OSNEXUS Corporation
Technical Support and Maintenance Guidelines

IA.   QuantaStor SDS Support Tiers

OSNEXUS bundles software maintenance and technical support services with each commercial sale of QuantaStor Enterprise Edition, Cloud Edition and Migration Edition software. During the valid support period, QuantaStor customers are entitled to 1) initial installation and configuration support, 2) rights to upgrade their QuantaStor software with current maintenance releases, platform updates and upgrades, 3) hardware portability (following written approval from OSNEXUS) and 4) email, phone and remote log-in technical assistance from OSNEXUS support services commensurate to the Support Tier specified in the purchase order.

The OSNEXUS Support Tiers are as follows:

- Silver Support: Among other services, OSNEXUS undertakes to respond to Silver Support incidents within a maximum interval of Next Business Day during the hours of 9:00am to 6:00pm US Pacific Time.

- Gold Support: Among other services, OSNEXUS undertakes to respond to the initial report of a Gold Support incident within a maximum interval of 4 hours on a 24 x 7 basis.

- Platinum Support: Among other services, OSNEXUS undertakes to respond to the initial report of a Platinum Support incident within a maximum interval of 1 hour on a 24 x 7 basis.

OSNEXUS Support Services Matrix			
Services	**Silver**	**Gold**	**Platinum**
Applicable License	QuantaStor SDS Enterprise Edition	QuantaStor SDS Enterprise Edition	QuantaStor SDS Enterprise / Cloud Edition
System Upgrades	Yes	Yes	Yes
Maintenance Packs	Yes	Yes	Yes
Installation Support	Yes	Yes	Yes
Email Support	(M-F) 9am - 6pm US Pacific Time	24/7	24/7
Phone Support	(M-F) 9am - 6pm US Pacific Time	24/7	24/7
Hotfixes	No	Yes	Yes
Number of Incidents Covered	10 per annum	Unlimited	Unlimited
Maximum Initial Response Time	1 Business Day	4 Hours	1 Hour

IIA.   Initiating an OSNEXUS Support Ticket

QuantaStor SDS customers requiring technical support should initiate their request with a "First Call" to OSNEXUS.

An OSNEXUS technician will respond to ticket request within the service level agreement terms designated by the applicable Support Tier. OSNEXUS will perform an initial problem evaluation and diagnosis, including (if needed) a review of system logs. OSNEXUS will handle all software-related issues directly, while hardware issues, will be identified (to the extent possible) and relayed back to the end-user. When the customer has purchased QuantaStor software from an OSNEXUS certified partner, OSNEXUS will relay identified hardware issues to the also partner and will maintain and monitor an open support ticket until all issues have been resolved.

**IBM Cloud/SoftLayer customers must follow a separate procedure to request OSNEXUS technical support. Please see below for further instructions.

Initiating an OSNEXUS Support Ticket
1. Escalate your problem directly to OSNEXUS
You can contact OSNEXUS directly for QuantaStor software support:

- 24x7 phone: +1 (866) 219-1757
- e-mail: support@osnexus.com
- web: http://www.osnexus.com/support/contact-support

The following system details should be included in the information provided to OSNEXUS Support:

- Severity Level (*see Severity Definitions below*)
- License Key Details:
    - o 18-digit serial number
    - o License owner
- Reseller partner name
- Hardware platform (SuperMicro, HPE, Dell, etc) and configuration details (NIC, Disk Controller)
- Any changes made to the system or environment prior to the problem
- Screenshot or Steps to reproduce problem
- Send Log report and/or error message output (*see Appendix A*)
- A previously-assigned Support Ticket Number, if applicable
- Name and contact details for follow up by OSNEXUS support

IBM Cloud (SoftLayer) Problem Reporting
All Support requests concerning IBM Cloud QuantaStor SDS product deployments must be initiated via SoftLayer Support! SoftLayer Support Personnel have been trained extensively to support QuantaStor, and are available to assist you 24x7x365. If your support ticket needs the assistance of OSNEXUS Support, SoftLayer will initiate contact per our Vendor Agreement and ensure your issue is addressed through an internal escalation process. *Please log in to your SoftLayer Support Account at https://control.softlayer.com and create a Support Ticket for to initiate assistance.*

IIB.   Support Response Targets

To enhance our capabilities of providing highly-responsive support, OSNEXUS sets a severity level on each ticket logged into our system. We then use a combination of the Severity Level and your QuantaStor license to set the max initial response times to each new support ticket logged into our system:

Response Targets				
License	Critical Severity 1	Major Severity 2	Minor Severity 3	Cosmetic / Info Request Severity 4
Platinum - Cloud Edition	max 1 hour 24x 7	max 1 hour 24x7	max 4 hours 24/7	max 8 hours 24/7
Platinum - Enterprise Edition	max 1 hour 24x 7	max 1 hour 24x7	max 4 hours 24/7	max 8 hours 24/7
Gold - Enterprise Edition	max 4 hour 24x 7	max 4 hour 24x 7	max 8 hours 24/7	max NBD 24/7
Silver - Enterprise Edition	max NBD 9x5 M-F	max NBD 9x5 M-F	max NBD 9x5 M-F	max NBD+1 9x5 M-F
Community Edition	n/a	n/a	n/a	n/a

NBD - Next Business Day

Response targets are based on the initial contact with OSNEXUS. Actual end-user support response targets may be higher or lower depending on the time of initial reseller contact and the time of escalation to OSNEXUS.

IIC.   Severity Definitions

Severity 1 - Urgent / Critical Impact / System Down

A critical production issue that severely impacts your use of the Storage Appliance.   The situation halts your business operations and no procedural workaround exists.

- Severity 1 means the Storage Appliance or other mission critical software is down and no workaround is immediately available.
- All or a substantial portion of Customer's mission critical data associated with the Storage Appliance is unavailable or at a significant risk of loss.
- Customer is experiencing a substantial loss of service due to failure of the Storage Appliance.
- Business operations have been severely disrupted due to failure of the Storage Appliance.
- A critical documented feature / function is not available.

Severity 1 issues require the customer to have dedicated resources available to work on the issue on an ongoing basis with OSNEXUS.

Severity 2 - High / Significant Impact

Significant functionality is impacted or significant performance degradation is experienced. The situation is causing a high impact to portions of your business operations and no reasonable workaround exists.

- Storage Appliance is operational but is experiencing degraded performance to the point of major impact on usage.
- Important features of the Storage Appliance offering are unavailable with no acceptable workaround; however, operations can continue in a restricted fashion.

- Operations can continue in a restricted fashion, although long-term productivity might be adversely affected.
- A major milestone is at risk. Ongoing installations or deployments are affected.
- A temporary workaround is available.

Severity 3 - Medium / Minor Impact

There is a partial, non-critical loss of functionality of the Storage Appliance with a medium-to-low impact on your business, but your business continues to function. Short-term workaround is available, but not scalable.
- Impaired operations of some components, but allows the user to continue using the Storage Appliance.
- Customer can reasonably work around inconsistency or impairment.
- Time sensitive question or request.

Severity 4 - Low / Cosmetic Impact / Informational

Refers to general usage questions, cosmetic issues, errors in the documentation, feature suggestions and requests for information.
- There is low-to-no impact on your business or the performance or functionality of your system.
- Inquiry regarding a routine technical issue.
- Information requested on application capabilities, navigation, installation or configuration
- Minor Bug affecting a small number of users. Acceptable workaround available.
- Suggestions for future features or enhancements

IID.   QuantaStor SDS Support Periods

The valid support period for each license is based in the term of the underlying QuantaStor license.
- Enterprise Edition licenses are sold on either a Time-Limited (1 year subscription) or Perpetual (3 years or longer subscription) term.
- The Cloud Edition licenses are sold on a continuing month-to-month basis and remain valid until the Customer retires the underlying license.
- The valid support period for Subscription and Perpetual licenses will be described in the product invoice issued at the time of purchase.

IIIA.   Supported Features

- The QuantaStor SDS Enterprise Edition is a full-featured license.
  - Supported features include QuantaStor SDS SAN/NAS capabilities (iSCSI/CFS/NFS), plus FC/IB, High Availability, Remote Replication, Ceph and Grids up to 64 nodes.

- The QuantaStor SDS Cloud Edition is a full-featured license.
  - Supported features include QuantaStor SDS SAN/NAS capabilities (iSCSI/CFS/NFS), plus FC/IB, High Availability, Remote Replication, Ceph support and Grids up to 64 nodes.
  - Note: QuantaStor Cloud Edition license holders may not be able to implement all solution designs enabled by the Cloud Edition license due to hardware limitations at their data center. Please contact your data center provider for more information.

IIIB.   Recommended Hardware and Build of Materials

OSNEXUS and OSNEXUS Reseller Partners tested and certified an extensive selection of hardware components to be compatible with QuantaStor SDS, and to design storage appliance architectures that meet specific solution objectives.

Hardware Compatibility List: http://wiki.osnexus.com/index.php?title=Recommended_Hardware
Solution Design Guide: http://wiki.osnexus.com/index.php?title=Solution_Design_Guide
Reference Configurations: https://www.osnexus.com/quantastor-sds-reference-configuration-guide

Inquiries regarding the supported hardware and build of materials, including a free consultation of proposed BoMs or requests to certify specific hardware components, can be directed to your OSNEXUS Reseller Partner or to our sales engineering team at sdr@osnexus.com.

Any guidelines provided by OSNEXUS and its Reseller Partners are an indication of expected performance and not a guarantee of a specific performance target.

OSNEXUS and its resellers, at their sole discretion, may chose not to support a QuantaStor solution using non-certified hardware or a build of materials that deviate from our published recommendations for a specific storage application.

IIIC.   Support Tiers

Tier 1 Support means the first level of support provided by a Reseller Partner or OSNEXUS and includes:

- First contact, direct end user interaction
- Information collection and analysis of operating environments, software versions
- Assignment of severity codes as appropriate
- Case hand-off/escalation to Tier 2

Tier 2 Support means the second level of support provided by a Reseller Partner or OSNEXUS and includes:

- Identification of whether the problem is known and has a known solution
- Troubleshooting, problem reproduction, and basic diagnostic procedures
- Problem report administration and tracking
- Working on the issue until resolution or further escalation
- If the problem is complex escalation to Tier 3 will take place.

Tier 3 Support means the third level of support provided by OSNEXUS and includes:

- Advanced Support for diagnostic and resolution of complex issues.
- If Tier 3 support is unable to resolve an issue, due to inability to reproduce the problem, or other cause, escalation to OSNEXUS Engineering will take place
- Escalation and communication agent with OSNEXUS Engineering

IVA.   Glossary

Case refers to a customer reported issue. A case is synonymous with support ticket or incident.

Case Severity defines the severity of the issue affecting a customer's system.

Case Status identifies the state of a case being worked between OSNEXUS and the customer and includes:

- *open*: a new case before initial response, or a case recently updated by the customer or their designated agent awaiting a response from OSNEXUS support.

- *pending: a case that is marked pending is awaiting a response from a customer or designated agent working with the customer.*

- *on-hold: a case that is marked as on-hold is awaiting a response from a third party outside of OSNEXUS, third parties include: resellers, technology and alliance partners*

- *solved: a case that has had a successful resolution agreed upon by the customer or designated agent working with the customer. A solved case can be re-opened at any time if a customer so chooses.*

Hotfix means a patch or modification to the QuantaStor Software to correct or work around a behavior causing difficulty for a customer.

Upgrade means an update to the QuantaStor software that enhances functionality, adds new features or corrects errors. This includes minor and major updates.

Minor Update means a scheduled release or maintenance update of the QuantaStor Software that adds functionality enhancements or corrects errors. OSNEXUS makes minor update(s) available at no additional license fee, provided the end user is within the terms of their support contract.

Major Update means a new major or minor version of the QuantaStor Software that includes new features or major changes to the software. OSNEXUS makes major update(s) available at no additional license fee, provided the end user is within the terms of their support contract.

Support Package means the level of support purchased and includes Silver, Gold, and Platinum. Each level includes different entitlement rights.

Support Response Target means the time for initial response to a reported incident or customer request.

APPENDIX A

LOG FILE GATHERING INSTRUCTIONS

The procedure for uploading the log files are below:

1) Please login to the QuantaStor via ssh or physically at the system console as the qadmin user or a user with similar sudo access, you can also use the root user if you have that configured. Please note that we also provide a convenient option in the WebUI for systems with internet access where you can right click on the Storage System and choosing 'Send log report...'.

   Note: if you did not change the password for the qadmin user, the default password is qadmin

2) Please run the sudo qs-sendlogs command from a shell console to generate the log file. If your system has internet access it will automatically upload the logfiles to our FTP server.

   If your system does not have internet access, please proceed to step 3

3) Copy the logfile generated by the sudo qs-sendlogs command from your QuantaStor unit using your preferred ssh/scp/sftp client and upload it using your preferred ftp client to our ftp server.

   Our FTP login for uploading the logfiles is below:

   username: report

   password: REP0RT (that 0 is a zero)

   ftp server ip: 63.229.31.162

   port: 821

Please let us know once you have had a chance to upload the logs.

QUANTASTOR LICENSING GRID WITH SUPPORTED FEATURES

QuantaStor Licensing Grid

License Platform	QuantaStor SDS Enterprise Edition	QuantaStor SDS Cloud Edition	QuantaStor SDS Migration Edition	QuantaStor SDS Trial Edition	QuantaStor SDS Community Edition
Support Tier	Silver / Gold Platinum	Platinum	Silver / Gold Platinum	sdr@osnexus.com	http://forum.osnexus.org
License Term	Annual / Multiyear Subscription	Month-to-Month	Annual Subscription / Usage	30-day (renewable)	2 year (renewable)**
Unified SAN/NAS	✓	✓	✓	✓	✓
Cloud Enabled	✓	✓	✓	✓	✓
Enterprise Capabilities*	✓	✓	✓	✓	✓
Encryption Support	✓	✓	✓	✓	✗
Alert Monitoring	✓	✓	✓	✓	✓
Scriptable CLI	✓	✓	✓	✓	✓
QuantaGrid Support	✓	✓	✗	✓	✗
Pool Storage High Availability	✓	✓	✗	✓	✗
Scale-out NAS (NFS, SMB)	✓	✓	✗	✓	✗
Scale-out Object (S3, SWIFT)	✓	✓	✗	✓	✗
DR/Remote Replication	multi-node; cascading	multi-node; cascading	✓	multi-node; cascading	✗

*   Hardware & Software RAID (Erasure Coding), Compression, Thin Provisioning, SSD Caching, Bit-Rot Protection, Snapshots & Cloning, Backup Policies & more
** Community Edition restricted to non-commercial use only