

ArcGIS Monitor: Beyond the Basics

David Crosby, Erin Richmond and Cecil Lamb

Esri Professional Services



esri

THE
SCIENCE
OF
WHERE®

Agenda

01

Installing ArcGIS Monitor
Tips and Tricks

02

Detecting Problems
Using ArcGIS Monitor Counters to Diagnose
Enterprise Issues

03

ArcSOC Optimizer Demo
Configuring ArcGIS Monitor to Manage ArcSOC


04

Cecil Section & Summary
False Alerts and Noise in Monitor




ArcGIS Monitor

 Demo



 Login

 Reset Password

ArcGIS Monitor Installation

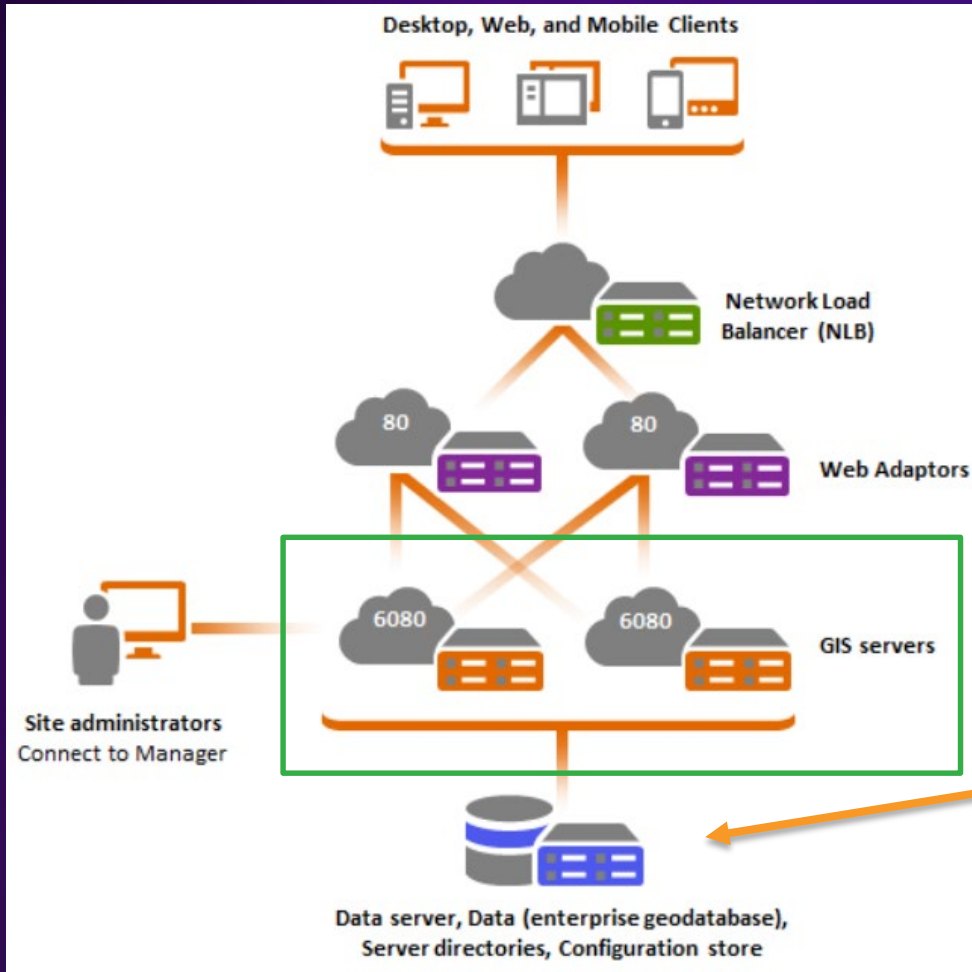
David Crosby

The background features a vibrant color palette of purple, pink, and orange. On the right side, there is a stylized topographic map overlay with contour lines and a yellow curved line. The overall aesthetic is modern and technical.

Detecting Problems

Using ArcGIS Monitor Counters to Diagnose Enterprise Issues

ArcSOC Imbalance in an ArcGIS Server Site

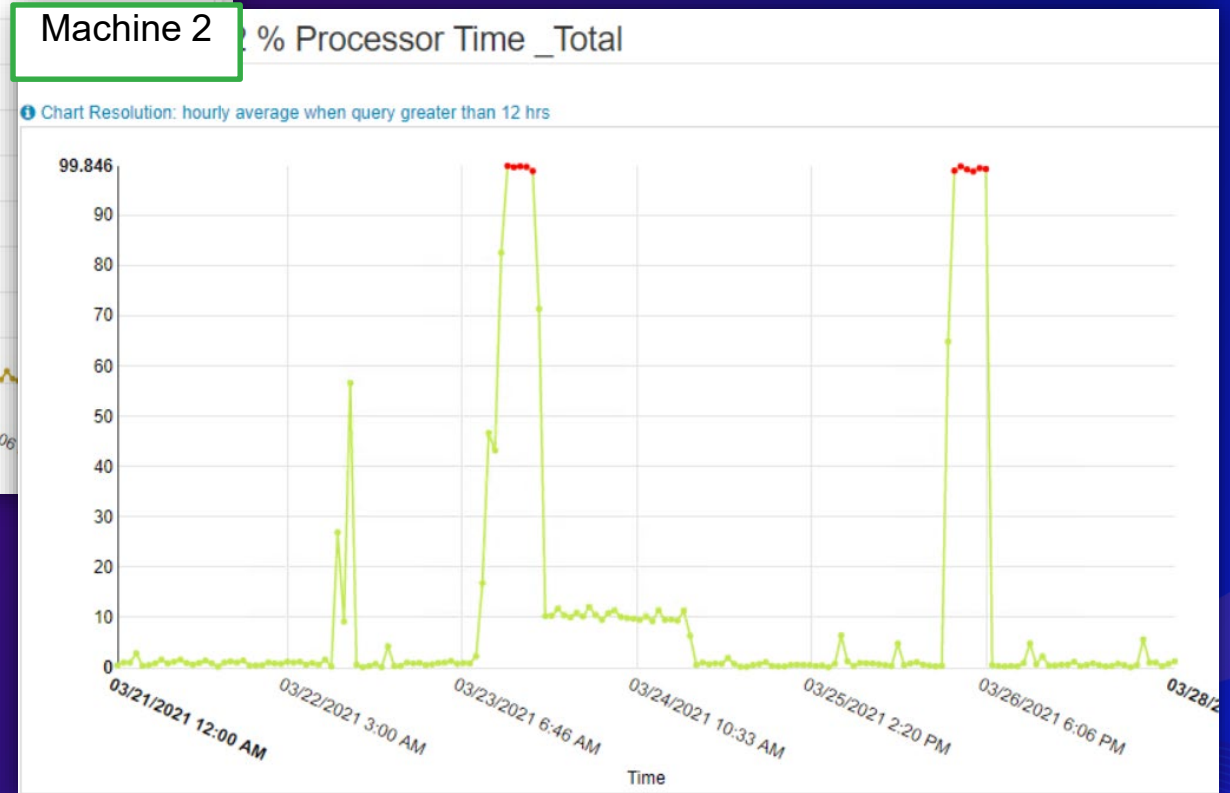
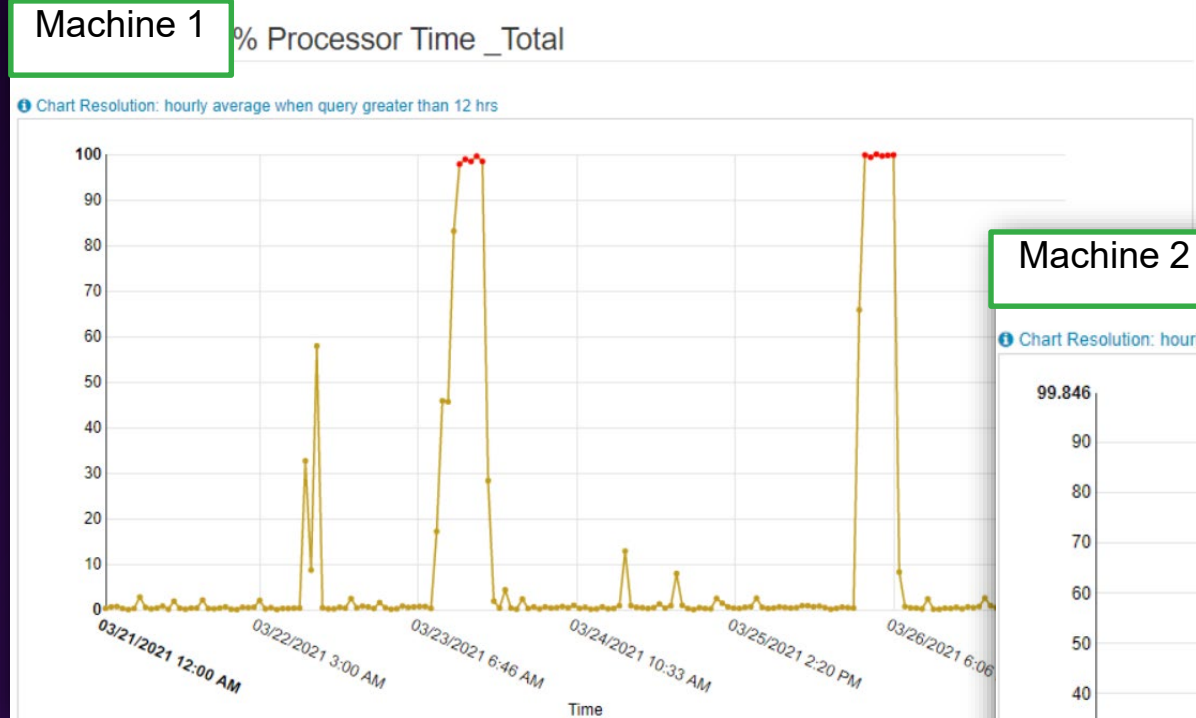


**Shared Configuration store
in a network location:**

**The number of ArcSOC on
each machine should be
roughly equal.**

**Allowing variance for
connected users**

ArcSOC Imbalance in an ArcGIS Server Site

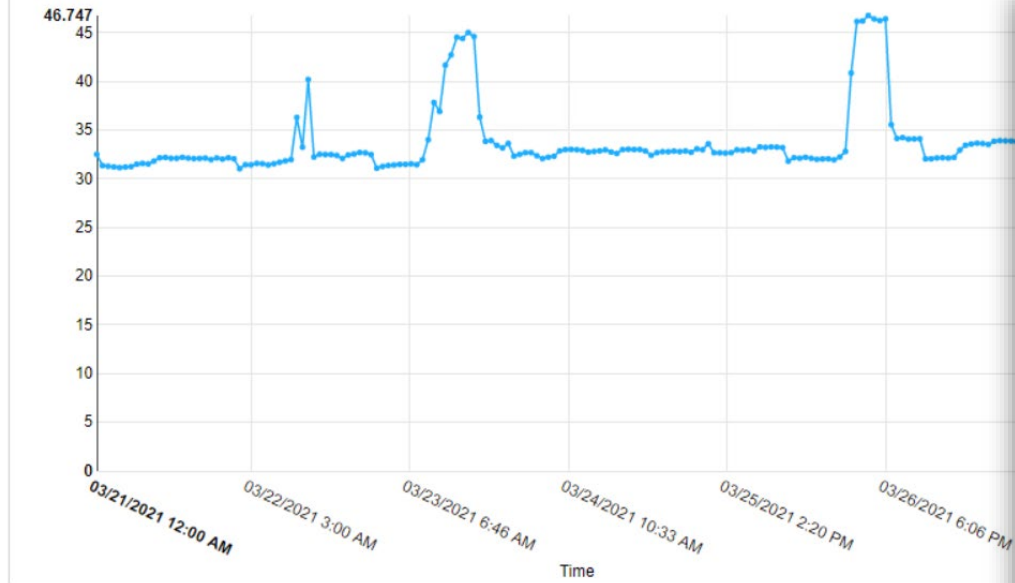


ArcSOC Imbalance in an ArcGIS Server Site

Machine 1

% Utilization Memory _Total

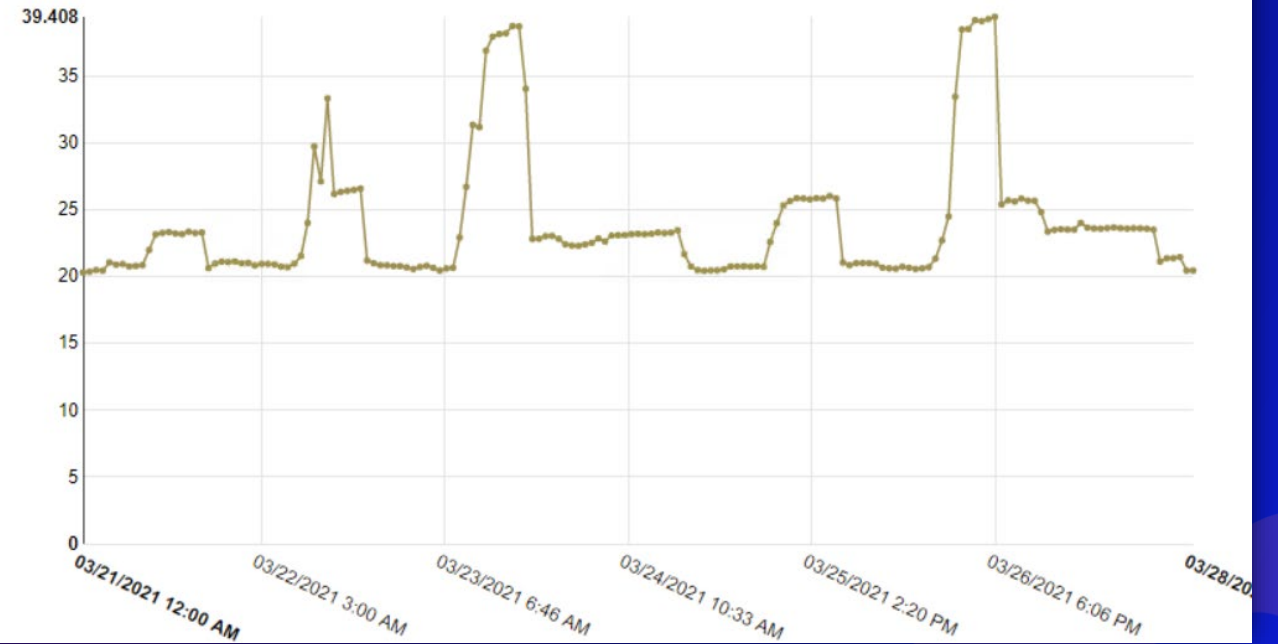
Chart Resolution: hourly average when query greater than 12 hrs



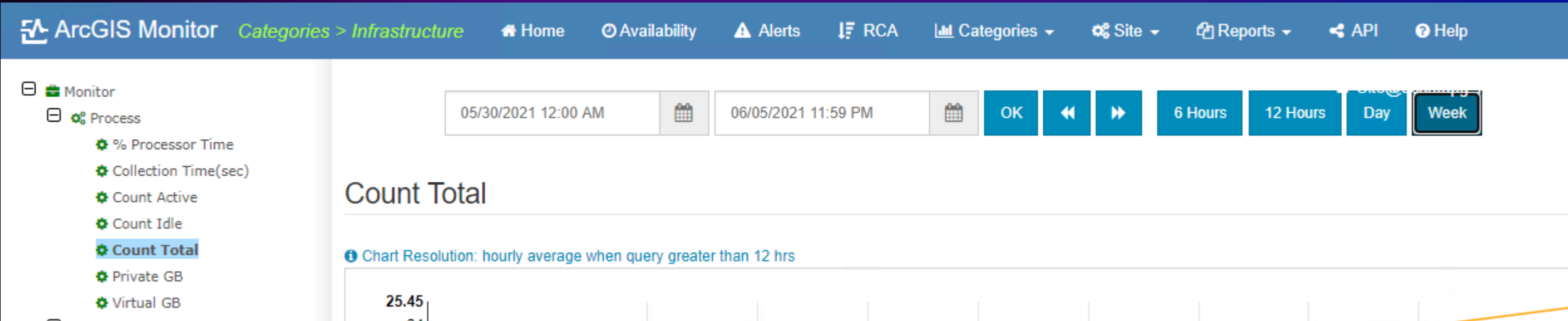
Machine 2

% Utilization Memory _Total

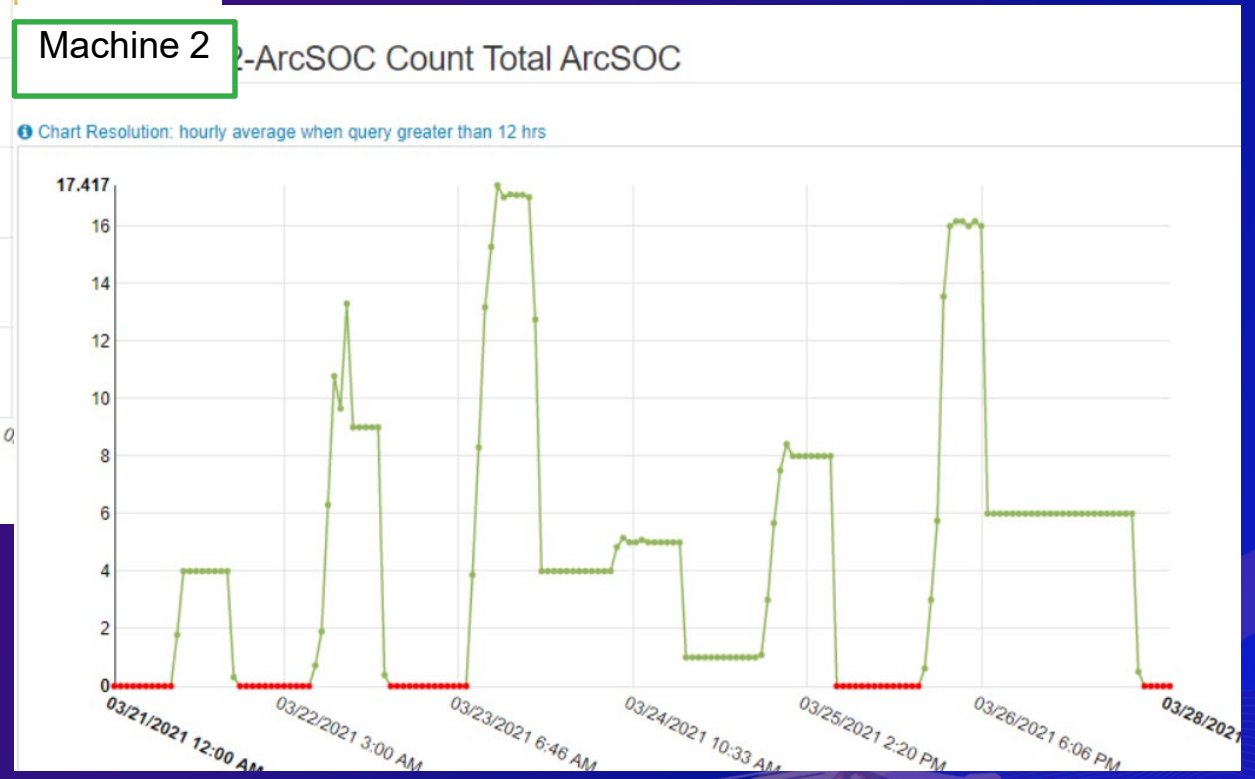
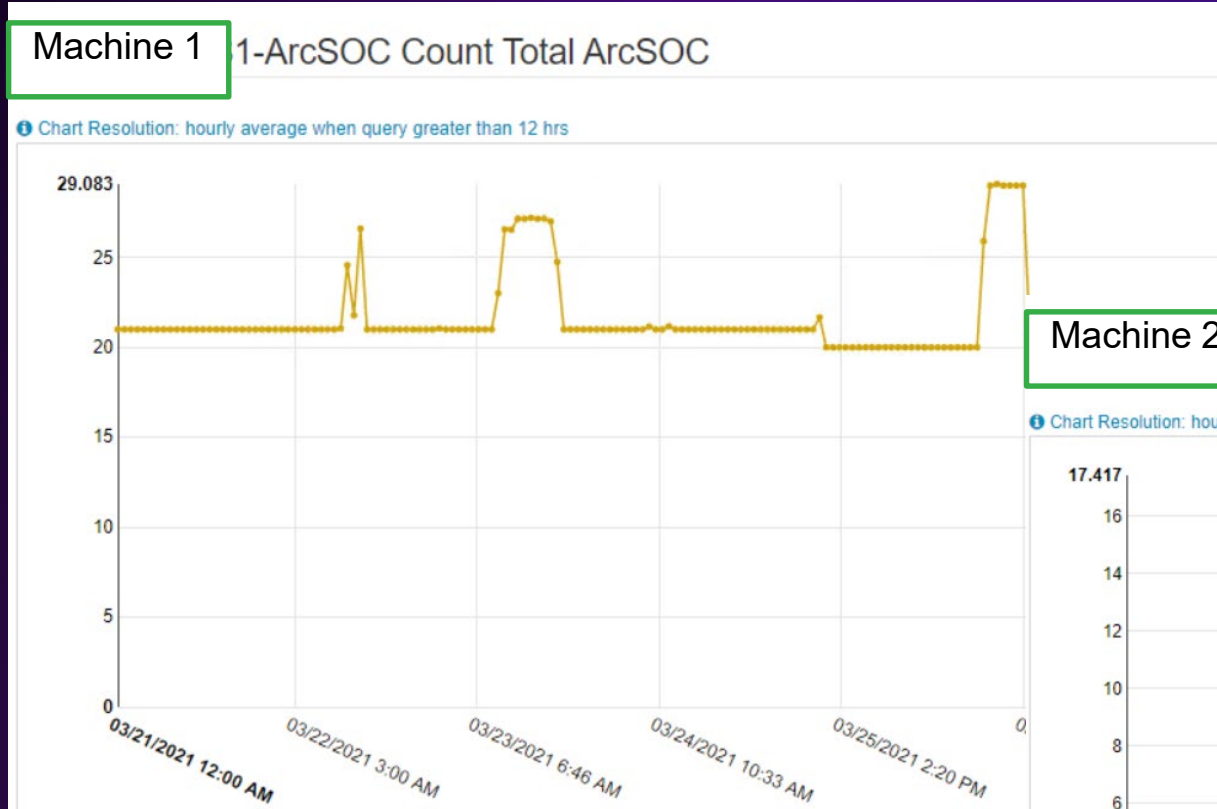
Chart Resolution: hourly average when query greater than 12 hrs



ArcSOC Imbalance in an ArcGIS Server Site



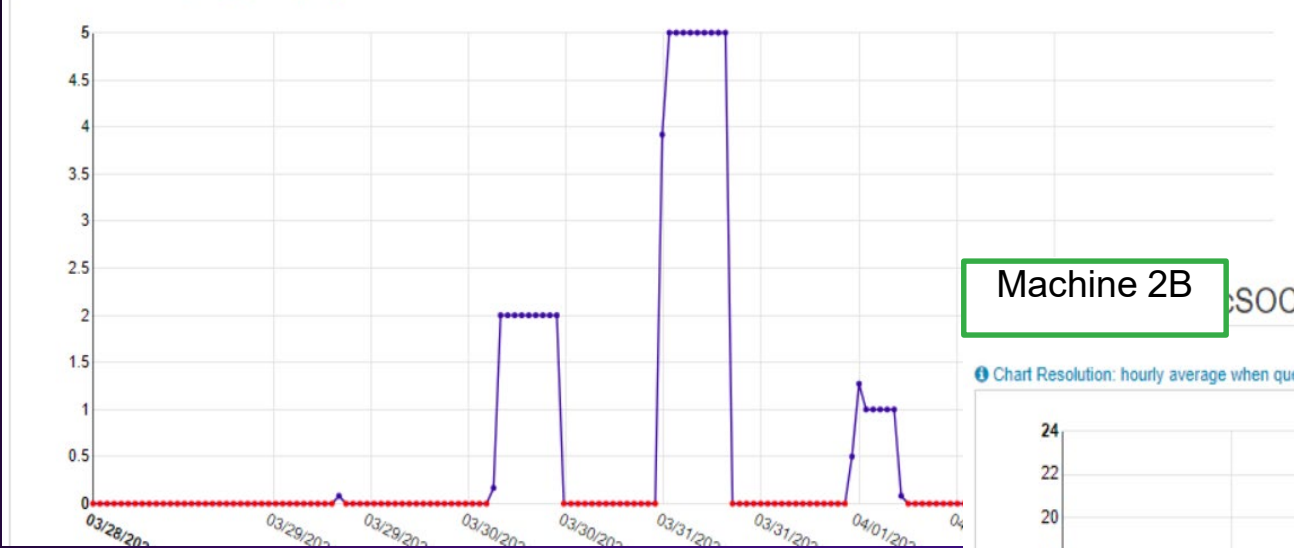
ArcSOC Imbalance in an ArcGIS Server Site



ArcSOC Imbalance in an ArcGIS Server Site

Machine 2A ArcSOC Count Total ArcSOC

Chart Resolution: hourly average when query greater than 12 hrs



Machine 2B ArcSOC Count Total ArcSOC

Chart Resolution: hourly average when query greater than 12 hrs



The background features a vibrant, abstract design with wavy, layered shapes in shades of blue, purple, pink, and orange. A faint topographic map is visible in the upper right quadrant, overlaid on the colorful background.

ArcGIS Monitor Extensions

Configuring ArcGIS Monitor to Manage ArcSOC

ArcSOC Optimizer – Managing Resources in ArcGIS Server

Machin	Min(%)	Avg(%)	p95(%)	Hour	Weekday	Comments
-gis-host2	87	94.17	100	10	Tuesday	Reduce load, d
-gis-host2	89	95.67	98	13	Tuesday	Reduce load, d
-gis-host2	96	98	96	0	Tuesday	Reduce load, d
-gis-host2	96	98	96	2	Tuesday	Reduce load, d
-gis-host2	90	93.8	96	12	Tuesday	Reduce load, d
-gis-host2	86	91.67	89	8	Tuesday	Reduce load, d
-gis-host2	89	90.5	89	9	Tuesday	Reduce load, d
-gis-host1	89	89	89	14	Tuesday	Reduce load, d
-gis-host2	87	93.5	87	15	Tuesday	Reduce load, d
-gis-host2	96	98.67	100	8	Wednesday	Reduce load, d
-gis-host2	98	99.5	100	10	Wednesday	Reduce load, d
-gis-host2	96	98	96	9	Wednesday	Reduce load, d
-gis-host2	93	97.67	100	13	Wednesday	Reduce load, d
-gis-host2	95	98.33	100	15	Wednesday	Reduce load, d
-gis-host2	100	100	100	16	Wednesday	Reduce load, d
-gis-host2	100	100	100	18	Wednesday	Reduce load, d
-gis-host2	89	92.33	90	11	Wednesday	Reduce load, d
-gis-host2	90	95	90	14	Wednesday	Reduce load, d
-gis-host2	90	96.6	100	13	Thursday	Reduce load, d
-gis-host2	87	94.33	96	11	Thursday	Reduce load, d
-gis-host2	93	96	95	15	Thursday	Reduce load, d
-gis-host2	89	94.5	89	8	Thursday	Reduce load, d
-gis-host2	87	93.5	87	12	Thursday	Reduce load, d
-gis-host2	98	99.33	100	9	Friday	Reduce load, d
-gis-host2	89	96.2	100	12	Friday	Reduce load, d
-gis-host2	96	98.67	100	14	Friday	Reduce load, d
-gis-host2	89	94.67	95	13	Friday	Reduce load, d
-gis-host1	88	94	88	12	Friday	Reduce load, d
-gis-host2	87	93.5	87	8	Friday	Reduce load, d
-gis-host2	96	98	96	9	Monday	Reduce load, d
-gis-host2	93	96.5	93	10	Monday	Reduce load, d

Total Services in Site– 250+
Total Min ArcSOC – 600+



ArcSOC Optimizer – Managing Resources in ArcGIS Server

ServiceType	RealTimeSta	MinInstances	TrSum	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
GPServer	STARTED	2	0	
GPServer	STARTED	2	0	
MapServer	STARTED	4	0	
MapServer	STARTED	4	0	
MapServer	STARTED	4	0	
MapServer	STARTED	4	0	
MapServer	STARTED	4	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
GPServer	STARTED	2	0	
GPServer	STARTED	2	0	
GPServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
MapServer	STARTED	2	0	
ImageServer	STARTED	2	0	

MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
GeocodeServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
ImageServer	STARTED	2	0
ImageServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
GPServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0
MapServer	STARTED	2	0

ArcSoc Optimizer Add-on

Overview



ArcSoc Optimizer is an ArcGIS Monitor extension that helps optimize ArcGIS Server service Minimum and Maximum instances based on historical usage and hardware resource availability.

Document Link by [ArcGISMonitorTeam](#)

Created: Oct 4, 2017 Updated: Aug 2, 2019 View Count: 134

Open

Description

ArcSOC Optimizer extension helps users optimize ArcGIS Server service Minimum and Maximum instances, decrease or increase instances, based on:

1. Historical usage.
2. Available memory and process count.

These criteria are defined in two input files config1day.json and config30days.json.

Details

Size: 1 KB



ArcSOC Optimizer

Erin Richmond

The background is a vibrant, abstract composition. It features a gradient of colors from deep purple and blue on the left to bright orange and pink on the right. There are several overlapping, semi-transparent shapes, including a large, curved orange shape on the right side and a smaller, curved pink shape above it. A thin, bright yellow line curves across the middle of the image. The overall effect is dynamic and modern.

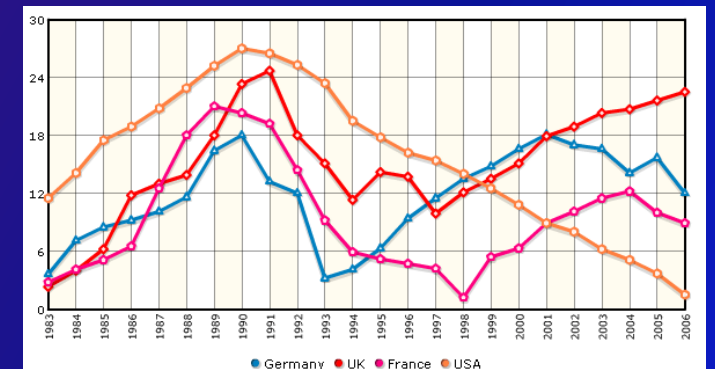
Is This a Problem?

Genuine Problem or Works as Designed?

The “Problem” Described

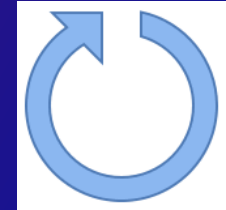
- Getting repeated alerts on multiple System counters
- Getting repeated alerts on Database counters
- Alerts on various ArcGIS Services that seem random

And many others are possible...



Potential Root Causes

- System Counter Alerts
 - CPU Utilization: Web Services Recycling; Scheduled VM Restarts




Editing: [Site \(root\)](#) > [StreetMap_Premium_2021_Release_1](#) [Help](#) [Save and Restart](#) [Cancel](#)

General
Parameters
Capabilities
Pooling
Processes
Caching
Item Description

Specify Recycling Settings

Recycling shuts down the process and restarts it at regular intervals to help maintain performance and stability.

Recycle this configuration every: hours

Starting at: 

Specify Health Check Settings

Periodically check and repair data connections for idle instances

Check and repair instances every: minutes



- Disk Utilization: Scheduled Backups; Anti-Virus Scans;

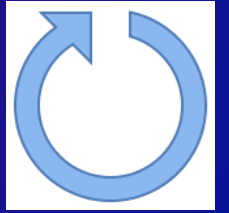


Potential Root Causes

- Database Counter Alerts

- Performance, Activity, and/or Status: Geodatabase Compress/Analyze

- Disk Utilization: Scheduled Backups; Anti-Virus Scans;




Other Collateral Errors and Alerts

- **ArcGIS Service availability alerts**
- **Application availability alerts**
- **Custom http counter errors**



Review of Mitigation Suggestions

- **Be aware of the regularly scheduled GIS maintenance tasks**
 - Geodatabase Compress and Analyze functions
 - ArcGIS Service recycling times
 - **Be aware of scheduled IT services that relate to infrastructure**
 - VM Restarts, Operating System Updates, IT Change Notifications
 - **When generating a report, exclude non-production hours for a more accurate view of operations**

 - **When in doubt, ask Esri**
- 

Summary

01

Installed ArcGIS Monitor

Tips and Tricks

02

Detected Problems

Using ArcGIS Monitor Counters to Diagnose Enterprise Issues

03

ArcSOC Optimizer Demo

Configuring ArcGIS Monitor to Manage ArcSOC

04

Cecil Section & Summary

False Alerts and Noise in Monitor

The background is a vibrant, abstract composition. It features a mix of colors including deep purple, magenta, bright pink, and orange. There are various geometric and organic shapes, such as curved lines, overlapping planes, and textured areas that resemble topographic maps or digital data visualizations. The overall effect is dynamic and modern.

We want your feedback

Click on the [Session Survey link](#)
below this video window



esri®

THE
SCIENCE
OF
WHERE®