Monitoring your ILS infrastructure with PRTG

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CENTRAL LIBRARY CONSORTIUM

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Topics

What is monitoring? Why should you monitor?

Why use PRTG?

PRTG setup tips

General ILS Monitoring

Polaris Monitoring

What and Why

Making the case monitoring

What is monitoring?

A tool that continuously examines critical system components. It should alert staff of problems and provide historical information on system performance.

What is monitoring?

Disaster preventer

Troubleshooting assistant

- What caused an outage or performance issue

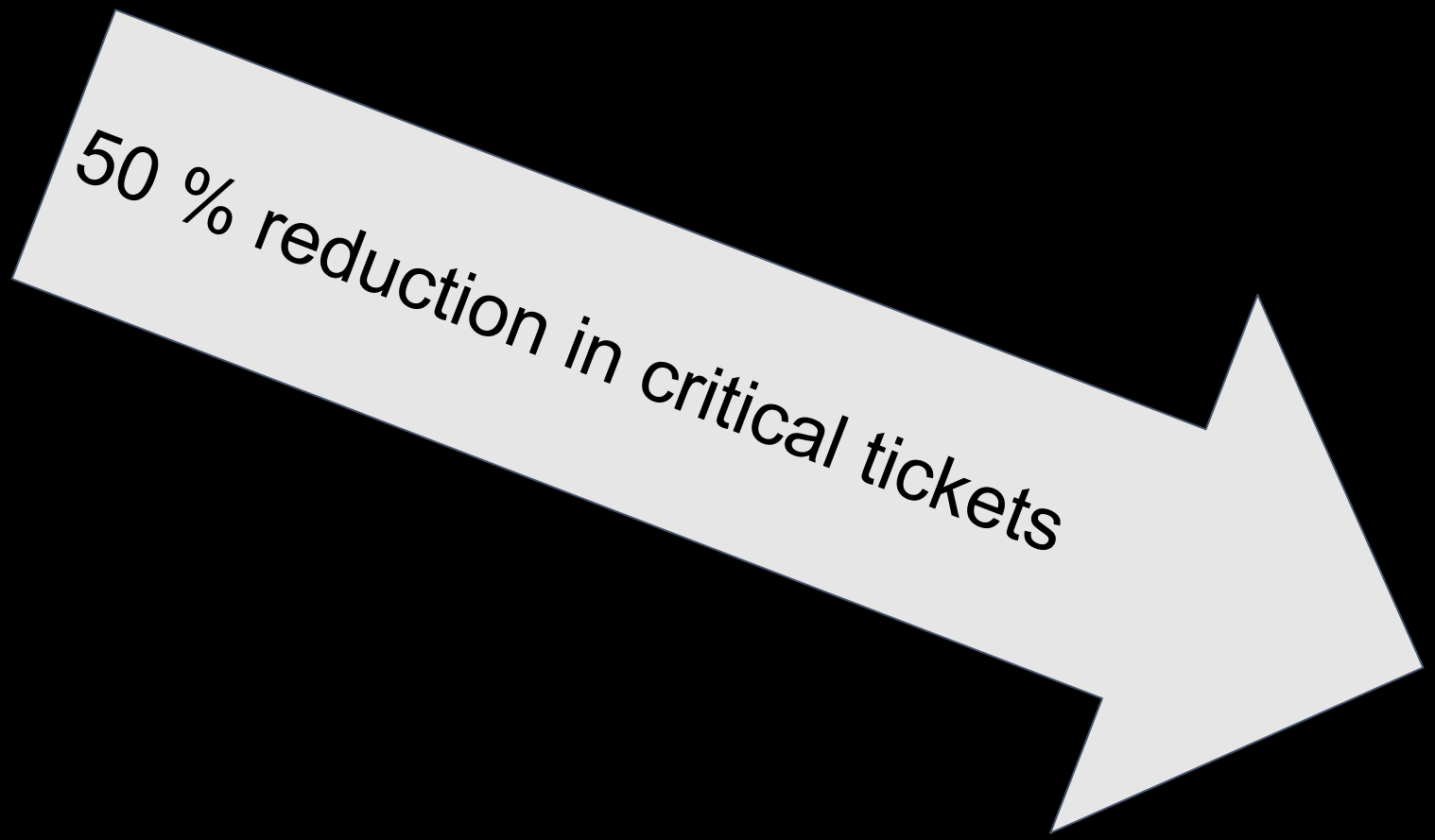
Resource planning tool

Why monitor?

Why monitor?

Why monitor?

Why monitor?



Why PRTG?

There are lots of monitoring options, why choose PRTG?

Lots of monitoring options

Why CLC chose PRTG?

Polaris means we’re a windows shop

All in one installation

- No separate DB install

Competitive price


MONITOR
ALL THE THINGS!

Previous Monitoring Solution

Cacti for Network Bandwidth

SQL Jobs for common database / Polaris problems

Scheduled tasks for server issues

pingdom for PAC uptime


PRTG
Network Monitor

What else does PRTG do?

Good defaults for alarms conditions

- Also displays unusual activity

Multiple notification types

Full historical sensor detail (not rolled up)

Builtin reporting system (fullest disk, busiest CPU, etc.)

PRTG UI Options

Main UI is browser based

Good Android and iOS Apps

Windows Desktop Notifier

PRTG for Android

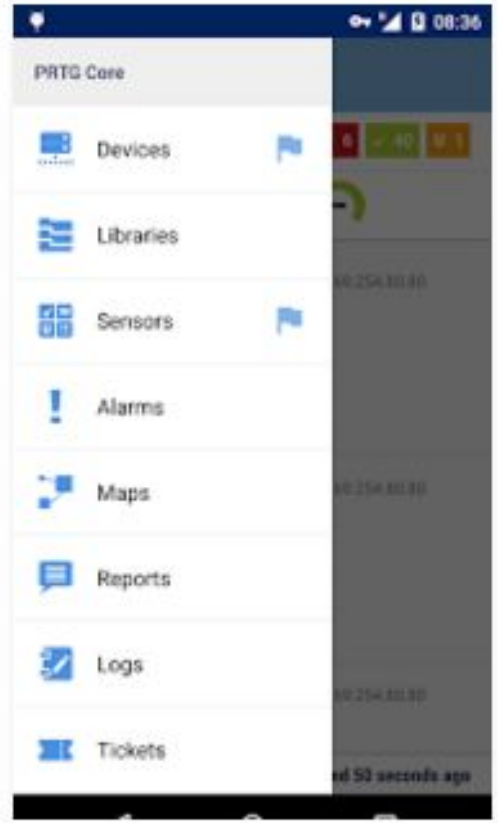
Paessler AG **Business**

★★★★½ 938

Everyone

This app is compatible with some of your devices.

Installed



Let's talk $$$

100 sensors = Free

1000 sensors w/12 mon upgrade = $2,020

Upgrade to 2,500 sensors w/24 mon upgrade = $4,000

CLC System size = 60 VMs, 5 Physical Hosts, 2 Remote probes

We're using around 1,300 sensors

PRTG Setup Tips

If you’re not careful, you WILL be overwhelmed

Get your accounts in order

Windows Domain Admin Account

- Set up an exclusive PRTG service account

SNMP Accounts

- Typically for network equipment, UPS, etc.

Database Account for running SQL Queries


Think
BIG
Start
small

1st rule of PRTG is Start Small

Do NOT allow PRTG to crawl your entire network

- You can run the crawl later

Start with a single server

- Your database server is a good idea
- Do allow sensor recommendation to run

What happens when things go wrong?

Different sensor states and how you should respond

PRTG Sensor States

OK = Green, everything is functioning normally

Unusual = Orange, compared to average hour/day of week

Warning = Yellow, typically used for disk or memory levels

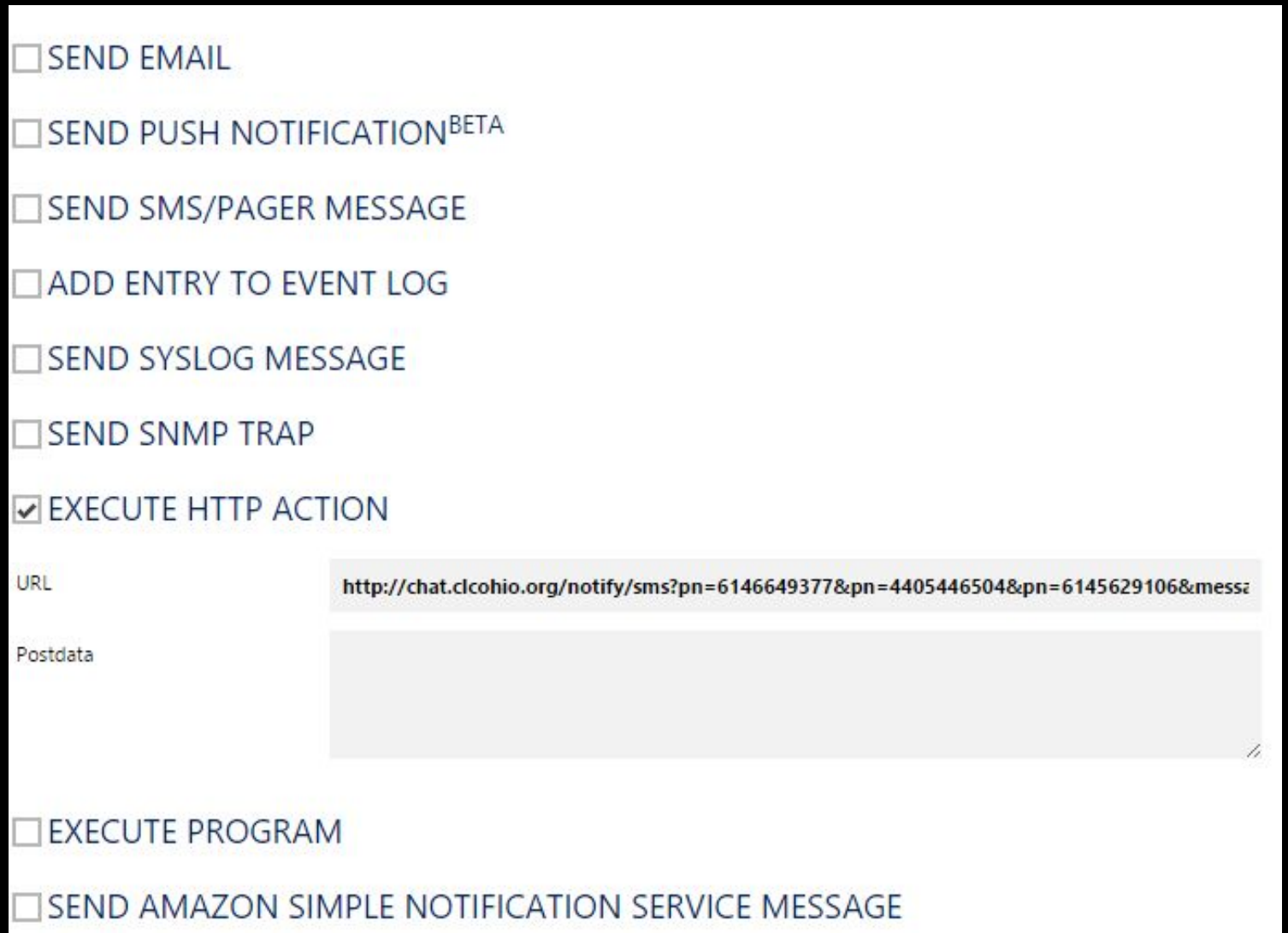
Also can be first occurrence of non-responsive sensor

Error/Down = Red, non-responsive or outside established boundary

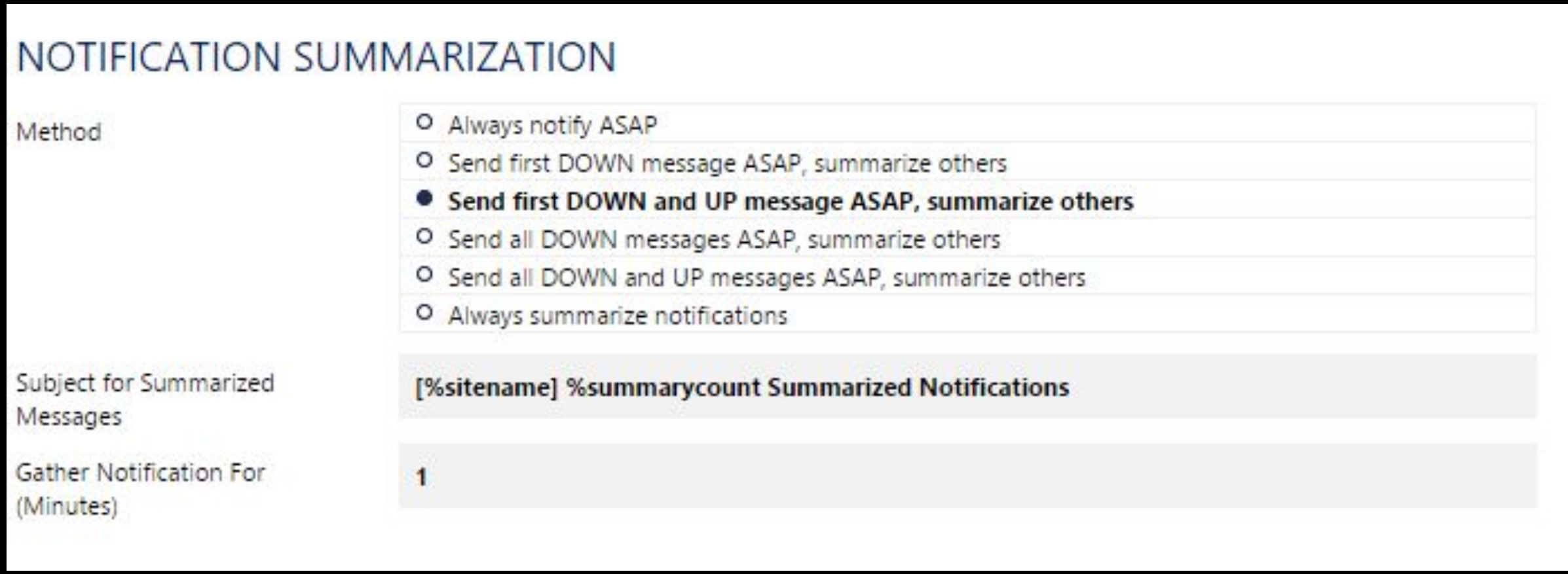
Setup -> Notifications

How to know that something has gone wrong

Notification methods



Control notification volume



Conditions for notification

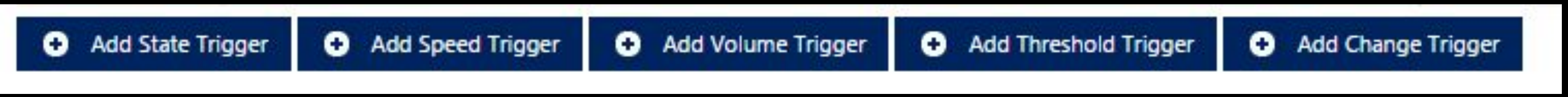
Setting up your notification methods

Stacking notifications

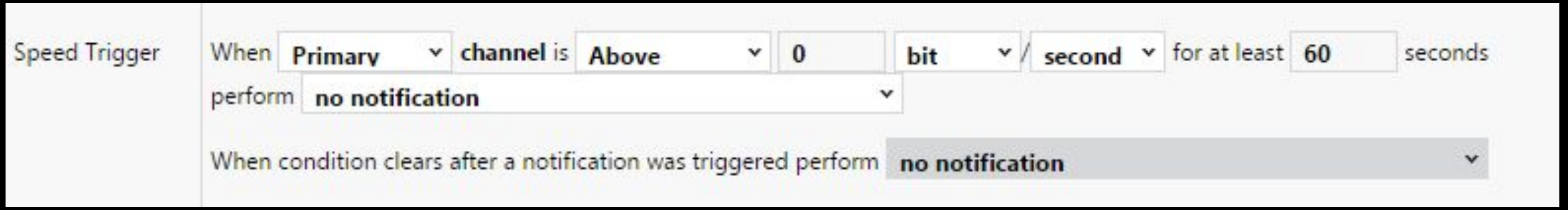
OBJECT TRIGGERS

Type	Notifications	Actions
State Trigger	When sensor state is **Down** for at least **60** seconds perform **HipChat Notification** When sensor state is **Down** for at least **300** seconds perform **no notification** and repeat every **0** minutes When condition clears after a notification was triggered perform **HipChat Notification**	Edit Delete
State Trigger	When sensor state is **Down** for at least **300** seconds perform **Email to clcdpc@clcohio.org** When sensor state is **Down** for at least **300** seconds perform **no notification** and repeat every **0** minutes When condition clears after a notification was triggered perform **Email to clcdpc@clcohio.org**	Edit Delete
State Trigger	When sensor state is **Down** for at least **300** seconds perform **SendTwilio SMS** When sensor state is **Down** for at least **300** seconds perform **no notification** and repeat every **0** minutes When condition clears after a notification was triggered perform **no notification**	Edit Delete

Other notification reasons



Example speed trigger



Tweaking Channel Warning/Error level

SET LIMITS CHECKED AGAINST ALL DISKS

Please use the particular channel settings to set separate error/warning limits for each disk.

Percentage Limit Check	○ Only use the limits in the settings of the percentage channels ● **Use the limits of both the sensor and the channel settings**
Upper Error Limit	
Upper Warning Limit	
Lower Warning Limit	**25**
Lower Error Limit	**10**
Size Limit Check	● **Only use the limits in the settings of the byte size channels** ○ Use the limits of both the sensor and the channel settings
Alarm on Missing/Removed Disk	● **Deactivate alarm (default)** ○ Activate alarm

2nd rule of PRTG is never ignore errors

Error state is the most severe of the sensors states

Tweak sensors so they only alert for real problems

- Adjust schedules to work around known issues
- Remove “bad” sensors as needed


THE BOY
WHO CRIED
WOLF!

You MUST address all errors!

You have to TRUST PRTG

Handling Errors

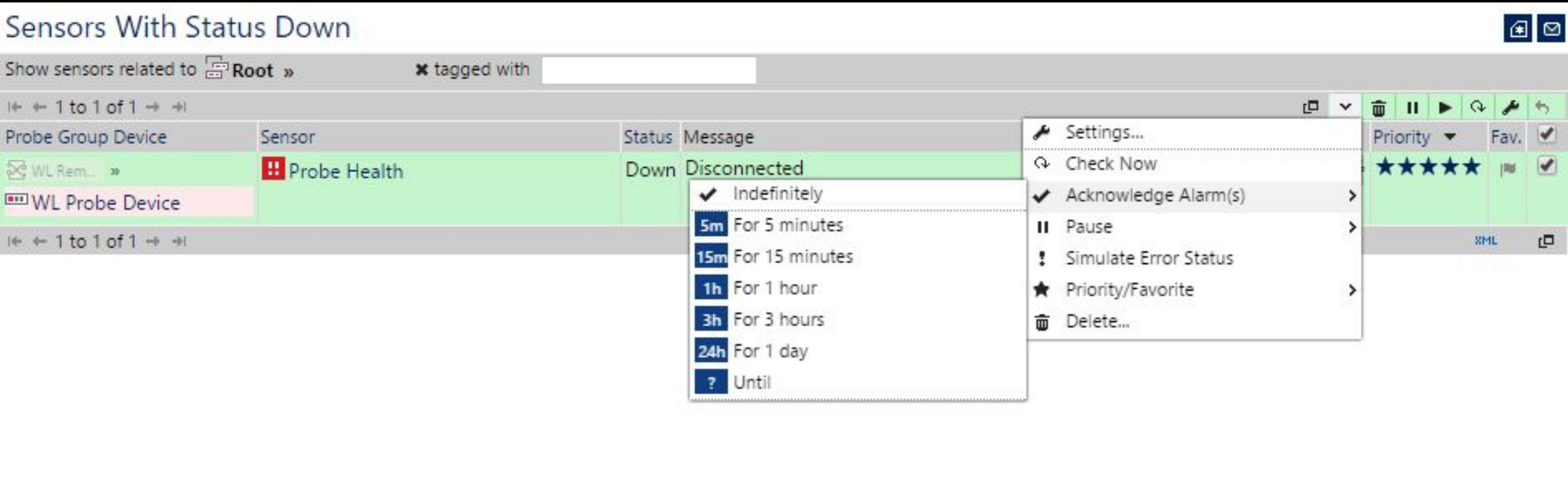
Acknowledge them = takes them out of the error state

- Continues to monitor the sensor, sensor can return to normal

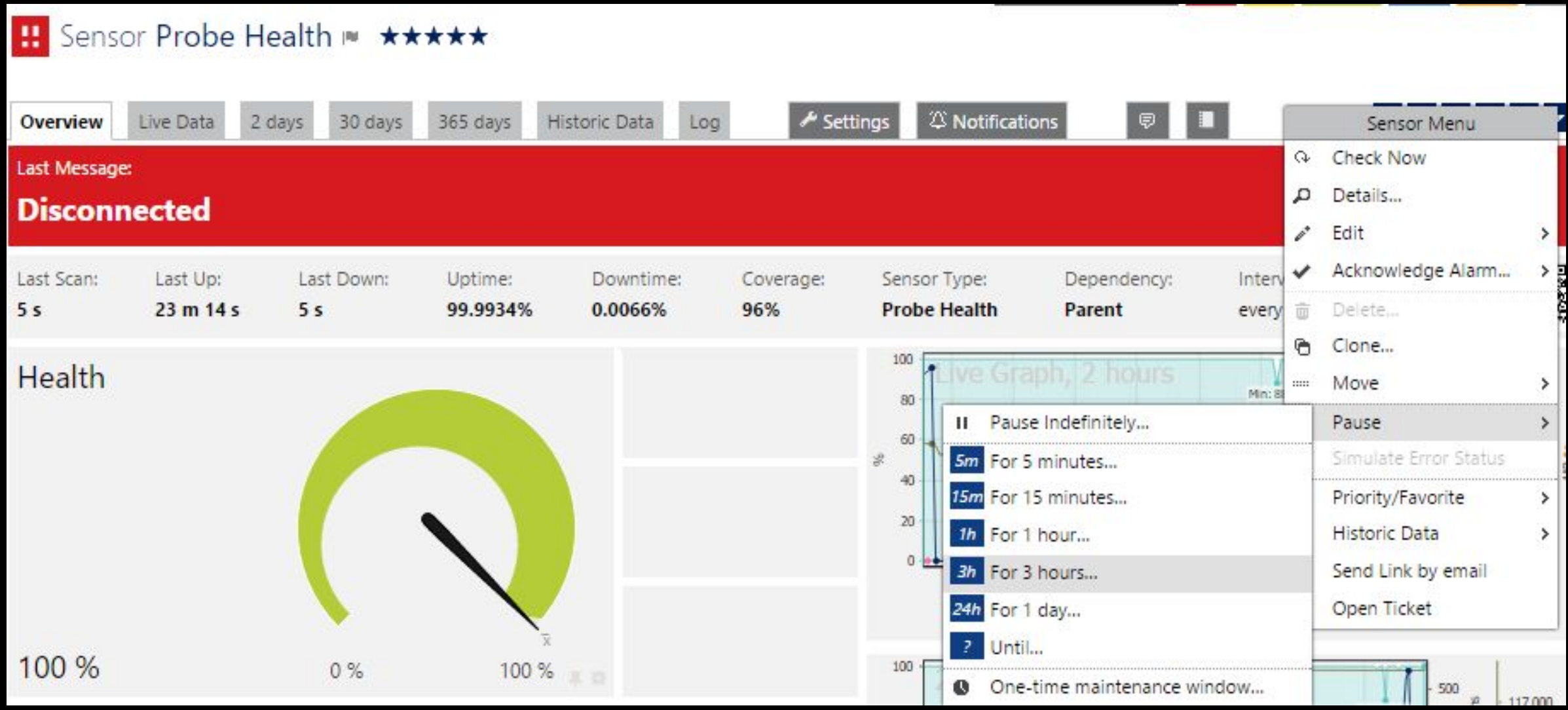
Pause them = stops monitoring the sensor

- Good option for flapping (up/down) sensors

Acknowledging an alert



Pausing an alert



All sensor activity is logged

Log Entries

1 to 50 | Items: 50 | Date Range: 2016-03-06 00:00 - 2016-03-14 00:00 | Select Range

Date Time	Parent	Type	Object	Status	Message
3/13/2016 12:43:00 AM	sccm01.clcdpc.org [Windows]	WMI Memory	Memory 38	Down Acknowledged	Memory is low when system is running patches (Acknowledged at 3/13/2016 12:43:00 AM by Wes Admin. Osborn until 3/13/2016 4:43:00 AM)

PRTG UI Overview

Information dense, but for a reason

UI Overview

Device list

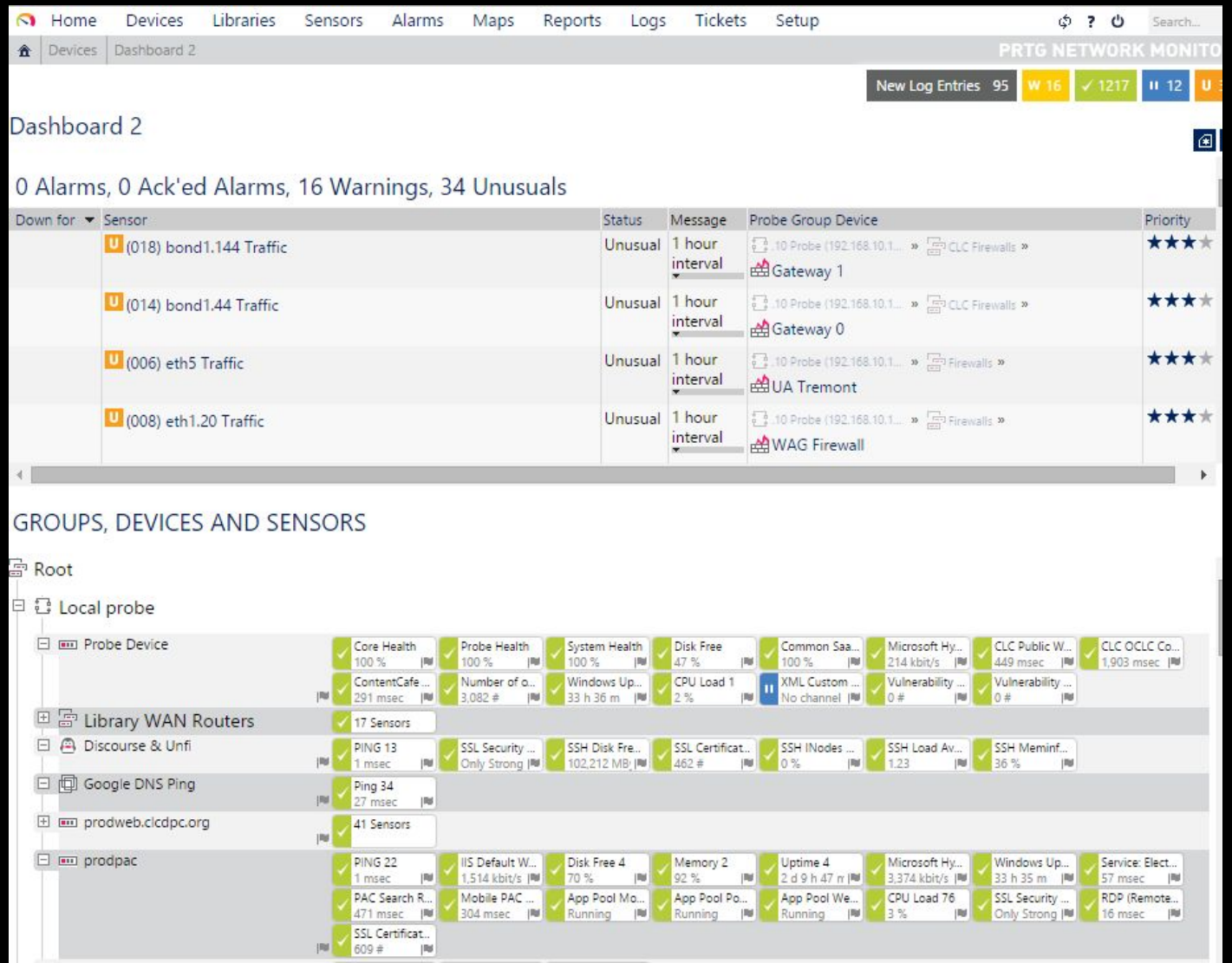
Grouping and arranging

Individual Device view

Sensor list

- Sensor funnels

Dashboard


Home
Devices
Libraries
Sensors
Alarms
Maps
Reports
Logs
Tickets
Setup
Search...
Devices
Dashboard 2
PRTG NETWORK MONITO
New Log Entries 95
W 16
✓ 1217
II 12
Dashboard 2
0 Alarms, 0 Ack'ed Alarms, 16 Warnings, 34 Unusuals
Down for
Sensor
Status
Message
Probe Group Device
Priority
(018) bond1.144 Traffic
Unusual
1 hour interval
Gateway 1
(014) bond1.44 Traffic
Unusual
1 hour interval
Gateway 0
(006) eth5 Traffic
Unusual
1 hour interval
UA Tremont
(008) eth1.20 Traffic
Unusual
1 hour interval
WAG Firewall
GROUPS, DEVICES AND SENSORS
Root
Local probe
Probe Device
Core Health 100 %
Probe Health 100 %
System Health 100 %
Disk Free 47 %
Common Saa... 100 %
Microsoft Hy... 214 kbit/s
CLC Public W... 449 msec
CLC OCLC Co... 1,903 msec
ContentCafe ... 291 msec
Number of o... 3,082 #
Windows Up... 33 h 36 m
CPU Load 1 2 %
XML Custom ... No channel
Vulnerability ... 0 #
Vulnerability ... 0 #
Library WAN Routers
17 Sensors
Discourse & Unfi
PING 13 1 msec
SSL Security ... Only Strong
SSH Disk Fre... 102,212 MB
SSL Certificat... 462 #
SSH INodes ... 0 %
SSH Load Av... 1.23
SSH Meminf... 36 %
Google DNS Ping
Ping 34 27 msec
prodweb.clcdpc.org
41 Sensors
prodpac
PING 22 1 msec
IIS Default W... 1,514 kbit/s
Disk Free 4 70 %
Memory 2 92 %
Uptime 4 2 d 9 h 47 m
Microsoft Hy... 3,374 kbit/s
Windows Up... 33 h 35 m
Service: Elect... 57 msec
PAC Search R... 471 msec
Mobile PAC ... 304 msec
App Pool Mo... Running
App Pool Po... Running
App Pool We... Running
CPU Load 76 3 %
SSL Security ... Only Strong
RDP (Remote... 16 msec
SSL Certificat... 609 #

Ring Overview

PRTG Hierarchy

Group = Any collection of **devices**

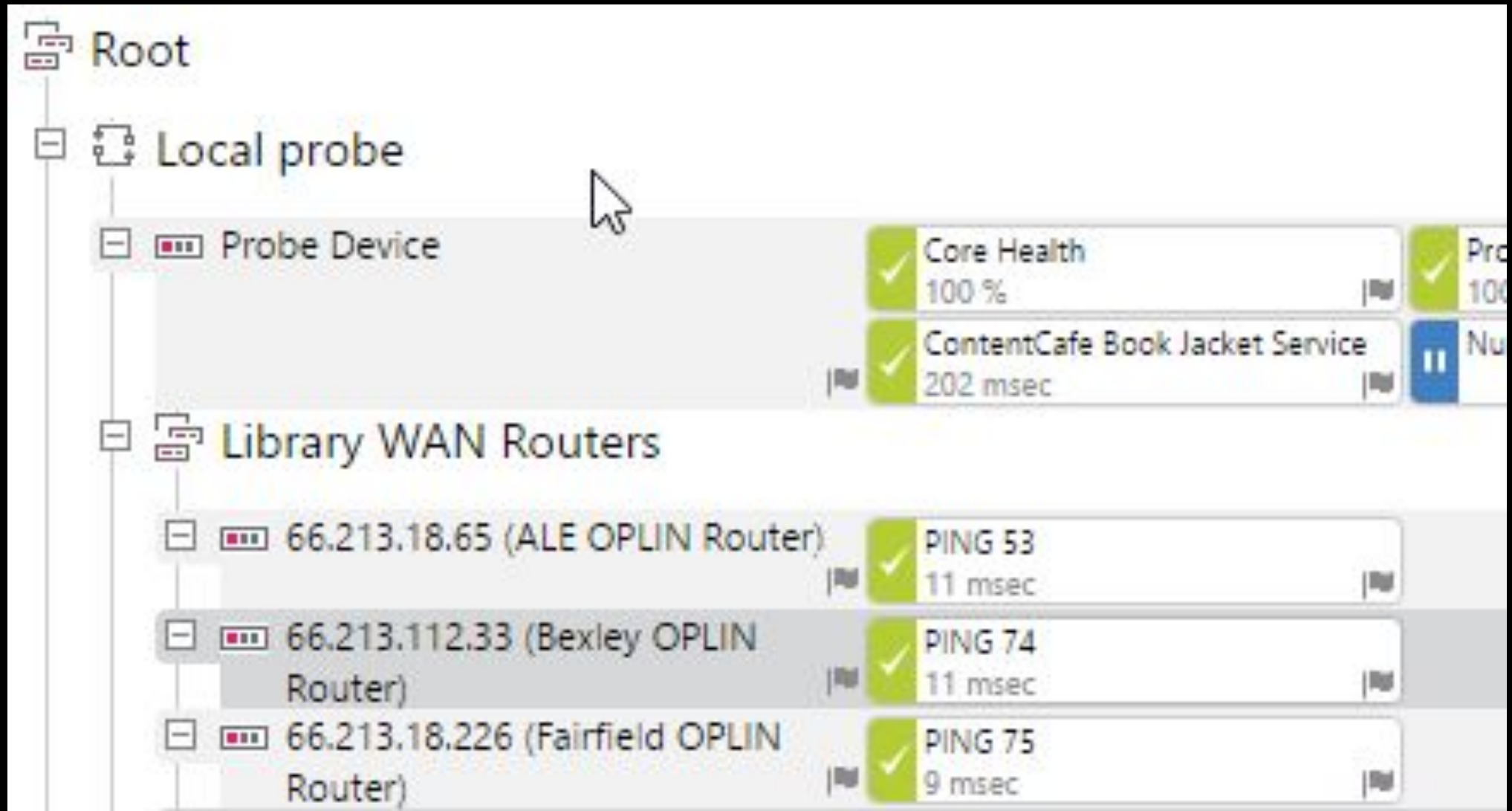
Device = Individual Server or piece of equipment

Sensor = Element of the **device** you want to monitor

Channel = Each **sensor** can have multiple channels

Percent Memory Free, Actual Megabytes Free Channels

Tree Overview



Adjusting the UI

Drag&Drop

Within the same device, drag any sensor and drop it to the place where you want to have it. A grey shade will show the future position. When dropping, the sensor will be moved to this position and existing sensors will be lined up after it. This is a very easy way to reposition your sensors.

Drag sensors from one device and drop it to another to clone a sensor.

Drag and drop groups or devices to change their position or to move them into (other) groups.

Multi-Edit

You can use Multi-Edit for object settings: Hold down the *Ctrl* key and select multiple groups, devices, or sensors (one of a kind).

Device Overview

PRODPAC

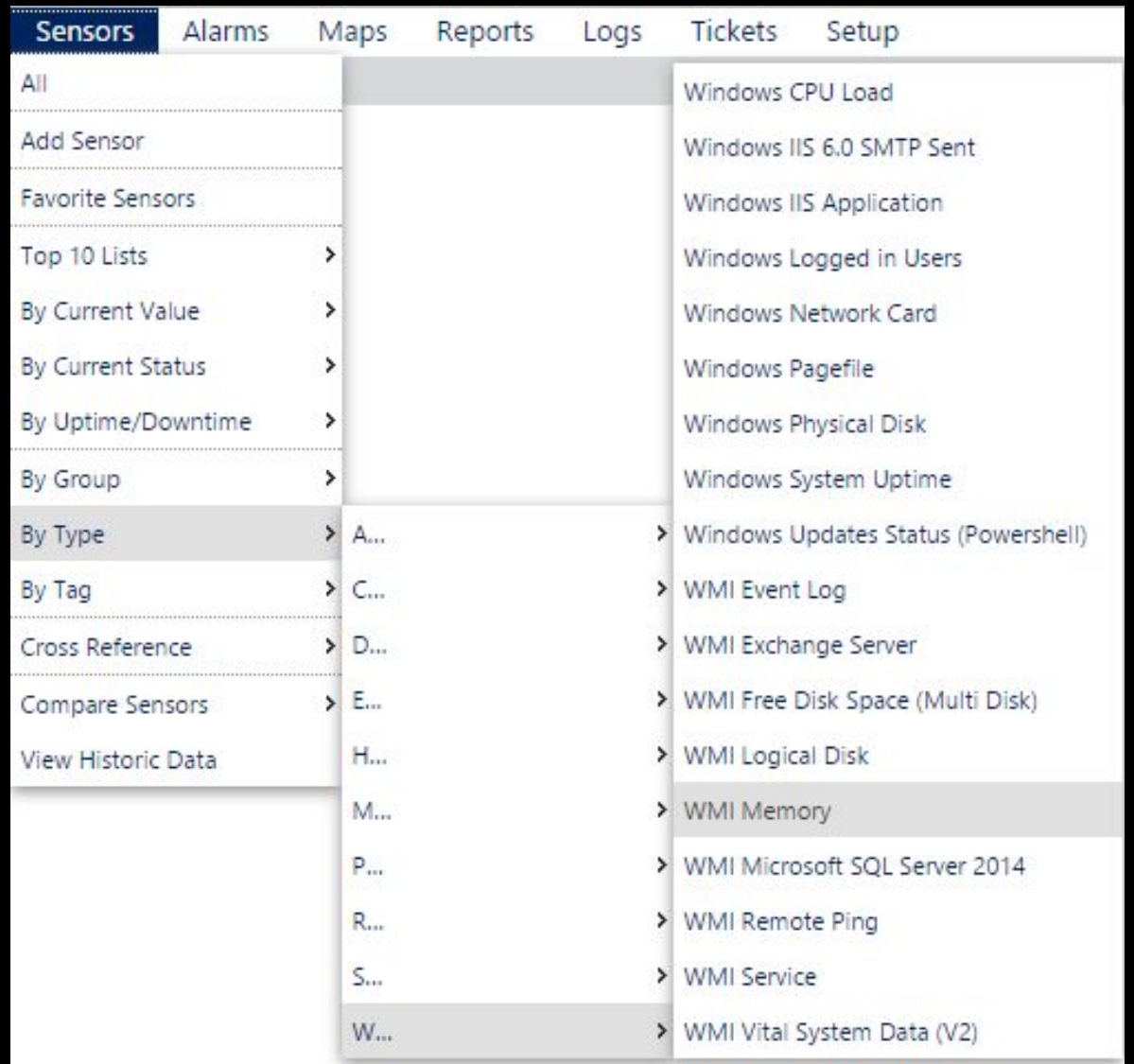
1 to 17 of 17

Pos	Sensor	Status
1.	PING 22	Up
2.	IIS Default Web Site	Up
3.	Disk Free 4	Up
4.	Memory 2	Up
5.	Uptime 4	Up
6.	Microsoft Hyper-V Network Adapter	Up
7.	Windows Updates Status 2	Up
8.	Service: Electronic Resource Management System (5.0)	Up
9.	PAC Search Results	Paused
10.	Mobile PAC Search	Up
11.	App Pool MobileAppPool	Up
12.	App Pool PowerPACAppPool	Up
13.	App Pool WebAdminAppPool	Up
14.	CPU Load 76	Up
15.	SSL Security Check (Port 443) 7	Up
16.	RDP (Remote Desktop) 29	Up
17.	SSL Certificate Sensor (Port 443) 11	Up

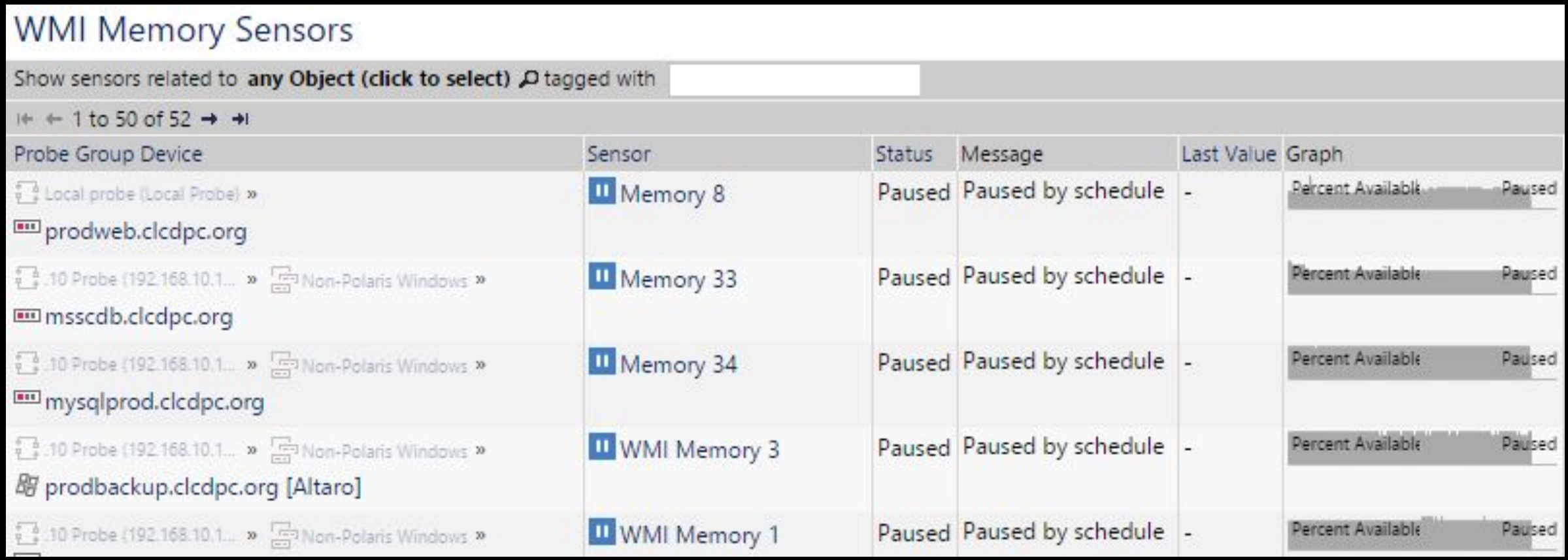
1 to 17 of 17

Focusing on sensors

Filter by Sensor Type



All Memory Sensors



Sensor state “funnels”

Funneling on unusual sensors only

Sensors With Status Unusual

Show sensors related to Root » ✖ tagged with

1 to 28 of 28

Probe Group Device	Sensor	Status
Local probe (Local Probe) » Library WAN Routers » rrcs-24-106-162-181.central.biz.rr.com (MPL Raymond TW modem)	PING 86	Unusual
.10 Probe (192.168.10.123) » FS01 (Backup Storage - Gahanna)	Microsoft Network Adapter Multiplexor Driver	Unusual
.10 Probe (192.168.10.123) » Hyper-V Hosts » hyperv07.clcdpc.org	Hyper-V Virtual Ethernet Adapter _2	Unusual
.10 Probe (192.168.10.123) » Hyper-V Hosts » hyperv07.clcdpc.org	Broadcom BCM57800 NetXtreme II 1 GigE [NDIS VBD Client] _239	Unusual
.10 Probe (192.168.10.123) » Hyper-V Hosts » hyperv07.clcdpc.org	Broadcom BCM57800 NetXtreme II 10 GigE [NDIS VBD Client] _237	Unusual
.10 Probe (192.168.10.123) » Hyper-V Hosts » hyperv08.clcdpc.org	Broadcom BCM57800 NetXtreme II 10 GigE [NDIS VBD Client] _221	Unusual
.10 Probe (192.168.10.123) » Hyper-V Hosts » hyperv08.clcdpc.org	Broadcom BCM5709C NetXtreme II GigE [NDIS VBD Client] _226	Unusual

PRTG Sensors

This is where we get into the good stuff


SO MUCH
AWESOME
memegenerator.net

Typical Sensors

Ping = All other sensors are dependent on Ping

Disk Free = Monitors all device drives

Memory Usage = VMs with Dynamic RAM can throw off

Network adapter = One sensor per adapter

System Uptime

Windows Update status (assuming Windows box)

Add Sensor to Device Probe Device [127.0.0.1] (Step 1 of 2)

SEARCH

251 Matching Sensor Types

MONITOR WHAT?

- Availability/Uptime
- Bandwidth/Traffic
- Speed/Performance
- CPU Usage
- Disk Usage
- Memory Usage
- Hardware Parameters
- Network Infrastructure
- Custom Sensors

TARGET SYSTEM TYPE?

- Windows
- Linux/MacOS
- Virtualization OS
- File Server
- Email Server
- Database
- Cloud Services

TECHNOLOGY USED?

- Ping
- SNMP
- WMI
- Performance Counters
- HTTP
- SSH
- Packet Sniffing
- NetFlow, sFlow, jFlow
- Powershell
- Push Message Receiver
- PRTG Cloud

MOST USED SENSOR TYPES

PerfCounter IIS Application Pool ?
Monitors IIS Application Pools using Performance Counters
Add This ▶

Ping ?
Monitors connectivity using Ping
Add This ▶

SNMP Disk Free ?
Monitors the free disk space on a logical disk via SNMP
Add This ▶

SNMP Memory ?
Monitors the memory usage via SNMP
Add This ▶

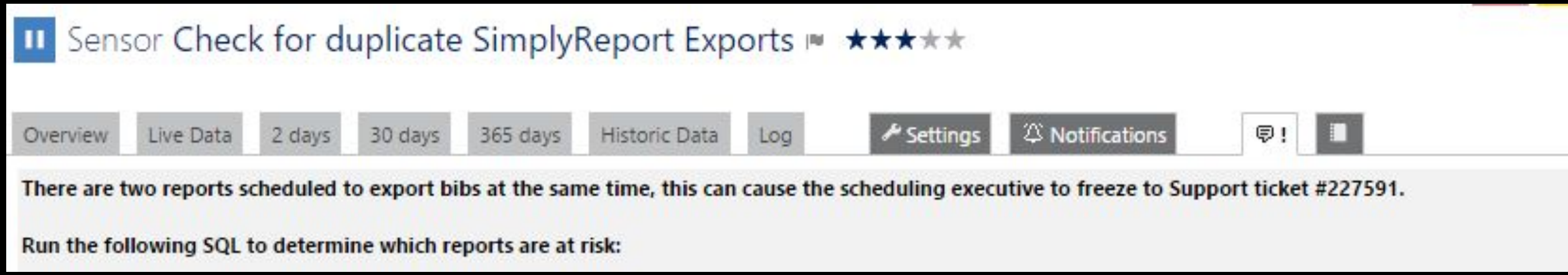
SNMP Traffic ?
Monitors bandwidth and traffic on servers, PCs, switches, etc. using SNMP
Add This ▶

Windows CPU Load ?
Monitors CPU load using performance counters or WMI
Add This ▶

3rd rule of PRTG, document all custom sensors

You'll never remember what it was for otherwise

Sensor comments



Let’s break out the custom sensors!

These should work for all ILS platforms

HTTP Keyword Sensor

Make sure that the PAC is actually returning results

HTTP Keyword monitor

HTTP SPECIFIC

Timeout (Sec.)	60
URL	https://catalog.clcohio.org/polaris/search/searchresults.aspx?ctx=49.1033.0.0.14&type=Keywo
Request Method	● GET ○ POST ○ HEAD
Server Name Indication	prodpac.clcdpc.org

HTTP Keyword monitor

Require Keyword	○ Do not check for keyword (default) ○ Set sensor to warning if keyword is missing ● **Set sensor to error if keyword is missing**
Response Must Include	**Tremont**
Check Method	● **String search (default)** ○ Regular expression
Exclude Keyword	● **Do not check for keyword (default)** ○ Set sensor to warning if keyword is found ○ Set sensor to error if keyword is found

Checking TLS Security

Make sure that the PAC or other HTTPS services are actually secure

SSL Certificate Sensor

Channel	ID	Last Value	Minimum	Maximum	Settings
Common Name Check	7	Disabled	Disabled	Disabled	
Days to Expiration	2	599 #	599 #	635 #	
Downtime	-4				
Public Key Length	5	Good (2048)	Good (2048)	Good (2048)	
Revoked	4	No	Unable to check revocation status	No	
Root Authority Trusted	3	Yes	Yes	Yes	
Self-Signed	6	No	No	No	

SSL Security Check Sensor

Channel	ID	Last Value	Minimum	Maximum	Settings
Downtime	-4				
Security Rating	2	Only Strong Protocols Available	No Secure Protocol Available	Only Strong Protocols Available	
SSL 2.0 (Weak)	3	Denied	Denied	Denied	
SSL 3.0 (Weak)	4	Denied	Denied	Denied	
TLS 1.0 (Strong)	5	Accepted	Denied	Accepted	
TLS 1.1 (Strong)	6	Accepted	Denied	Accepted	
TLS 1.2 (Perfect)	7	Accepted	Denied	Accepted	

More SSL Checks

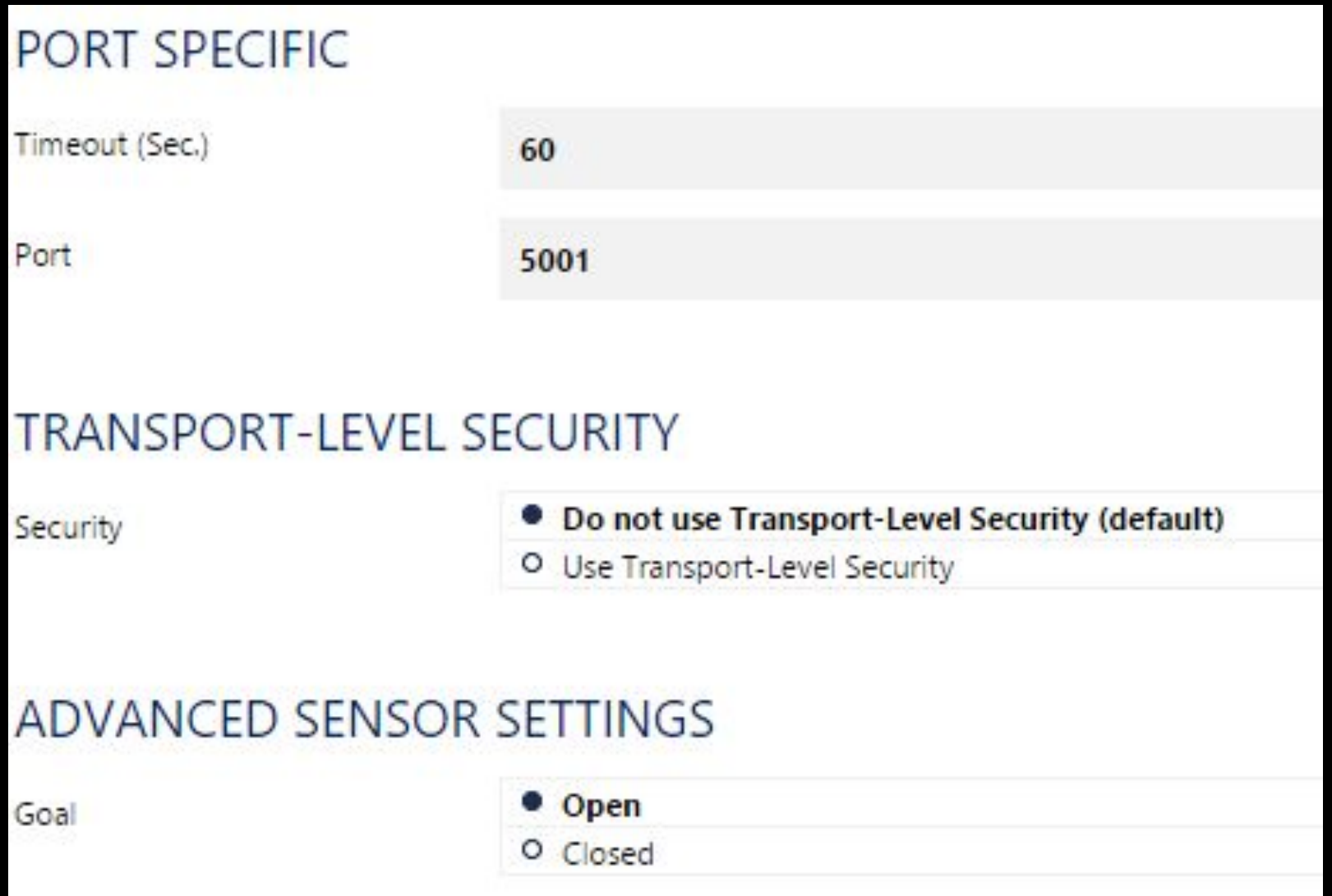
https://www.ssllabs.com/ssltest/

Checking 3M SIP Protocol

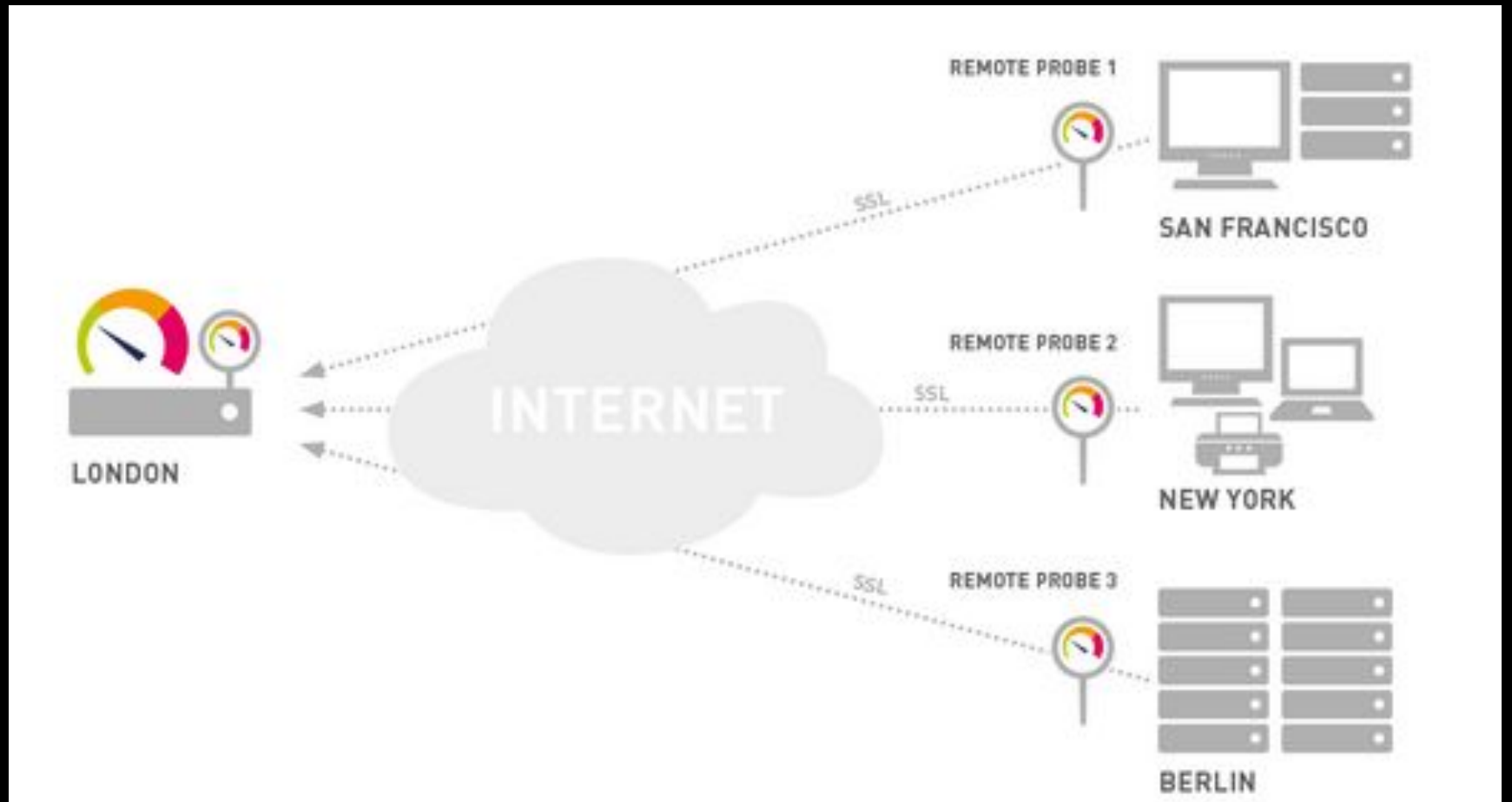
Make sure this ancient service is still limping along

Search for “TCP” Sensor Type

SIP TCP Port Monitor



Port tests are good for remote probes



Monitoring Remote Locations via Remote Probes

SIP Transaction tests

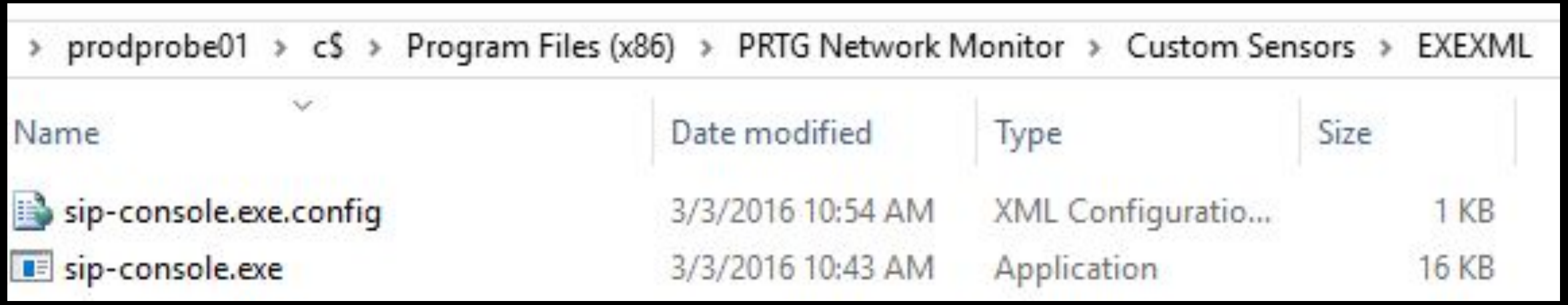
http://www.clcohio.org/sip-testing-tool

Download the command line tool

There is also a version of the command line tool that is tailored specifically to the PRTG monitoring tool that can be found here. This version is configured through a config file and an example is included. It can monitor multiple SIP servers on one sensor and uses value lookups for better status reporting.

Add the files to your PRTG Server

c:\Program Files (x86)\PRTG Network Monitor\Custom Sensors\EXEXML



Edit .ini file to add needed info

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <configSections>
    <section name="settings" type="sip_console.CustomSettings, sip-console"/>
  </configSections>
  <settings
    value_lookup_name="clc.custom.sip.server.status">
    <sip_servers>
      <add hostname="prodsip01" port="5002" ao="7" username="3MLogin" password="3MLogin" />
      <add hostname="prodsip02" port="5002" ao="7" username="3MLogin" password="3MLogin" />
    </sip_servers>
  </settings>
    <startup>
        <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5.2" />
    </startup>
</configuration>
```

Add Custom/EXE Advanced Sensor

BASIC SENSOR SETTINGS

Sensor Name	**XML Custom EXE/Script Sensor 1**
Parent Tags	
Tags	xmlexesensor ✖
Priority	★★★☆☆

SENSOR SETTINGS

Important: The EXE file has to run on the computer where **the parent probe** is installed, not on the parent device. The working directory for "exe" files is the probe directory, "vbs,ps1" or other script files may use different working directories.

EXE/Script	**sip-console.exe**

Channels will be created for each server described in the .ini file

Channel	ID	Last Value	Minimum	Maximum	Settings
Downtime	-4				
prodsip01	2	Up	Up	Up	
prodsip02	3	Up	Up	Up	

Enriched Content Check

Outage of book jacket service can cause havoc

HTTP Sensor

HTTP SPECIFIC

Timeout (Sec.)	**60**
URL	**https://contentcafe2.btol.com/ContentCafe/Jacket.aspx?Return=1&Type=L&Value=978146543**
Request Method	● **GET** ○ POST ○ HEAD
Server Name Indication	**contentcafe2.btol.com**

PROXY SETTINGS FOR HTTP SENSORS

☑ inherit from Probe Device (Name: <empty>, Port: 8080, User: <empty>)

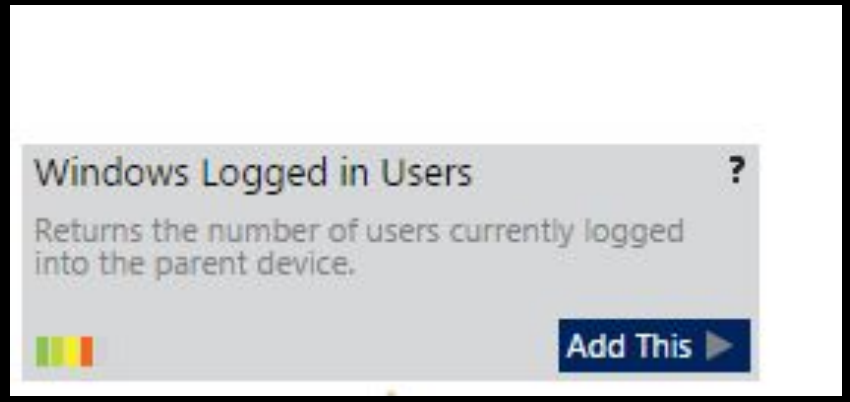
SENSOR DISPLAY

Primary Channel	**Loading time (msec)** ⌄
Chart Type	● **Show channels independently (default)** ○ Stack channels on top of each other

Logged in users?

Did someone forget to logout?

Adding the sensor & adjusting the limits



Limits	○ Disable Limits ● **Enable Limits**
Upper Error Limit (#)	**0**
Upper Warning Limit (#)	
Lower Warning Limit (#)	
Lower Error Limit (#)	
Error Limit Message	
Warning Limit Message	

Meeting PCI DSS 6.1

How are you monitoring for security vulnerabilities?

CVE Details website

Cisco : Security Vulnerabilities Published In 2016 (Execute Code)

2016 : January February March CVSS Scores Greater Than: 0 1 2 3 4 5 6 7 8 9

Sort Results By : CVE Number Descending CVE Number Ascending CVSS Score Descending Number Of Exploits Descending

Copy Results Download Results Select Table

#	CVE ID	CWE ID	# of Exploits	Vulnerability Type(s)	Publish Date	Update Date	Score	Gained Access Level	Access	Complexity	Authentication
1	CVE-2016-1359	20		Exec Code	2016-03-03	2016-03-04	6.5	None	Remote	Low	Single system
Cisco Prime Infrastructure 3.0 allows remote authenticated users to execute arbitrary code via a crafted HTTP requ viewing of a log file, aka Bug ID CSCuw81494.											
2	CVE-2016-1320	78		Exec Code	2016-02-11	2016-02-25	6.8	Admin	Local	Low	Single system
The CLI in Cisco Prime Collaboration 9.0 and 11.0 allows local users to execute arbitrary OS commands as root by privileges, aka Bug ID CSCux69286.											
3	CVE-2016-1308	89		Exec Code Sql	2016-02-07	2016-02-16	6.5	None	Remote	Low	Single system
SQL injection vulnerability in Cisco Unified Communications Manager 10.5(2.13900.9) allows remote authenticated SQL commands via a crafted URL, aka Bug ID CSCux99227.											
4	CVE-2015-6435	78		Exec Code	2016-01-22	2016-01-25	10.0	None	Remote	Low	Not required
An unspecified CGI script in Cisco FX-OS before 1.1.2 on Firepower 9000 devices and Cisco Unified Computing Sys 2.2(4b), 2.2(5) before 2.2(5a), and 3.0 before 3.0(2e) allows remote attackers to execute arbitrary shell comman aka Bug ID CSCur90888.											

Creating a PCI vulnerability sensor

Identify equipment in your cardholder data environment

Find it here: http://www.cvedetails.com/

Build a JSON feed

Use CLC's custom command line tool

http://go.clcohio.org/pcisensor

CVE Sensor Setup Steps

Accepts JSON data via URL from cvedetails.com

- URL goes in sensor setup parameters field

If any CVE's have been posted in the past 7 days, the CVE count will be returned to the console

Set channel so that it errors when limit is above zero

PCI Vulnerability Sensor set up

BASIC SENSOR SETTINGS

Sensor Name	**Vulnerability check for Meraki MX firewall hardware**
Parent Tags	
Tags	exesensor ✖
Priority	★★★☆☆

SENSOR SETTINGS

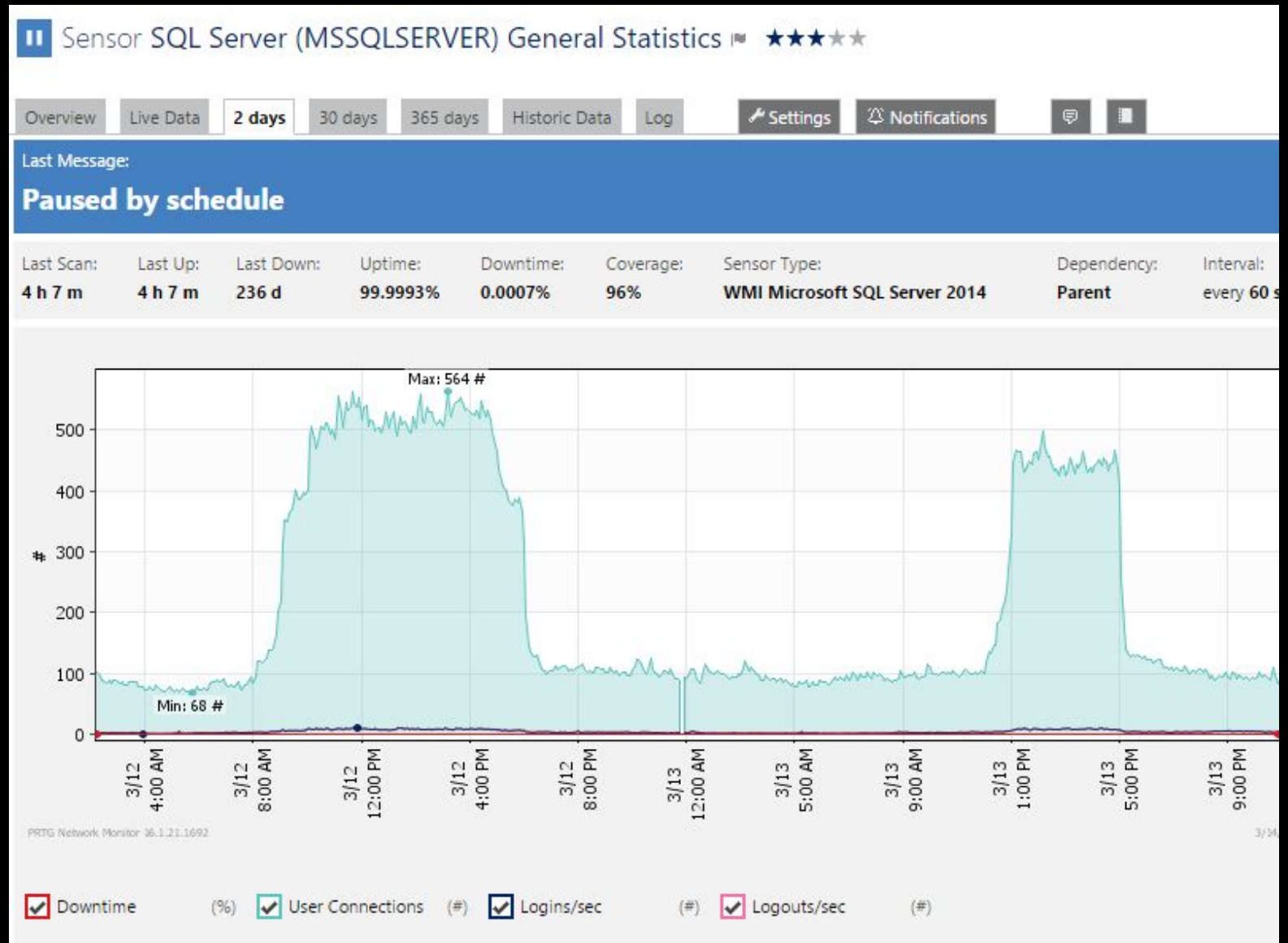
Important: The EXE file has to run on the computer where **the parent probe** is installed, not on the parent device. The working directory for "exe" files is the probe directory, "vbs,ps1" or other script files may use different working directories.

EXE/Script	count.ps1
Parameters	**'http://www.cvedetails.com/json-feed.php?numrows=10&vendor_id=16&product_id=30659&v**

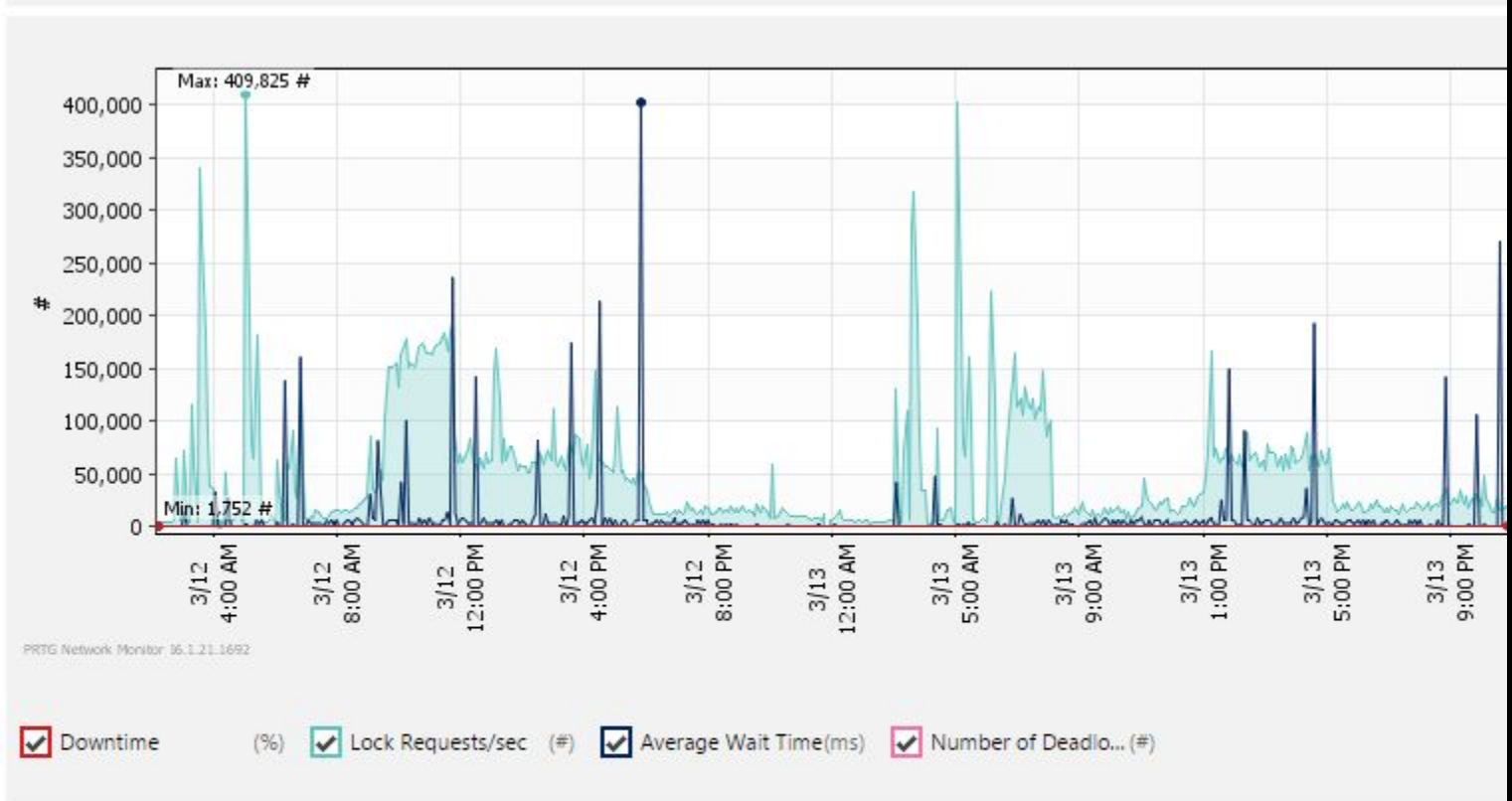
Polaris specific sensors

Keeping an eye out for common Polaris problems

Basic SQL status



SQL Lock information

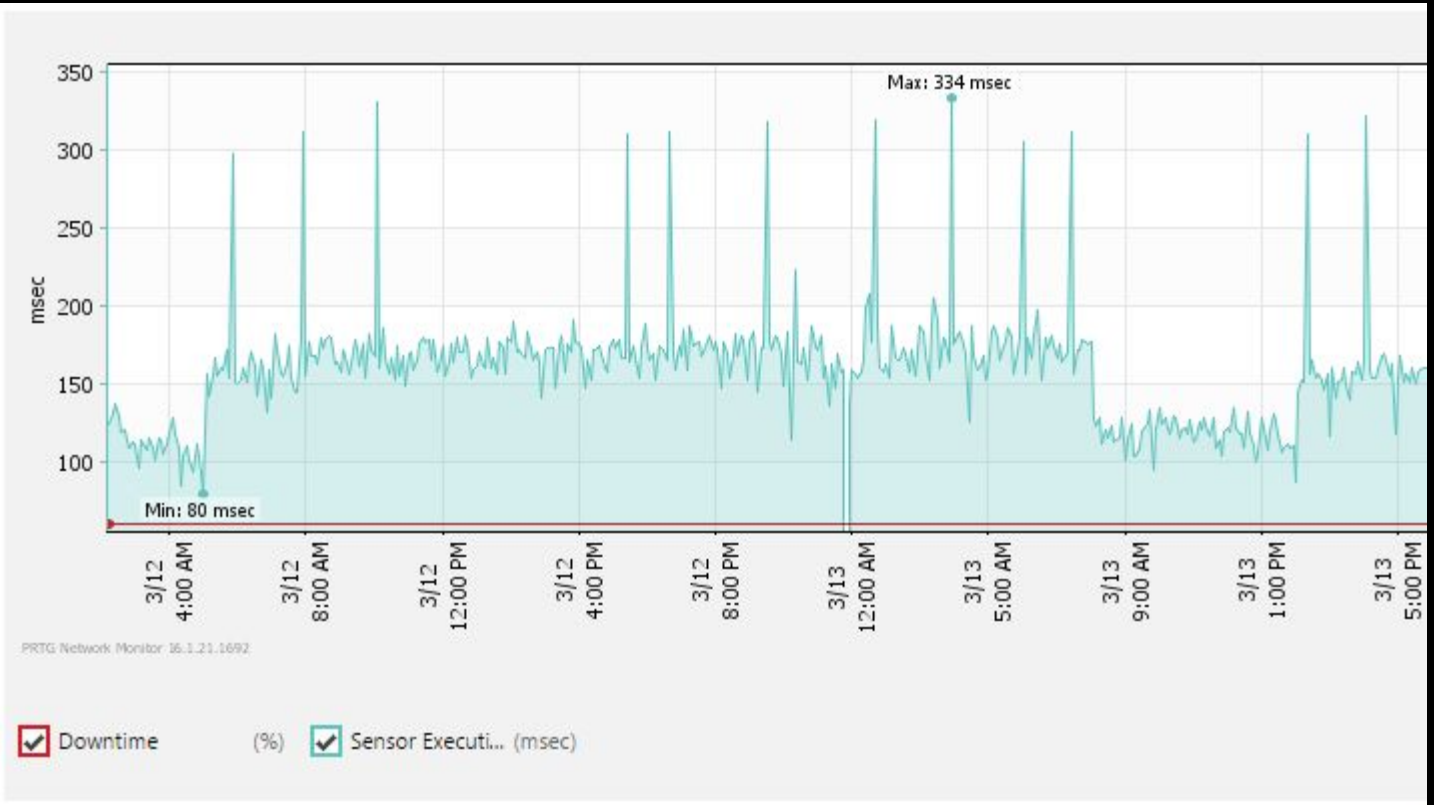


Date Time	Lock Requests/sec	Average Wait Time	Number of Deadlocks/sec
Averages (of 575 values)	44,382 #	8 ms	

1 to 50 of 576

Date Time	Lock Requests/sec	Average Wait Time	Number of Deadlocks/sec
3/13/2016 10:50:00 PM – 10:55:00 PM	22,314 #	0 ms	
3/13/2016 10:45:00 PM – 10:50:00 PM	15,574 #	0 ms	
3/13/2016 10:40:00 PM – 10:45:00 PM	19,375 #	0 ms	
3/13/2016 10:35:00 PM – 10:40:00 PM	14,532 #	0 ms	

SQL Agent status



Date Time	Sensor Execution Time
Averages (of 575 values)	155 msec

1 to 50 of 576

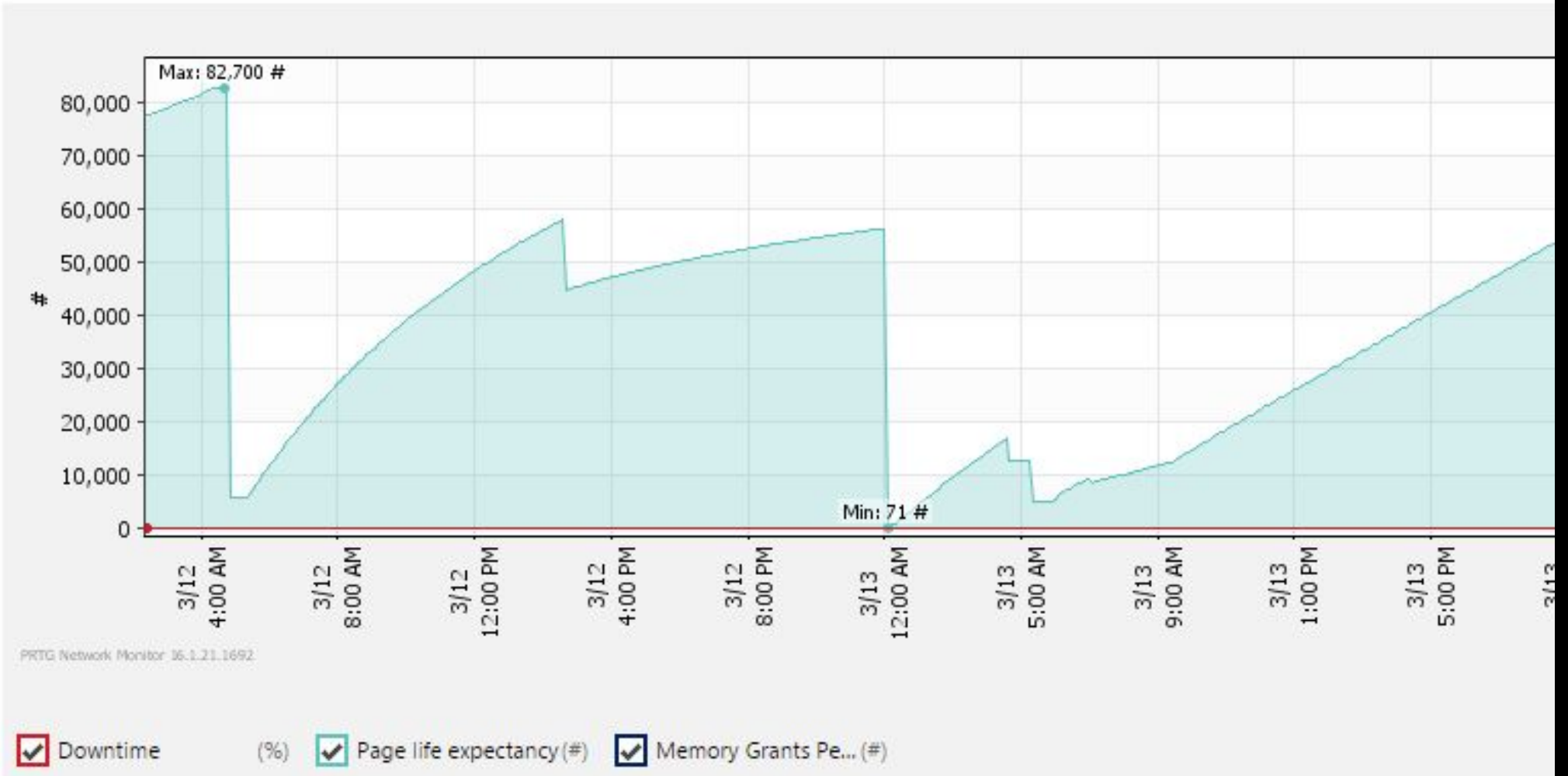
Date Time	Sensor Execution Time
3/13/2016 10:55:00 PM – 11:00:00 PM	144 msec
3/13/2016 10:50:00 PM – 10:55:00 PM	152 msec
3/13/2016 10:45:00 PM – 10:50:00 PM	160 msec
3/13/2016 10:40:00 PM – 10:45:00 PM	155 msec

Perfmon SQL Sensors

You can put anything you'd monitor via Perfmon into a sensor

\SQLServer:Buffer Manager\Page life expectancy::count

\SQLServer:Memory Manager\Memory Grants Pending::count



Date Time	Page life expectancy	Memory Grants Pending
Averages (of 576 values)	40,064 #	0 #

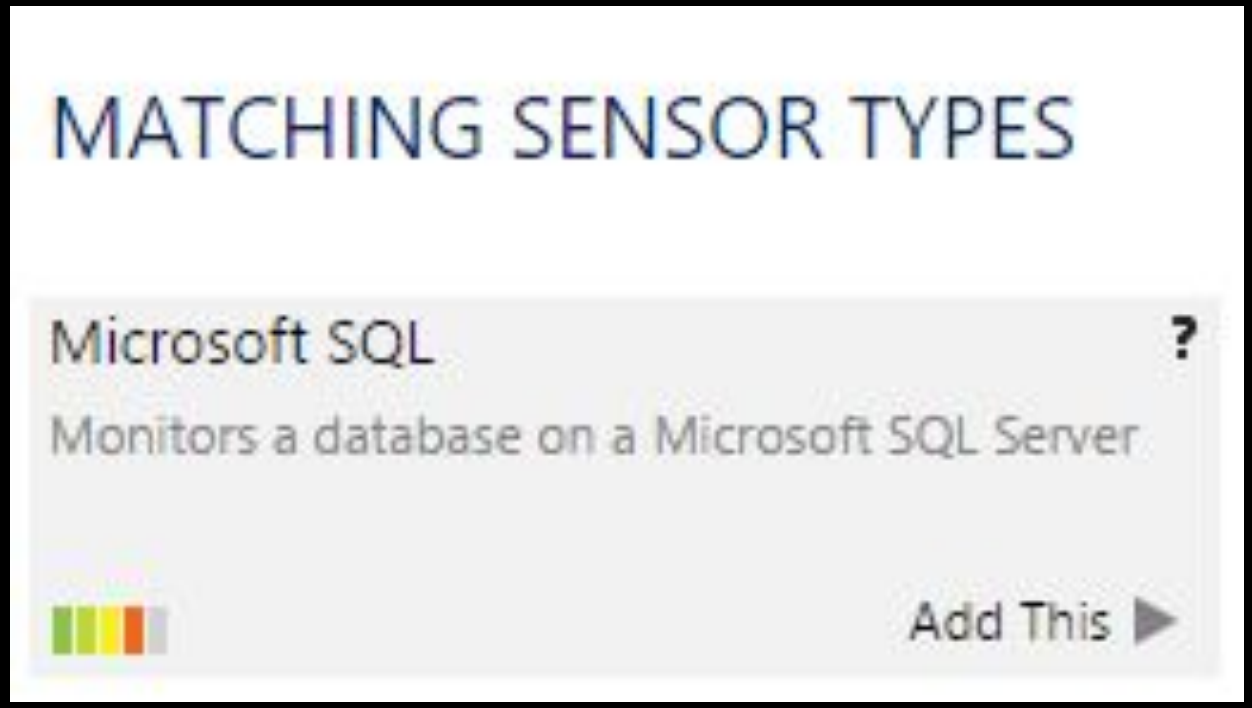
1 to 50 of 576

Date Time ▲	Page life expectancy	Memory Grants Pending
3/13/2016 10:50:00 PM – 10:55:00 PM	62,012 #	0 #
3/13/2016 10:45:00 PM – 10:50:00 PM	61,711 #	0 #
3/13/2016 10:40:00 PM – 10:45:00 PM	61,409 #	0 #

http://go.clcohio.org/polarisprtg

Where to find SQL scripts used in Polaris Custom Sensors

General SQL Sensors



General SQL Sensor set up

DATABASE

Database: **Polaris**

Authentication:
- ○ SQL Server
- ● **Windows Authentication**

DATA

SQL Expression:

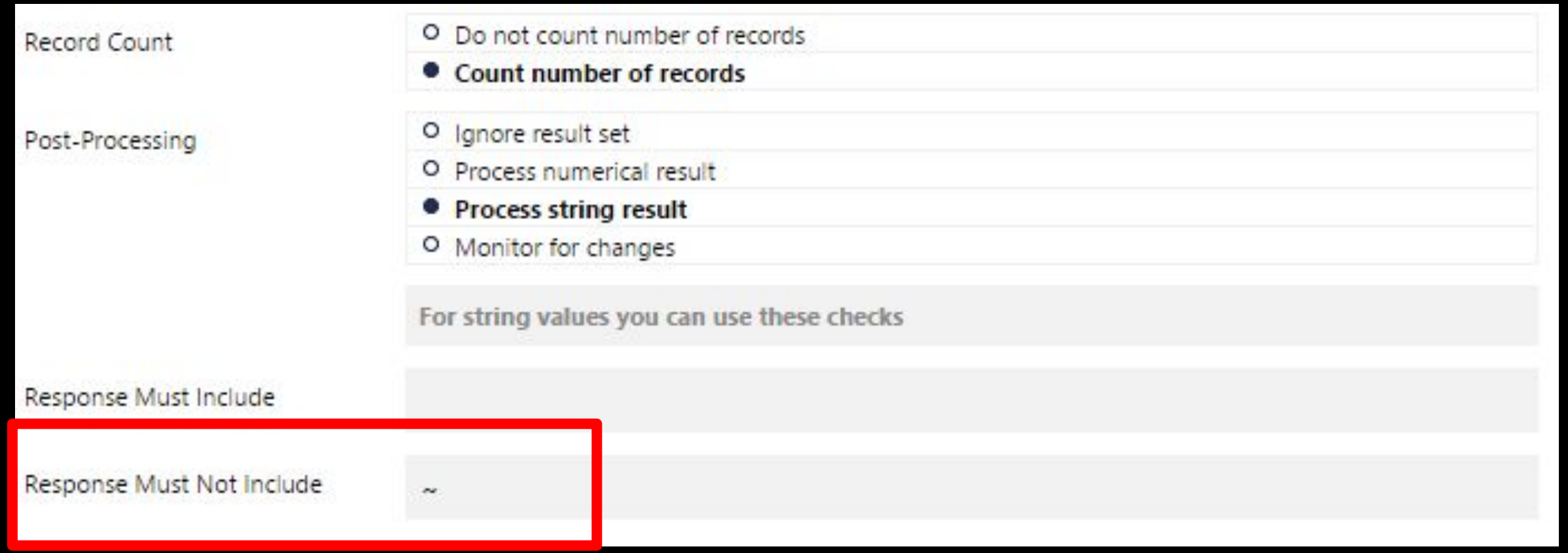
```
SELECT '~' + sqltext.TEXT,
req.session_id,
req.status,
req.command,
```

Check for long running jobs

...where req.total_elapsed_time > 10800000 and req.status in (

'running', 'suspended', 'waiting')

Long running jobs sensor setup



Check for open transactions

You were good and did a “begin tran” to start your SQL statement

But... you never committed it or rolled it back

Now the transaction log is filling up and other jobs won’t complete

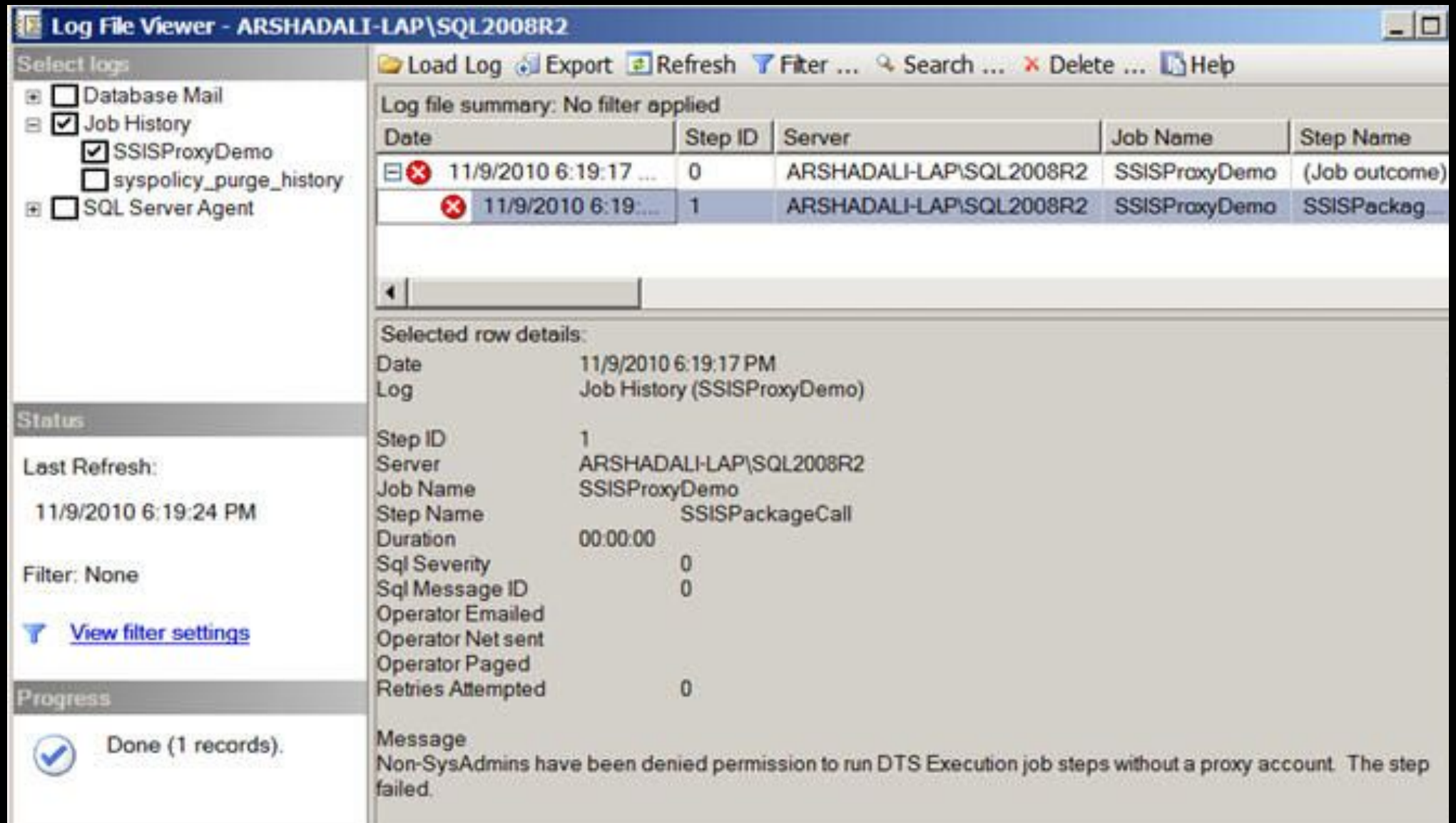
Check for open transactions

SELECT '~' + hostname,spid FROM sysprocesses WHERE

open_tran = 1 and last_batch < dateadd(hh,-1,getdate())

The SQL above shows any transaction that has been opened for longer than one hour

Catching SQL Agent Job Failures



Catching SQL Agent Job Failures

FROM msdb.dbo.sysjobhistory SJH

...and enabled=1 and sjh.run_status = 0

Other SQL sensors

Were any overdue notices sent via email?

Circ status of Out but not CKO'd to an actual patron

Requests that are held, but the item circ status is NOT held

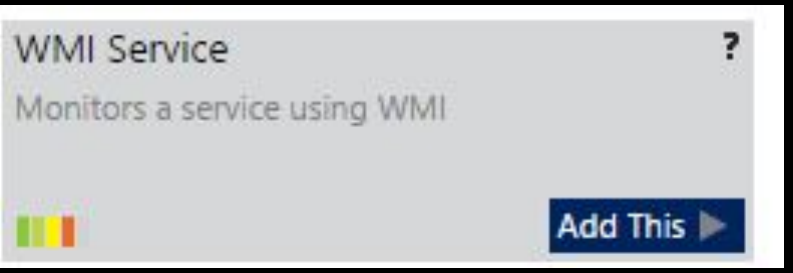
Check for bad SIP CKO Transactions (due date: 11/30/1999)

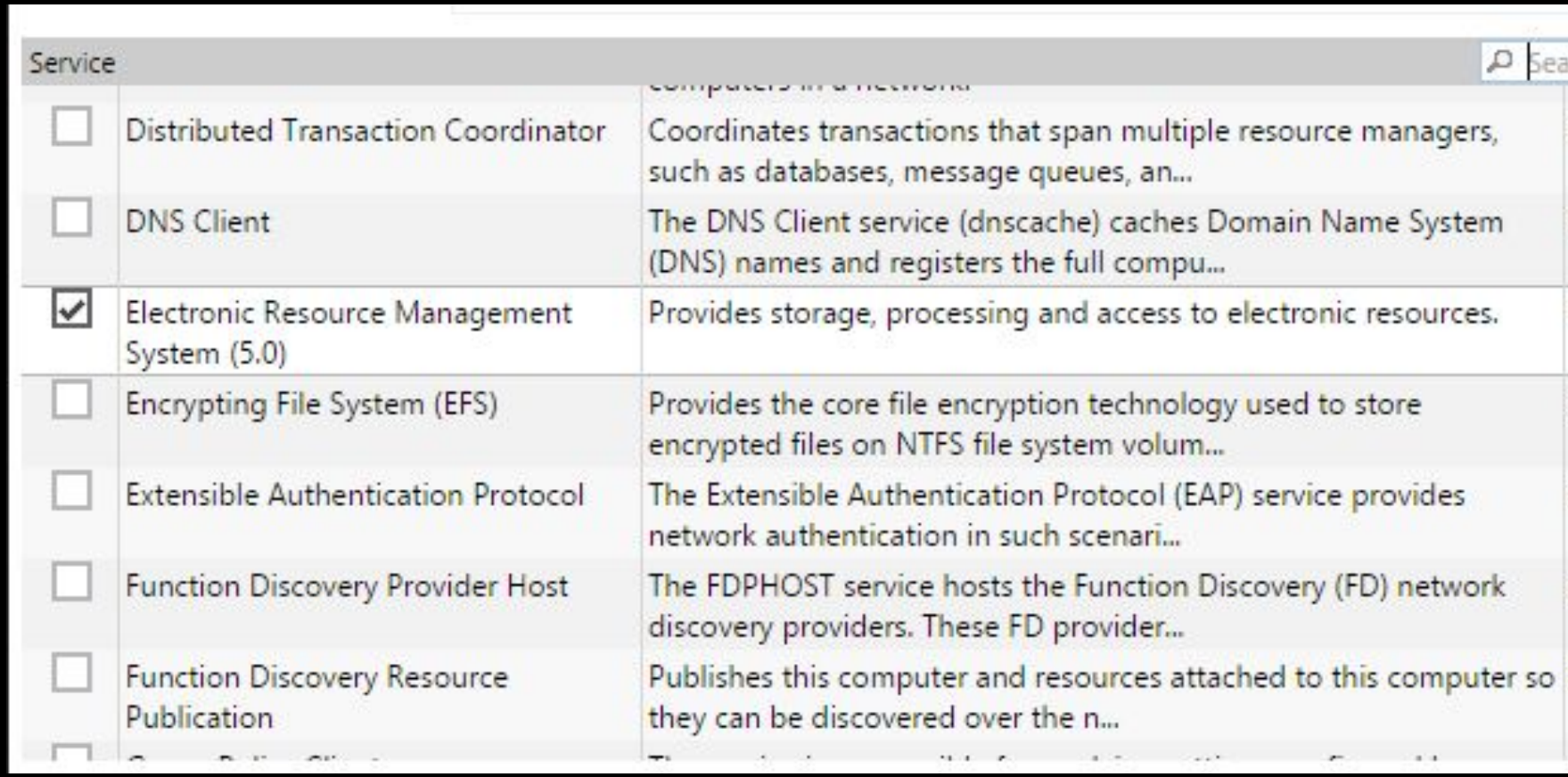
Check for branches with different notification settings

Other Polaris Sensors

More things that can go wrong in the Polaris universe

Is ERMS running?

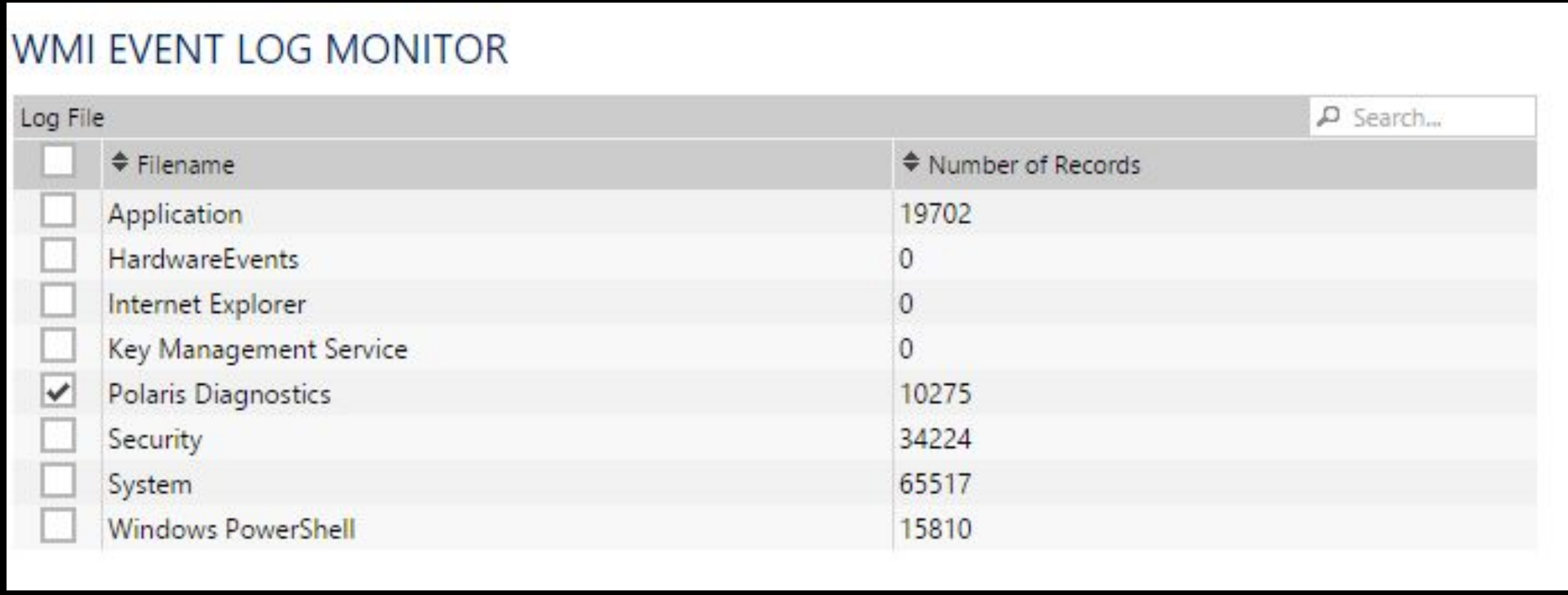




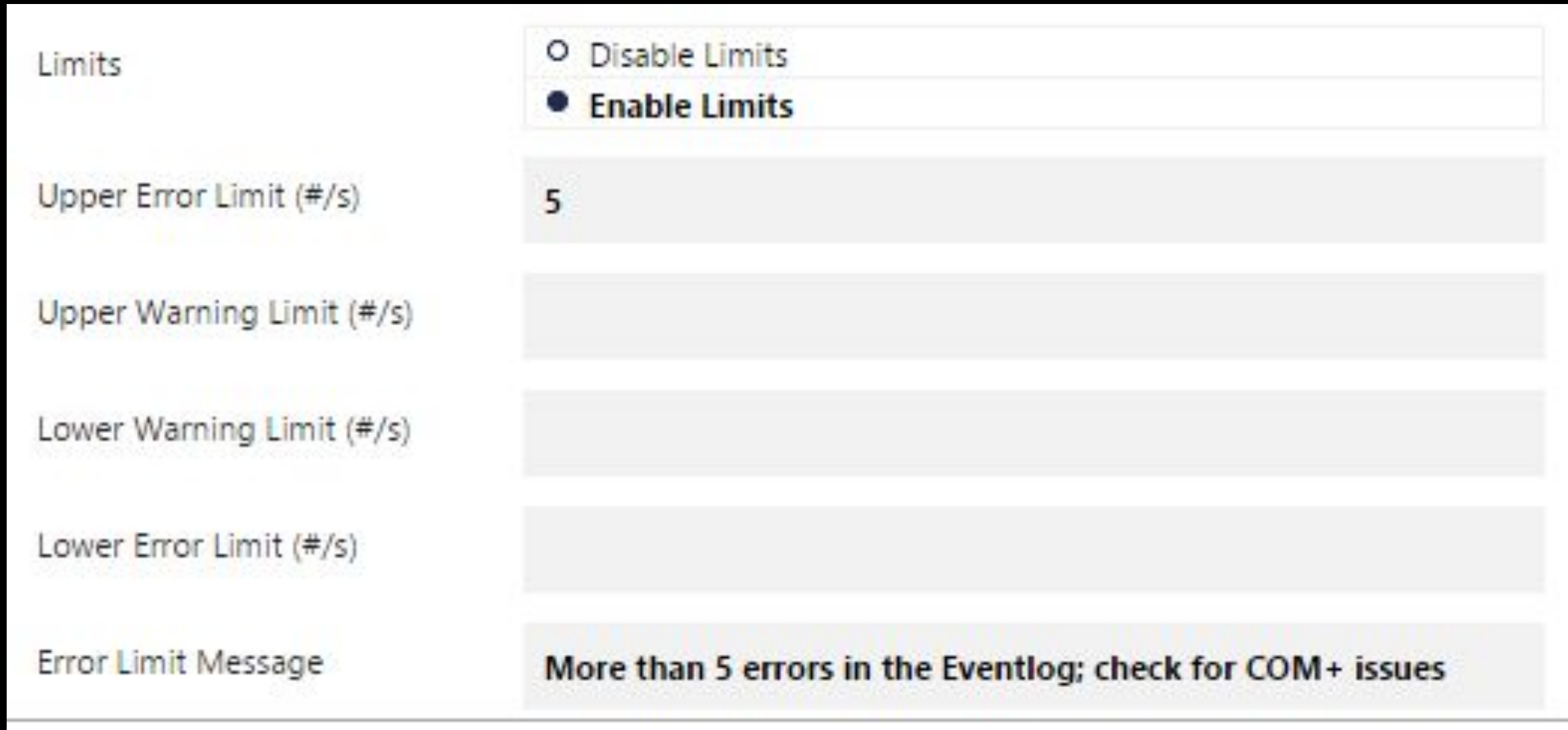
Monitoring the Eventlog

Using this information repository for detecting problems

Monitor the eventlog for COM+ timeouts



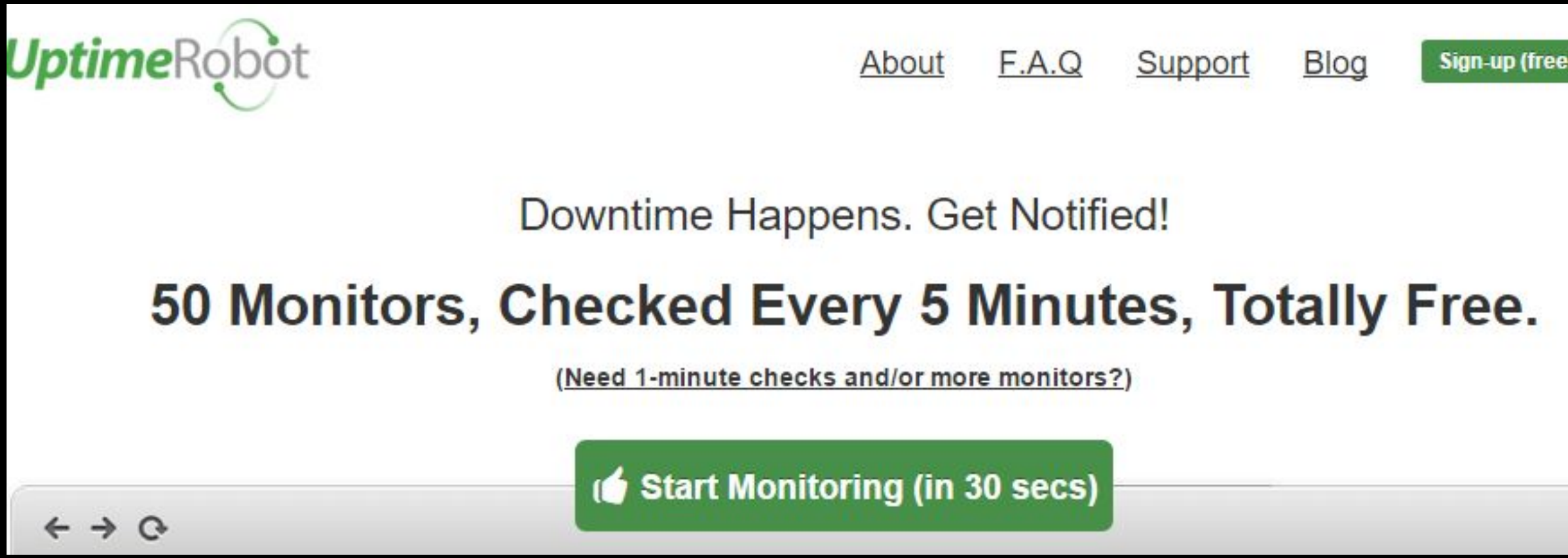
Set New Records per second channel



Counting SMS messages

Make sure the Twilio SMS stack is working

Monitoring the monitor



UptimeRobot Advantages

Up to 50 monitors

Multiple notification methods

- Including webhooks (for HipChat and SMS)

Review

The three rules of PRTG

#1 Start small when setting up

#2 Address all issues, don’t allow sensors to “sit” in an error state

#3 Comment ALL custom sensors

#4 Don’t wait

go.clcohio.org/jobs

If this stuff sounds cool to you, come work with us

Questions?

wosborn@clcohio.org

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