1 General Overview

This is a Service Level Agreement ("SLA") between the customer and the Enterprise Storage and Backup Group (The Storage Team) to document:

- The technology services the Storage Team provides to the customer
- The targets for response times, service availability, and maintenance associated with these services
- The responsibilities of the Storage Team as a provider for subscription-based services, hourly services or specific services
- Processes for requesting services
- The Review and Reporting of the SLA process

This SLA will be reviewed annually to assess hardware, software and procedural accuracy.

2 Service Description

2.1 Service Scope

The Storage Team offers centralized, highly available, highly scalable data storage for server systems located in the Data Center. Storage Area Network (SAN) provisioning services include connecting Fiber-Channel ready servers to the SAN, presenting storage to the servers, and subsequently presenting additional capacity as necessary to accommodate growth. SAN maintenance services include monitoring and fault resolution for the arrays, switches, and associated array operating software.

The Storage Team offers centralized, highly available, highly scalable data storage for server systems located in the Data Center and on elsewhere on campus provided adequate network connectivity is available. Network Attached Storage (NAS) provisioning services include presenting storage to servers with the following technologies:

- Network File System (NFS)
- Common Internet File System (CIFS)
- Internet Small Computer System Interface (iSCSI)
- Growing volumes
- Configuring Snapshot and Snapvault replication
- Offering customer managed virtual filers.
- NAS maintenance services include monitoring and fault resolution for the arrays and associated NetApp operating software.

For more information, please visit the IST Service Catalog at http://ist.berkeley.edu/services/catalog/storage.

2.2 Assumptions

- Services provided by the Storage Team are clearly documented in the IST Service Catalog - http://ist.berkeley.edu/services/catalog.
- All Subscription Services are provided on a recharge basis.
- At the discretion of the Storage Team, any services provided outside of the scope of this SLA are subject to an additional cost.
- Major upgrades, including services outside of the scope of this SLA, are treated as hourly projects and billed at the Storage Team hourly rate.
- Changes to services will be communicated and documented via the change notification process.
- Service will be provided in adherence to any related policies, processes and procedures.
- Scheduling of all service-related requests will be conducted in accordance with this SLA.
Storage Area Network (SAN) Services - SLA

- In the event of a disaster, or if the Data Center is not accessible, applications will be restored in priority order per the Emergency Operations Center direction.

3 Roles and Responsibilities

3.1 Parties

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<tr>
<th>Parties</th>
<th>Name</th>
<th>Contact Information</th>
<th>Phone</th>
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<tbody>
<tr>
<td>the Storage Team, IST-Infrastructure</td>
<td>Storage Team</td>
<td><a href="mailto:storageteam@lists.berkeley.edu">storageteam@lists.berkeley.edu</a></td>
<td>N/A</td>
</tr>
</tbody>
</table>
3.2 **Storage Team Responsibilities**

*Storage Team* responsibilities and/or requirements in support of this Agreement include:

- Implementing defined processes to deliver these service levels.
- Meeting response times associated with the priority assigned to incidents and service requests.
- Notifying customers of all scheduled maintenance via the IST System Status Page - (http://systemstatus.berkeley.edu).
- Reviewing the SLA annually and notifying the customer of updates or changes.

3.3 **Customer Responsibilities**

*Customer* responsibilities and/or requirements in support of this Agreement include:

- Availability of customer representative(s) when resolving a service-related incident or request during the support availability hours defined in this Service Level Agreement.
- Communicating specific service availability requirements.
- Maintaining current customer-owned hardware warranties and software license agreements.
- Prompt payment or provision of appropriate chartstring.
- Providing a designated department billing contact.
- Providing a Technical Contact who provides support for the customer’s application or can act as a liaison to the customer’s application support group.
- Providing emergency phone contact information.
- Responsibility for notifying application users of any service interruptions or outages.
- Submitting service requests through appropriate trouble ticketing system, or contact telephone numbers for new services or technical support.
- Triage all general end-user issues to identify the cause of problems prior to contacting or submitting service requests to the **Storage Team**.

4 **Storage Team Contact Information**

There are two methods for existing customers to contact the **Storage Team**:

4.1 **Email the Storage Team (storage-ticket@berkeley.edu)**

Customers with existing services who wish to modify those services should send email to the above email address. This will open a ticket in the Footprints ticketing system. Customers will receive an email confirmation of this ticket.

4.2 **Phone the IST Service Desk (510-664-9000, 1, 1, 1)**

For break-fix services, please call the IST Service Desk at the phone number above. Telephone contact is available during normal hours of operation, 8:00 a.m. to 5:00 p.m., Monday through Friday. Messages left after normal business hours will be processed the following business day.
5 Hours of Coverage, Implementation, Service Availability, Response Times & Escalation

5.1 Hours of Coverage

The Storage Team’s normal hours of operation are 8:00 a.m. to 5:00 p.m., Monday – Friday except Federal holidays, University holidays, and announced University closures. Storage provisioning requests will be completed or scheduled within 1 business day of notification to the Storage Team during normal business hours unless the provisioning request is very large (over 1TB) which may require ordering and/or formatting.

5.1.1 Implementation Scheduling

New storage installations and capacity upgrades are scheduled during normal business hours:

- 8:00 am to 5:00 pm, Monday through Friday.

Storage provisioning requests will be completed or scheduled within 1 business day of notification to the Storage Team during normal business hours. Customers may have their service requests implemented at specific times beyond normal business hours. The Storage Team requires one full business day’s lead-time to schedule such requests. Customers must have Extended level support agreements in place with the responsible Systems Administration groups for servers to receive implementation during the following hours:

- 6am to 10pm, Monday through Sunday

Customers should anticipate storage requirements for storage installations. Depending on total capacity requested, the Storage Team may require up to three months’ advance notice for new storage allocations in excess of 1TB.

5.1.2 Service Availability

Service availability defines the percentage of time this service is available and in operation (SAN Online) within the service availability hours, with the exception of scheduled maintenance.

The Storage Team guarantees storage service availability at a minimum of 99.9% for the following service availability hours:

- 24 hours a day, 7 days a week, except for scheduled maintenance generally performed outside normal business hours. Some scheduled maintenance activities may cause temporary service disruptions for certain applications.

5.1.3 Incident Support Hours, Response Times, and Reporting

A storage incident is defined as the SAN or NAS service being down or severely malfunctioning. The Storage Team’s incident support hours are:

- 24 hours a day, 7 days a week

Please report all storage incidents to the IST Service Desk. The Storage Team will respond to an incident and contact customers within two hours of receipt of notification by the Service Desk.
To report a (Storage) SAN Incident:

IST Service Desk:

- Email servicestakeydesk@berkeley.edu, OR
- Telephone 510-664-9000, 1, 1, 1

5.1.4 Prioritization
The Storage Team will prioritize incoming service requests according to the following criteria:

- The number of departments or people affected.
- The impact on the delivery of instruction.
- The risk to safety, law, rule, or policy compliance.

5.1.5 Service Requests
A service request means a request made by a customer to the Storage Team for support of a service that the customer has already provisioned. Service requests will be processed after receipt within one business day, Monday – Friday, 8:00 a.m. to 5:00 p.m., excluding holidays. Service Request changes will be made during service request support hours.

To request service from the Storage Team, please send an email to storage-ticket@berkeley.edu.

5.1.6 Disaster Recovery
In the event of a disaster, or if the Data Center is not accessible, applications will be restored in priority order per the Emergency Operations Center direction.

5.2 Escalation

5.2.1 Scheduled Service
If service requests are not implemented or scheduled with the response times outlined above, customers may escalate requests by contacting the IST Service Desk at 510-664-9000, 1, 1, 1, or via email at servicedesk@berkeley.edu.

5.2.2 Service Level
If you are not satisfied with the level of service on a request, contact the IST Service Desk at 510-664-9000, 1, 1, 1. Escalation requests are categorized and processed as appropriate and will be responded to with the action taken.

5.3 Information
If you have a question about the Storage Team, please contact the Storage Team at storageteam@lists.berkeley.edu.

Requests for enhancements or service improvements may be send to:
IST Infrastructure Services: is-platform-help@lists.berkeley.edu.
5.4 Service Exceptions to Coverage

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<tr>
<th>Exceptions</th>
<th>Parameters</th>
<th>Coverage</th>
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<tbody>
<tr>
<td>Federal Holidays</td>
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<td>University Holidays and Curtailment</td>
<td>N/A</td>
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<tr>
<td>Scheduled Maintenance(s)</td>
<td>Scheduled between the Storage Team, Technical Contact, Data Owner Contact and the Change Management Board.</td>
<td>No coverage</td>
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6 Maintenance and Service Changes

The Change Management process within the Storage Team minimizes unintended service disruptions or other impacts to the Campus as a result of changes in the production environment. The Storage Team does this by monitoring, managing, and evaluating changes to maximize the service benefits to the customer, while minimizing the risks involved in making those changes. Please note that some maintenance work may cause service disruptions.

All the Storage Team-related services, maintenances, and Campus outages are published at IST System Status page, (http://systemstatus.berkeley.edu).

There are three categories of service changes:

- **Planned Maintenance**: Planned service maintenance is approved work that is planned and scheduled prior to the change. The Storage Team will communicate (as needed) to the appropriate department contacts prior to the scheduled change. Every fiscal year, 40 hours of time are reserved for maintenance of storage system hardware. Whenever possible, schedule maintenance is performed outside of normal business hours except during designated “no fly” periods such as the beginning of semesters or the end of the fiscal year. The Storage Team will email the designated Technical contacts with one-week’s advance notice prior to scheduling maintenance.

- **Unplanned Maintenance**: Unplanned operational maintenance is priority work that is unplanned due to an urgent repair, patch or update to prevent failure. Unplanned operational maintenance will be given priority and communicated immediately. Critical patch notification is determined by the nature of the problem and may be scheduled in less than one day. As such, critical security or break-fix patches are applied as needed. If possible, the Storage Team will email the Technical contacts as soon as possible to coordinate the application of these patches.

- **Emergency Service Change**: An emergency service change is defined as a service failure that affects the entire campus or significant number of users that requires immediate repair. All Emergency Service Changes are communicated via the IST Service Status page (http://systemstatus.berkeley.edu/). Emergency maintenance for equipment repairs, such as disk replacements, is performed as needed without requirement for advance notification to Technical Contacts. Emergency service announcements are also communicated usually the day of the service failure. Off-hours service failures are communicated the following business day. Note that some emergency maintenance work may involve service disruptions.

7 Rates

7.1 Rate Process

Recharge rates are calculated by IST to achieve cost recovery and approved by the Campus Recharge Committee based on campus recharge policies (http://controller.berkeley.edu/recharge/Policies/Rechargepolicy.pdf).

Last Update: 07/01/2015
Last Review Date: 07/01/2015
7.2 Charges

Customers will be billed monthly. Customers may terminate the service at any time without charge with 30 days advance notice. No refunds will be issued for unused Storage Area Network (SAN) Services.

Any billing questions should be directed to istbill@berkeley.edu.

8 Reviewing and Reporting

This SLA covers the period from July 1, 2015 to June 30, 2016. It will be reviewed and may be revised at the end of this period.

8.1 SLA Reviews

This Agreement will be reviewed annually or as otherwise needed.

The Storage Team maintains responsibility for the content of this document, and may amend it as required. All changes will be communicated to all affected parties.

9 Signatures

DEPARTMENT authorization

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UCB IST authorization

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K. Joey Curtis
Platforms Manager
IST-IS
510-642-8020
kjc@berkeley.edu