

Below are standards for IST infrastructure. If a system is not listed in the standards below, it should not be taken as an indication that it will not be supported. In many cases applications require specific infrastructure to function properly and IST will support those applications and the related infrastructure. No IT department can support all databases, operating systems, and other infrastructure elements equally. Finite staff resources and training budgets require that choices be made. It is the intent of IST to support some products and technologies in more depth than others.

These standards exist to document where IST Infrastructure Services intends to focus available resources for training and staff. When someone is selecting a package or developing a new application, and has a choice of infrastructure, we hope that by establishing standards that there will be less confusion around which types of infrastructure are better supported.

Operating Systems and Associated Hardware

Implementation Approach

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Solaris 8 and earlier, Red Hat Enterprise Linux (RHEL) 3 and earlier	Solaris 10 or RHEL 4, IST has better tools and processes for Solaris at this time, AIX for high-end database systems	
Windows Server 2000 and earlier	Windows Server 2003	Longhorn

Standards

Technology Component	Standard
General Unix OS	Solaris 10 on Sun Hardware, RHEL 4
Microsoft OS	Windows Server 2003 Standard (regular availability) or Enterprise (clustered) on Dell blades, or on a VMware VM on a Dell blade

Service Offerings

Offering	Contact
Unix	Jeff Makaiwi
Microsoft OS	Mike Blasingame

Databases

Implementation Approach

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Sybase, Progress	PostgreSQL, Oracle, SQL Server, MySQL	
Access, FoxPro, FileMaker Pro for smaller applications	MySQL, SQL Server	
MySQL for transaction based systems	PostgreSQL, Oracle, SQL Server	

Standards

Technology Component	Standard
Oracle	9i or 10g and AIX 5.3
DB2/UDB	8 on z/OS
MySQL	5 on RHEL
PostgreSQL	8.1 on RHEL
SQL Server	2005 on Server 2003 standard or enterprise

Service Offerings

Offering	Contact
Database services	Karen Kato

Message Oriented Middleware

Implementation Approach

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Developing a custom messaging service	FioranoMQ	

Standards

Technology Component	Standard
Java Messaging	FioranoMQ

Service Offerings

Offering	Contact
JMS via FioranoMQ	Karl Grose

Enterprise Job Scheduling

Implementation Approach

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Cron and windows scheduler	CONTROL-M	

Standards

Technology Component	Standard
Enterprise job scheduling	CONTROL-M

Service Offerings

Offering	Contact
Enterprise job scheduling	Claudia Bayless

Website Security

Implementation Approach

Persons implementing or upgrading existing website security should take advantage of central CalNet authentication and authorization services to avoid the administrative overhead associated with maintaining local files.

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Local authentication	AWS	Sun Access Manager
Local authorization	LDAP	Sun Access Manager

Standards

Technology Component	Standard
Website authentication	AWS
Integrated AD authentication	Active Directory
Website authorization	LDAP

Service Offerings

Offering	Contact
AWS, CAS	AWS – Mike Friedman
Integrated AD authentication	AD – Mike Blasingame
LDAP, Sun Access Manager	LDAP – Rob Chevalier, Sun Access Manager – Karl Grose

File Encryption for Desktop Systems

Implementation Approach

Persons operating machines housing restricted data, particularly portable systems, should take steps to protect that information. Restricted data should be encrypted where practical.

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Encryption of files using locally stored keys without a plan for key management	Using the OS with multiple recovery keys or key escrow	Vista BitLocker, and LUKS

Standards

Technology Component	Standard
File encryption for machines joined to the campus Active Directory	File encryption with decryption possible with either a user key or centrally managed key
Whole disk encryption	Pointsec with recovery key held by SNS
File encryption for machines not joined to the campus Active Directory	Pointsec with recovery key held by SNS

Service Offerings

Offering	Contact
Encryption of files on computers joined to the campus Active Directory	Mike Blasingame
Pointsec for whole disk encryption, or encryption for machines not joined to the campus Active Directory.	Allison Henry

Disk Storage

Implementation Approach

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Locally attached storage for machines located in the Data Center where those machines require high performance and availability	Fibre Channel attached storage from the SAN	iSCSI for wide area networked systems

Standards

Technology Component	Standard
Geographically distributed disk storage	iSCSI
Systems in the Data Center with high performance and/or availability requirements	Fibre Channel

Service Offerings

Offering	Contact
Network Attached Storage (NAS)	Jack Shnell
Storage Area Network (SAN)	Jack Shnell

Firewalls

Implementation Approach

Avoid New Deployment/ Migrate from Technology	Current Technology Direction	Emerging Technology
Only using a host based or hardware firewall	Both host based and hardware firewall	

Standards

Technology Component	Standard
Department or IST managed firewall	Cisco Firewall Service Module integrated into the network
Host based firewall	Cisco Security Agent with Windows Firewall, Symantec Client Firewall, IPFW, IP Tables
Standalone departmental firewall	Juniper NetScreen

Service Offerings

Offering	Contact
IST managed firewalls	CNS Shopping Cart - http://cns.berkeley.edu or David Zimmerman