



Customer Education Course Catalog

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From: SGI® Customer Education
Re: SGI Customer Education Course Offerings

SGI Customer Education wants to help our customers learn how to maximize their investment in SGI technology. Our instructors can help general users, system administrators, system maintainers, and programmers gain valuable knowledge about and experience with our systems.

SGI Customer Education is providing this document to help you become more familiar with our current course offerings.

This document includes:

- Curriculum diagrams for the Linux® system, network, and cluster administration courses.
- Descriptions of the courses that can be delivered by SGI Customer Education.
- An overview of the course delivery methods that are available.
- An introduction to the Accreditation for Continued Excellence (ACE) program.
- A description of the EduPlan program.
- A list of course prices.
- A list of courses offered through our training partners.
- Contact information to use if you have questions about SGI Customer Education offerings.

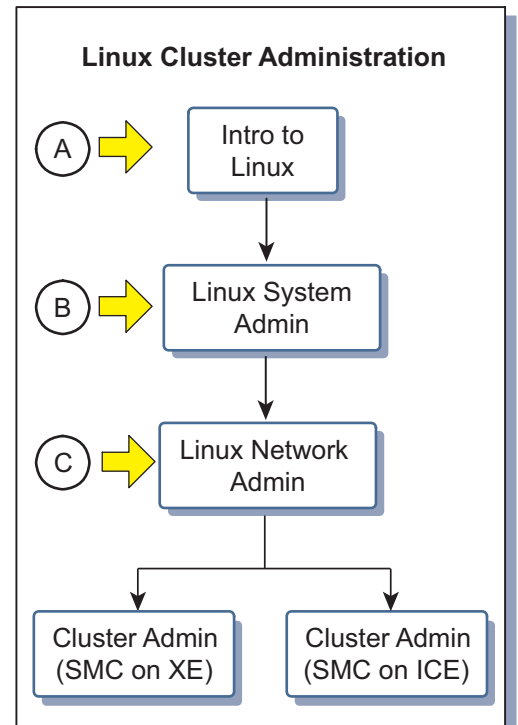
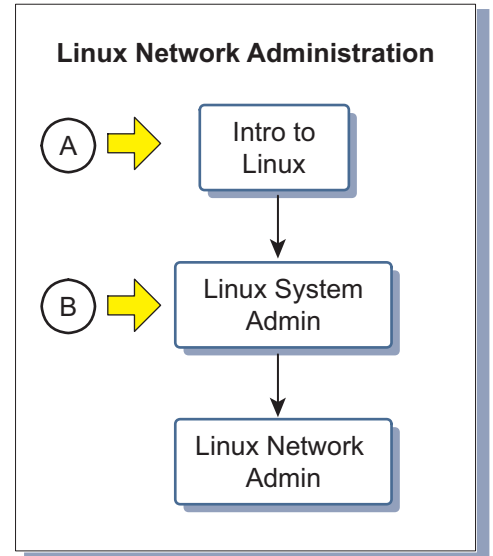
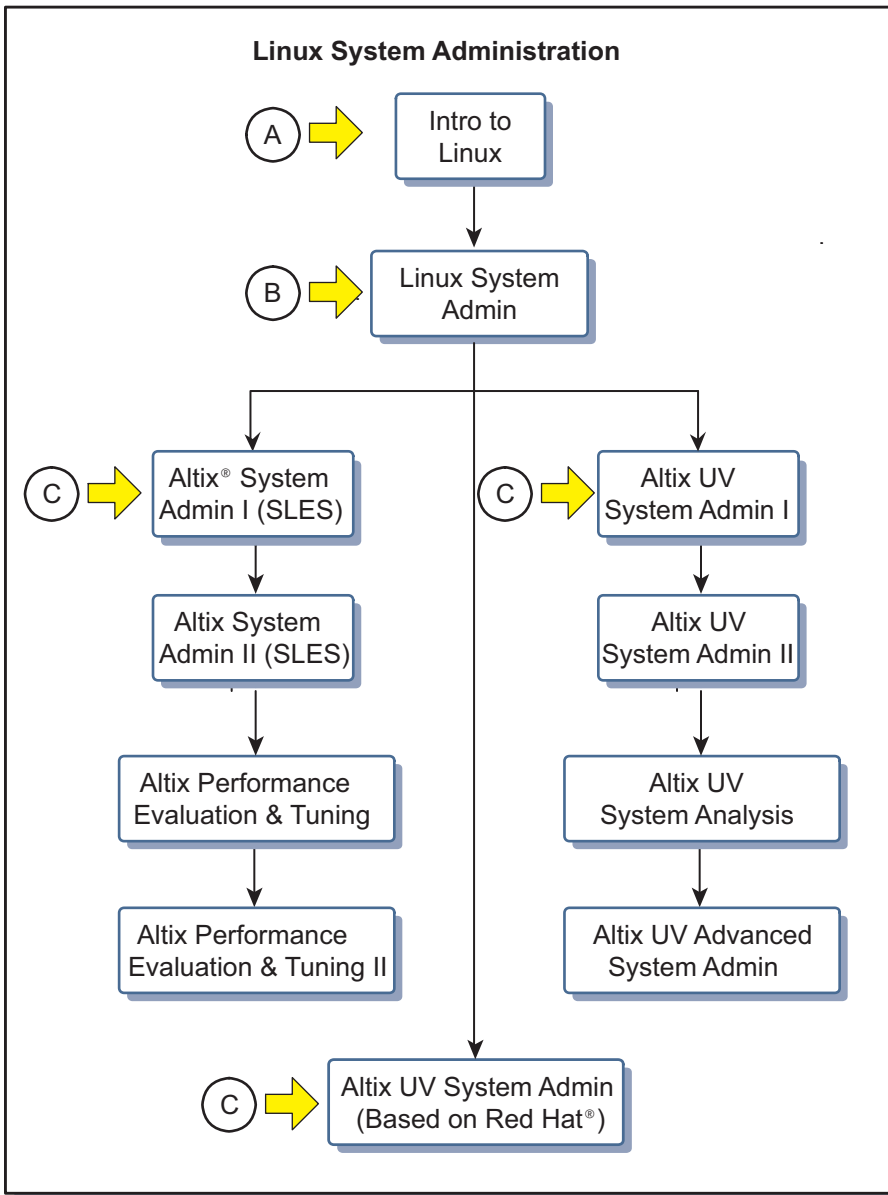
Thank you for taking the time to review these materials. Please contact us if we can assist you in selecting the appropriate training to meet your needs.

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Linux Curriculum Course Sequences



- (A) Start with this course if you have no UNIX® or Linux experience.
- (B) Start with this course if you have limited UNIX or Linux system administration experience.
- (C) Start with this course if you are an experienced Linux system administrator.

Introduction to the Linux Operating System

Course Length: 4.5 Days

This course introduces students to basic command-line tools that the Linux operating system provides. The course covers the day-to-day tasks that are required to efficiently accomplish work on the system--from logging in to basic bash shell programming. Lab exercises prepare students for the actual work environment. This course does not cover installation of the Linux operating system (see Linux System Administration course).

The student is overqualified if he or she regularly uses operating systems based on UNIX.

Topics Covered:

- Filesystem navigation and permissions
- Text editing and manipulation
- GNOME desktop environment
- Remote systems access
- Bash programming

Linux System Administration

Course Length: 4.5 Days

This course introduces Linux command line system administration to users who have completed a basic Linux, UNIX, or IRIX class. Topics include installation, RPM, user account management, partitioning disks, filesystem management, run levels, system and user processes, syslog-ng, basic system accounting, and cron and at. Lab exercises are included to prepare students for the actual work environment.

Topics Covered:

- Installation
- RPM
- User account management
- Pluggable authentication modules (PAM)
- Partitioning disks
- Filesystem management (Reiser and ext3)
- User quotas (ext3)
- LVM
- Run levels and initialization scripts
- System and user processes
- Virtual memory
- System logging and accounting
- cron and at

Linux Network Administration

Course Length: 4.5 Days

This course provides experienced system administrators with the necessary skills to configure, manage, and troubleshoot the SGI Linux open-source operating system in a TCP/IP networked environment. Major network applications such as DNS, NIS, DHCP, and electronic mail are covered in detail.

Topics Covered:

- TCP/IP stack
- TCP/IP routing
- Routing table management protocols
- Linux network configuration
- Network services
- TCP_wrappers
- Network Information Service (NIS)
- Domain Name Service (DNS)
- Mail Transfer Agents (MTA): sendmail and IMAP
- Network File System (NFS) and SAMBA advanced topics
- Dynamic Host Control Protocol (DHCP)
- Network troubleshooting

SGI Altix UV System Administration I

Course Length: 4.5 Days

This course provides the experienced Linux user with the skills and information needed to administer the SGI Altix UV family of systems. Lab exercises are included to prepare students for the actual work environment.

**** Note **** This class is specifically for customers who are using the SuSE Linux Enterprise Server (SLES) based Altix UV environment. The class is based on the SLES11 with the additional SGI ProPack 7 software.

Topics Covered:

- Overview of SGI Altix UV hardware
- SLES Linux Environment
- SGI Altix UV SLES11 installation
- SGI ProPack feature-specific installation
- SGI kernel modules
- Configure Boot Information
- Startup and Shutdown
- GPT partition table
- parted disk partitioning tool
- XFS filesystems (mkfs.xfs) and filesystem management
- XVM - SGI Volume Manager
- SGI XVM concat, stripe, and mirror filesystems
- SGI ProPack Performance Co-Pilot
- SGI Embedded Support Partner
- SGI Numatools
- SGI Array Services
- Intel compiler and user module environment
- Linux Kernel Dump environment
- Linux crash command

SGI Altix UV System Administration II – with SGI Management Center

Course Length: 4.5 Days

This course provides system administrators with knowledge and practice in basic SGI Altix UV SMC administration areas, including: installing and configuring the software; building payloads, kernels, and images for Altix UV SSI systems; monitoring the system environment; setting up SLES software repositories; and performing system updates. (This course includes lab access to SGI Altix XE based SMNs and partitioned SGI Altix UV systems.)

**** Note **** This class is specifically for customers who are using the SuSE Linux Enterprise Server (SLES) based Altix UV environment. The class is based on the SLES11 with the additional SGI ProPack 7 software.

Topics Covered:

- Overview of the Altix UV and SMN network connections
- Definition of the SGI Management Center cluster terminology
- Installing SGI Management Center on the SMN
- Configuring the SMN
- Defining and building a payload
- Defining and building a kernel
- Defining, building, and modifying an image
- How to use command line tools to control power on nodes of the cluster
- How to use command line tools to connect to a node's serial console
- Provisioning a node
- Managing images
- Monitoring a system with SGI Management Center
- Updating a system using the Novell Subscription Management Tool (SMT)

SGI Altix UV System Administration – Based on Red Hat

Course Length: 4.5 Days

This course provides the experienced Linux user with the skills and information needed to administer the SGI Altix UV family of systems. Lab exercises are included to prepare students for the actual work environment.

**** Note**** This course is specifically for customers who are using the Red Hat Enterprise Linux 6 on SGI Altix UV systems. The class is based on the RHEL6 with the additional SGI Performance Suite software.

Topics Covered:

- Overview of SGI Altix UV hardware
- RHEL Linux environment
- SGI Altix UV RHEL6 installation
- SGI Performance Suite software installation
- SGI kernel modules
- Configure Boot Information
- Startup and Shutdown
- GPT partition table
- parted disk partitioning tool
- XFS filesystems (mkfd.xfs) and filesystem management
- XVM - SGI Volume Manager
- SGI XVM concat, stripe, and mirror filesystems
- Performance Co-Pilot
- SGI Embedded Support Partner
- SGI Numatools
- SGI Array Services
- Intel® compiler and user module environment

SGI Altix UV System Analysis

Course Length: 4.5 Days

This course provides the system administrator with methodologies and tools to evaluate system performance, identify problems, and recommend solutions. Students will learn to use Performance Co-Pilot and accounting to identify applications that may have performance problems. Students will then profile these applications to evaluate common code problems such as cache thrashing, barrier problems or false cache sharing.

Topics Covered:

- System analysis methodology
- Hardware and software inventory
- Establish performance metrics
- Live monitoring tools, sar and Performance Co-Pilot
- Performance evaluation
- Establish a baseline
- Profile applications PAPI, Perfsuite
- Multithreaded applications - OpenMP, MPI, pthreads
- Application memory
- NUMA tools - dplace, cpusets
- System time

SGI Altix UV Advanced System Administration

Course Length: 4.5 Days

This course provides an understanding of Linux resource management, which enables system administrators to make useful system configuration changes. Tools to look at CPU, memory, and I/O statistics; problem identification; and configuration options are practiced in lab. Memory management, RAID configuration, filesystem layout, XVM striping, XFS logs, flush daemon settings, and CPU scheduler issues are addressed.

Topics Covered:

- Kernel tuning parameters
- Virtual memory
- Swap
- File system layout
- Monitor the IO layers
- RAID configuration
- XVM
- XFS
- Page Cache
- CPU Scheduler
- NUMA tools

SGI Altix System Administration I (SLES based)

Course Length: 4.5 Days

This course provides the experienced Linux user with the skills and information needed to administer the SGI Altix 3000/4000 system families. Lab exercises are included to prepare students for the actual work environment.

**** Note **** This class is specifically for customers who are using the SuSE Linux Enterprise Server (SLES) based Altix Environment. The class is based on the SLES10 with the additional SGI ProPack 5 software.

Topics Covered:

- Overview of SGI Altix 3000 and SGI Altix 4000 hardware
- SLES Linux Environment
- SGI Altix SLES-10 installation with XFS® root
- SGI ProPack™ feature-specific installation
- SGI Altix SLES-10 upgrade procedure
- EFI shell and boot options
- Startup and shutdown
- MBR, GPT, and SGI partition tables
- parted disk partitioning tool
- XFS filesystems (mkfs.xfs) and filesystem management
- XVM - SGI Volume Manager
- Building concat, stripe, and mirror filesystems
- Setup for Performance Co-Pilot
- SGI Numatools
- SGI Array Services
- SGI Ethernet setup
- Installing SGI specific kernel modules
- Intel compiler and module environment

SGI Altix System Administration II (SLES based)

Course Length: 4.5 Days

This course provides the experienced Linux user with the skills and information needed to administer the SGI Altix 3000/4000 system families. Lab exercises are included to prepare students for the actual work environment.

**** Note **** This class is specifically for customers who are using the SuSE Linux Enterprise Server (SLES) based Altix Environment. The class is based on the SLES 2.6 kernel with the additional SGI ProPack software.

Topics Covered:

- SLES10 installation server configuration
- SLES10 ia64 and SGI ProPack 5 network installation with XFS root
- Autoyast configuration and use
- Booting a system from a remote server
- Registration and updating the client system
- Configuring an update server mirror
- Using YaST to set up Logical volumes (LVM2)
- Using the Enterprise Volume Management System (EVMS) GUI
- Mirroring the ia64 system disk with MD
- Using the command line iptables tools
- Using sshd in a secure environment
- Using Pluggable Authentication Modules
- Monitoring processes and memory
- Using Comprehensive System Accounting (CSA)

SGI Altix Performance Evaluation and Tuning

Course Length: 4.5 Days

This course provides the system administrator with methodologies and tools to evaluate system performance and recommend solutions. Students will learn to use Performance Co-Pilot and accounting to identify applications that may have performance problems. Students will then profile these applications to evaluate common code problems such as cache thrashing or false cache sharing.

Topics Covered:

- Hardware overview
- Software overview
- Establish your metrics
- Instrument the system
- Performance analysis
- Live monitoring tools
- Get a baseline
- Modules environment
- Application profiling
- Multithreading
- Application memory profiling
- NUMA tools
- Profiling system time
- Application IO

SGI Altix Performance Evaluation and Tuning II

Course Length: 4.5 Days

This course is intended for the system administrator that makes system configuration decisions.

Topics Covered:

- Virtual memory
- Swap - kswapd
- Filesystem layout
- XVM
- XFS
- RAID
- Buffer cache - bdflush
- Interprocess communication
- CPU scheduler
- Multi-CPU systems
- Kernel locks

Cluster Manager Administration (SGI Management Center on SGI Altix XE)

Course Length: 4.5 Days

This course provides knowledge and practice in basic cluster administration areas including: SGI Management Center software installation and configuration using the Component Media Kit (CMK) (SGI Manufacturing Image) and also by building an SGI Management center cluster from scratch. Building individual Payloads, kernels and Images will be covered. Cluster monitoring and troubleshooting will also be addressed.

**** Note **** The hardware used in this class will primarily be SGI Altix XE clusters.

Topics Covered:

- SGI cluster hardware overview
- IPMI configuration
- SGI Management Center installation and configuration with CMK
- Cluster configuration using SMC tools
- InfiniBand configuration using CMK
- Cluster provisioning using DMC tools
- SGI MPT install and configuration
- MPI application compilation and execution on cluster

Cluster Manager Administration (SGI Management Center on SGI Altix ICE)

Course Length: 4.5 Days

This course provides knowledge and practice in basic cluster administration areas such as IPMI configuration, SGI Cluster software installation and configuration, PBS installation, configuration and job submittal, SGI ProPack OFED software installation and configuration, and cluster monitoring and troubleshooting using Ganglia tools and Performance Co-Pilot tools.

**** Note **** The hardware used in this class will primarily be SGI Altix ICE clusters.

Topics Covered:

- SGI Altix ICE hardware overview
- IPMI configuration and use
- Troubleshoot startup problems
- Flash Proms
- Software installation
- Cluster configuration
- Cluster imaging
- OFED software overview
- Using MVAPICH MPI
- Installing the Intel Cluster toolkit and Intel MPI
- Using SGI Message Passing Toolkit
- Cluster monitoring
- PBS for users
- PBS installation and overview
- PBS for administrators

Storage Area Networks

Course Length: 3.5 Days

This course provides the skills necessary to install, configure, and perform first-line maintenance on the SGI storage area networks (SANs) solution.

Topics Covered:

- Introduction
- SAN overview
- Hardware installation
- IP address assignment and software configuration
- Command line interface
- Cascading and zoning
- Web tools
- Trunking and fabric watch
- Route analysis and fabric tuning
- Heterogeneous environment fault isolation

CXFS Administration

Course Length: 4.5 Days

The CXFS Administration course is designed to provide an introduction and overview of the CXFS product and the hardware environment in which it is intended to exist. The course also provides students with an opportunity to explore the CXFS software environment and see it function.

The course covers both IRIX and SGI ProPack on Altix operating systems. Representative MultiOS client-only operating systems are covered as well.

Labs require students to exercise hardware and software to create CXFS nodes and clusters, test them, create XVM logical volumes, create XFS filesystems and mount the filesystems via CXFS. Procedures to bring up and shutdown a node and a cluster are discussed and practiced in lab.

Topics Covered:

- CXFS Overview
- Software Setup
- Check and change initial configuration as necessary (lab)
- Introduction to CXFS configuration and administration via CXFS GUI
- Create CXFS Cluster by using the CXFS GUI (lab)
- XVM Concepts and Creating XVMs
- Create XVM logical volume structures (lab)
- Make XFS filesystems (lab)
- Define XFS filesystems to CXFS (lab)
- CXFS mount XFS filesystems (lab)
- CXFS CLI (Command Line Interface)
- Create CXFS Cluster and do on-going administration (lab)
- Obtain information from the CXFS environment to send to SGI support (lab)
- Review SGI CXFS "Best Practices" (lab)
- Troubleshoot hardware- and software-induced problems (lab)

SGI InfiniteStorage Data Migration Facility (DMF) Administration

Course Length: 5 Days

This course provides the knowledge and skills necessary to configure, maintain, diagnose, and repair data failures associated with the Hierarchical Storage Management (HSM) Data Migration Facility (DMF).

DMF is a comprehensive data management tool that can be used to manage free space on your native XFS and CXFS file systems. DMF can also be used to manage long-term storage of important data. DMF accomplishes this by moving user file data between primary storage and secondary storage devices. This movement process is called file migration. File migration can occur transparently to the end user (automatic migration) or it can be invoked manually by command request (manual migration).

Topics Covered:

- DMF Overview and file migration
- Installing and licensing DMF hardware and software
- Performing daily maintenance requirements
- Interpreting server and library log messages
- Describing basic OpenVault and TMF functionality
- Configuring DMF files for proper disk, tape, or FTP operation
- DMF server, client, and daemon commands
- DMF utilities

SLES11 High Availability System Administration

Course Length: 3.5 Days

This course addresses the concepts of HA resources, resource agents, resource constraints, STONITH resources, and general operational tasks. It is designed for experienced system and network administrators.

At course completion, the student will be able to install the necessary HA hardware and software components and create and test the HA environment using various graphical user interfaces, command line interfaces, and tools. The highly available services that students will create and manage during this course include:

- NFS Services
- Services using XVM volumes
- Services using DMF, TMF, and OpenVault
- Services using CXFS filesystems

Topics Covered:

- Description of highly available services
- HA hardware and software installation and configuration
- Defining resources, resource agents, and constraints
- SGI resources and resource agents
- Common operational tasks
- System maintenance
- HA failure identification and recovery

OpenFOAM Foundation

Course Length: 2 Days

This course introduces the open source CFD toolbox, OpenFOAM. It provides a foundation for all aspects of OpenFOAM, from running cases to programming. It is useful to both new users and existing users wishing to broaden their basic knowledge of OpenFOAM.

Topics Covered:

- The OpenFOAM software distribution
- Background in the use of Linux/UNIX
- OpenFOAM applications
- Basic meshing and meshing tools
- Field initialization and boundary conditions
- Selecting models and setting parameters
- Solution monitoring and control
- Post-processing
- Mapping fields
- Running in parallel
- Introduction to C++ and its use in OpenFOAM
- Code structure and compilation
- Code walk through for a simple utility
- The important classes in OpenFOAM
- The finite volume method and its basic algorithms
- Programming OpenFOAM solvers
- Introduction to programming boundary conditions

OpenFOAM Advanced

Course Length: 2 Days

This course covers advanced topics on the open source CFD toolbox, OpenFOAM. It is designed to enable the participants to use OpenFOAM effectively on real engineering problems and develop the toolbox to meet their needs.

Topics Covered:

- Advanced meshing in OpenFOAM with snappyHexMesh
- Assessing mesh quality
- Setting boundary regions and conditions
- Selecting discretisation schemes
- Control of linear solvers and algorithms
- On-the-fly post-processing
- External aerodynamics
- Interface-tracking
- Useful Linux tools for OpenFOAM
- Boundary conditions for the finite volume method
- Boundary condition implementation in OpenFOAM
- Template classes in C++
- Model integration in OpenFOAM solvers
- Programming new transport and turbulence models
- Virtual functions in C++
- Programming function objects for post-processing
- Programming a pre-processing utility

OpenGL® Programming

Course Length: 4.5 Days

In this course, students learn to view and model in 3D and to create animated, wire frame, and solid geometry, under interactive control from input devices. Students add lighting, textures, and other effects to increase realism.

New OpenGL 3.0 topics include using vertex buffer objects for better performance and an introduction to the programmable shaders and GLSL for advanced shading techniques using vertex shaders and fragment shaders. This course discusses both the fixed and function pipeline and an introduction to the newer programmable shader pipeline with OpenGL.

Students use Linux systems for all lab work using OpenGL 3.0, freeglut, and GLEW (OpenGL extension Wrangler).

Topics Covered:

- Creating Windows
- Rendering Primitives
- Basic Transformations
- 3D Viewing and Modeling
- Depth Buffering and Hidden Surface Removal
- Animation
- Input and Window Events
- Alpha Blending
- Antialiasing
- Text
- Lighting
- Display Lists
- Basic Texture Mapping
- Vertex Arrays

- Vertex Buffer Objects
- Programmable Shaders (GLSL)
- Vertex Shaders
- Fragment Shaders

High Performance Computing Optimization Training

Course Length: 5 Days

This course provides knowledge on major topics to achieve better program performance, including:

- How to optimize a program to obtain the best performance, and
- Parallel programming - how to port a program to a parallel computer to reduce the execution time by dividing the work among several threads/processes.

Topics Covered:

- Parallel Computer Architectures
- Compilers and Monitoring Tools
- Program Analysis and Optimization
- Performance Tuning
- Shared Memory Parallel Programming using OpenMP
- Parallel Programming in Distributed Memory using MPI

SGI Altix 4700 System Installation and Maintenance

Course Length: 4.5 Days

This course provides the skills necessary to install and maintain SGI Altix 4700 and SGI Altix 450 systems. At course completion, the student will be able to configure systems, troubleshoot problems to the field-replaceable unit (FRU) level, replace all FRUs, and perform necessary maintenance tasks.

****Note**** The company sponsoring a student in this class must have a contract with SGI that states that the company can service its own equipment. The SGI Customer Education staff will verify the contract prior to a student's enrollment.

Topics Covered:

- SGI Altix 4700 and SGI Altix 450 system architecture, components, supported configurations, and limitations
- System configuration and upgrades
- Using commands and utilities to obtain system information
- Using available diagnostics and commands to troubleshoot system failures to the field-replaceable unit (FRU) level
- Removing and replacing all major FRUs

SGI Cluster System Hardware Maintenance

Course Length: 4.5 Days

This course provides the skills necessary to install and maintain SGI Altix XE and SGI Altix ICE family systems. At course completion, the student will be able to configure systems, troubleshoot problems to the field-replaceable unit (FRU) level, replace all FRUs, and perform necessary maintenance tasks.

****Note**** The company sponsoring a student in this class must have a contract with SGI that states that the company can service its own equipment. The SGI Customer Education staff will verify the contract prior to a student's enrollment.

Topics Covered:

- SGI Altix XE and SGI Altix ICE system architecture, components, and supported configurations
- System installation and configuration procedures
- Using commands and utilities to obtain system information
- Using available diagnostics and commands to troubleshoot system failures to the field-replaceable unit (FRU) level

SGI Altix UV Family System Maintenance

Course Length: 4.5 Days

This course provides the skills necessary to install and maintain the SGI Altix UV system. The course covers the SGI Altix UV10, SGI Altix UV100, and SGI Altix UV1000 systems. At course completion, the student will be able to install and configure systems, troubleshoot problems to the field-replaceable unit (FRU) level, replace all FRUs, and perform necessary maintenance tasks.

****Note**** The company sponsoring a student in this class must have a contract with SGI that states that the company can service its own equipment. The SGI Customer Education staff will verify the contract prior to a student's enrollment.

Topics Covered:

- SGI Altix UV system architecture, components, supported configurations and limitations
- System installation, configuration, and upgrades
- Using commands and utilities to obtain system information
- Using available diagnostics and commands to troubleshoot system failures to the field replaceable unit (FRU) level
- Removing and replacing all FRUs

SGI InfiniteStorage Maintenance and Administration II

Course Length: 5 Days

This course provides the knowledge and skills necessary to configure, maintain, diagnose, and repair data failures associated with the following SGI InfiniteStorage platforms: IS1116, IS1124, IS2116, and IS2224 EBOD storage systems and the IS5016, IS5024, IS4100 and IS5500 high performance RAID storage systems.

At course completion, the student will be able to install, configure, administer, maintain, and perform fault isolation to the field replaceable unit (FRU) level using a variety of management tools, interfaces, and utilities. This course also introduces the student to performance tuning and evaluation by testing a configuration using techniques such as filesystem RAID stripe alignment, command tagged queuing, altering storage parameters, and configuring multi-pathing.

****Note**** The company sponsoring a student in this class must have a contract with SGI that states that the company can service its own equipment. The SGI Customer Education staff will verify the contract prior to a student's enrollment.

Topics Covered:

- Features of the various storage arrays
- Storage array hardware components
- How to correctly cable storage systems to servers and storage area networks (SANs)
- How to use the graphical user interface, command line interface, shell commands, and script editor to configure, monitor, and manage the array
- How to install and configure storage array premium features
- How to interpret the Read Link Status (RLS) and Switch on Chip (SOC) statistical information for fault isolation
- How to configure a filesystem and storage array for optimal performance

Course Delivery Options

Several course delivery options are available to best meet your needs:

- Traditional classroom-based training at one of our training centers or at your site
- Virtual classroom-based training
- Computer-based training

Traditional Classroom-based Training

Instructor-led training in a traditional classroom environment is available at our training centers in California, Maryland, and Wisconsin and other facilities in North America.

We can also arrange instructor-led training at your facilities (onsite training). Advantages of this option include no travel expenses/commitments for your employees, the potential for customized training, and discounted tuition. Onsite training can be a good option for customers that have multiple employees that need training.

Refer to www.hpctraining.com for a current schedule of courses available at our training centers.

Virtual Classroom-based Training

Our virtual classroom environment enables you to participate in a course directly from your local computer and telephone; you do not need to travel to a training center.

You will view presentation materials over the Web, listen to and interact with your instructor and classmates via teleconference, and perform lab exercises on a remote system in one of our computer labs.

Refer to www.hpctraining.com/e-learning/ for a current list of courses available via our virtual classroom environment.

Computer-based Training

Our Computer-based Training (CBT) packages enable you to attend training at your own pace whenever and wherever you want.

The CBTs feature Flash-based lessons developed by our expert instructors and virtual machine-based labs that run directly on your system without modifying your existing configuration.

Refer to www.hpctraining.com/e-learning/ for a current list of courses available as CBT packages.

Accreditation for Continued Excellence



Accreditation for Continued Excellence

The Accreditation for Continued Excellence (ACE) program provides metrics that measure students' comprehension of topics presented in our training courses. By successfully completing examinations in this program, students earn credentials that recognize the knowledge they have acquired.

Accreditations granted through the ACE program enable employers to verify that their employees have successfully gained the knowledge presented in the training courses. Students can use ACE accreditation credentials to showcase that they have acquired the knowledge necessary to work with SGI systems.

Each ACE credential indicates that a student has successfully completed an examination that covers the topics presented in one or more of our classes. Individual and sequence credentials are available.

Individual Course Credentials

Individual credentials are available for specific courses, including:

- Linux System Administration
- Linux Network Administration
- SGI Altix UV System Administration I
- SGI Altix UV System Administration II – with SGI Management Center
- SGI Altix UV Advanced System Administration
- SGI Altix UV System Analysis
- SGI Altix System Administration I (SLES based)
- SGI Altix System Administration II (SLES based)
- SGI Altix Performance Evaluation and Tuning
- SGI Altix Performance Evaluation and Tuning II
- Cluster Manager Administration (SGI Management Center on SGI Altix XE)

- Cluster Manager Administration (SGI Management Center on SGI Altix ICE)

To receive an individual course credential, a student must achieve or surpass the minimum accreditation score on the examination for the course.

Sequence Credentials

Sequence credentials indicate a student has successfully achieved accreditation in a topic that spans multiple courses. The following sequence credentials are available:

- Altix IA-64 System Administrator Sequence
- Altix IA-64 Senior System Administrator Sequence
- Altix UV System Administrator Sequence
- Altix UV Senior System Administrator Sequence
- Altix XE Cluster Administrator Sequence
- Altix ICE Cluster Administrator Sequence

To receive a sequence credential, a student must achieve or surpass the minimum accreditation score on all course examinations in the sequence or on a comprehensive examination. (The comprehensive examination covers topics from all courses in the sequence.)

Receiving a sequence credential earns a student the title that goes with the credential:

- SGI Accredited Altix IA-64 System Administrator
- SGI Accredited Altix IA-64 Senior System Administrator
- SGI Accredited Altix UV System Administrator
- SGI Accredited Altix UV Senior System Administrator
- SGI Accredited Altix XE Cluster Administrator
- SGI Accredited Altix ICE Cluster Administrator

Examination Pricing

The ACE accreditation examination for a course is offered on the last day of class. There is no charge for taking the examination on the last day of class; the class tuition includes the examination. If you choose to take the examination at a different time or need to retake an examination, an additional fee is required:

Location	Single Course Credential Examination Fee	Comprehensive Sequence Credential Examination Fee
SGI Training Center	\$250	\$500
Local Testing Center	\$250 plus site fee [†]	\$500 plus site fee [†]

[†] Site fees vary by testing center. Contact an SGI Customer Education representative for more information.

EduPlan Training Units

EduPlan training units are pre-paid tuition credits that offer a higher discount as you purchase more training units. You can use EduPlan training units to pay tuition for SGI Customer Education courses; each training unit is worth \$500 towards the cost of SGI Customer Education course tuition.

EduPlan Discount Schedule

The following table indicates the discount received based upon the number of EduPlan training units purchased:

EduPlan Training Units Purchased	Discount
0 - 29	No discount
30 - 49	5 %
50 - 99	8 %
100 - 150	10 %
151 - 199	12 %
200 - 299	15 %
300 - 499	20%
500 and above	25%

Contact your SGI sales or local SGI Customer Education representative for additional information about purchasing EduPlan training units.

When you purchase EduPlan training units, you will receive a confirmation letter that explains the registration and redemption process.

Notes:

- EduPlan discounts are available when pre-purchasing education credits through this program.
- EduPlan training units are valid only for SGI Customer Education courses and expire after one year if not used.

- EduPlan training units are tracked via the Customer Education registration and management system.

Situations Where Purchasing EduPlan Training Units Can Be Beneficial

Purchasing EduPlan training units can be beneficial in the following situations:

- You have a large number of people that need training, so you will benefit from the available discounts.
- You have money in your training budget that you need to spend now, but you cannot send people to training until later.
- You want to send multiple people to training, and you want them to be able to select their own courses.
- You are currently unsure of how many people you will need to send to training.

Americas Pricing

Course Title	Delivery Option†	Product Code	Price	
			US Dollars	EduPlan Training Units
Introduction to the Linux Operating System	TCT	EDU-ITL	\$2,495	5
Linux System Administration	TCT, VCT, CBT	EDU-LSA1	\$2,495	5
Linux Network Administration	TCT	EDU-LNA	\$2,495	5
SGI Altix UV System Administration I	TCT, VCT	EDU-UVSA	\$3,495	7
SGI Altix UV System Administration II – with SGI Management Center	TCT, VCT	EDU-UVSMC	\$3,495	7
SGI Altix UV System Administration – Based on Red Hat	TCT, VCT	EDU-UVSA-RH	\$3,495	7
SGI Altix UV Advanced System Administration	TCT, VCT	EDU-UVASA	\$3,495	7
SGI Altix UV System Analysis	TCT, VCT	EDU-UVSYSA	\$3,495	7
SGI Altix System Administration I (Based on SLES)	TCT, VCT	EDU-ASA1	\$3,495	7
SGI Altix System Administration II (Based on SLES)	TCT	EDU-ASA2	\$3,495	7
SGI Altix Performance Evaluation and Tuning	TCT, VCT	EDU-APET	\$3,495	7
SGI Altix Performance Evaluation and Tuning II	TCT, VCT	EDU-APET2	\$3,495	7
Cluster Manager Administration (SGI Management Center on SGI Altix XE)	TCT, VCT	EDU-XESMC	\$3,495	7
Cluster Manager Administration (SGI Management Center on SGI Altix ICE)	TCT, VCT	EDU-ICESMC	\$3,495	7
Storage Area Networks (SAN)	TCT	EDU-SAN	\$3,495	7
CXFS Administration	TCT	EDU-CXFS	\$3,495	7
SLES11 High Availability System Administration	TCT	EDU-SLESHA	\$2,795	6
SGI InfiniteStorage Data Migration Facility (DMF) Administration	TCT	EDU-DMF	\$3,495	7
OpenFOAM Foundation	TCT	EDU-OPENFOAM	\$1,400	3
OpenFOAM Advanced	TCT	EDU-OPENFOAM	\$1,400	3
OpenGL Programming	TCT	EDU-OGL	\$2,995	6
High Performance Computing Optimization Training	TCT	EDU-HPCOT	\$3,495	7
SGI Altix 4700 System Installation and Maintenance	TCT	EDU-HW-1	\$4,995	10
SGI Cluster System Hardware Maintenance	TCT	EDU-HW-1	\$4,995	10
SGI Altix UV Family System Maintenance	TCT	EDU-HW-1	\$4,995	10
SGI InfiniteStorage Maintenance and Administration II	TCT	EDU-ISMA	\$4,995	10

† TCT = Traditional Classroom-based Training, VCT = Virtual Classroom-based Training, CBT= Computer-based Training

Please contact your local SGI Customer Education representative for additional pricing information for:

- Needs assessment, course customization, or courseware development
- Onsite courses offered to students at your site
- Hardware maintenance training offerings (and availability)

Courses Offered Through Our Training Partners

Partner	Courses
Altair®	Managing and Using PBS Professional™
Atempo®	Atempo Standard Time Navigator Administration V4.1 Atempo Time Navigator Advanced Administration V4.x
CAPS	HMPP™ CUDA™ Oriented on Linux OpenCL HMPP Porting Code Methodologies
nCore	Advanced Multicore Techniques Programming Multicore Processors
Novell®	Novell Sentinel 6 Novell Access Manager 3 Novell Identity Manager 3.5 Novell Advanced Provisioning Module for Identity Manager 3.5 Novell iChain 2.3 Novell NetWare 6.5 Novell eDirectory 8.8 Novell Cluster Services v1.7 Novell Audit Novell GroupWise 7 Novell Optimizing and Troubleshooting SUSE Linux Enterprise Server 10 Novell Xen Virtualization and High Availability Clustering on SUSE Linux Enterprise Server 10 Novell ZENworks 7 Linux Management Novell ZENworks 7.5 Asset Management Novell ZENworks 7 Desktop Management

Courses Offered Through Our Training Partners (cont.)

Partner	Courses
Novell (cont.)	Novell ZENworks 7 Server Management Novell ZENworks Patch Management
Oracle®	Oracle Database 11g: RAC Administration Oracle Database 10g: RAC Deployment Workshop Oracle Database 10g: RAC for Administrators Release 2 Oracle Database 10g: Real Applications Clusters
Platform™	Platform LSF 7.X Basic Configuration & Administration Platform LSF 7.X Advanced Configuration & Administration Platform Open Cluster Stack (OCS) Basic Configuration & Administration Platform Open Cluster Stack (OCS) Advanced Configuration & Administration
Rogue Wave Software	HPC Parallel Debugging with TotalView®
Spectra Logic®	Spectra T50, T120, and T950 Libraries
Tech Soup	GPGPU Programming OpenGL ES Programming

Refer to www.hpctraining.com for detailed descriptions of these courses.

Contact Information

Needed Information	Contact
General questions and bid proposal support	Jim Passint, <i>S&I Education Manager</i> Phone: + 1-715-726-7415 E-mail: jpassint@sgi.com
General questions and course registration (North America)	North America Registrar Phone: + 1-800-361-2621 E-mail: hpctraining@sgi.com
General questions and course registration (Europe, the Middle East, and Africa)	Tao Zhang, <i>EMEA Registrar</i> Phone: +44 (118) 912 7587 E-mail: taoz@sgi.com
General questions and course registration (Asia Pacific)	Greg McKeon, <i>Country Manager</i> Phone: + 61 294 481 467 E-mail: gregm@sgi.com
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