

## ACCRE Service Level Agreement for FY 2010

### Tape Backup Service for \_\_\_\_\_ (Group)

The Advanced Computing Center for Research and Education (ACCRE) provides tape backup services for data stored on both central and departmental research servers. These services provide backup, storage, and restoration of data. **Full backups** are performed once every month or other time period on a schedule mutually agreed to by ACCRE and the Group. Mirrored incremental backups (also called **mirrored incrementals**) are performed daily or weekly on the schedule mutually agreed to by ACCRE and the Group. Groups must specify how many and for how long all backups are to be retained.

Another option of the tape backup service is **incremental merges**. Incremental merges combine one copy of the mirrored incrementals. When a full backup is generated, the software reads the data and verifies its integrity then combines the incremental merges into the new fulls. This verification is not done for the mirrored copy. Since a feature called Disk Library provides true incremental backups in which each incremental contains only the changes from the previous incremental, standard protocol requires that incremental data on tape be mirrored. A benefit of the Disk Library is that most of the incrementals are also on disk which allows for faster restores and faster merges.

ACCRE requires a minimum of two full backups and one full backup's worth of mirrored incrementals. When you have two full backups, we should be able to recreate any files/subdirectories that existed at the time of a nightly backup - for the last full month by combining the older of the two full backups with the incrementals on all days leading up to the date of the requested restore (depending on where in the monthly backup cycle the system is, we should be able to recreate any files/subdirectories for additional time periods up to a second month back). When you have three full backups, we should be able to recreate any files/subdirectories back two months at any time (depending again on where in the monthly backup cycle the system is, we should be able to recreate any files/subdirectories for additional time periods up to a third month back.)

***TiBS (True Incremental Backup System) does not cross physical partitions and/or disks and does not follow links across physical partitions and/or disks and each file system must therefore be treated individually.***

Changes to backup schedules are not effective until Attachment 1 and/or Attachment 2 of this SLA are modified or a change has been agreed to by both parties on an ACCRE Request Tracker (RT) helpdesk ticket. When the Group anticipates a substantial increase in usage, they must notify ACCRE in advance to verify the capacity is available for that increase.

***All tapes are stored onsite, thus this service is not HIPAA compliant nor does it meet disaster recovery requirements.***

During the initial setup period of a new system, at the start of a new fiscal year, or upon the addition of any new path, ACCRE will perform within 30 days at no cost a data recovery for each path requested by the Group up to three random checks per Group when there are multiple paths.

### **Support under This Agreement**

**Primary Means of Contact: ACCRE Request Tracker (RT) helpdesk ticket at:**  
[http://www.accre.vanderbilt.edu/support/contact/submit\\_RT.php](http://www.accre.vanderbilt.edu/support/contact/submit_RT.php)

**Availability:** ACCRE provides support for Groups leasing tape backup services Monday – Friday, excluding Vanderbilt holidays, from 8:00 a.m. until 4:30 p.m. Additional support visits beyond setup and/or restore visits (or before or after standard support hours) are sometimes available for a fee of \$100 per hour.

**Tape Restores:** File restore requests are processed 8:00 a.m. to 4:30 p.m., Monday through Friday, excluding Vanderbilt holidays, by submitting an RT ticket. Unless notified otherwise, restores will be processed by the end of the next business day. In some cases a restore may be completed on the same business day.

**Guarantees:** ACCRE does not guarantee that backups will occur daily and is not responsible for tape, drive, and/or tape library failures. If demand is unusually high on a given day (resulting in the inability to complete the daily backup within 24 hours), the next day's backup may not occur. Prior incrementals will continue to be available, however, for any restoration requests. This backup service is not designed for archival storage or for restoration of an entire failed system (e.g., operating system) to its original state; rather this service is for the recovery of Group files lost due to corruption and/or accidental deletions.

**Group responsibility:** A Group is responsible for checking that their paths have been backed up. It is strongly recommended that Groups work with ACCRE to set up a cron job to email them the relevant information from their backup logs (see optional services below). If help is needed to set up the cron job, please submit an RT ticket.

ACCRE staff cannot always resolve problems without the assistance of Group representatives therefore Group representatives need to work with ACCRE staff to resolve failures, especially when backup log interpretation is involved. When backup failure warnings occur, users are responsible for taking appropriate action, including initiating requests for help from ACCRE staff. Groups have the responsibility to respond to ACCRE notifications of new or unresolved exceptions within 24 hours.

Group representatives must meet with ACCRE staff a minimum of once per year. A meeting must be set up each year before the new SLA can be accepted by ACCRE. This meeting and the final signed SLA must be completed before the beginning of the new fiscal year or backups will be halted until an SLA is completed and accepted by ACCRE. **ACCRE will provide a 30 day notice via RT that backups will halt unless both the required meeting with ACCRE and an SLA signed by the group and ACCRE are completed before the end of the 30 day notice period.**

ACCRE staff will provide recommendations regarding data backup, data restoration, and data transfer which the group can choose to accept or ignore.

Roaming clients (for example laptops): ACCRE staff are not able to effectively monitor or debug problems on roaming clients so in these cases it is imperative that the Group representative is pro-active in checking their logs and email notifications to determine if the roaming clients are backing up correctly. ACCRE will send notifications to users when roaming clients have not backed up within a week.

Optional services: ACCRE provides the following optional services to safeguard user data backed up on tape. Users select these optional services on Attachment 3.

1. Two random tests can be requested per quarter at no cost. Groups can request these random tests and the file(s) to be tested will be selected by a combined effort of a Group representative and ACCRE. The random tests have to be done at a time when the tape server is not busy so that the tests do not impact currently running backups or restores.
2. Users can choose to be notified of each backup attempt with a short email per server. The email notification must be set up on the client (Group) side with assistance from ACCRE staff. These emails

are sent to the Group only (not ACCRE). The Group representative should notify ACCRE via an RT ticket if they are not receiving these notifications.

### **Methods of Contact/Responsibilities of Those Making a Support Request**

**Communication from ACCRE:** ACCRE sends out periodic notices to Groups via the TiBs listserv. At least two and up to three representatives for each Group should be subscribed to this listserv. Messages about changes in the tape backup service, downtimes in this service, notices about when tape backups have not occurred, or any other communication that impacts all users of this service are sent via this listserv. The Group representative is responsible for making sure the email addresses provided to ACCRE for this listserv are current and that the appropriate individuals are receiving the notices.

ACCRE monitors the tape backup system daily and watches for failures on backup attempts. ACCRE will contact the Group repeatedly via RT if backup failures occur. If the Group representative does not respond to the notification within 48 hours, ACCRE staff will call the Group representative and document the contact on the RT ticket.

**Requesting Support:** Members of the Group may request support for tape backup services by submitting an RT ticket. As noted previously, any requests for changes in the backup schedule are not effective until this SLA is modified or an ACCRE staff member has notified you that changes requested by RT have been made.

The following information will be required for support:

- Complete contact information (VUNetID, first and last name, department, phone number)
- A clear and specific description of the problem or request.
- Support is a collaborative process between ACCRE and the tape backup representatives. Detailed information provided by the customer will enhance the problem resolution process.

### **Tape Backup Costs**

**Base charge:** \$750 for each 1 TB compressed data billed in 1 TB increments. Payment is based on rounding up usage to the next TB increment with the minimum charge based on 1 TB. Base charge includes tape media and 1 free one-hour or less restore or a one-hour credit for restores that take longer than one hour for each 1 TB leased. ***The free restore only applies when the user provides the full, correct path for the files and/or directories to be restored.*** If ACCRE must search to find files for which the Group does not provide a full, correct path, the charge is \$100 per hour of ACCRE staff time with a minimum charge of \$100. The base charge also includes new setups and/or conversions that require less than one hour per machine.

ACCRE has limited capacity for tape backup. If usage increases over the estimate provided on Attachment 2, ACCRE retains the right to notify the group as to whether the capacity is available to meet the group's demand.

Adding new partitions, changing the mount point of partitions, changing the servers being backed up (for example if a piece of hardware is decommissioned and replaced) will cause temporary increases in the amount of space used on tape and the group will be responsible for paying for this increased usage. In the example of a server being replaced, ACCRE must keep the backups on both the old and new server until they naturally expire on the old server. ACCRE staff will need to verify that the capacity is available for these changes and will work with Groups if there are any temporary capacity issues.

**Additional charges:** \$100 per hour of ACCRE staff time with a minimum charge of \$100 for:

- Setups/conversions that require more than one hour per machine added to backup.
- Restores over the ones included in the base charges.
- Service visits that are in addition to the setup visit (or outside standard support hours).

**Billing Method:** The estimated annual payment is shown on Attachment 1. The base charge is based on the actual amount of space used on tape based on the rolling average of usage for the previous three months. For new users, usage is estimated for the first month, then based on actual usage for one month, then a two month average until enough history exists to base the usage on a three month average. If an event occurs that ACCRE staff determine is ACCRE's responsibility which causes additional tape space to be used that incremental amount of tape usage will be deducted from the rolling average.

Advance approval on Attachment 3 is required which authorizes ACCRE to charge the appropriate center.

**Downtimes**

**Scheduled:** When scheduled downtimes are required, Groups will be notified seven days in advance unless the downtime is a break fix and then as much notice as possible will be provided.

**Unscheduled:** Unexpected equipment failures, network problems and/or University-wide or Hill Center power outages may prevent scheduled backups. ACCRE does everything possible to prevent disruptions to scheduled backups and responds as quickly as possible to restore files when problems do occur. ACCRE will notify Groups via the TiBs listserv or email of any unexpected problems and the progress of work being done to correct those problems.

**Information Required by ACCRE**

**TiBs Listserv Email Addresses**

- Please list the email of all Group representatives that need to receive the listserv messages about this service.
- We require two representatives per Group (with voicemail) but a Group may choose to have a third representative. Please list in the order we should call if we do not receive an email response.

Name \_\_\_\_\_ Email Address: \_\_\_\_\_

Phone \_\_\_\_\_ Voicemail Yes: \_\_\_ No: \_\_\_ Pager/Cell \_\_\_\_\_

Name \_\_\_\_\_ Email Address: \_\_\_\_\_

Phone \_\_\_\_\_ Voicemail Yes: \_\_\_ No: \_\_\_ Pager/Cell \_\_\_\_\_

Name \_\_\_\_\_ Email Address: \_\_\_\_\_

Phone \_\_\_\_\_ Voicemail Yes: \_\_\_ No: \_\_\_ Pager/Cell \_\_\_\_\_

**Please return this SLA via campus mail to:**

Carie Lee Kennedy, Peabody #34  
Attn: ACCRE Tape Backup Services

**Signed Agreement**

This agreement is valid when signed by ACCRE and an authorized representative of the service-requesting Group.

*I have read, understand, and agree to the attached service offering including its responsibilities, limitations, and parameters for tape backup services*

Group representative: Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

ACCRE Director: Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

## Attachment 1 – Backup Schedule

### Parameters for Tape Backup Service

**Initial Estimated Annual Backup Cost:** \$750 per TB x \_\_\_\_\_ TB's = \$\_\_\_\_\_

Please check only one Backup Schedule below:

Note: All options below also have choices of retention policy as shown in the next section.

\_\_\_\_Option 1: Full backups monthly (every 28 days) with Mirrored incrementals done daily.

\_\_\_\_Option 2 (Preferable for high data churn and faster restores): Full backups monthly (every 28 days) + Incremental merges done weekly + Mirrored incrementals done daily.

\_\_\_\_Option 3 (Provides more protection than option 2 due to mirrored full backups): Mirrored, full backups monthly (every 28 days) + Incremental merges done weekly + Mirrored incremental done daily.

\_\_\_\_Option 4 (For data that changes infrequently): Mirrored, full backups monthly (every 28 days) + Mirrored incremental done weekly.

### **In addition to a Backup Schedule, please note your retention policy:**

Full backups (all options): \_\_\_\_\_(fill in number of months)  
Minimum allowed two months (which is 66 days for two months plus 10 day window for next full to be generated)

Incremental Merges done weekly (options 2 and 3): \_\_\_\_\_(fill in number of weeks)  
Minimum allowed is four weeks.

Mirrored Incrementals done daily (options 1 - 3): \_\_\_\_\_(fill in number of days)  
Minimum allowed is 38 days (one month plus 10 day window)

Mirrored Incrementals done weekly (option 4): \_\_\_\_\_(fill in number of days)  
Minimum allowed is 38 days (one month plus 10 day window)

***Initials to accept the above backup schedule and retention policy:***

**Group Representative: \_\_\_\_\_ ACCRE: \_\_\_\_\_**



**Attachment 3 – Payment and Optional Services**

Payments are on a monthly basis through the VUMC Cores billing system. Payments for setups and restores are charged as one-time events during the month the charge occurs. Payment may be charged to one or more centers.

Center to be charged	Percent Charged to this Center
_____	_____
_____	_____
_____	_____

I authorize ACCRE to charge the above center(s) for the tape backup of my group:

Group representative: Name \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Optional Services – please circle yes to accept the service or no to decline the service:**

During the initial setup period of a new system, at the start of a new fiscal year, or upon the addition of any new path, ACCRE performs at no cost a restore for each and every path requested by the Group. In addition:

- Yes No Group requests two additional random restores quarterly at no cost.
- Yes No Group requests to be notified of each backup attempt with either (circle 1 or 2):
  - 1. Short email on backup status per server including a list of any failures.
  - 2. Short email on backup status only plus a second email with list of failures.

**Note: this option is only available for Unix, Linux, and MacOS X systems. The Group must agree to work with ACCRE to set up the email notification on the client (Group) side.**