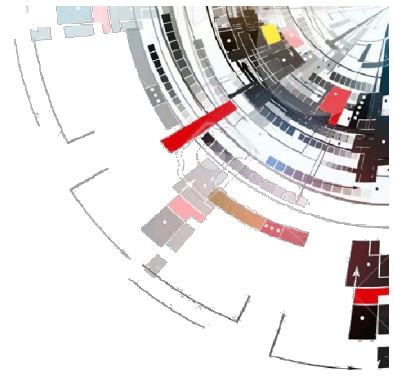




Test & Computer Services Ltd

SAN Resource Monitoring



Key Benefits:

- *Automated Documentation*
- *Simple Licensing Model*
- *Independent of Manufacturer*
- *Web GUI*
- *User Customisable*
- *Support from SAN Experts*
- *Highly Scalable*

Key Features

- *Detection of Anomalies*
- *Fast Root Cause Analysis*
- *Clear presentation of complex structures*
- *Overview of Inventory/Assets*
- *Map & Zoning Views*
- *Historical Trending*

Overview

SAN Resource Monitoring (SAN RM) provides automatic monitoring and documentation of all types of Storage Area Networks (SAN's). It can be used as a troubleshooting tool, as a line of evidence for daily work in the control centre, for inventory control, in change management and to plan for expansion. With SAN RM the essential facts can be presented quickly and clearly. The software is supplied as a pre-configured virtual machine (VM) that can be installed on an existing server that is connected to the SAN switches and storage management network.

SAN RM gives the user the ability to quickly diagnose and resolve issues and recognise potential issues, so they can be resolved before they cause problems. The software is accessed via a web GUI which is fully customisable by the user as required. SAN RM gives the user the ability to increase efficiency and maximise uptime by giving a detailed view of the SAN, for quick problem resolution, future planning and trend analysis. Individual views can be created for each user or for teams of users such as the server team, the storage team or the applications team.

SAN RM is manufacturer independent and supports small SAN's through to large worldwide infrastructures by collecting data from SAN switches as well as many storage solutions. It is highly scalable and all changes to any part of the SAN are stored in time order for each connection allowing quick access and for change management. The clear representation of data saves time and resources by enabling administrators to customise alerts and warnings of when performance thresholds are breached. The analysis and processing of the data collected by SAN RM enables the user to pro-actively avoid failures. With the help of SAN RM the complexity of the SAN is visualised, the administration effort is reduced with a cost benefit to the organisation.



*Perfect
for
Inventory
or
Asset
Management*

*Complex
Infrastructure
Clearly
Displayed*

Dashboard

When the SAN RM software is launched, the user is presented with a dashboard as shown. Multiple dashboards can be configured such as one giving an overview of the complete SAN infrastructure or individual dashboards for specific users/user groups/individual SAN's. The dashboard gives the user quick access to the features they want to use immediately. Some of these features are described below on this datasheet.

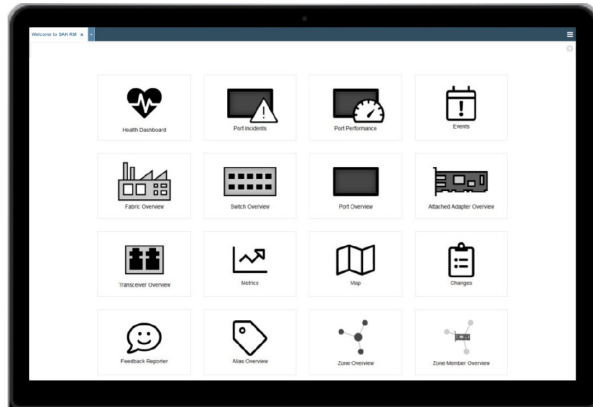


Table Views

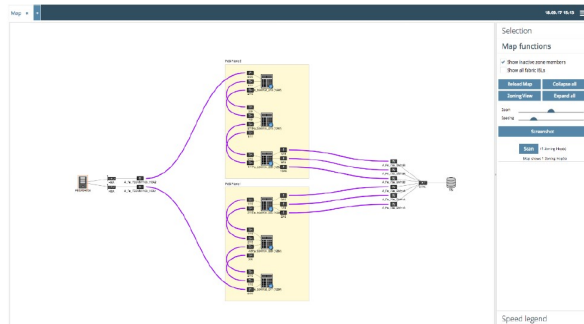
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Ad	Ad-10000-001	N/A	No	0	00000000	Ad-10-0	20	20	2	1	1	1	No
Ad	Ad-10000-001	N/A	No	0	00000000	Ad-10-0	20	24	2	1	1	1	No
Ad	Ad-10000-001	N/A	No	0	00000000	Ad-10-0	24	24	2	1	1	1	No
Ad	Ad-10000-001	N/A	No	0	00000000	Ad-10-0	24	24	2	2	2	2	No
Ad	Ad-10000-001	N/A	No	1	00000000	Ad-10-0	80	80	0	14	6	14	No
Ad	Ad-10000-001	N/A	No	1	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	1	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	2	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	3	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	1	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	2	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	2	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	2	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	2	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	2	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
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Ad	Ad-10000-001	N/A	No	4	00000000	Ad-10-0	16	16	0	2	3	17	No
Ad	Ad-10000-001	N/A	No	2	00000000	Ad-10-0	16	16	0	2	3	17	No

SAN RM provides tabular statistical views for the whole SAN infrastructure or customised to the user's particular requirements such as the Server, Storage, Applications or Infrastructure teams. Clicking on specific values allows the user to

jump to more detailed information such as viewing all the connections to a server/storage port or checking for throughput or errors on a device.

Map Views

The map view is a quick and easy way to check the connectivity for devices as well as checking the zoning configuration. Clicking the mouse over a device gives the user all the information for that device. Servers are usually shown on the left hand side with storage devices on the right and the colours of the connections show the connected speed. The map view shows all connections whether physical or virtual.





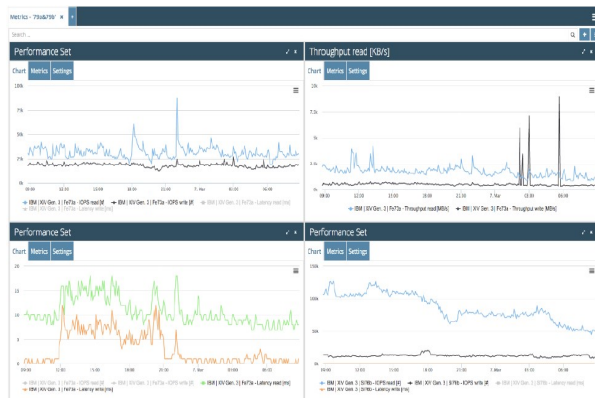
*Supports
Physical
&
Virtual
Devices*

Metrics from Switches & Storage Systems

Graphs can be created very easily showing multiple statistics from one or more devices in a single graph or multiple graphs as shown.

The user has full control over the content and time period for the graphs which can be created from the dashboard

or by clicking the mouse from one of the other views. For example, the user may be looking at low light levels from SFP's in the table view and can right click to create a graph of the levels over time and quickly see if any errors were generated due to the low levels, indicating that the SFP is degrading and should be replaced.

[illegible]

The Health Dashboard is the first screen the SAN Administrator checks at the start of the day or when there is an issue. The dashboard provides at-a-glance performance metrics and error counters, warnings and

alerts for customer defined mission critical applications and systems as well as overall SAN performance. Clicking on any event provides more detailed information.

SAN RM automatically documents every change made to the SAN infrastructure in time order. SAN teams can filter on the change events specific to their team and view detailed information on what was

changed in each event. When a user reports an issue the SAN team can immediately check what was changed at that time on the day that the issue was first reported.

[illegible]



SAN RM—A new way of looking at your SAN

Documentation

SAN RM automatically documents every change to the SAN. Every point in time can be individually viewed and analysed at any time.

Efficiency

Simplicity is the key to efficiency. Simple and innovative operation allows the user to quickly identify anomalies or errors. Questions from the management are answered in seconds.

Know How

All the experience of GCH and MenatNet are included in the software. SAN RM includes findings from SAN Troubleshooting, Health checks, Root cause analysis and consultations of our experts.

Events and Alarms

Events and alarms can be configured so you do not have to sit in front of SAN RM all day. SAN RM has an automatic alarm system that provides the user with useful information instead of cryptic messages.

Manufacturer Independent

SAN RM is manufacturer independent and monitors all types of SAN's and their components. SAN RM scales to all topologies and sizes to visualise the SAN in a single instance.

Enhancements

Our customers suggestions and wishes are taken into account as the software is developed and enhanced. We want to advance SAN RM with you.

Support

If you have a question or a problem and cannot find the answer in the on-line help, then the SAN RM support team offers a fast responsive service without any additional cost.

License Model

SAN RM is offered as a Software as a Service solution. The software is supplied as a preconfigured virtual machine (VM) with updates and support included.

For more information or a free 30 day evaluation please contact us:

Email: info@gch-services.com

Tel: 01628 559980

Web: www.gch-services.com