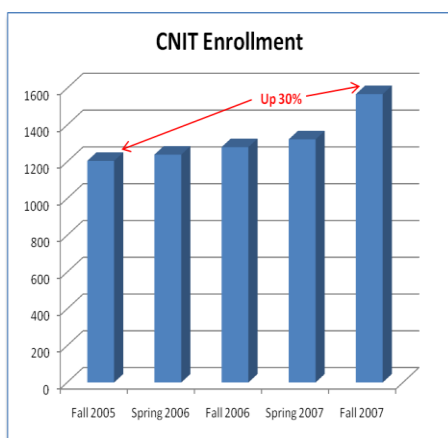




CNIT Enrollment Up 30%

During the ICONS grant period, from before the grant award in the Fall of 2005 to the current Fall 2007 semester, CNIT enrollment is up 30%, from 1,205 to 1,568 students per semester!



CCSF Opens New Mission Campus

In August, just in time for the Fall 2007 semester, City College of San Francisco opened a new showcase campus in the Mission District of San Francisco.

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ICONS' Ethical Hacking at DEFCON



CNIT instructor Sam Bowne presented ICONS-developed "Ethical Hacking and Network Defense" to an enthusiastic crowd of 600-1,000 people at the recent DEFCON conference in Las Vegas.

DEFCON (www.defcon.org), one of the oldest and largest continuously occurring hacker conventions in the world, took place at the Riviera Hotel August 3-5 and drew more than 7,000 attendees. Short for "Defense Condition," DEFCON derives from the popular 1983 movie "War Games," in which teenager Matthew Broderick, trying to play games, unwittingly hacks into a Pentagon defense system computer and almost starts a nuclear war.

The DEFCON conference is a forum for hackers, people fascinated by computer and network security and systems and devoted to exploring their limits.

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Cisco Networking Academy Changes



The Computer Networking and Information Technology (CNIT) Department at City College of San Francisco (CCSF) is a Cisco Regional Networking Academy, providing Cisco training to CCSF students and to instructors from other Cisco Academies in the region.

Since 1997, the Cisco Networking Academy program has provided quality training services to more than 2 million students at more than 10,000 Academies in 165 countries around the world. It uses a combination of instructor-led training, on-line curricula, hands-on lab experiences, network simulation tools and assessment vehicles to deliver standards-based content leading to widely-recognized industry certifications, such as the Cisco Certified Network Associate (CCNA) and Cisco Certified Networking Professional (CCNP).

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After collaboration with educators, including ICONS' Pierre Thiry, this semester the Cisco Academy is implementing significant changes to CCNA curriculum. New features of this long awaited version 4 include enhanced instructional features, an improved Graphical User Interface (GUI) and embedded "e-doing," highly interactive computer activities utilizing Flash, videos and quizzes to stimulate learning and improve knowledge retention. Additionally, there are now two curriculum: CCNA Discovery and CCNA Exploration.

CCNA Discovery is designed for students with basic PC skills and progresses at a modest pace, covering knowledge and skills appropriate for a home office and/or small business operating environment. It is composed of four courses, delivered sequentially, each a pre-requisite for the next:

- Networking for Home and Small Businesses,
- Working at a Small-to-Medium Business or ISP,
- Introducing Routing & Switching in the Enterprise,
- Designing and Supporting Computer Networks.

CCNA Discovery students learn technical and soft skills to become entry-level networking professionals, such as network installer, help-desk technician, pre-sales support technician or network technician. It prepares students for two different Cisco certification exams: Cisco Certified Entry Network Technician (CCENT), based on the first two courses, and Cisco Certified Network Associate (CCNA), based on all four.

CCNA Discovery is being adopted by high schools associated with the Cisco Regional Networking Academy at CCSF. The first two CCNA Discovery courses were released this summer, and the remaining two will be released for next semester.

CCNA Exploration provides a more comprehensive understanding of networking, from fundamentals to advanced applications and services. It offers in-depth theory, challenging labs, and a detailed overview of protocol operations. It is designed for students with advanced problem-solving and analytical skills, and it helps students prepare for successful IT careers in small-to-medium businesses, as well as enterprises and service providers. City College of San Francisco's Regional Academy is delivering CCNA Exploration curriculum to CNIT students.

CCNA Exploration also consists of four courses:

- Network Fundamentals,
- Routing Protocols and Concepts,
- LAN Switching and Wireless,
- Accessing the WAN.

Network Fundamentals, the first course, has no prerequisites. It is a prerequisite for the other three courses. Routing Protocols and Concepts is the preferred second course in the sequence. The first two CCNA Exploration courses were released this summer, and the remaining two will be released in time for next semester. CCNA Exploration prepares students for the CCNA Cisco certification exam.

CCNA Exploration integrates engineering concepts and provides students skills to succeed in networking-related degree programs. It allows students to learn in a comprehensive, theoretical, and practical way reflective of common educational practices at the college level. It offers flexibility in curriculum delivery and permits shortened course delivery time. CCNA Exploration also provides an introduction to advanced technologies such as voice, video, wireless, and security.

Articulation: Students who complete all four courses of either the Discovery or Exploration curriculum will be ready to take Cisco Certified Networking Professional (CCNP) courses. Students completing the first two Discovery courses have equivalent knowledge as students completing the first Exploration course.

Packet Tracer: ICONS's Advisory panel member Dennis Frezzo is the lead inventor and developer of Packet Tracer, a stand-alone simulation-based learning environment for networking novices to design, configure, and troubleshoot computer networks at a CCNA-level of complexity. The version 4.1 of Packet Tracer is incorporated in the Exploration and Discovery courses. It can simulate:

- Different media (fiber, wireless, modem...)
- Cisco IOS functionality
- Switches (ports, VLANs, trunking...)
- Routers (ACLs, VLSM, NAT, PAT, DHCP...)
- Routing (RIP, static/default routes, load balancing)
- Clouds, bridges, hubs, access points, repeaters, PCs, servers, printers...
- Views of bridging, switching, and routing tables, OSI encapsulation, Link Status
- Ping, Extended Ping, & Traceroute

While teaching the first two Exploration courses to CNIT students, we are mentoring high schools in the first two Discovery courses, and we are working with Cisco to improve and release the last two courses of each curriculum.

These are exciting changes!

Cisco | Networking Academy®
Mind Wide Open™





Conference events included: numerous technical presentations, challenges to hack the conference badge, presentations on Internet security issues and industries, challenges creating robots to shoot targets, presentations from government and law enforcement, a hacker jeopardy game, presentations by venture capitalists and corporations, "Spot the Fed" contests...

Originally, hacker was a term of respect used among computer programmers, designers and engineers for one who created original and ingenious programs. A hacker was a computer enthusiast who pushed a system to its highest performance through clever programming and discovered and overcame its limits by continually pushing its limits.

In some people's minds, hackers lack formal training, preferring to figure out on their own how things work, spending many hours with the computer, often successfully operating it by trial and error without first referring to the manual.

Recently, the word hacker has acquired a negative connotation by people and press focused on incidents where harm was done to systems or data. In their minds, hackers are irreverent social miscreants intent on penetrating computer system privacy to create mischief or do harm. Many hackers prefer to use the term "cracker" for someone who illegally breaks into computer systems. Some refer to "white hat" hackers who remain legal and "black hat" hackers who don't. Both groups were in attendance in Las Vegas, and both were interested in Ethical Hacking at CCSF.

It is very progressive to teach Ethical Hacking in a college. Some worry about that course content luring students "to the dark side." Sam Bowne's experience is of a very enthusiastic group of students pushing limits, having fun and learning very practical computer and network security skills to make them more effective in their jobs protecting computer and network systems. To adequately protect against malicious intrusion, it is necessary to understand the thought processes and techniques of malicious intruders. Ethical Hacking and Network Defense strengthens CCSF's educational offerings in computer and network security

Please view the SecurityFocus article for coverage of Sam's DEFCON Ethical Hacking and Network Defense presentation www.securityfocus.com/print/news/11480.

ICONS Shares Juniper Education Successes

Collaborating with ICONS' Advisory Panel member, Scott Edwards, City College of San Francisco became the first Juniper Networks Higher Learning Center in North America (www.juniper.net/training/jnhlc/). Last Spring, CNIT pioneered a new course, "Operating Juniper Routers in the Enterprise," which is also being taught this Fall.



CNIT Chair, Carmen Lamha, hands-on with Juniper at CCSF

Part of the ICONS mission is also to disseminate knowledge, curriculum, industry relationships, best practices and other successes nationally. The Juniper relationship is all of that, so ICONS is working to spread the word and great experiences with Juniper!

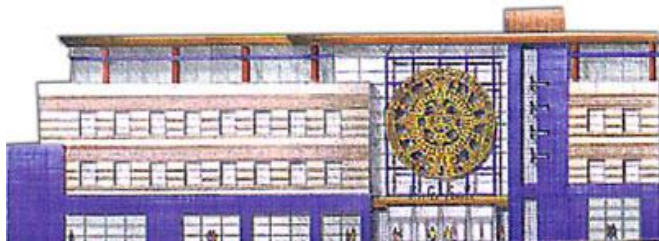
In the Summer of 2006, Pierre Thiry invited Juniper to co-present "IPTV: Ready for Prime Time?" at the National Center for Telecommunications Technology (NCTT) Summer Workshops in Massachusetts. NCTT (www.nctt.org) is a National Center of Excellence also funded by the National Science Foundation, and ICONS is an NCTT Regional Partner. Through NCTT, there are opportunities for dissemination to NCTT's other regional partners, as well as its collaborating and strategic partners and many associated interested parties.

In January of 2007, ICONS hosted the NCTT Winter 2007 Conference at the Downtown Campus of City College. Almost 100 technical educators from around the country attended. Juniper provided a live demonstration of WAN acceleration technology in actual operation, manned a booth explaining Juniper programs to educators and provided valuable input on interactive panels.

July 10-11, 2007, at NCTT's 10th Annual Curriculum Workshop, Pierre Thiry and Steve Barndollar (Sr. Manager, Educational Services) from Juniper made a joint presentation on "Juniper Networks Enterprise Curriculum." Juniper was a co-sponsor, with Apple Computer.



The new Mission Campus, at 1125 Valencia Street, will serve as a beacon of opportunity and achievement for all who pass by. The state-of-the-art campus will include an expanded existing campus and a new four-story facility. At the crossroads of Bartlett, Valencia, and 22nd Streets, the community's highest values of education, dialog, and diversity will infuse four floors of modern classrooms, computer labs, an auditorium, multi-purpose rooms available to the community, a child care center, and full support services.



Summer Convergence Workshops

This summer, during June and July, ICONS again conducted Communications Convergence Workshops at the CCSF Ocean campus, which showcased convergence technologies, including Ethical Hacking and Network Defense, Fiber Optics, Voice over IP, Juniper Routing & Security, Video Networking and WiFi Networking. Sessions provided overviews of topic technologies, industries, applications and developments - and opportunities for hands-on demonstrations and interactions. The workshop was a fun, eye-opening occasion to see state of the art convergence technologies in action and learn how and why they are used in modern network environments.



ICONS Prepares New NSF Grant Proposal

Almost two years into its 3-year grant, ICONS is preparing for the future by drafting an ambitious follow-on grant application with the National Science Foundation. The new grant proposes to build on ICONS' many successes, such as its incredible industry relationships, its highly functional collaboration with the college ITS department, its efforts to pioneer the first Juniper Networks Higher Learning Center in North America, becoming a Microsoft IT Academy, becoming a Pearson VUE Authorized Center for Testing, its many successful events and workshops...

This proposal will be the topic of a lively Advisory Panel meeting on 9/26/07 at the Downtown Campus, and clarification will emerge from that. However, current vision is to establish the "Mid-Pacific Information and Communications Technology (M-PICT) Regional Center," to serve 50+ community colleges in Northern California, Northern Nevada, Southern Oregon, Hawaii and the Pacific Territories, leveraging the best practices in the region to improve ICT educational outcomes for the entire region. Goals include:

- Harmonization of curriculum and nomenclature (so all better understand graduates' skills & knowledge)
- Developing articulation and transfer relationships with 4 year colleges and universities
- Reaching out to high schools to improve understanding of nomenclature, educational and career pathways
- Leveraging best curriculum and courseware across the larger community
- Developing exchange programs and facilitating transfer credits between ICT programs at affiliated schools
- Enabling deeper and more mutually beneficial relationships with industry
- Developing networked collaboration and resource sharing tools and pioneering them for others
- Developing a technology showcase to expose educators and community to industry & technologies
- Making it easier for industry to recruit from participating educational institutions...

Initial collaborating colleges include:

- Santa Rosa Junior College
- Foothill College
- Ohlone College
- Cabrillo College



In the 21st century, we all depend on information and communications technologies for individual and organizational productivity. Having knowledgeable and competent technicians capable of implementing, managing and maintaining ICT systems is a matter of national, state and regional strategic importance! We hope to take this issue to another level.