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 - • Enhancing Incident Resolution: Postmortems with ArcGIS Monitor

Regional GIS Meeting

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The Dreaded Message

Concerned User 9:38 am

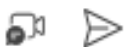


Hey, is the server down?

Cringe Levels:

1. Is something down? Ah?!
2. Need more info.
3. User is needing to inform me.

Type a message



Worst Case Scenario

“Outage During All Hands Meeting”

When: 1/26/2023

Event: Off Site Meeting with all IT GIS Staff

Issue: ArcGIS Server is down on Server hosting imagery

Application: ArcGIS Server

Impact: Large

Resolution: Application came back up with no clear cause

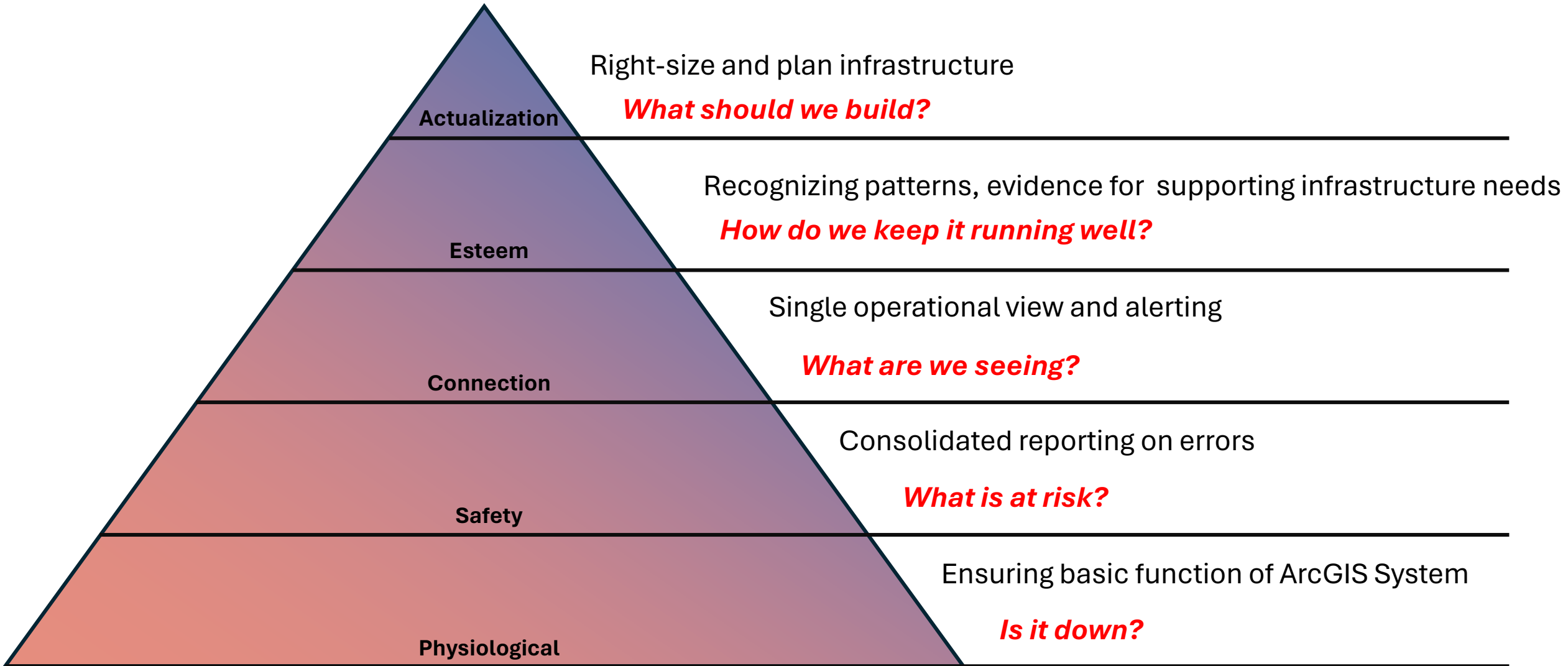
Lesson Learned:

1. Always Bring a Laptop
2. Install Monitor

What is ArcGIS Monitor

ArcGIS Monitor is designed to collect, analyze, and optimize the health of your enterprise geographic information system (GIS) implementations. It helps maximize your enterprise GIS investment by proactively identifying possible issues and providing timely and actionable insights on status, availability, usage, system performance, and resource utilization. Alerts facilitate rapid resolution by providing system administrators with real-time notifications when measurements are outside defined system thresholds. Reports can be used to visualize historical data and enhance communications within the organization.

Key Problems



ArcGIS Monitor

- Monitor was scoped as part of an Enterprise Design
- We prioritized the implementation of Monitor
- Installed on a dedicated server, registered components, began playing with the system

Installed
2/6/2023
version
2023.0

Now at
version
2023.3

Now There's Data



ArcGIS Monitor

Home

Alerts

Analysis

Collections

Monitoring

Administration

Dev/Test/Prod Environments

Last 2 hours

Open Alerts

0 Info Alerts

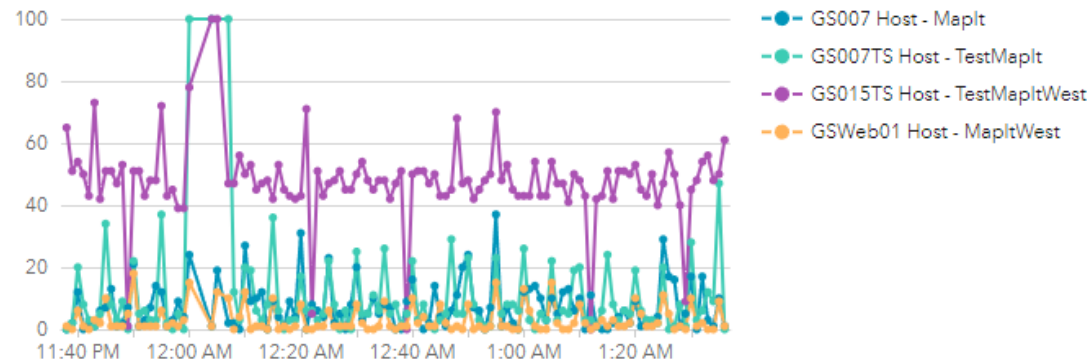
7 Warning Alerts

4 Critical Alerts

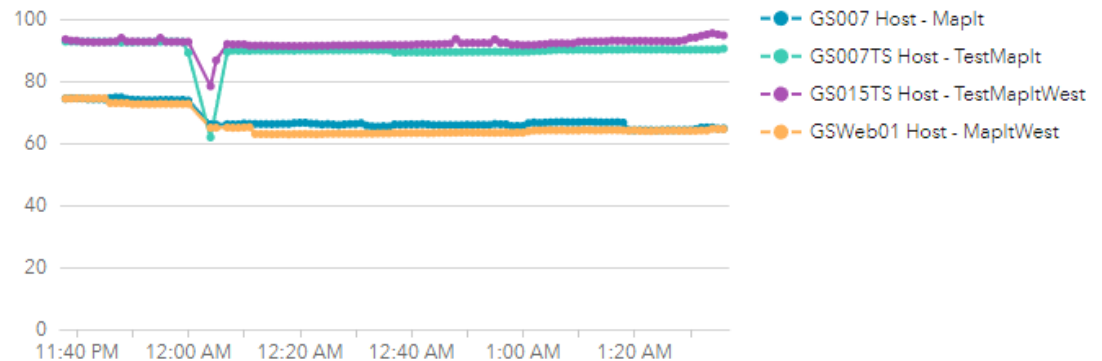
11 Total Alerts

Hosts

CPU Utilized (%)

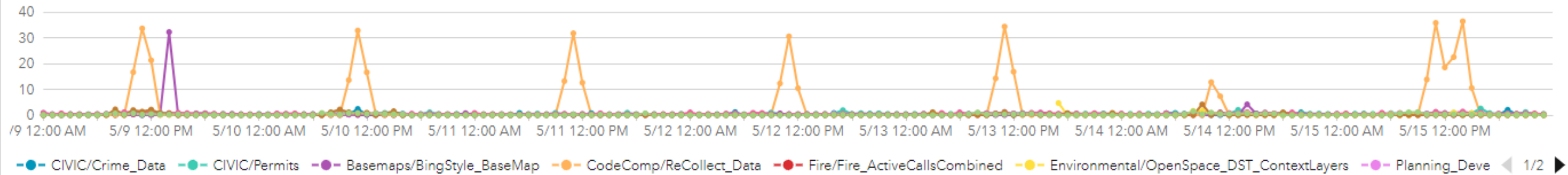


Memory Utilized (%)



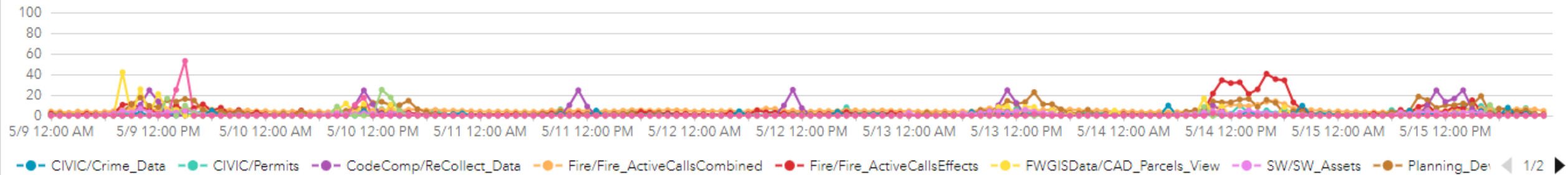
Service Performance

Average Response Time (secs) - GIS Services



Average request response time (in seconds) for ArcGIS Server services.

Instances Saturation (%) - GIS Services



"Instance saturation" refers to the percentage of ArcSOC processes that were busy during the specified time-period.

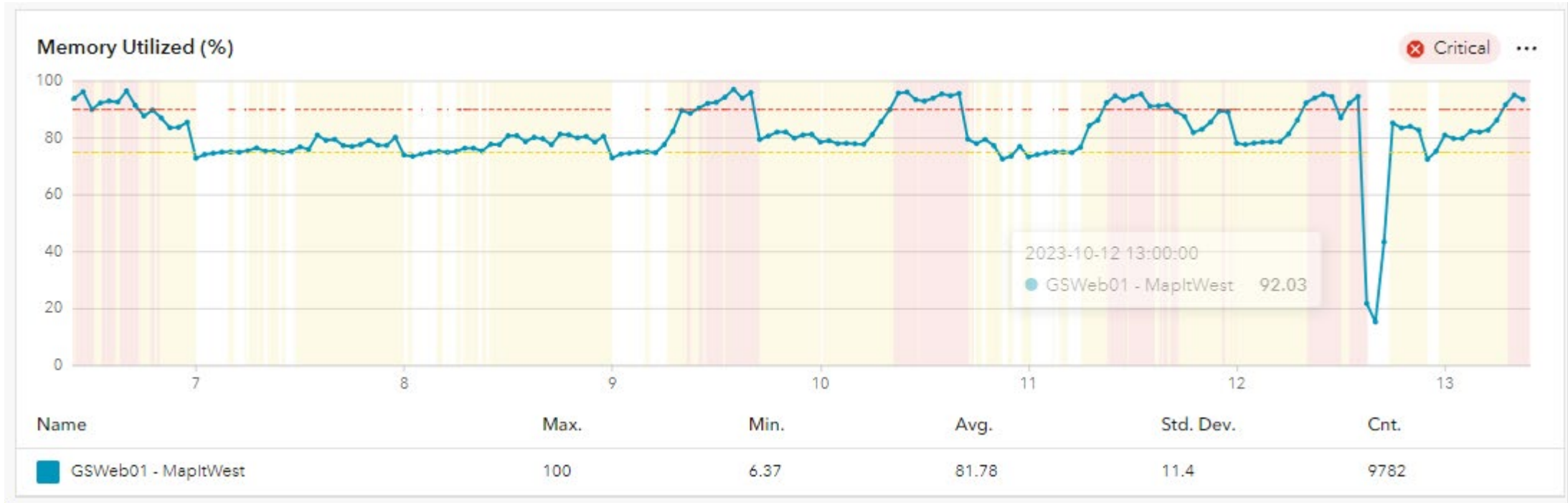
Monitoring Post Upgrade:



The memory on one of our servers was consistently near 80% after an OS upgrade.

We were able to relay this and address the issue with our Platform Team.

More memory needed after ArcGIS Server Upgrade

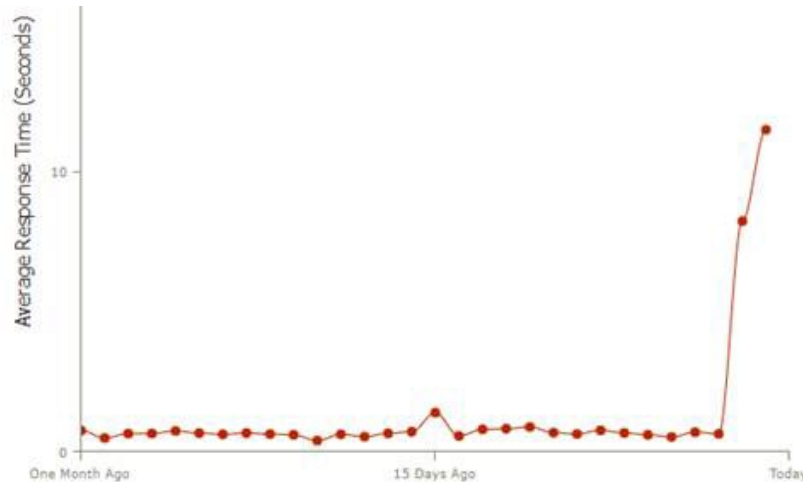


Identifying Patterns / Changing Use Case

- Orthos_2017_WKID3857 (Ima
 - Orthos_2019 (Image)
 - Orthos_2019_WKID3857 (Ima
 - Orthos_2020 (Image)
 - Orthos_2020_WKID3857 (Ima
 - Orthos_2021 (Image)
 - Orthos_2021_WKID3857 (Ima
 - Orthos_2022 (Image)
 - Orthos_2022_WKID3857 (Ima
 - Orthos_2023 (Image)
 - Orthos_2023_WKID3857 (Ima
- System
- Terrain
- Utilities



Show: Total Requests Age: Last 30 days



Show: Average Response Time (Seconds) Age: Last 30 days

When: 6/8/2023

Description: CPU spiking on Imagery Server

Application: ArcGIS Server

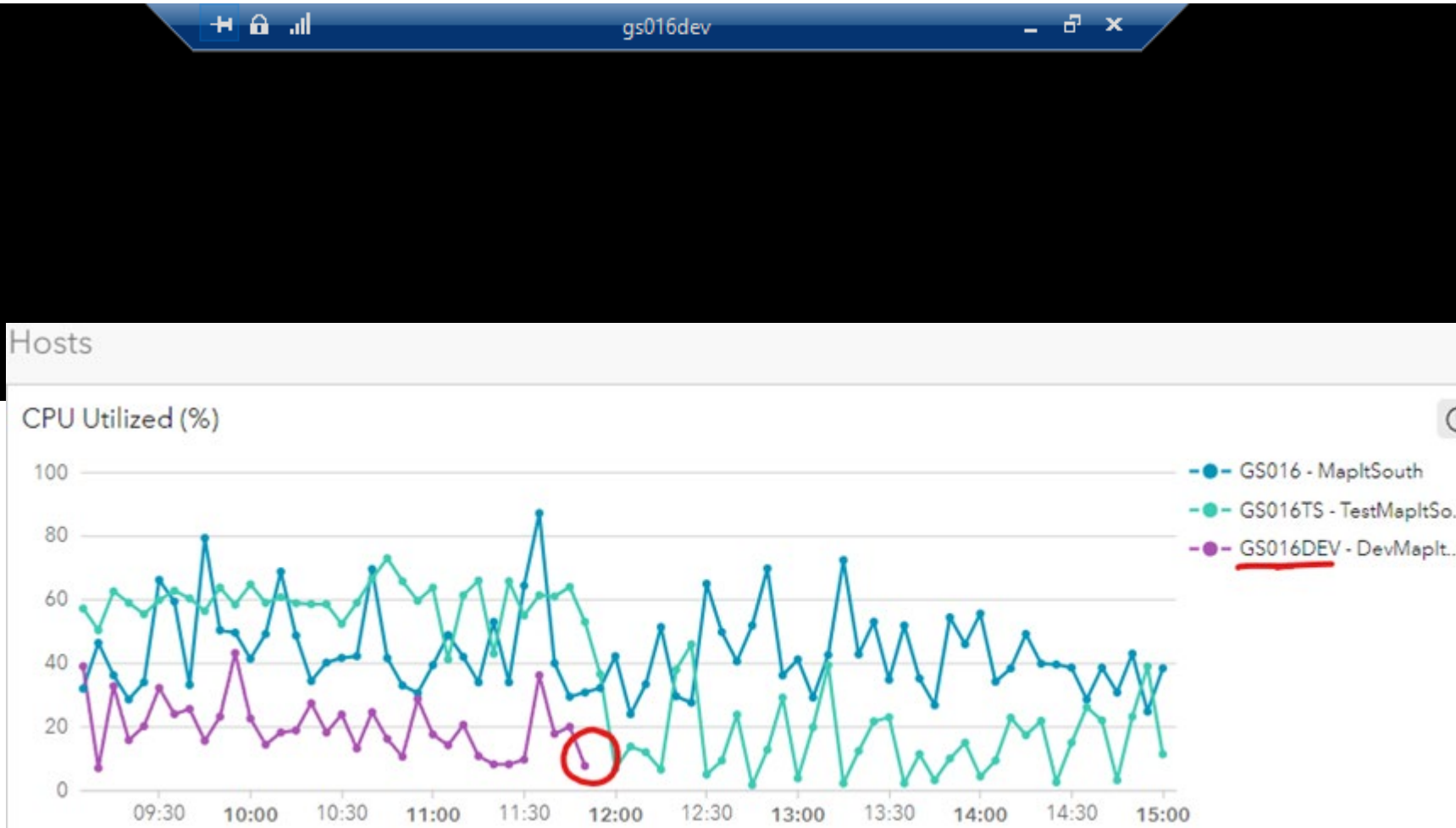
Resolution: Traced IP address for incoming requests, tied to new departmental use case with, and a high refresh rate.

CPU Intel(R) Xeon(R) CPU E5-2670 v3 @ 2.30GHz



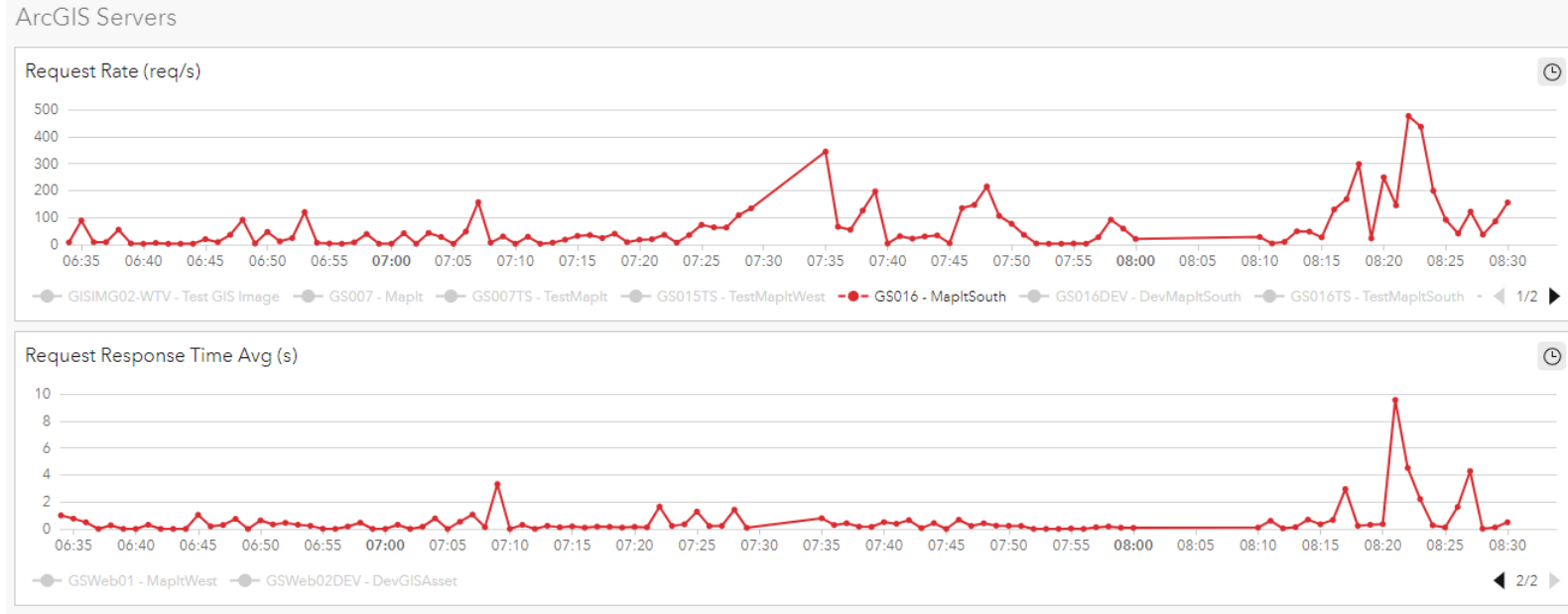
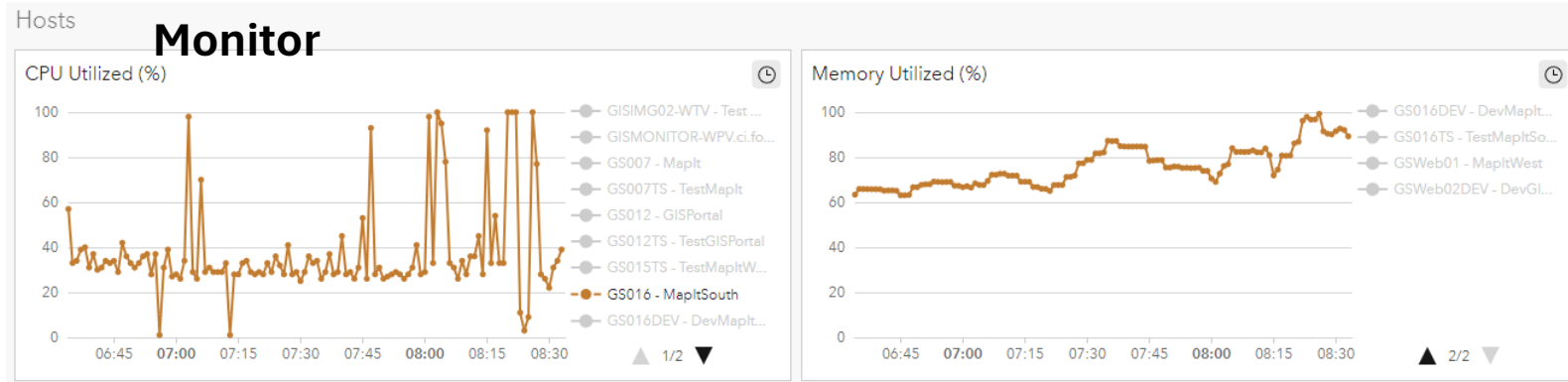
Utilization	Speed	Base speed:	2.29 GHz
100%	2.29 GHz	Sockets:	2
Processes	Threads	Virtual processors:	2
182	3699	Virtual machine:	Yes
	Handles	Virtual machine:	Yes
	102078	L1 cache:	N/A

Pinpointing Timelines

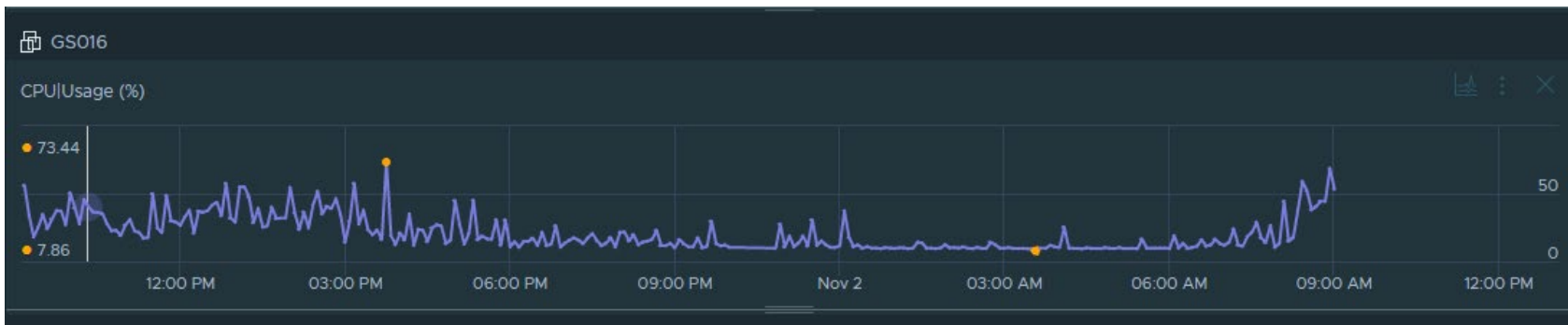


Server
Unresponsive,
could pinpoint
behavior
before outage.

Differing Figures



VMware





What's Next

- Fine Tuning on Alerts
- Dashboard on Vitals
- Teams Channel for Outage Scenarios
- Learn and Grow





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Any Question?