

STOR2RRD

Free performance monitoring tool for storages

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Agenda

- Introduction
- Highlights
- Supported storages
- How it works
- Data sources
- Future



Introduction

- Free performance monitoring tool for storages with following features:
 - Create storage utilization graphs for monitored storages
 - Create historical and nearly on-line utilization graphs
- It graphically presents:
 - IO rate, data throughput, response times
 - front-end and back-end data
 - Ports, Pools, Arrays, Ranks, Mdisks, Volumes, Drives
 - Host aggregated graphs



Highlights

- It comes with the same philosophy as its sister product LPAR2RRD:
 - Get information you are looking for in 2 - 3 clicks!
- You can find utilization of any attached storage in a simple graphical form understandable from technician to management level
- Minimized tool management
- It can run on any Unix (Linux, AIX ...)

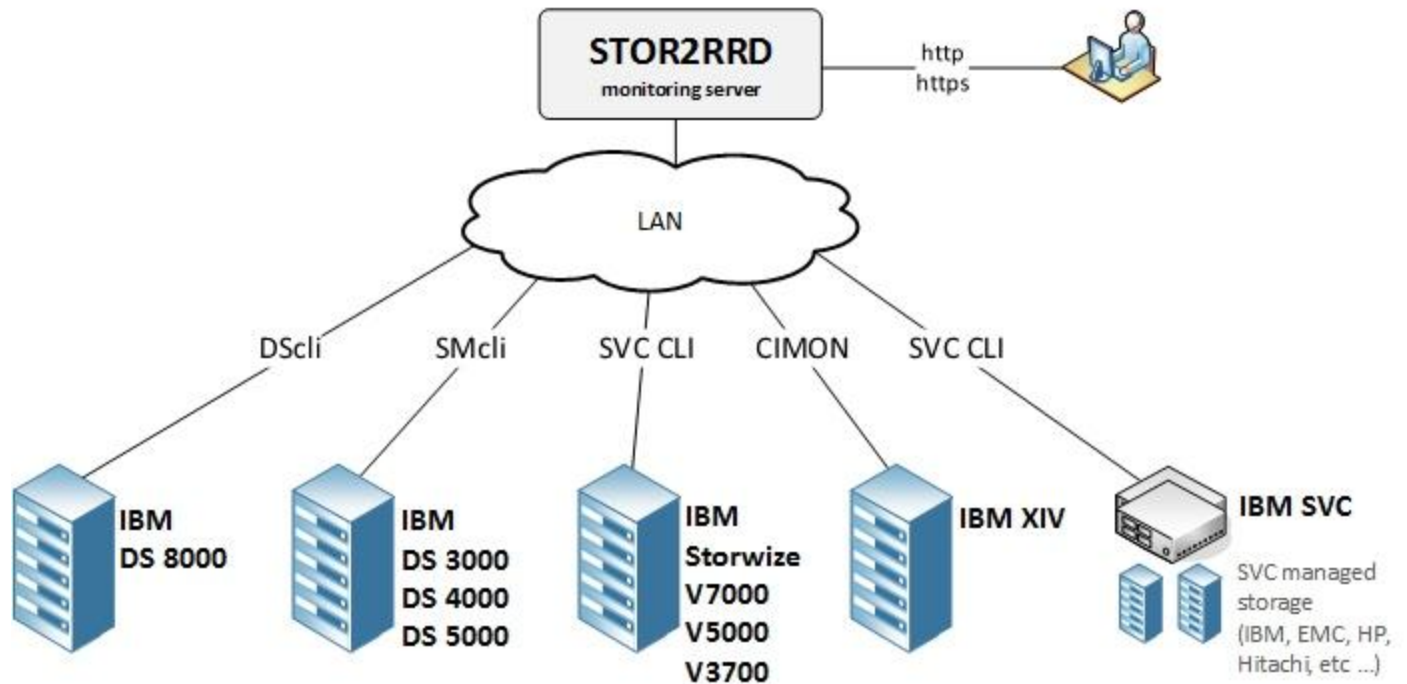


Supported storages

- Following storages are supported (as of Jun 2015)
 - IBM System Storage DS8000 series
 - IBM System Storage DS6800 series
 - IBM Storwize family
 - IBM SAN Volume Controller (SVC)
 - IBM XIV
 - IBM DS3000, DS4000 and DS5000
 - IBM DCS3700



How it works



How it works

- All data are collected over network from management interfaces of storages.

Storage family	Data source
DS8000, DS6000	DScli
Storwize family, SVC	SVC CLI via SSH
XIV	CIMON
DS 3000, DS4000, DS5000	SMcli
DCS3700	SMcli

Where it can help you?

- Operational monitoring
 - it is intended as a **front-end** tool for admins
 - quick search of actual and historical utilization
 - searching of unusual behavior
 - alerting (Q3 2015)
- Historical reporting
 - to see trends based on historical data
 - create reports for other teams and management



Monitored metrics

- Metrics
 - IO rate [IO per sec]
 - data throughput [MB/sec]
 - response times [ms]
 - cache hits and usage
 - PPRC (DS8000), IP replication (Storwize/SVC)
 - Pool capacity usage [GB]
 - CPU utilization, compression usage (Storwize/SVC)
- **All read/write (in/out) separately**
- **Storage front-end and back-end stats**



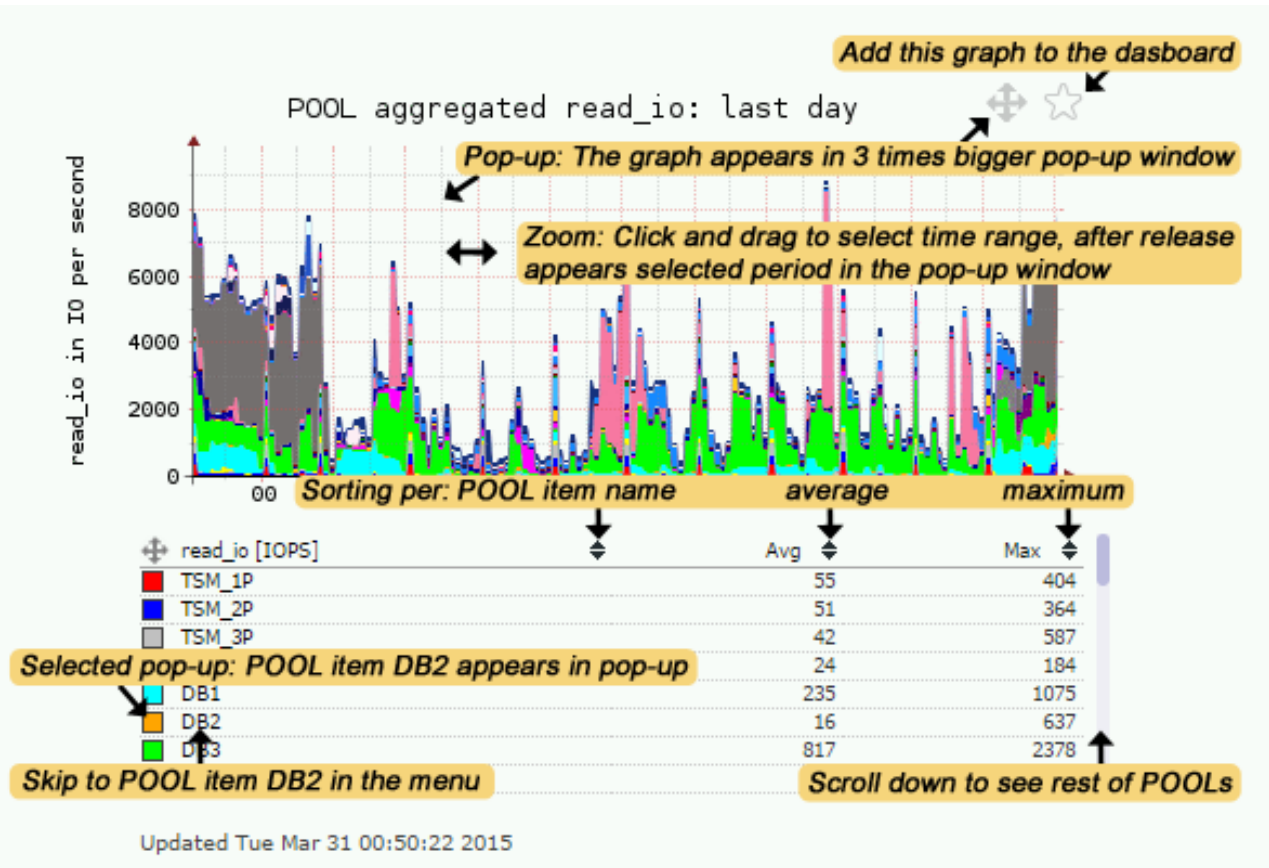
Monitored logical and physical components

- Port (FC, SAS, PCIe, FCoE, iSCSI, IP replication)
- Pool and Array
- RANK and Mdisk
- Volume (LUN)
- Drive (Storwize and SVC)
- Hosts

- feature matrix:
www.stor2rrd.com/support_matrix.htm



GUI features



Volumes (LUNs) TOP table

- the table with all volumes and their metrics
- sort able per each metric
- times
 - day
 - week
 - month
- averages and maximums separately



Forecasted enhancements

- Support of further storages
 - EMC, Hitachi and NetApp midrange storages have priority
- Features for capacity tracking and planning
- SAN monitoring (Q3 2015)
- Integration with LPAR2RRD
- Automated documentation of monitored storages



Alerting

- Alerting feature going to be released in the mid of Q3 2015
- it allows alerting for Pools or Volumes (LUNs) based on defined thresholds
 - IOPS
 - MB/sec
 - response time in ms
- GUI based administration management



Licensing

- It is an OpenSource distributed under GPL v3
- You might optionally order support and you get:
 - defined SLA's (1 working day for critical issues)
 - priority in bug fixing
 - new functionality implementation as per request
 - custom report



Success stories

- STOR2RRD replaced IBM TPC in a bank environment
 - http://www.stor2rrd.com/success_story/STOR2RRD_replaced_IBM-TPC.pdf
 - it has delivered the customer the same functionality as TPC for less than tenth of price
 - development of reports for the management
- STOR2RRD monitoring 1.5 PB environment
 - http://www.stor2rrd.com/success_story/STOR2RRD_manages_1500TB_env.pdf
 - 4x DS8870 (256 TB each),
 - 10x Storwize V7000 (56TB each)
 - 32x nodes of SVC as a virtualization layer
 - total capacity is over 1.5 PB (end of 2014)
 - used for accounting purposes (IaaS)



Resources

- **STOR2RRD: www.stor2rrd.com**
 - demo.stor2rrd.com
 - feature matrix: www.stor2rrd.com/support_matrix.htm
 - support: www.stor2rrd.com/support.htm



Questions

- Questions and answers

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