CCN-Division At-A-Glance

The Computing, Communications and Networking Division (CCN) is responsible for both technical development and for providing institutional services and support. The Division is focused on developing and operating the most powerful scientific computing facility in the world including all aspects of high-performance computing, storage, networking, visualization, software engineering and computing environments. In support of these goals and of the Laboratory as a whole, the Division provides reliable, timely, secure, cost-effective and state-of-the-art desktop support, communications and networking services. The following tables summarize the Division organization and responsibilities with respect to groups, project/program management, and budget.

Groups	Descriptions	Employees
High-Performance Computing Systems	Development, integration, operations and support of production high-performance computing and storage (both archival and on-line) systems for classified, unclassified and administrative applications. In particular, this group is responsible for the implementation and management of the 3 TF ASCI Blue-Mountain and the planned 30 TF "Q" computer systems and the High Performance Storage System (HPSS)	60
High-Performance Computing Environments	Development, operations and support of high-performance computing environments including interactive GUI's, parallel tool libraries, scientific data visualization, performance instrumentation/enhancement, inter-process I/O libraries	25
Scientific Software Engineering	Group members support the full software development cycle including requirements gathering, design, coding, test and maintenance. The group leads the Laboratory in software process improvement and quality assurance related to scientific applications.	30
Network Engineering	Responsible for the Institutional classified and unclassified networks including wide-area network connectivity, high-speed backbone networks, local area networks and network services (e-mail, web, authentication, directory, dial-up, etc.). Also responsible for high-performance computing networks, interconnects, advanced network development and institutional network security.	80
Desktop	Classified and unclassified desktop and server system administration services. Also responsible for Laboratory Electronic Software Distribution (ESD) systems (site licensed on-line software distribution for Windows, Macintosh and Unix platforms).	150
Telecommunications	The group provides Laboratory telephone, wireless and video communications services. The group owns and operates a 20,000 line telephone switching system and is responsible for the 43 square mile, site-wide fiber and copper distribution system. The group provides radio and paging services for the Laboratory including support for the guard force, fire department and other emergency response organizations. The group also operates the Laboratory classified and unclassified video teleconferencing centers.	100
Facility Operations, Maintenance and Support	Around the clock computer center operations (including Blue-Mountain) and facility and building management for CCN resources. The group manages approximately 500,000 square feet of office and computer room facilities.	20
Division Office	Division Director, deputy director and project leaders responsible and accountable for Division employee safety, security, operations, project schedules and program deliverables.	10
	Total	475

Projects/Programs

ASCI "Q"	Procurement, implementation, integration, test of a production 30 TF computer system
ASCI Problem Solving Environments (PSE)	Development, implementation and support of ASCI Simulation and code development environments, High-Performance Storage System (HPSS), high-speed network interconnects, and distributed computing environments.
ASCI Visual Interactive Environment for Weapons Simulation (VIEWS)	Development and implementation of very high-end data visualization and scientific data management systems for the ASCI program. Includes visualization theatres, power-walls and other immersive visualization environments.
ASCI Distance and Distributed Computing (DISCOM^2)	High-performance classified wide area network interconnecting ASCI platforms at Los Alamos, Lawrence Livermore, and Sandia National Laboratories
Strategic Computing Complex (SCC)	Construction project management with the goal of ensuring the building meets the requirements of housing the world's most powerful scientific computer center. The building is scheduled for initial occupancy in September 2001. The SCC includes an acre of computer floor, with requisite cooling and power distribution, and over 300 offices and visualization laboratories.
Computer and Network Security	Insider and perimeter network security defenses (e.g. firewalls, intrusion detection, PKI, etc.)

FY01 CCN-Division Budget

Direct programs	**($M)**		
Nuclear weapons computing and simulation	$ 47.0	35%	Weapons simulation and computing programs (including ASCI)
Nuclear weapons stockpile management	$ 2.5	2%	Support for manufacturing and assurance programs
DOE Office of Science	$ 1.4	1%	Unclassified high-performance computing program support (e.g. global climate, etc.)
Other Direct Programs	$ 3.9	3%	Includes Defense Threat Reduction Agency (DTRA) computing support ($1.3M)
Laboratory services			
Institutional Recharge	$ 36.8	28%	Institutional network and communications services (network, telephone, radio, CATV, etc.)
Direct Recharge	$ 14.9	11%	Desktop support services, non-weapons high-performance computing and storage services
Laboratory indirect			
G&A	$ 3.0	2%	Institutional unclassified network infrastructure investments (LANLnet)
Other indirect	$ 8.4	6%	LDRD and indirect allocations from other Laboratory Divisions for CCN services
Cerro Grande fire remediation	$ 3.3	2%	Site-wide communications infrastructure affected by the Cerro Grande wildfire in May 2000
Division and Group overhead	$ 11.8	9%	Primarily Division and Group office support
Total	**$ 133.1**	**100%**	