

PRISM™ System Monitor



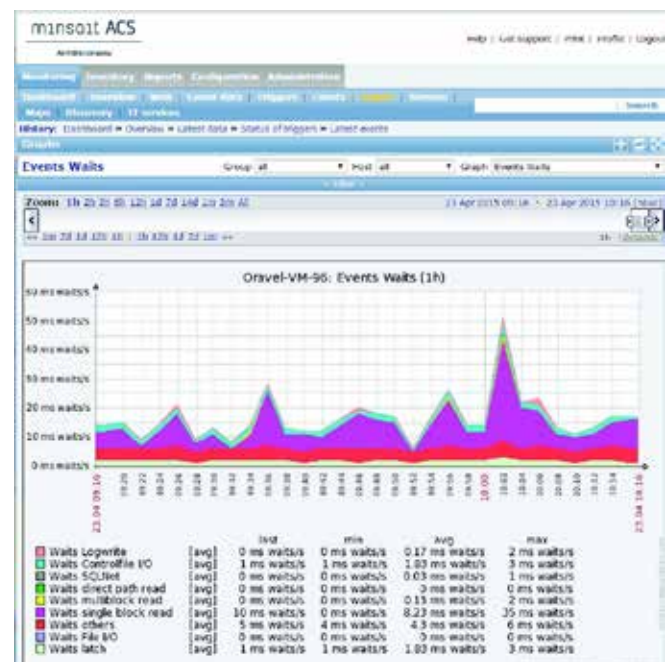
PRISM System Monitor (PSM) is an application that enables organizations to identify and resolve SCADA infrastructure problems before they affect critical business processes. Designed with scalability and flexibility in mind, our PSM solution gives you the peace of mind that comes from knowing your operations won't be affected by unknown outages/disruptions related to your control system. PSM is a powerful solution that provides you with instant awareness of your system operations infrastructure, including SCADA, DMS, OMS and EMS applications. PSM allows for proactive detection of problems and mitigation of future issues before they can affect your real-time operations.

What can PSM Do?

- Monitor your system infrastructure
- Spot problems before they occur
- Know immediately when problems arise
- Share availability data with stakeholder systems
- Detect security breaches
- Help with planning and budgeting for upgrades
- Reduce system downtime and business losses storm situations

Functionality

- Monitor Linux machines: CPU load, memory usage, disk usage, logged-in users, running processes
- Passive checks: request/response from a remote agent
- Active checks: agent sends values for a list of check attributes
- Monitor SNMP status information: depending on the network appliance
- Monitor public services: HTTP, POP3, IMAP, FTP, and SSH
- Database monitoring
- Any clients: Linux/UX/Windows



VMware virtual machine monitoring

- Extensibility: custom agent checks via script/parameters
Provide graphics and trends for monitored data
- 3rd-party mobile applications available (not provided/ supported by Minsait ACS)

PRISM System Monitor

System Monitor Licensing

PRISM System Monitor pricing and configuration are based on the number of PRISM nodes (servers and workstations) and network devices that are to be covered by the application. The license for each node includes monitoring of all covered processes. Contact Minsait ACS for the current list of standard processes, as it is subject to change. Nodes are priced individually, and the configuration for each node includes monitoring of all covered process - whether currently installed or added in the future. Monitoring of network appliances such as switches, routers and firewalls are priced separately, as are systems that utilize VMware virtualization. Please contact Minsait ACS for a quote customized for your configuration.

Requirements

PSM requires certain ports to be available for the solution to function correctly; the baseline ports that are required are: 161, 10050, 10051. Depending on the device being monitored, there may be other ports that will require access through any firewalls. For PSM notifications to function, the company mail server must be accessible from the SCADA LAN.

Other system requirements:

- RHEL 7 or later
- SNMP devices (V2 or V3 are preferable)

Exclusions

Any devices that are not part of the SCADA LAN or within the defined Electronic Security Perimeter will not be part of the monitored solution; this is required for security and compliance with the NERC CIP standards.

Support

Only the PSM solution as deployed and configured by Minsait ACS will be supported. Minsait ACS is unable to provide support for any devices or configurations added by the customer. PSM will be covered under Full Subscription Support Agreements, and this coverage will include remote configuration by Minsait ACS for new processes added to existing nodes following the initial PSM deployment.

Professional Services

Minsait ACS can provide professional services to integrate and configure customer-supplied devices that do not fall under Minsait ACS' standard offering as outlined above. All devices must comply with standard SNMP-V1, 2 or 3 protocols. Minsait ACS requires the following information in order to provide a service quotation for such devices:

- Vendor make and model
- Device supported protocols
- What type of "traps" or information needed to be monitored (in particular MIB/OID information)
- Number of devices to be added

Ordering Information

To order or to get more information:

- info@acspower.com
- 800.831.7223 (Sales)

Example PSM Screens

Dashboard

The dashboard displays system health for 'minisoit ACS'. It includes a navigation menu, a search bar, and a 'History' section. The main content area is divided into two panels:

- System Health:** A table showing various parameters and their values.

Parameter	Value	Details
Zabbix server is running	yes	localhost:10051
number of items (monitored/disabled/not supported)	26	22 / 1 / 3
number of triggers (enabled/disabled/problem/unknown/etc)	144	143 / 1 / 0 / 0 / 0
number of users (active)	5	1
Estimated server performance, see values per second	< 0.00	-
- System Status:** A table showing the status of different host groups.

Host group	OK	Warning	Problem	Not classified
localhost	0	0	0	0
localhost:localhost	0	0	0	0
localhost:localhost	0	0	0	0
localhost:localhost	0	0	0	0
localhost:localhost	0	0	0	0

Latest Data

The 'Latest Data' screen shows a list of items with columns for Name, Last check, Last value, Change, and History. The items are categorized by host and include various system components like services, triggers, and hardware.

Host	Name	Last check	Last value	Change	History
localhost	Services (4 items)				
localhost	ZABBIX				
localhost	Services (3 items)				
localhost	OS (3 items)				
localhost	CPU (2 items)				
localhost	Filesystems (2 items)				
localhost	General (2 items)				
localhost	Memory (3 items)				
localhost	Network interfaces (20 items)				
localhost	DB (2 items)				
localhost	Performance (7 items)				
localhost	Processes (3 items)				
localhost	Zabbix agent (2 items)				
localhost	CPU (1 item)				
localhost	Filesystems (15 items)				
localhost	General (5 items)				
localhost	Memory (5 items)				
localhost	Network interfaces (4 items)				

Overview

The 'Overview' screen displays a grid of triggers. The grid has columns for different host groups and rows for various triggers. The triggers are color-coded based on their status (OK, Warning, Problem).

Triggers	localhost	localhost:localhost	localhost:localhost	localhost:localhost	localhost:localhost	localhost:localhost	localhost:localhost	localhost:localhost
Active Session (HOSTNAME)								
Alert (HOSTNAME)								
Archiving								
Auth on (HOSTNAME)								
Configured max number of opened files is too low on (HOSTNAME)								
Configured max number of processes is too low on (HOSTNAME)								
Event on (HOSTNAME)								
Disk I/O is overloaded on (HOSTNAME)								
Disk I/O is too high on (HOSTNAME)								
Disk I/O is too low on (HOSTNAME)								
Free disk space has been changed on (HOSTNAME)								
Free disk space is less than 20% on volume /								
Free disk space is less than 20% on volume /boot								
Free disk space is less than 20% on volume C								
Free disk space is less than 20% on volume /home								
Free inodes is less than 20% on volume /								
Free inodes is less than 20% on volume /boot								
Free inodes is less than 20% on volume /home								

Triggers

The 'Triggers' screen displays a list of triggers with columns for Severity, Status, Info, Last change, Age, Acknowledged, Host, and Name. The triggers are color-coded based on their severity (Warning, Problem, Error).

Severity	Status	Info	Last change	Age	Acknowledged	Host	Name
Warning	OK		23 Jun 2015 09:55:21	19m 56s	Acknowledge (1/17)	Primary SP1	Disk I/O is overloaded on Primary SP1
Average	PROBLEM		11 Jun 2015 11:09:20	2m 55m 19s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume /
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume /boot
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume C
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume /home
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free inodes is less than 20% on volume /
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free inodes is less than 20% on volume /boot
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free inodes is less than 20% on volume /home
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume /
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume /boot
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume C
Average	PROBLEM		16 Jun 2015 13:08:20	2m 6m 20s	Acknowledge (1)	localhost	Free disk space is less than 20% on volume /home
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	localhost	Zabbix agent on localhost is not connected
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	Primary SP1	Free disk space is less than 20% on volume /
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	localhost	Free disk space is less than 20% on volume /boot
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	localhost	Free disk space is less than 20% on volume C
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	localhost	Free disk space is less than 20% on volume /home
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	localhost	Free inodes is less than 20% on volume /
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	localhost	Free inodes is less than 20% on volume /boot
Warning	PROBLEM		07 Mar 2014 10:47:30	1y 5m 15d	No events	localhost	Free inodes is less than 20% on volume /home

PRISM System Monitor

Events

minsoit ACS

Help | Get support | Print | Profile | Logout

Monitoring | Summary | Reports | Configuration | Administration

Dashboard | Overview | Alerts | Labels (AKA) | Triggers | Groups | Settings | Settings

Home | Summary | 11 servers

History: Dashboard | Overview | Latest data | Status of triggers

STATUS OF TRIGGERS (23 Apr 2015 10:11:04)

Export to CSV

Events Group: all Host: all Source: Trigger

Displaying 8 to 50 of 103 items

Time	Host	Description	Status	Severity	Duration	Ack	Actions
23 Apr 2015 09:13:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	4m	No	1 1
23 Apr 2015 09:10:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	30m	No	OK
23 Apr 2015 09:07:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	1m	No	1 1
23 Apr 2015 09:04:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	30 m	No	OK
23 Apr 2015 09:01:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	1m	No	1 1
23 Apr 2015 08:58:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	32m	No	OK
23 Apr 2015 08:55:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	1m	No	1 1
23 Apr 2015 08:52:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	4m	No	1 1
23 Apr 2015 08:49:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	25 m	No	OK
23 Apr 2015 08:46:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	1m	No	1 1
23 Apr 2015 08:43:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	20m	No	OK
23 Apr 2015 08:40:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	1m	No	1 1
23 Apr 2015 08:37:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	3m	No	OK
23 Apr 2015 08:34:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	1m	No	1 1
23 Apr 2015 08:31:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	20 m	No	OK
23 Apr 2015 08:28:21	Primary-S1	Disk I/O is overloaded on Primary-S1	PROBLEM	Warning	1m	No	1 1
23 Apr 2015 08:25:21	Primary-S1	Disk I/O is overloaded on Primary-S1	OK	Warning	3m	No	OK

Configuration - Item Triggers

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History: Dashboard | Overview | Latest data | Status of triggers

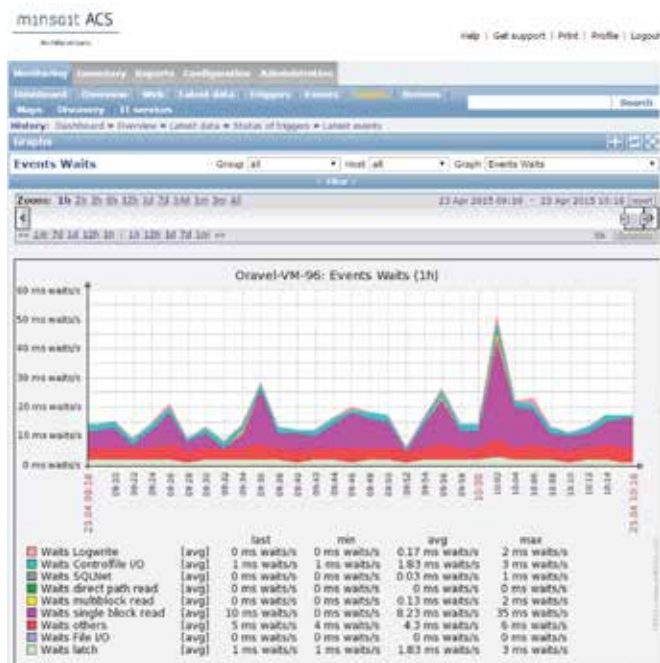
STATUS OF TRIGGERS (23 Apr 2015 10:11:04)

Triggers Group: all Host: all

Displaying 1 to 17 of 17 items

Severity	Status	Info	Last Change	Age	Acknowledged	Host	Name
Warning	PROBLEM		23 Apr 2015 09:13:21	1m 50s	Acknowledge (1)	Primary-S1	Disk I/O is overloaded on Primary-S1
Average	PROBLEM		11 Feb 2015 11:28:20	7m 57d 11h	Acknowledge (1)	Primary-S1	Control on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Third Service on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Send NFS on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Average	PROBLEM		10 Jan 2015 13:03:20	3m 6d 20h	Acknowledge (1)	Primary-S1	Sendmail on NFS
Warning	PROBLEM		07 Mar 2014 12:07:20	1y 9m 15d	No events	Primary-S1	Sendmail on NFS
Warning	PROBLEM		06 Dec 2013 13:03:20	1y 9m 15d	No events	Primary-S1	Sendmail on NFS
High	PROBLEM		01 Mar 2013 13:03:20	2y 9m 20d	No events	Primary-S1	Sendmail on NFS
Average	PROBLEM		12 Oct 2013 13:03:20	1y 9m 15d	No events	Primary-S1	Sendmail on NFS
Warning	PROBLEM		15 Oct 2013 13:03:20	1y 9m 15d	No events	Primary-S1	Sendmail on NFS
Warning	PROBLEM		15 Oct 2013 13:03:20	1y 9m 15d	No events	Primary-S1	Sendmail on NFS

Graphs



Minsait ACS, An Indra company

Advanced Control Systems, Inc.

2755 Northwoods Parkway | Peachtree Corners, GA 30071

email: info@acspower.com | 800.831.7223 | acspower.com

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