

Details of all plugins



HealthTracker

PROFESSIONAL MONITORING
PLUGIN FOR NETAPP STORAGE

Details of all plugins (Basic)

- ✓ **check_netapp_health** monitors the system health. Sends an alarm if the system health status is anything other than 'ok'.
- ✓ **check_netapp_spare** monitors the status of the spare-low condition (alarms if there is no suitable spare disk available).
- ✓ **Disk** checks for failed/offline disks on the filer.
- ✓ **Head** monitors the heads hardware objects (fans, NVRAM, power-supplies, health-state, temperature-sensors)
- ✓ **NetPort** checks if the network-interfaces are enabled or not
- ✓ **Snapshots** checks, if the snap-reserve is still sufficient. Thresholds are set in percent; performance-data can be either in percent or absolute (Byte). Additional criteria are the age or name of the snapshot. This can be used for monitoring snapshot-backups and whether they are up to date or not. Also can be used to find snapshots related to a specific application like SNMV and check all volumes for left-over snapshots.
- ✓ **Uptime** checks the seconds since last reboot.
- ✓ **Usage** checks the used space in volumes and aggregates. Thresholds can be set in GB or percent.

Details of all plugins (Advanced)

- ✓ **AggregateState** checks the aggregates-state. Alarms if they are not online (configurable)
- ✓ **check_netapp_anycli** for building checks with simple CLI-commands.
- ✓ **check_netapp_cluster** checks the status of the high availability service (connected, taken over, takeover failed, ...).
- ✓ **DiskCount** counts the number of disks matching defineable criteria (disk-type, container (spare, ...), storage-pool). Mostly used to monitor the number of spare-disks of a certain type.
- ✓ **DiskPaths** Checks if each disk has two paths (A/B, B/A).
- ✓ **IfGrp** checks if an interface-group has enough links in up-state to still be redundant.
- ✓ **LunState** checks the LUN-states. Alarms if they are offline.
- ✓ **NetInterface** checks if a network interfaces current-port is not equal to its home-port (output of the CLI command `network interface show -is-home false`). Can also check it's operational mode (up/down).
- ✓ **StorageUtilization** Storage Utilization answers the question, "Am I effectively using the storage capacity available to my applications."

Details of all plugins (Advanced)

- ✓ **OvercommitAggr** Returns a list of aggregates together with their overcommitment in percent. Overcommitment is the relation between the aggregates size and the total of all its (thin provisioned) volumes sizes.
- ✓ **Raidstatus** alarms, if one of the RAIDs is degraded.
- ✓ **ShelfBay** checks, the shelf- and disk-port status. Can alarm BYP-status disks.
- ✓ **SnapMirrorMetrics** checks and logs SnapMirrors (including type Vault): lag-time, last-transfer-duration, last-transfer-size
- ✓ **SnapMirrorState** checks and logs for SnapMirror (including type Vault): health, mirror-state
- ✓ **UsageTrend** checks the time how long it would last until an aggregate or volume is full, if the trend of the last 48h (configurable) would continue.
- ✓ **VolumeAutosize** checks a volumes total-size and alerts when the volume is close to being full relative to the autosize maximum.
- ✓ **VolumeState** checks the volume-states. Alarms if they are not online (configurable).
- ✓ **Vserver** monitors the admin-state or the operational-status of a Vserver (running, stopped, inconsistent or defunct)

Details of all plugins (Performance)

- ✓ **BadlyPerformingDisks** checks all disks in a NetApp system or in a specific raid-group. If a certain number of them performs badly (=has a high utilization) an alarm is send.
- ✓ **BufferCache** checks several metrics of the system buffer cache (=system memory) like Buffers being read, Buffers being written, Empty (unused) buffers, Buffers with modified data, Buffers associated with CP IO, ...
- ✓ **FlashCache** checks several metrics of the external FlashCache (PAM II) like External cache hit rate, Average latency of read I/Os, Number of wafI buffers served off the external cache, ...
- ✓ **LunLatency** Checks the 'latency' and 'operations per second' (ops) per LUN. Shows details for total, read, write and other. NetApp recommends monitoring latency as the primary performance indicator.
- ✓ **NVRAM** checks data-rates and latency of the NVRAM.
- ✓ **PerfCpu** checks one or all processors in a NetApp system for their utilization.
- ✓ **PerfDisk** checks all disks in a NetApp system for their utilization (Percentage of time there was at least one outstanding request to the disk). Optional the check can be limited to the disks of a single aggregate.

Details of all plugins (Performance)

- ✓ **PerfHostadapter** checks and counts rates per host adapter (Fibre Channel, Serial Attached SCSI, and parallel SCSI).
- ✓ **Perflif** checks and counts transfer-rates and errors per network-interface (ifnet). Especially useful for monitoring 10GbE-ports.
- ✓ **PerfLif** checks and counts transfer-rates and errors per network-interface (lif) for DataONTAP 8.2.x. or higher.
- ✓ **PerfSys** checks various performance counters of the NetApp-system (mostly operations/second and transfer-rates). Counters supported: net_data_sent, dafs_ops, total_ops, disk_data_written, net_data_recv, cifs_ops, streaming_pkts, http_ops, nfs_ops, fcp_ops, disk_data_read, iscsi_ops
- ✓ **PerfTcplp** checks CRC errors and packets send/received for both the IP and TCP layer.
- ✓ **PerfVolume** checks the 'latency' and 'operations per second' (ops) per volume. Shows details for total, read, write and other. NetApp recommends monitoring latency as the primary performance indicator.
- ✓ **WafI** reads WAFL performance-counters like cp_count twice and calculates the rate of CPs per second. Different types of consistency-points (wafI-timer, back-to-back, ...) can be checked. The information gathered from this plugin corresponds to the CPTY-column of 'sysstat -x 1'.

Details of all plugins (MetroCluster)

- ✓ **check_netapp_mc_config** checks a metro-clusters mode and configuration state.
- ✓ **ClusterPeerHealth** checks the health of cluster peer relationships by evaluating several ping- and health-status.
- ✓ **SyncMirror** checks the mirror-status on Metro Cluster aggregates.