What is the Value Storage Service?
The Value Storage Service provides an economical way to store relatively large amounts of data in UH data centers. Storage is offered in half-terabyte increments and is intended for use with large files and substantial data sets. The service is intended to provide performance similar to a traditional local disk without the burden of maintaining the drive locally.

Why should I use this service?
This service offers several benefits which may be of value to you, including:

- Storage uses RAID technology to minimize the chance that hardware failures will result in lost or unavailable data.
- You no longer have to worry about installing, supporting or replacing hardware.
- The ITS Value Storage Service operates within the data center at UH’s IT Center. This data center is hardened from disasters and has staff on site 7x24x365. The data center has redundant power and cooling infrastructure, so your files are safe and can continue to be accessed even during an extended power outage.
- This storage can be easily connected directly to the University’s High Performance Computing (HPC) cluster. This allows researchers to move data to and from the cluster as needed to support their computational activities.
- Storage can also be accessed from your other computers using standard protocols (SFTP and Globus Online). Later in 2015, ITS will make the storage available through Common Internet File System (CIFS).

What are the features of this service?
Users of this service can expect the following from ITS:

- **Consulting.** ITS can provide consulting assistance to help you plan for your use of the service.
- **Hardware Refresh Cycle.** University equipment is refreshed on a 4-6 year cycle so you can be assured of up-to-date hardware supporting the service.
- **Hardware Redundancy.** The service uses RAID technology as well as component
redundancy (e.g. disk controllers) in order to minimize the chance that a hardware failure will lead to loss of data. Additionally, ITS power, cooling and network infrastructure is redundantly designed to minimize the chances of service outages.

• **Monitoring.** ITS operations staff will provide 7x24 monitoring of all infrastructure to ensure the service is operating as expected.

• **Globus Online Support.** Globus Online is a system for high speed transfer of data across the internet. The Value Storage Service supports Globus Online which should make it easier for researchers to transfer data to their colleagues around the world.

**What do I have to do?**

As a consumer of this service, you are responsible for the following:

• **System Configuration.** You are responsible for the technical configuration to access your storage from your local machines. ITS will provide documentation and assistance as necessary, but technical configuration is primarily the responsibility of your local system administrator.

• **Access Control.** You must identify at least one primary contact for the service, along with all users you wish to have full read and write privileges to the storage. You must inform ITS in a timely fashion when changes to personnel are necessary, for example, when a designated contact leaves your department.

• **Payment.** You’re responsible for paying for your service.

**How do I access my storage?**

If you are an HPC user, you will be able to view the new directory through your normal administration screens. You can then use Globus Online or SFTP to move your files to other locations. Instructions on how to use the storage will be provided by ITS HPC administrators.

Starting later in 2015, non-HPC users will be able to connect to the storage through CIFS protocol. Instructions for using the storage will be provided when you purchase the storage.

ITS will provision your storage and group ownership to fulfill your service request. If you need to make alterations to the users of the storage, send an email with the updated information to its.valuestorage@hawaii.edu.

When the storage has been made available, and group permissions have been established, you will receive an email with a summary of the system, affiliated users and groups, along with details on how to access your storage.

**Replication**

Starting later in 2015, ITS will offer the option of replication of storage to an off site location.
This will provide the user a single copy of their data for disaster recovery purposes. Replication requires duplicate disks, so this service will double your service cost.

**How does billing for the service work?**

ITS will bill you when your order for the service is first processed, and then annually after that on the anniversary of your order. The bills will cover the full cost of the service for the upcoming year.

Exceptions to this annual payment method are:

- **Service expansion.** If over the course of the year, you place an order to expand your use of Value Storage, ITS will calculate the amount you owe for all of your storage for the upcoming year. You will be billed that amount, and your renewal date for all of your storage will be reset for one year from the date of your most recent storage order.

- **Service cancellation.** If you cancel the service, ITS will refund the prorated amount within sixty days after we receive your request. Due to administrative costs associated with refunds, except in unusual circumstances ITS will not refund amounts less than $100.

- **Service reduction.** If you reduce the use of your service during the middle of a year, ITS will credit the prorated amount toward your next bill.

**Service Requests**

If at any time you need assistance regarding the Value Storage Service or you would like to inquire about the service in any way, send email to its.valuestorage@hawaii.edu.

As a customer of this service, if you feel your issues have not been adequately addressed through normal channels, you can escalate your concerns to the Director of Technology Infrastructure (Bill Wrobleski - wrob@hawaii.edu) or the CIO (Garret Yoshimi - gyoshimi@hawaii.edu).
# Appendix 1: Specific Service Levels

The table below describes the specific service levels provided by ITS.

<table>
<thead>
<tr>
<th>Service Area</th>
<th>Description</th>
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<tbody>
<tr>
<td>Planned Outages</td>
<td>A planned outage is defined as a service interruption that has been arranged in advance by ITS personnel.</td>
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<tr>
<td></td>
<td>• ITS will be applying quarterly critical security patches, which may necessitate an outage of the service</td>
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<td></td>
<td>• ITS will provide 30 days advanced warning before any planned outage.</td>
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<td></td>
<td>• Outages will be scheduled Sunday morning between 6:00AM-Noon.</td>
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<tr>
<td>Service Requests</td>
<td>• Respond within 1 business day for routine business request.</td>
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<td></td>
<td>• During business hours, respond within 4 hour to urgent requests.</td>
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<tr>
<td>Problem Reports</td>
<td>• Engineering staff respond within one business day for non-urgent problems.</td>
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<tr>
<td></td>
<td>• Generally, engineering staff respond within four hours for urgent problems during the normal business hours. In unusual situations,</td>
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<tr>
<td></td>
<td>response time may be longer.</td>
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<tr>
<td>Unexpected outages</td>
<td>ITS will post information about any unexpected outages on the ITS web site at: <a href="http://www.hawaii.edu/its">http://www.hawaii.edu/its</a></td>
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</tbody>
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