal counters being monitored.*
- **Last Update:** *The time when the last data sample was collected.*
- **Summary Desktop Content:** *The total count of desktop items in the portal.*
- **Summary Web Content:** *The total count of web items in the portal.*
- **Summary Total Content:** *The total count of ALL items in the portal.*

Note: See the Portal for ArcGIS documentation for additional definitions:

<http://server.arcgis.com/en/portal/latest/administer/windows/work-with-usage-reports.htm>

DB

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*
- **Collecting:** *Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)*
- **Counters:** *The total number of database counters being monitored.*
- **Last Update:** *The time when the last data sample was collected.*
- **Sample Interval:** *The amount of time in seconds between collection of data from the database.*
- **Value:** *The result of the SQL query executed in the database.*

RDP

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*
- **Collecting:** *Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)*
- **Counters:** *The total number of RDP counters being monitored.*
- **Last Update:** *The time when the last data sample was collected.*
- **Total Sessions:** *The total amount of remote desktop sessions.*
- **Inactive Sessions:** *The amount of remote desktop sessions that are not active.*
- **Active Sessions:** *The amount of active remote desktop sessions.*
- **Sample Interval:** *The amount of time in seconds between collection of data from the host.*
- **Value:** *The value from the last data sample.*

Amazon

- **Alerting:** *Indicates if the counter is alerting (red) or within expected operating values (green).*

- **Collecting:** Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)
- **Counters:** The total number of Amazon counters being monitored.
- **Last Update:** The time when the last data sample was collected.
- **Sample Interval:** The amount of time in seconds between collection of data from the collection.
- **Value:** The value from the last data sample.

Note: Refer to Amazon account documentation for additional definitions.

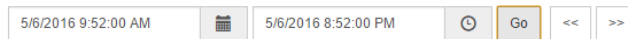
<http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSGettingStartedGuide/AWSAccounts.html>

</> EXT

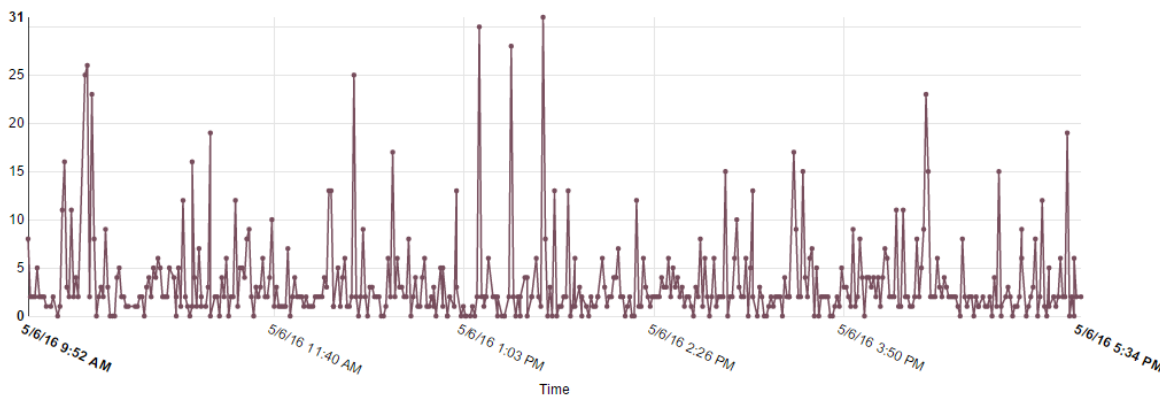
- **Alerting:** Indicates if the counter is alerting (red) or within expected operating values (green).
- **Collecting:** Indicates if the monitoring service on that hostname is receiving metrics (green up arrow) or not (red down arrow)
- **Counters:** The total number of extension counters being monitored.
- **Last Update:** The time when the last data sample was collected.
- **Sample Interval:** The amount of time in seconds between collection of data from the extension.
- **Value:** The value from the last data sample.

Statistics

Under a chart, you will see a statistics table with Min, Avg, P5, P50, P90, P95, P99, Max, Samples, and Coverage %. Below are the definitions for these statistics.



ESLSRV12 % Processor Time _Total



Counter	Min	Avg	P5	P50	P90	P95	P99	Max	Samples	Coverage %
ESLSRV12 % Processor Time _Total	0.000	3.432	0.000	2.000	8.000	13.000	25.000	31.000	458	99.130

- **Min:** The lowest value of samples in the selected time range.

- **Avg:** *The average of all sample values in the selected time range.*
- **P5:** *The fifth percentile. Five percent of the values are under this value.*
- **P50:** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P90:** *The Ninetieth percentile. Ninety percent of the values are under value.*
- **P95:** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99:** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max:** *The highest value of samples in the selected time range.*
- **Samples:** *The number of data points collected in the selected time range.*
- **Coverage %:** *The actual number of samples in the time range divided by the expected number of samples. Expressed as a percentage.*

Excel report

The Excel Report glossary is organized by tab in the Report (as of May 2017 Release). Older versions may have different tabs. **Note:** some tabs (eg. PeakHr) only exist when red or yellow alerts exist for that counter. Other tabs only appear when that counter type or extension is in use. Select a tab of interest:

AGSSite

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the Monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Site:** *ArcGIS Server site name.*
- **Version:** *The version number of ArcGIS Server.*
- **License:** *Type of ArcGIS Server License (advanced, standard, or basic).*
- **DaysLeft:** *Days remaining before the license expires.*
- **Extensions:** *Number of ArcGIS Server Extensions.*
- **Clusters:** *Number of ArcGIS Server clusters.*
- **Machines:** *Number of machines in the ArcGIS Server site.*
- **ServiceStarted:** *Number of ArcGIS Server services running.*
- **ServiceStopped:** *Number of ArcGIS Server services stopped.*
- **ServiceErrorState:** *Number of ArcGIS Server services in error state.*
- **FreeInstancesMax:** *Total maximum number of ArcGIS Server free instances in the report time period.*
- **FreeInstancesDelta:** *The total change in the number of ArcGIS Server free instances in the report time period.*
- **BusyInstancesMax:** *Total maximum number of ArcGIS Server busy instances in the report time period.*
- **Tr/secMax:** *The maximum Transactions per second (throughput) for the ArcGIS Server site in the report time period.*
- **TrSum:** *The sum of transactions for the report time period.*
- **Error(%):** *The percent of data points that have an error count > 0 (from the ArcGIS Server log).*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*

- **Comments:** *Red indicates to investigate high utilization/load. Yellow indicates to investigate sporadic utilization spikes. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

AGSServiceSum

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **Site:** *ArcGIS Server site name.*
- **Cluster:** *Name of the cluster in ArcGIS Server.*
- **Cluster Nodes:** *Number of nodes in the cluster.*
- **Folder:** *The folder name in ArcGIS Server manager where the service was published.*
- **Service:** *The ArcGIS Server service name.*
- **ServiceType:** *ArcGIS Server service type, such as MapServer, ImageServer, GeocodeServer, GPSTServer.*
- **Capabilities:** *Indicates what ArcGIS Server capabilities (eg. Map, Query) are enabled for that service.*
- **RealTimeState:** *The current state of the ArcGIS Server Service (eg. Started, Stopped).*
- **ConfiguredState:** *The configured state of the ArcGIS Server Service (eg. Started, Stopped).*
- **MinInstancesPerNode:** *The minimum number of instances of the service to create on each node within the cluster. The default is 1.*
- **MaxInstancesPerNode:** *The maximum number of instances of the service to create on each node within the cluster. The default is 2.*
- **MaxWaitTime:** *The maximum amount of time (in seconds) the framework should wait to get a free instance of the service. The default is 60 seconds.*
- **MaxIdleTime:** *The maximum amount of time (in seconds) an idle instance of a service will be kept alive before it will be destroyed. The default is 1800 seconds.*
- **RecycleInterval:** *The maximum amount of time (in hours) an instance of the service can live. The default is 24 hours.*
- **RecycleStartTime:** *Time of day when Recycling starts for ArcGIS Server.*
- **MaxRecordCount:** *Used to define how many features can be accessed when querying data in a hosted feature service, or when creating a local copy of a hosted feature service for use with ArcMap. The default maxRecordCount value is 1000.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *Red indicates to investigate high utilization/load. Yellow indicates to investigate sporadic utilization spikes. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

AGSServiceTr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Site:** *ArcGIS Server site name.*
- **Cluster:** *ArcGIS Server cluster name.*
- **Cluster Nodes:** *Number of nodes in the cluster.*
- **Folder:** *The folder name in ArcGIS Server manager where the service was published.*
- **Service:** *The ArcGIS Server service name.*
- **ServiceType:** *ArcGIS Server service type, such as MapServer, ImageServer, GeocodeServer, GPSTServer.*

- **RealTimeState:** *The current state of the ArcGIS Server Service (eg. Started, Stopped).*
- **ConfiguredState:** *The configured state of the ArcGIS Server Service (eg. Started, Stopped).*
- **MinInstancesPerNode:** *The minimum number of instances of the service to create on each node within the cluster. The default is 1.*
- **MaxInstancesPerNode:** *The maximum number of instances of the service to create on each node within the cluster. The default is 2.*
- **TrSum:** *The sum of transactions for the report time period.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *Blue indicates unused service. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

AGSTh

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Site:** *ArcGIS Server site name.*
- **Cluster:** *ArcGIS Server cluster name.*
- **Folder:** *The folder name in ArcGIS Server manager where the service was published.*
- **Service:** *The ArcGIS Server service name.*
- **ServiceType:** *ArcGIS Server service type, such as MapServer, ImageServer, GeocodeServer, GPService.*
- **TrSum:** *The sum of transactions for the report time period.*
- **Min(Tr/sec):** *The minimum transactions per second (throughput) for the report time period.*
- **Avg(Tr/sec):** *The average transactions per second (throughput) for the report time period.*
- **P5(Tr/sec):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(Tr/sec):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(Tr/sec):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(Tr/sec):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(Tr/sec):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(Tr/sec):** *The highest transactions per second (throughput) for the report time period.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *Red indicates to investigate high utilization/load. Yellow indicates to investigate sporadic utilization spikes. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

AGSFreeInstances

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*

- **CollectorHost:** Name of the monitoring service that groups these machines and counters.
- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **Site:** ArcGIS Server site name.
- **Cluster:** ArcGIS Server cluster name.
- **ClusterMachines:** The number of machines that are part of the cluster.
- **Folder:** The folder name in ArcGIS Server manager where the service was published.
- **Service:** The ArcGIS Server service name.
- **ServiceType:** ArcGIS Server service type, such as MapServer, ImageServer, GeocodeServer, GPSTServer.
- **TrSum:** The sum of transactions for the report time period.
- **RealTimeState:** The current state of the ArcGIS Server Service (eg. Started, Stopped).
- **ConfiguredState:** The configured state of the ArcGIS Server Service (eg. Started, Stopped).
- **isCached:** Indicates whether the service data source is cached (true=cached), (false=not cached).
- **MinInstancesPerNode:** The minimum number of instances of the service to create on each node within the cluster. The default is 1.
- **MaxInstancesPerNode:** The maximum number of instances of the service to create on each node within the cluster. The default is 2.
- **Min(free):** The total minimum number of free instances across all nodes for the report time period.
- **Avg(free):** The average minimum number of free instances across all nodes for the report time period.
- **P5(free):** The fifth percentile. Five percent of the values are under this value.
- **P50(free):** The fiftieth percentile. Fifty percent of the values are under value.
- **P75(free):** The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(free):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(free):** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(free):** The maximum free instances for the report time period. If the maximum busy instances equaled maximum free instances during the report period, this column will be **red**, indicating that Max instances needs to be increased.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Alerts(%):** The percent of data points that have an alert condition.
- **LastUpdated:** Time stamp when data was last updated in the report.
- **Comments:** Red indicates Max or Min instances need to be increased. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

AGSPerf

- **ID:** Unique record identifier number.
- **Account:** Name of your ArcGIS Monitor account.
- **CollectorHost:** Name of the monitoring service that groups these machines and counters.
- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **Site:** ArcGIS Server site name.
- **Cluster:** ArcGIS Server cluster name.
- **Folder:** The folder name in ArcGIS Server manager where the service was published.
- **Service:** The ArcGIS Server service name.
- **ServiceType:** ArcGIS Server service type, such as MapServer, ImageServer, GeocodeServer, GPSTServer.
- **TrSum:** The sum of transactions for the report time period.
- **Min(Sec):** The minimum response time for the report time period.

- **Avg(sec):** The average response time for the report time period.
- **P5(sec):** The fifth percentile. Five percent of the values are under this value.
- **P50(sec):** The fiftieth percentile. Fifty percent of the values are under value.
- **P75(sec):** The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(sec):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(sec):** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(sec):** The highest response time.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Alerts(%):** The percent of data points that have an alert condition.
- **LastUpdated:** Time stamp when data was last updated in the report.
- **Comments:** Red indicates to investigate slow response times. Yellow indicates to investigate sporadic slow response times. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

AGSPerfPeakHr

- **ID:** Unique record identifier number.
- **Account:** Name of your ArcGIS Monitor account.
- **Collector:** Name of the monitoring service that groups these machines and counters.
- **CollectorID:** ID number for the monitoring service in ArcGIS Monitor.
- **Site:** ArcGIS Server site name.
- **Cluster:** ArcGIS Server cluster name.
- **Folder:** The folder name in ArcGIS Server manager where the service was published.
- **Service:** The ArcGIS Server service name.
- **ServiceType:** ArcGIS Server service type, such as MapServer, ImageServer, GeocodeServer, GPSType.
- **TrSum:** The sum of transactions for the report time period.
- **Min(Sec):** The minimum response time for the report time period.
- **Avg(sec):** The average response time for the report time period.
- **P95(sec):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(sec):** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(sec):** The highest response time.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Date:** The date of the peak hour.
- **Hour:** The hour of day the peak occurred.
- **Weekday:** The day of the week the peak occurred.
- **Comments:** Red indicates to investigate slow response times. Yellow indicates to investigate sporadic slow response times. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.
- **Timezone:** The time zone the server is located in.
- **Year:** The year the peak occurred.
- **Month:** The month the peak occurred.
- **Day:** The day the peak occurred.
- **Week:** The week number the peak occurred (up to 52 weeks in the year).

Ext

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorName:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Description:** *Any text that was entered in the Description field when adding the extension.*
- **Name:** *The name of the Extension.*
- **CounterCategory:** *Extension (ext) or Task.*
- **CounterName:** *The name of the counter.*
- **CounterInstance:** *Instance name as stored in MongoDB.*
- **Min:** *Minimum value for the counter.*
- **Avg:** *Average value for the counter.*
- **P5:** *The fifth percentile. Five percent of the values are under this value.*
- **P50:** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75:** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95:** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99:** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max:** *Maximum value for the counter.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

ExtPeakHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorName:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Description:** *Any text that was entered in the Description field when adding the extension.*
- **Name:** *The name of the Extension.*
- **CounterCategory:** *Extension (ext) or Task.*
- **CounterName:** *The name of the counter.*
- **CounterInstance:** *Instance name as stored in MongoDB.*
- **Min:** *Minimum value for the counter.*
- **Avg:** *Average value for the counter.*
- **P5:** *The fifth percentile. Five percent of the values are under this value.*
- **P50:** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75:** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95:** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99:** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max:** *Maximum value for the counter.*

- **Uptime(%)**: The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples**: The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec)**: The amount of time between data samples.
- **Alerts(%)**: The percent of data points that have an alert condition.
- **Date**: The date of the peak hour.
- **Hour**: The hour of day the peak occurred.
- **Weekday**: The day of the week the peak occurred.
- **Comments**: Red indicates to investigate slow response times. Yellow indicates to investigate sporadic slow response times. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.
- **Timezone**: The time zone the server is located in.
- **Year**: The year the peak occurred.
- **Month**: The month the peak occurred.
- **Day**: The day the peak occurred.
- **Week**: The week number the peak occurred (up to 52 weeks in the year).

LicenseUsed

- **ID**: Unique record identifier number.
- **Account**: Name of your ArcGIS Monitor account.
- **CollectorName**: Name of the monitoring service that groups these machines and counters.
- **CollectorHostName**: Machine name where the ArcGIS Monitor monitoring service is running.
- **Name**: The name of the Extension.
- **TotalMax**: Maximum number of Licenses.
- **Min(%)**: Minimum % of license used.
- **Avg(%)**: Average % of license used..
- **P5(%)**: The fifth percentile. Five percent of the values are under this value.
- **P50(%)**: The fiftieth percentile. Fifty percent of the values are under value.
- **P75(%)**: The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(%)**: The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(%)**: The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(%)**: Maximum value for the counter.
- **Uptime(%)**: The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples**: The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec)**: The amount of time between data samples.
- **Alerts(%)**: The percent of data points that have an alert condition.
- **LastUpdated**: Time stamp when data was last updated in the report.
- **Comments**: As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

LicenseUserNames

- **ID**: Unique record identifier number.
- **Account**: Name of your ArcGIS Monitor account.
- **User**: User name who activated the license.
- **License**: Machine name and licensed product.
- **Min(licenses)**: Minimum % of license used.
- **Avg(licenses)**: Average % of license used..

- **P5(licenses):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(licenses):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(licenses):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(licenses):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(licenses):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(licenses):** *Maximum value for the counter.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

WebAppRt

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Description:** *Any text that was entered in the Description field when adding the extension.*
- **Type:** *Extension (ext) or Task..*
- **Application:** *The name of the Extension.*
- **Counter:** *The name of the counter.*
- **Instance:** *Usually it's the service name.*
- **Min(sec):** *Minimum value for the counter.*
- **Avg(sec):** *Average value for the counter.*
- **P5(sec):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(sec):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(sec):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(sec):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(sec):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(sec):** *Maximum value for the counter.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

WebAppNetworkTime

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Description:** *Any text that was entered in the Description field when adding the extension.*
- **Type:** *Extension (ext) or Task..*
- **Application:** *The name of the Extension.*
- **Counter:** *The name of the counter.*
- **Instance:** *Usually it's the service name.*

- **Min(sec):** *Minimum value for the counter.*
- **Avg(sec):** *Average value for the counter.*
- **P5(sec):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(sec):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(sec):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(sec):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(sec):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(sec):** *Maximum value for the counter.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

WebAppServerTime

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Description:** *Any text that was entered in the Description field when adding the extension.*
- **Type:** *Extension (ext) or Task..*
- **Application:** *The name of the Extension.*
- **Name:** *The name of the counter.*
- **Min(sec):** *Minimum value for the counter.*
- **Avg(sec):** *Average value for the counter.*
- **P5(sec):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(sec):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(sec):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(sec):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(sec):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(sec):** *Maximum value for the counter.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

WebLogsIPs

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **Name:** *The name of the counter.*

- **StatType:** *Either total or Per IP.*
- **Region:** *If in United States, the State. Otherwise, the region code (if available) inside a country.*
- **Country:** *Country name.*
- **City:** *City Name.*
- **IP:** *The IP address that made the request.*
- **Requests:** *The number of requests in the report time period.*

WebLogsPerHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **Name:** *The name of the counter.*
- **StatType:** *Per Hour.*
- **Requests:** *The number of requests in the report time period.*
- **Countries:** *Number of countries.*
- **Cities:** *Number of cities.*
- **IP:** *The number of IP addresses that made a request.*
- **Date:** *The date of the peak hour.*
- **Hour:** *The hour of day the peak occurred.*
- **Weekday:** *The day of the week the peak occurred.*
- **Timezone:** *The time zone the server is located in.*

WebLogRequests

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **Name:** *The name of the counter.*
- **Request Type:** *Usually requests.*
- **Requests:** *The number of requests in the report time period.*

WebLogRT

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **Name:** *The name of the counter.*
- **Source:** *The service that was requested.*
- **Min(Sec):** *Minimum response time for the request.*
- **Avg(sec):** *Average response time for the request.*
- **P5(sec):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(sec):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(sec):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(sec):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(sec):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(sec):** *Maximum response time for the request.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*

- **Comments:** Red indicates to investigate slow response times. Yellow indicates to investigate sporadic slow response times. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

UrlRt

- **ID:** Unique record identifier number.
- **Account:** Name of your ArcGIS Monitor account.
- **CollectorName:** Name of the monitoring service that groups these machines and counters.
- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **Url:** Name of the Url.
- **Min(Sec):** Minimum response time for the Url.
- **Avg(sec):** Average response time for the Url.
- **P5(sec):** The fifth percentile. Five percent of the values are under this value.
- **P50(sec):** The fiftieth percentile. Fifty percent of the values are under value.
- **P75(sec):** The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(sec):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(sec):** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(sec):** Maximum response time for the Url.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Errors(%):** The percent of data points that have an error count > 0 (from the ArcGIS Server log).
- **Alerts(%):** The percent of data points that have an alert condition.
- **LastUpdated:** Time stamp when data was last updated in the report.
- **Comments:** Red indicates to investigate slow response times. Yellow indicates to investigate sporadic slow response times. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

UrlRtPeakHr

- **ID:** Unique record identifier number.
- **Account:** Name of your ArcGIS Monitor account.
- **CollectorName:** Name of the monitoring service that groups these machines and counters.
- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **Url:** Name of the Url.
- **Min(Sec):** Minimum response time for the Url.
- **Avg(sec):** Average response time for the Url.
- **P5(sec):** The fifth percentile. Five percent of the values are under this value.
- **P50(sec):** The fiftieth percentile. Fifty percent of the values are under value.
- **P75(sec):** The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(sec):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(sec):** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(sec):** Maximum response time for the Url.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Alerts(%):** The percent of data points that have an alert condition.

- **AlertThreshold:** *The value that triggers an alert. May be blank when no alert is set.*
- **AlertOperator:** *Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.*
- **Date:** *The date of the peak hour.*
- **Hour:** *The hour of day the peak occurred.*
- **Weekday:** *The day of the week the peak occurred.*
- **Comments:** *Red indicates to investigate slow response times. Yellow indicates to investigate sporadic slow response times. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*
- **Timezone:** *The time zone the server is located in.*
- **Year:** *The year the peak occurred.*
- **Month:** *The month the peak occurred.*
- **Day:** *The day the peak occurred.*
- **Week:** *The week number the peak occurred (up to 52 weeks in the year).*

UrlErrorPeakHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorName:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Url:** *Name of the Url.*
- **HttpErrorCode:** *The http [return code](#) for the error condition.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **AlertThreshold:** *The value that triggers an alert. May be blank when no alert is set.*
- **AlertOperator:** *Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.*
- **Date:** *The date of the peak hour.*
- **Hour:** *The hour of day the peak occurred.*
- **Weekday:** *The day of the week the peak occurred.*
- **Comments:** *Red indicates to investigate slow response times. Yellow indicates to investigate sporadic slow response times. As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*
- **Timezone:** *The time zone the server is located in.*
- **Year:** *The year the peak occurred.*
- **Month:** *The month the peak occurred.*
- **Day:** *The day the peak occurred.*
- **Week:** *The week number the peak occurred (up to 52 weeks in the year).*

SystemSum

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorName:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*

- **Machine:** *Host name.*
- **CPUsLogical:** *Number of logical CPUs as reported by Operating System.*
- **CPUsPhysical:** *Number of physical CPUs as reported by Operating System.*
- **CPUName:** *Chipset model number and speed.*
- **TotalRAM(GB):** *Total RAM memory as reported by Operating System.*
- **TotalVirtual(GB):** *Total Virtual Memory as reported by Operating System.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

CPU

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Description:** *Any text that was entered in the Description field when adding the System.*
- **Machine:** *Host name.*
- **CPUsLogical:** *Number of logical CPUs as reported by Operating System.*
- **CPUsPhysical:** *Number of physical CPUs as reported by Operating System.*
- **CPUName:** *Chipset model number and speed.*
- **Min(%):** *Minimum Utilization %.*
- **Avg(%):** *Average Utilization %.*
- **P5(%):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(%):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(%):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(%):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(%):** *Maximum Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

CPUPeakHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Machine:** *Host name.*
- **Min(%):** *Minimum Utilization %.*
- **Avg(%):** *Average Utilization %.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(%):** *Maximum Utilization %.*

- **Uptime(%)**: The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples**: The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec)**: The amount of time between data samples.
- **Alerts(%)**: The percent of data points that have an alert condition.
- **AlertThreshold**: The value that triggers an alert. May be blank when no alert is set.
- **AlertOperator**: Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.
- **Date**: The date of the peak hour.
- **Hour**: The hour of day the peak occurred.
- **Weekday**: The day of the week the peak occurred.
- **Comments**: As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.
- **Timezone**: The time zone the server is located in.
- **Year**: The year the peak occurred.
- **Month**: The month the peak occurred.
- **Day**: The day the peak occurred.
- **Week**: The week number the peak occurred (up to 52 weeks in the year).

PhysicalMem

- **ID**: Unique record identifier number.
- **Account**: Name of your ArcGIS Monitor account.
- **CollectorHost**: Name of the monitoring service that groups these machines and counters.
- **Description**: Any text that was entered in the Description field when adding the System.
- **Machine**: Host name.
- **TotalRAM(GB)**: Total RAM memory as reported by Operating System.
- **Available(GB)Min**: Minimum available RAM memory during the report period.
- **Min(%)**: Minimum Utilization %.
- **Avg(%)**: Average Utilization %.
- **P5(%)**: The fifth percentile. Five percent of the values are under this value.
- **P50(%)**: The fiftieth percentile. Fifty percent of the values are under value.
- **P75(%)**: The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(%)**: The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(%)**: The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(%)**: Maximum Utilization %.
- **Uptime(%)**: The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples**: The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec)**: The amount of time between data samples.
- **Alerts(%)**: The percent of data points that have an alert condition.
- **LastUpdated**: Time stamp when data was last updated in the report.
- **Comments**: As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

PhysicalMemPeakHr

- **ID**: Unique record identifier number.
- **Account**: Name of your ArcGIS Monitor account.
- **CollectorHost**: Name of the monitoring service that groups these machines and counters.

- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **Machine:** Host name.
- **TotalRAM(GB):** Total RAM memory as reported by Operating System.
- **Min(%):** Minimum Utilization %.
- **Avg(%):** Average Utilization %.
- **P95(%):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **Max(%):** Maximum Utilization %.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Alerts(%):** The percent of data points that have an alert condition.
- **AlertThreshold:** The value that triggers an alert. May be blank when no alert is set.
- **AlertOperator:** Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.
- **Date:** The date of the peak hour.
- **Hour:** The hour of day the peak occurred.
- **Weekday:** The day of the week the peak occurred.
- **Comments:** As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.
- **Timezone:** The time zone the server is located in.
- **Year:** The year the peak occurred.
- **Month:** The month the peak occurred.
- **Day:** The day the peak occurred.
- **Week:** The week number the peak occurred (up to 52 weeks in the year).

VirtualMem

- **ID:** Unique record identifier number.
- **Account:** Name of your ArcGIS Monitor account.
- **CollectorHost:** Name of the monitoring service that groups these machines and counters.
- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **Description:** Any text that was entered in the Description field when adding the System.
- **Machine:** Host name.
- **TotalVirtual(GB):** Total Virtual Memory as reported by Operating System.
- **Min(%):** Minimum Utilization %.
- **Avg(%):** Average Utilization %.
- **P5(%):** The fifth percentile. Five percent of the values are under this value.
- **P50(%):** The fiftieth percentile. Fifty percent of the values are under value.
- **P75(%):** The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(%):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(%):** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(%):** Maximum Utilization %.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Alerts(%):** The percent of data points that have an alert condition.
- **LastUpdated:** Time stamp when data was last updated in the report.

- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

VirtualMemPeakHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Machine:** *Host name.*
- **TotalVirtual(GB):** *Total Virtual Memory as reported by Operating System.*
- **Min(%):** *Minimum Utilization %.*
- **Avg(%):** *Average Utilization %.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(%):** *Maximum Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **AlertThreshold:** *The value that triggers an alert. May be blank when no alert is set.*
- **AlertOperator:** *Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.*
- **Date:** *The date of the peak hour.*
- **Hour:** *The hour of day the peak occurred.*
- **Weekday:** *The day of the week the peak occurred.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*
- **Timezone:** *The time zone the server is located in.*
- **Year:** *The year the peak occurred.*
- **Month:** *The month the peak occurred.*
- **Day:** *The day the peak occurred.*
- **Week:** *The week number the peak occurred (up to 52 weeks in the year).*

DiskIO

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **Machine:** *Host name.*
- **Disk:** *The drive letter or path.*
- **Min(%):** *Minimum Disk Utilization %.*
- **Avg(%):** *Average Disk Utilization %.*
- **P5(%):** *The fifth percentile. Five percent of the values are under this value.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(%):** *Maximum Disk Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*

- **Alerts(%)**: The percent of data points that have an alert condition.
- **LastUpdated**: Time stamp when data was last updated in the report.
- **Comments**: As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

DiskIOPeakHr

- **ID**: Unique record identifier number.
- **Account**: Name of your ArcGIS Monitor account.
- **CollectorHost**: Name of the monitoring service that groups these machines and counters.
- **CollectorHostName**: Machine name where the ArcGIS Monitor monitoring service is running.
- **Machine**: Host name.
- **Min(%)**: Minimum Disk Utilization %.
- **Avg(%)**: Average Disk Utilization %.
- **P95(%)**: The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **Max(%)**: Maximum Disk Utilization %.
- **Uptime(%)**: The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples**: The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec)**: The amount of time between data samples.
- **Alerts(%)**: The percent of data points that have an alert condition.
- **AlertThreshold**: The value that triggers an alert. May be blank when no alert is set.
- **AlertOperator**: Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.
- **Date**: The date of the peak hour.
- **Hour**: The hour of day the peak occurred.
- **Weekday**: The day of the week the peak occurred.
- **Comments**: As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.
- **Timezone**: The time zone the server is located in.
- **Year**: The year the peak occurred.
- **Month**: The month the peak occurred.
- **Day**: The day the peak occurred.
- **Week**: The week number the peak occurred (up to 52 weeks in the year).

DiskSpace

- **ID**: Unique record identifier number.
- **Account**: Name of your ArcGIS Monitor account.
- **CollectorHost**: Name of the monitoring service that groups these machines and counters.
- **Machine**: Host name.
- **Disk**: The drive letter or path.
- **Free(GB)Min**: Minimum available disk space during the report period.
- **Min(%)**: Minimum Disk Utilization %.
- **Avg(%)**: Average Disk Utilization %.
- **P5(%)**: The fifth percentile. Five percent of the values are under this value.
- **P50(%)**: The fiftieth percentile. Fifty percent of the values are under value.
- **P75(%)**: The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(%)**: The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.

- **P99(%):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(%):** *Maximum Disk Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

NetworkReceived

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running*
- **Machine:** *Host name.*
- **NIC:** *Name of Network card.*
- **Min(mbps):** *Minimum megabits per second.*
- **Avg(mbps):** *Average megabits per second.*
- **P5(mbps):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(mbps):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(mbps):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(mbps):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(mbps):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(mbps):** *Maximum megabits per second.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

NetworkReceivedPeakHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running*
- **Machine:** *Host name.*
- **NIC:** *Name of Network card.*
- **Min(mbps):** *Minimum megabits per second.*
- **Avg(mbps):** *Average megabits per second.*
- **P95(mbps):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(mbps):** *Maximum megabits per second.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*

- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **AlertThreshold:** *The value that triggers an alert. May be blank when no alert is set.*
- **AlertOperator:** *Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.*
- **Date:** *The date of the peak hour.*
- **Hour:** *The hour of day the peak occurred.*
- **Weekday:** *The day of the week the peak occurred.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*
- **Timezone:** *The time zone the server is located in.*
- **Year:** *The year the peak occurred.*
- **Month:** *The month the peak occurred.*
- **Day:** *The day the peak occurred.*
- **Week:** *The week number the peak occurred (up to 52 weeks in the year).*

NetworkSent

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running*
- **Machine:** *Host name.*
- **NIC:** *Name of Network card.*
- **Min(mbps):** *Minimum megabits per second.*
- **Avg(mbps):** *Average megabits per second.*
- **P5(mbps):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(mbps):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(mbps):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(mbps):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(mbps):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **P95(mbps):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(mbps):** *Maximum megabits per second.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

NetworkSentPeakHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running*
- **Machine:** *Host name.*

- **NIC:** *Name of Network card.*
- **Min(mbps):** *Minimum megabits per second.*
- **Avg(mbps):** *Average megabits per second.*
- **P95(mbps):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(mbps):** *Maximum megabits per second.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **AlertThreshold:** *The value that triggers an alert. May be blank when no alert is set.*
- **AlertOperator:** *Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.*
- **Date:** *The date of the peak hour.*
- **Hour:** *The hour of day the peak occurred.*
- **Weekday:** *The day of the week the peak occurred.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*
- **Timezone:** *The time zone the server is located in.*
- **Year:** *The year the peak occurred.*
- **Month:** *The month the peak occurred.*
- **Day:** *The day the peak occurred.*
- **Week:** *The week number the peak occurred (up to 52 weeks in the year).*

ProcessCPU

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Machine:** *Host name.*
- **Process:** *The name of the process running,*
- **CPU Count:** *Number of CPUs as reported by Operating System.*
- **Min(%):** *Minimum Utilization %.*
- **Avg(%):** *Average Utilization %.*
- **P5(%):** *The fifth percentile. Five percent of the values are under this value.*
- **P50(%):** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75(%):** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99(%):** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max(%):** *Maximum Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

ProcessPhysicalMem

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Machine:** *Host name.*
- **Process:** *The name of the process running,*
- **TotalRAM(GB):** *Total RAM memory as reported by Operating System.*
- **UsedPrivate(GB)P95:** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **UsedPrivate(GB)Max:** *Maximum GB Memory used.*
- **Min(%):** *Minimum Utilization %.*
- **Avg(%):** *Average Utilization %.*
- **P5(%):** *The fifth percentile. Five percent of the values are under this value.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(%):** *Maximum Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

ProcessVirtualMem

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Machine:** *Host name.*
- **Process:** *The name of the process running,*
- **TotalVirtual(GB):** *Total Virtual Memory as reported by Operating System.*
- **UsedVirtual(GB)P95:** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **UsedVirtual(GB)Max:** *Maximum GB Memory used.*
- **Min(%):** *Minimum Utilization %.*
- **Avg(%):** *Average Utilization %.*
- **P5(%):** *The fifth percentile. Five percent of the values are under this value.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(%):** *Maximum Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

ProcessCount

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Machine:** *Host name.*
- **Process:** *The name of the process running,*
- **Min:** *Minimum count of processes.*
- **Avg:** *Average count of processes.*
- **P5:** *The fifth percentile. Five percent of the values are under this value.*
- **P50:** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75:** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95:** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99:** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max:** *Maximum count of processes.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

ProcessActive

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **Machine:** *Host name.*
- **Process:** *The name of the process running.*
- **TotalMax:** *Maximum total count of active processes.*
- **Min:** *Minimum count of processes.*
- **Avg:** *Average count of processes.*
- **P5:** *The fifth percentile. Five percent of the values are under this value.*
- **P50:** *The fiftieth percentile. Fifty percent of the values are under value.*
- **P75:** *The seventy-fifth percentile. Seventy-five percent of the values are under value.*
- **P95:** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **P99:** *The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.*
- **Max:** *Maximum count of processes.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **LastUpdated:** *Time stamp when data was last updated in the report.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

AWSCPU

See Amazon documentation:

http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/viewing_metrics_with_cloudwatch.html

DB

- **ID:** Unique record identifier number.
- **Account:** Name of your ArcGIS Monitor account.
- **CollectorHost:** Name of the monitoring service that groups these machines and counters.
- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **Name:** Counter Name.
- **Instance:** Query Name.
- **Min:** Minimum number returned from SQL query.
- **Avg:** Average number returned from SQL query.
- **P5:** The fifth percentile. Five percent of the values are under this value.
- **P50:** The fiftieth percentile. Fifty percent of the values are under value.
- **P75:** The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95:** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99:** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max:** Maximum number returned from SQL query.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Alerts(%):** The percent of data points that have an alert condition.
- **LastUpdated:** Time stamp when data was last updated in the report.
- **Comments:** As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.

CollectionTimes

- **ID:** Unique record identifier number.
- **Account:** Name of your ArcGIS Monitor account.
- **CollectorHost:** Name of the monitoring service that groups these machines and counters.
- **CollectorHostName:** Machine name where the ArcGIS Monitor monitoring service is running.
- **CounterName:** The type of counter, such as System, ArcGIS Server, or Extension.
- **CounterInstance:** The collector host name and sample interval.
- **Min(%):** Minimum Utilization %.
- **Avg(%):** Average Utilization %.
- **P5(%):** The fifth percentile. Five percent of the values are under this value.
- **P50(%):** The fiftieth percentile. Fifty percent of the values are under value.
- **P75(%):** The seventy-fifth percentile. Seventy-five percent of the values are under value.
- **P95(%):** The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.
- **P99(%):** The Ninetieth-ninth percentile. Ninety-nine percent of the values are under value.
- **Max(%):** Maximum Utilization %.
- **Uptime(%):** The percent of expected data samples received by ArcGIS Monitor for the report time period.
- **Samples:** The number of data samples received by ArcGIS Monitor for the report time period.
- **Interval(sec):** The amount of time between data samples.
- **Alerts(%):** The percent of data points that have an alert condition.
- **LastUpdated:** Time stamp when data was last updated in the report.

- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*

CollectionTimesPeakHr

- **ID:** *Unique record identifier number.*
- **Account:** *Name of your ArcGIS Monitor account.*
- **CollectorHost:** *Name of the monitoring service that groups these machines and counters.*
- **CollectorHostName:** *Machine name where the ArcGIS Monitor monitoring service is running.*
- **CounterName:** *The type of counter, such as System, ArcGIS Server, or Extension.*
- **CounterInstance:** *The collector host name and sample interval.*
- **Min(%):** *Minimum Utilization %.*
- **Avg(%):** *Average Utilization %.*
- **P95(%):** *The Ninetieth-fifth percentile. Ninety-five percent of the values are under value.*
- **Max(%):** *Maximum Utilization %.*
- **Uptime(%):** *The percent of expected data samples received by ArcGIS Monitor for the report time period.*
- **Samples:** *The number of data samples received by ArcGIS Monitor for the report time period.*
- **Interval(sec):** *The amount of time between data samples.*
- **Alerts(%):** *The percent of data points that have an alert condition.*
- **AlertThreshold:** *The value that triggers an alert. May be blank when no alert is set.*
- **AlertOperator:** *Abbreviation for the operator (eg. gt=Greater Than, lt=Less Than). May be blank when no alert is set.*
- **Date:** *The date of the peak hour.*
- **Hour:** *The hour of day the peak occurred.*
- **Weekday:** *The day of the week the peak occurred.*
- **Comments:** *As part of a service engagement, an Esri consultant can assist you in how to investigate your specific environment.*
- **Timezone:** *The time zone the server is located in.*
- **Year:** *The year the peak occurred.*
- **Month:** *The month the peak occurred.*
- **Day:** *The day the peak occurred.*
- **Week:** *The week number the peak occurred (up to 52 weeks in the year).*

Tutorials

Setting Linux access

1. Remote monitoring of Linux with ArcGIS Monitor requires user to have access to
 - a. **/proc** folder, unrestricted read access to
 - b. `cat`, `awk`, `ls`, `grep` commands.
2. Only password authentication is supported: `/etc/ssh/sshd_config`
PasswordAuthentication yes
3. Below is the supported cipher list for ssh used in linux counters:

```
'aes256-cbc', // OPTIONAL
'aes192-cbc', // OPTIONAL
'aes128-cbc', // RECOMMENDED
'aes256-ctr', // OPTIONAL
'aes192-ctr', // OPTIONAL
'aes128-ctr', // RECOMMENDED
'blowfish-cbc', // OPTIONAL
```


SQL Server

<http://www.microsoft.com/en-us/download/details.aspx?id=36434>

PostgreSQL

<http://www.postgresql.org/ftp/odbc/versions/>

Set System DSN

1. Select System DSN tab and click **Add**.
2. Follow the steps in the prompted dialogs to select and define the data source
For additional information, refer to Microsoft documentation, e.g. <https://support.microsoft.com/en-us/help/965049/how-to-set-up-a-microsoft-sql-server-odbc-data-source>

Set DB credentials in DB counter

Use the above DSN to set up DB counter credentials.

Follow Administrator UI help (marked “?”), e.g.

OS authentication:

DSN=<DSN>; UID=/; PWD=;

Data base authentication:

DSN=<DSN>; UID=<user>; PWD=<password>

Setting WMI access for non-admin Windows account

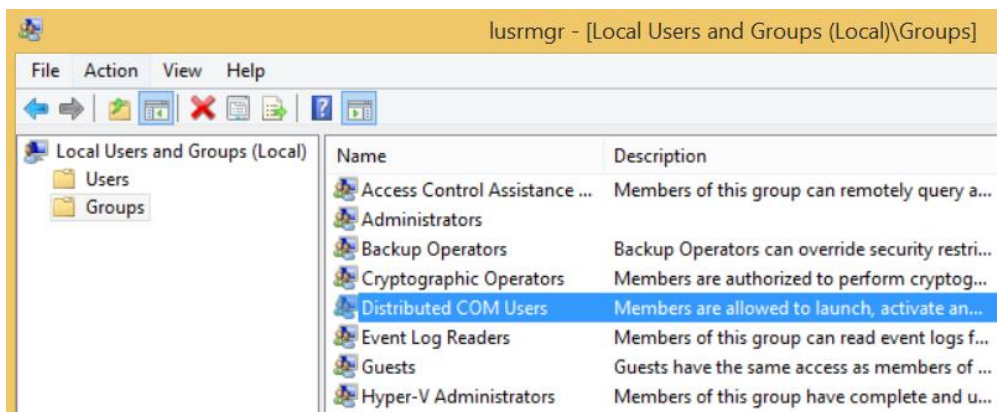
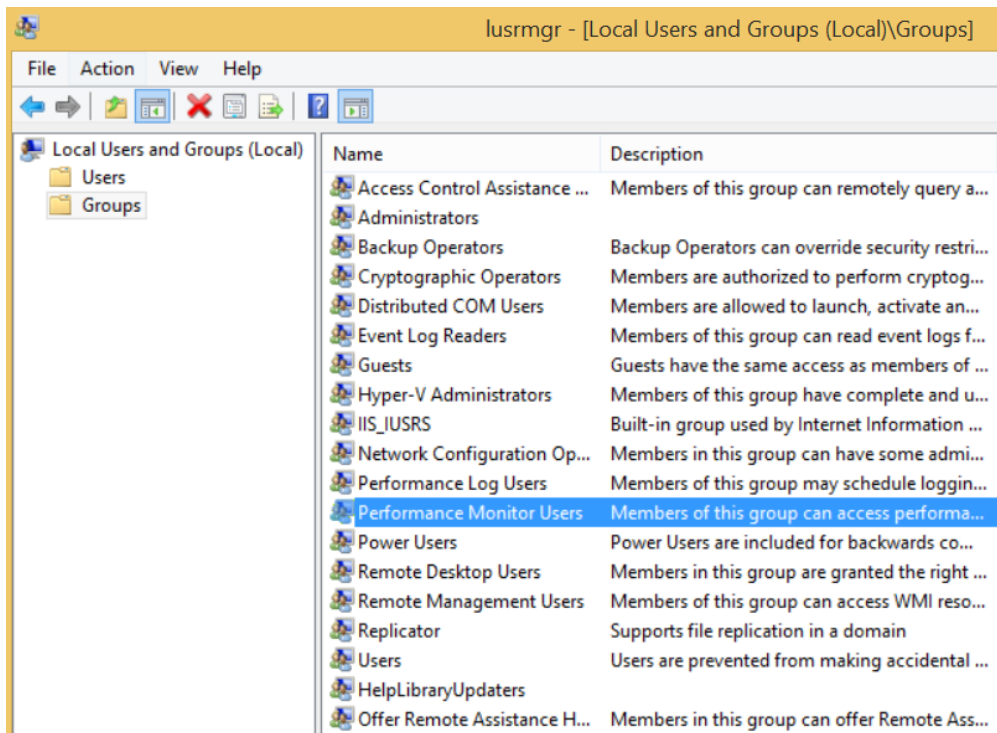
If the user running the ArcGIS Monitor <Name> monitoring service is not a member of the Administrator group on the remote machine, the user must have the following *non-admin* settings required **by ArcGIS Monitor monitoring service** to collect metrics from a remote machine. Please be sure to make the changes and log out any user sessions with old privileges. If a user privilege has changed, the current running sessions will not be aware of the change. The user must log out and log back in.

The user must be in the following groups on the remote machine:

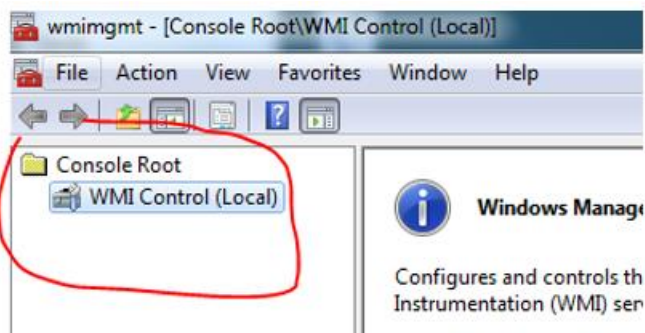
- a. For Windows 8.x, run “lusrmgr.msc” to add the user to groups.
- b. For Windows 7, run “mmc” to add the user to groups. If needed, refer to the Microsoft documentation at: <http://windows.microsoft.com/en-us/windows7/add-a-user-account-to-a-group>
- c. For Windows 2008 or 2012 refer to the Microsoft documentation at: <http://technet.microsoft.com/en-us/library/cc772524.aspx>

Required Group Membership:

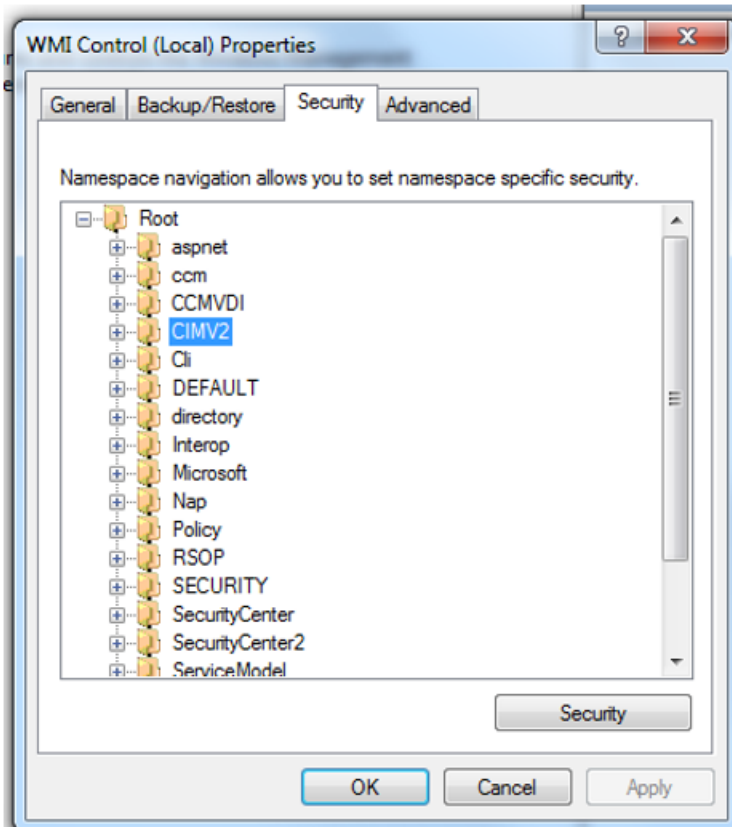
1. Performance Monitor Users
2. Distributed COM Users



- a. Go to remote machine that is to be monitored...
- b. Run `wmimgmt.msc` to config WMI permissions.



- c. Right click on WMI Control to access properties.



d. The user must have the following settings for CIMV2:

