

# QUANTON<sup>®</sup> SX

hyperconverged

## Hyperconverged VMWare Based Solution

High Availability and Fault Tolerant Server & Storage Cluster

Exceptionally Modular Design

Active/Active Option

Extended Reliability

pursue perfection



**Fully Scalable Hyperconverged Solution**

- A hyperconverged solution is defined by the versatility of its individual components, which in turn are specifically developed for the Quanton® SX-5s, so that not a single element acts as a possible bottleneck. Proof of this concept form for example up to 3+ terabyte of available virtual random access memory per system ready for roughly up to 400 virtual machines - if needed. The Quanton® SX-5s, which is arranged in synchronized pairs of two, features nearly infinite scalability while still being maintained and administered with ease.

**Multilevel Cache Technology**

- Multilevel Cache Technologies: CISC Cache, RISC Cache and SSD Cache\* provide excellent performance.

**Performance and Flexibility**

- The Quanton® SX-5s just combines the best of two worlds. On the one hand the unrivaled and reliable performance of the standard Tacyon® series and on the other the powerful and unique flexibility as well as administrativity of the VMWare® vSphere Hypervisor enables full control of your mission critical data and its high availability. It features inter alia a fully native integration into a VMWare® environment including VMWare®'s vCenter and an optional active-active system.

**Monitoring**

- Quanton® SX-5s monitoring provides a multilevel notification system supporting Email as well as SNMP. Hardware based sensors are working in every operation mode also at offline systems.

**Substantial Expandability**

- Featuring a highly modular design, the Quanton® SX-5s retains the prospect of expanding at any given point in time and at any rate desired. This facilitates the company to upgrade the Quanton® SX-5s according to their budget in a timely fashion exactly when needed.

**Active/Active\***

- Two nodes located in the storage cluster can be used active/active and written to simultaneously and ensure maximum availability, even in case of failure of one side for SAN services.

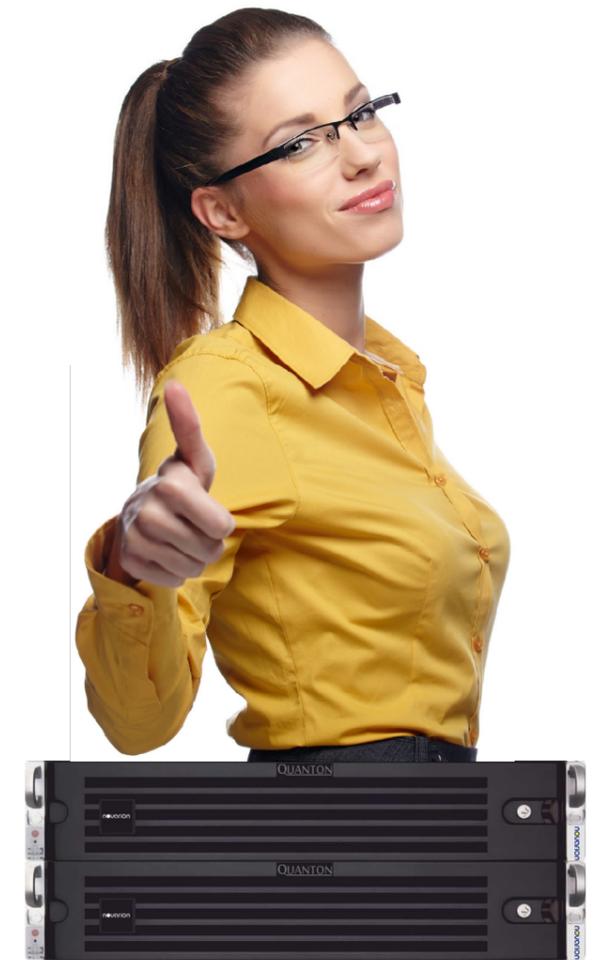
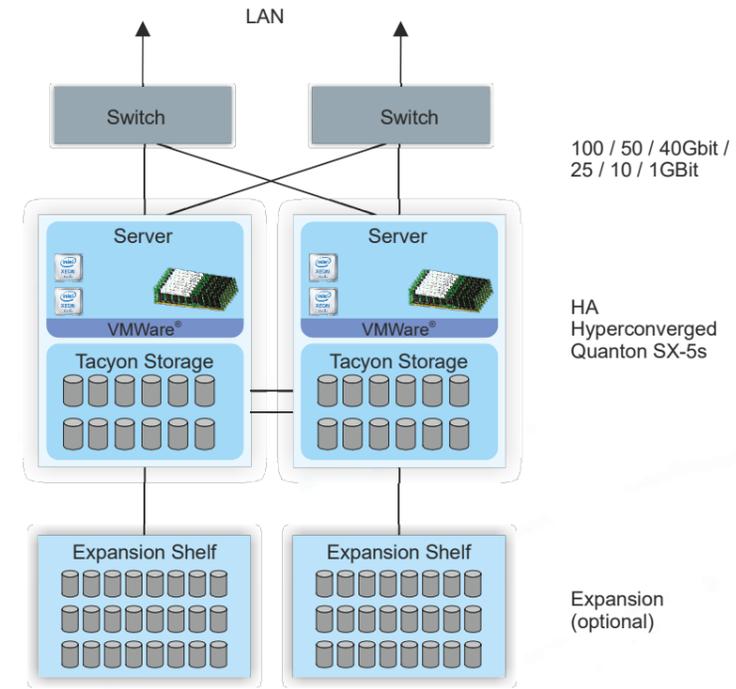
**Multi-Tier Investment Protection**

- Existing hardware, even from different manufacturers, can continue to be used, Quanton® platforms can also be utilized in Quanton®, Tacyon® or PlatinStor® next generation systems. A modular design allows a simple expansion at any given time.

**Highly Effective Capacity Utilization**

- After building the RAID sets, almost 100% of the net capacity can be employed for storing user data.

\* Dependent on model



saved! forever

**Outstanding Data Integrity**

- Each Quanton® SX-5s cluster contains two nodes. Each node provides its own storage devices, data integrity is ensured even if one side is totally unavailable.

**True Synchronous Mirroring**

- Each block being confirmed by Quanton® SX-5s, is guaranteed to exist on both nodes, data loss due to failure of one side is thus controlled optimally.

**Flexible Connectivity**

- All popular media for iSCSI/Ethernet are supported, including iSCSI over 1GBE, 10GBE, 25GBE/40GBE/50GBE/100GBE copper and optical.

**Enhanced Maintenance**

- The Quanton® SX-5s Management Console is designed to be used locally or remotely over internet. Multilevel rights management increases security and flexibility as well as making overall management easier.

# TECHNICAL SPECIFICATIONS

## Hyperconverged

- Reliability
- Each node in this cluster features it's own outstanding processing power as well as it's own storage resources, so in case of a failure of one node the second node can take on all tasks on it's own. This ensures in turn trouble free operation.
- Storage
- In the event of a one-sided dysfunction of the storage, the other side still can be accessed normally through all computation cluster nodes.

## Resources for Virtual machines

- CPU's
- Up to 44 cores per node
  - Up to 1TB RAM per node
- Disks
- Up to 24x 2.5" SSDs/HDDs per node (Expandable up to 240 SSDs/HDDs per node)
  - HA & data redundant

## Storage

- Redundancy Availability
- Data is mirrored synchronously to the other node
  - Due to the special composition of this system there exists no single point of failure, data is held fully redundant as well
- Mirroring
- Synchronization is achieved via a specially dedicated SAN network completely separated from standard LAN traffic

## Virtualization

- Platform Management Compatibility
- VMWare® vSphere ESXi
  - Native integration into vCenter®
  - Easy implementation of various VMs based on Windows and Linux

## Monitoring

- Monitoring
- Hardware monitoring
  - SNMP V2 & V3
  - Email notification
  - Log-function
  - Remote monitoring via web

## Network

- Management
- Webbased GUI
  - Secured administrator access
  - Multiple management levels
  - SSL connection for WebGUI
- Connectivity
- Support of multiple network cards with grouping and failover
  - 2x Gigabit RJ45 and Up to 22x Gigabit RJ45 (optional) or Up to 20x 10 Gigabit Ethernet (optional) or Up to 10x 40 Gigabit Ethernet (optional)

## Memory Management

- Integration of Resources Volumes
- iSCSI Initiator
  - Target mode (SAN)
  - Support for physical volumes with more than 2TB
  - Support for logical volumes with more than 2TB
- Snapshots
- Multiple snapshots
- Extension features
- Multiple logical volumes & groups
  - Online extension of logical volumes
  - Online capacity extension
  - Spanning of logical volumes over multiple physical volumes
- RAID
- RISC RAID 5/6/10/50/60 with 2GB RISC Cache\*
  - RAID level expansion
  - RAID level migration
- Security
- Internal synchronous volume mirroring
  - External synchronous volume mirroring with failover (iSCSI volumes)

## Power Security

- UPS
- Local UPS support
  - Network-UPS support

## Supported Hosts and Protocols

- Supported Hosts
- Microsoft Windows Server 2016/2012/2008, Linux, Unix, Mac OS 8.0, 9.0, X, 10.4, VMWare, HyperV, XEN
- Protocols (SAN)
- iSCSI
- Protocols (NAS)
- SMB/CIFS, FTP, Secure FTP, Apple Talk, NFS v3

## Backup (NAS)

- Basic System
- Local backup
  - Integrated backup system
  - NAS data mirroring
  - Task mechanism with scheduled execution
  - Virtual tapes
  - Support for tape libraries and autoloader
  - Scheduling with predefined automatic backup creation
  - Setting of a minimum age for overwriting

## Warranty

- Basic Warranty
- 3 years spare part exchange in advance/NBD
  - Expandable up to 7 years spare part service
  - Expandable up to 7 years On-Site Service
  - 20 support-tickets for technical assistance included\*

## Front

- Buttons LEDs
- On/Off-button
  - LED operation indicator
  - 24 LEDs for HDD activity

## Drive Bays

- Hot-swap trays
- 24x 2.5" SAS-3 drive trays

## Storage Processing Power

- Cache
- 16GB Storage CISC cache per node
  - 2GB RISC cache per node (up to 4GB)\*

## Storage Licenses

- Storage
- License 4, 8 or 16TB included\* Expansion of License up to unlimited TB
- Licensed Features
- Multilevel Cache Technology
  - Synchronous Mirroring Management
  - iSCSI Target Functionality
  - iSCSI Initiator Supply
  - iSCSI Auto-Failover
  - Snapshots
  - Email Notification
- Optional Features
- Active/Active (Storage)

## iSCSI Features

- Security
- IP address restriction for a target
  - CHAP user administration
  - MPIO support

## Dimensions

- Form Factor
- 2U rackmount black
- Physical Dimensions
- 437x89x705mm (per node)
- Weight
- ~40kg\*

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\* Dependent on model