

# 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

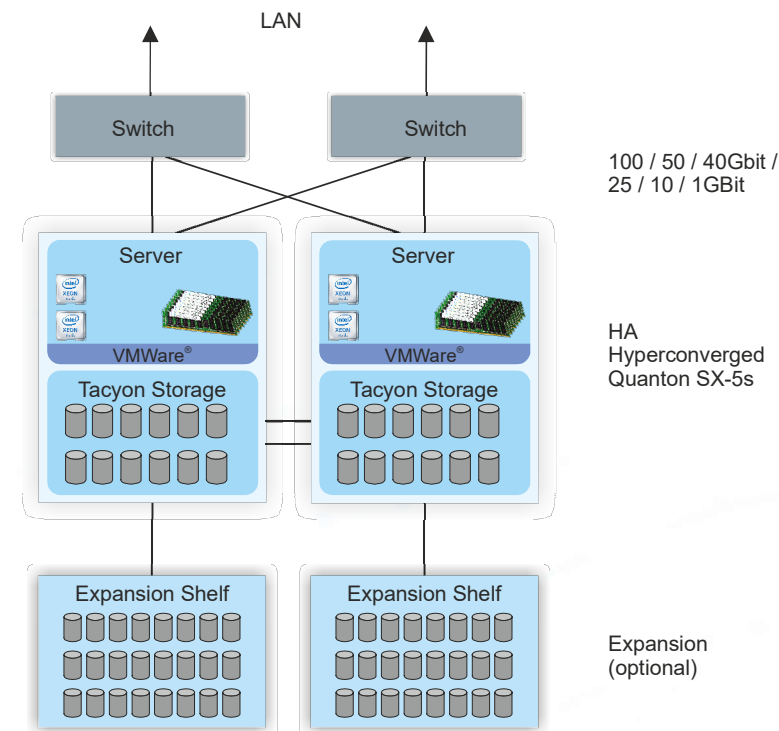
- Existing hardware, even from different manufacturers, can continue to be used, Quanton® platforms can also be utilized in Quanton®, Tacyon® or PlatinStor® next generation systems. A modular design allows a simple expansion at any given time.

### 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

## Qanton® SX-5s/100-A24



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	<ul style="list-style-type: none"><li>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.</li></ul>
Storage	<ul style="list-style-type: none"><li>In the event of a one-sided dysfunction of the storage, the other side still can be accessed normally through all computation cluster nodes.</li></ul>

## Resources for Virtual machines

CPU's	<ul style="list-style-type: none"><li>Up to 44 cores per node</li><li>Up to 1TB RAM per node</li></ul>
Disks	<ul style="list-style-type: none"><li>Up to 24x 2.5" SSDs/HDDs per node (Expandable up to 240 SSDs/HDDs per node)</li><li>HA &amp; data redundant</li></ul>

## Storage

Redundancy Availability	<ul style="list-style-type: none"><li>Data is mirrored synchronously to the other node</li><li>Due to the special composition of this system there exists no single point of failure, data is held fully redundant as well</li></ul>
Mirroring	<ul style="list-style-type: none"><li>Synchronization is achieved via a specially dedicated SAN network completely separated from standard LAN traffic</li></ul>

## Virtualization

Platform Management Compatibility	<ul style="list-style-type: none"><li>VMWare® vSphere ESXi</li><li>Native integration into vCenter®</li><li>Easy implementation of various VMs based on Windows and Linux</li></ul>
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## Monitoring

Monitoring	<ul style="list-style-type: none"><li>Hardware monitoring</li><li>SNMP V2 &amp; V3</li><li>Email notification</li><li>Log-function</li><li>Remote monitoring via web</li></ul>
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## Network

Management	<ul style="list-style-type: none"><li>Webbased GUI</li><li>Secured administrator access</li><li>Multiple management levels</li><li>SSL connection for WebGUI</li></ul>
Connectivity	<ul style="list-style-type: none"><li>Support of multiple network cards with grouping and failover</li><li>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)</li></ul>

## Memory Management

Integration of Resources Volumes	<ul style="list-style-type: none"><li>iSCSI Initiator</li><li>Target mode (SAN)</li><li>Support for physical volumes with more than 2TB</li><li>Support for logical volumes with more than 2TB</li></ul>
Snapshots	<ul style="list-style-type: none"><li>Multiple snapshots</li><li>Multiple logical volumes &amp; groups</li></ul>
Extension features	<ul style="list-style-type: none"><li>Online extension of logical volumes</li><li>Online capacity extension</li><li>Spanning of logical volumes over multiple physical volumes</li></ul>
RAID	<ul style="list-style-type: none"><li>RISC RAID 5/6/10/50/60 with 2GB RISC Cache*</li><li>RAID level expansion</li><li>RAID level migration</li></ul>
Security	<ul style="list-style-type: none"><li>Internal synchronous volume mirroring</li><li>External synchronous volume mirroring with failover (iSCSI volumes)</li></ul>

## Power Security

UPS	<ul style="list-style-type: none"><li>Local UPS support</li><li>Network-UPS support</li></ul>
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## Supported Hosts and Protocols

Supported Hosts	<ul style="list-style-type: none"><li>Microsoft Windows Server 2016/2012/2008, Linux, Unix, Mac OS 8.0, 9.0, X, 10.4, VMWare, HyperV, XEN</li></ul>
Protocols (SAN)	<ul style="list-style-type: none"><li>iSCSI</li></ul>
Protocols (NAS)	<ul style="list-style-type: none"><li>SMB/CIFS, FTP, Secure FTP, Apple Talk, NFS v3</li></ul>

## Backup (NAS)

Basic System	<ul style="list-style-type: none"><li>Local backup</li><li>Integrated backup system</li><li>NAS data mirroring</li><li>Task mechanism with scheduled execution</li><li>Virtual tapes</li><li>Support for tape libraries and autoloader</li><li>Scheduling with predefined automatic backup creation</li><li>Setting of a minimum age for overwriting</li></ul>
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## Warranty

Basic Warranty	<ul style="list-style-type: none"><li>3 years spare part exchange in advance/NBD</li><li>Expandable up to 7 years spare part service</li><li>Expandable up to 7 years On-Site Service</li><li>20 support-tickets for technical assistance included*</li></ul>
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## Front

Buttons LEDs	<ul style="list-style-type: none"><li>On/Off-button</li><li>LED operation indicator</li><li>24 LEDs for HDD activity</li></ul>
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## Drive Bays

Hot-swap trays	<ul style="list-style-type: none"><li>24x 2.5" SAS-3 drive trays</li></ul>
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## Storage Processing Power

Cache	<ul style="list-style-type: none"><li>16GB Storage CISC cache per node</li><li>2GB RISC cache per node (up to 4GB)*</li></ul>
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## Storage Licenses

Storage	<ul style="list-style-type: none"><li>License 4, 8 or 16TB included*</li><li>Expansion of License up to unlimited TB</li></ul>
Licensed Features	<ul style="list-style-type: none"><li>Multilevel Cache Technology</li><li>Synchronous Mirroring</li><li>Management</li><li>iSCSI Target Functionality</li><li>iSCSI Initiator Supply</li><li>iSCSI Auto-Failover</li><li>Snapshots</li><li>Email Notification</li></ul>
Optional Features	<ul style="list-style-type: none"><li>Active/Active (Storage)</li></ul>

## iSCSI Features

Security	<ul style="list-style-type: none"><li>IP address restriction for a target</li><li>CHAP user administration</li><li>MPIO support</li></ul>
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## Dimensions

Form Factor	<ul style="list-style-type: none"><li>2U rackmount black</li></ul>
Physical Dimensions	<ul style="list-style-type: none"><li>437x89x705mm (per node)</li></ul>
Weight	<ul style="list-style-type: none"><li>~40kg*</li></ul>

\* Dependent on model