



## EECS Instructional Computing - Review and Plans Spring 2013

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### Mission Statement

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The EECS Instructional Support Group (ISG) installs and maintains networked computers that are used by EECS classes. ISG provides computer accounts for instructors and students in the Instructional labs and on Instructional servers. ISG purchases, installs and maintains application software needed for classes. ISG supports instructional labs in Cory Hall, Soda Hall and Sutardja-Dai Hall.

ISG wishes to anticipate and meet the computing needs of instructors and students in EECS courses and to provide support for new and innovative learning environments. We wish to be accessible and responsive to requests for service. We also wish to learn about new and interesting technologies that may be of value in this service.

### Organizational Scope

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These are functions in which ISG interacts with other UCB support groups:

- ▶ we use EECS department services (IDSG) for Active Directory, disk space, network access and security scans
- ▶ we synchronize our user accounts with the EECS department (IDSG)
- ▶ we obtain enrollments from the Registrar (Student Information Services)
- ▶ we obtain cardkey numbers from the CALL office
- ▶ we submit cardkey authorization to our labs in batch uploads to UCPD
- ▶ we bill students' voluntary printer charges to CARS
- ▶ we manage the computers in engineering labs with ESG
- ▶ we manage the licenses for Synopsys/TCAD/HSPICE with the Device Group
- ▶ we manage the licenses for Cadence with the BSAC group
- ▶ we manage the licenses for Maya and Renderman with the BCAM group



Recent Improvements  
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1) 140 Cory: 6000 SF lab modernization and showcase

[Texas Instruments](#) funded a major structural and equipment renovation to the EE40/42/100/140 lab in 140 Cory (Microelectronic Circuits, Linear Integrated Circuits). There are yellow wired AirBears cables at each station. Details: <http://www.eecs.berkeley.edu/Cory/TI/>. (April 2013)

2) 200 SDH: new chairs  
271/273/275/277 Soda: new chairs

We replaced 175 old chairs in 5 computing labs in 200 Sutardja Dai Hall and the second floor of Soda Hall. (June 2013)

3) 105 Cory: replaced 10-year-old PCs for signals and systems computations

We replaced 30 10-year-old PCs in 105 Cory with new ZT systems (i7 cpu, 16-GB RAM, 2-TB disk, Win7). This benefits EE20N (Systems and Signals) and other courses that use Matlab and LabView in 105 Cory. (May 2013)

4) 125 Cory: merged with lab equipment from 353 Cory

The 353 Cory lab (EE105, EE140, EE141, EE145L) was converted to non-instructional use, and the 24 lab stations and computers were moved to 125 Cory, which was recently renamed the "TI Mixed Signals" Lab. (May 2013)

These include the 12 new ZT PC systems (i7 cpu, 16-GB RAM, 2-TB disk, Win7) that were donated by [Intel](#) (June 2012) for the benefit of EE105 (Devices and Circuits) and EE141 (Digital Integrated Circuits) running Ltspice, Hspice. The other 12 systems are 10-year old PCs that we can't replace yet because of old Metrics software that won't run on the newer computers.

5) Compute Servers: new computers for EECS coursework

We added 9 new [servers running Linux](#) for general use. (Nov 2012)

6) Icluster: Increased capacity for Big Data

Thanks to Prof Canny and [Intel](#), we increased the hardware on our 26-node cluster to 16-GB or 32-GB RAM and 2-TB disks. This benefited CS294-1 (Behavioral Data Mining) running MarkLogic, CS250 (VLSI Systems Design) running Synopsys, and several classes running MapReduce. (Feb 2012)



Pending Improvements  
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1) 271,273,275,277 Soda: renovations and new Intel computers

The CS Division has started a 3-year project to renovate the labs on the second floor of Soda with new chairs, tables, carpet, projectors and paint. Thanks to Prof Culler's efforts, [Intel](#) has generously donated 150 new [NUC computers](#) and LCD displays for these labs. The NUCs will run Linux and will be installed during the summer 2013. Details: <http://inst.eecs.berkeley.edu/~inst/2xxSoda>. (June 2013)

2) 199 Cory: new SanDisk Computing Lab

Thanks to Prof King-Lau's efforts, [SanDisk](#) has generously offered to renovate 199 Cory and much of the 1<sup>st</sup> floor Cory hallway. 199 Cory will continue to be an open instructional computer lab, but with additional resources (seating, shared screens) for group collaboration. The work will begin in January 2014.

3) 349 Soda: 12 new PCs for Windows applications

We will add 12 more ZT systems (i7 cpu, 16-GB RAM, 2-TB disk, Win7) with all of the software that is normally installed in EE labs in Cory. We intend to move these systems to 125 Cory eventually, to complete the replacement of old PCs there. (June 2013)

4) 283F Soda: video authoring studio

We will install a new ZT PC system (i7 cpu, 16-GB RAM, 2-TB disk, Win7) with camera, microphone and Camtasia for GSIs and other students to record video presentations for tutorials and course presentations. We're waiting for a keypad lock to be installed on the door to make the room more accessible. (June 2013)



Notable Events

See <http://inst.eecs.berkeley.edu/notices.html> for current events.

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Apr 23 - National Instruments Campus Tour, LabView experts: Soda Hall, April 23

The "National Instruments bus"  
(/~kevinm/tmp/Berkeley-Campus-Poster.pdf) came to campus for  
the day and was visited by about 75 faculty, students and staff.

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Apr 16 - Yahoo! donated 24 servers to instructional computing

"Yahoo"  
(<http://us.careers.yahoo.com/lifeatyahoo/content/1362/lang/en>)  
donated "24 servers to instructional computing"  
(/~kevinm/tmp/Yahoo-delivers.pdf) and bought pizza lunches for  
EECS students!

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Apr 9 - Iserver\*, Icluster\*, Bcom\*, licenses were down again"

The problem described "below (Apr 8)" (#powerfailure1) reoccurred  
at 10:30pm on April 9. The affected services were restored by 10am  
on April 10.

It reoccurred again at 3:45pm. We restored the license servers by  
about 4:30pm and the Icluster\* and Iserver\* systems by about 6pm.

The video streaming servers (California and Netshow01) will remain  
down until Friday afternoon, unless there is a dire need.

On Friday morning, there will be some additional downtime while the  
a major circuit breaker is replaced.

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Apr 8 - Iserver\*, Icluster\*, Bcom\* were down

A power failure in the machine in Cory Hall shutdown these systems  
from 11:40am - 3:30pm:

Iserver[1-3] (Windows terminal servers)  
Icluster\* (Linux servers for CS194-1 and EE241)  
BCom\* (Linux servers)

These license servers were down from about 11:40am-2pm:  
Maya, LabView, Synopsys, Hspice, Renderman, Xilinx, ADS, Cadence

All services were restored by 3:45pm.

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Mar 4 - loss of service to Imail, Icluster and Cory.eecs

These symptoms occurred on Saturday March 2 from about 2pm-4:30pm,  
and again on Sunday/Monday March 3/4 from about 4:30pm-10:30am:

- \* No new email was accepted at [imail.eecs.berkeley.edu](mailto:imail.eecs.berkeley.edu).
- \* The WEB email client at <http://imail.eecs.berkeley.edu> would not open.
- \* Users could not login to cory.eecs or any of the icluster\* systems.
- \* Users who were already logged in may have seen "IO error" messages  
and had commands stall.

This was caused by the home directory file server intermittently  
becoming unavailable to these systems over the net. Instructional



IT staff worked with dept IT staff to failover to a duplicate server.  
The root cause of the problem has not been determined yet.

This is a repeat of the "problem we reported on Feb 7"  
(#cory.eecs-is-stalled).

Our other computers were OK. Our computers are listed under  
<http://inst.eecs.berkeley.edu/connecting.html#labs>

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Feb 20 - Windows print spooler is down

The server (SCOTLAND) that handles print jobs from our Windows  
systems died. We had it working again on Friday afternoon.

In the meantime, on Windows you could save the print job to a file  
in your UNIX (M:) home drive, login to a UNIX system and print  
to printers in 199 Cory, 274 Soda, and other labs. There are  
additional instructions in

<http://inst.eecs.berkeley.edu/cgi-bin/pub.cgi?file=putty.help#1>  
<http://inst.eecs.berkeley.edu/cgi-bin/pub.cgi?file=printers.help>

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Feb 15 - UNIX home directory disk was full

Sometime between 8pm and 8am, our UNIX /home/cc disk filled up.  
It contains the home directories for all of our 'class' accounts.

Users who tried to save files in their home directories received  
an error message that the disk was full.

We have removed some old content from the previous semester to  
regain space. The problem was resolved by 9:30am.

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Feb 7 - some UNIX logins are stalled again

2pm: There was a problem affecting cory.eecs and possibly some other  
instructional UNIX systems that caused logins and user commands  
(if you are already logged in) to stall. The problem existed from  
5am-11am today and was fixed, but reoccurred from about 1:45-2pm.

It was caused by the home directory file server intermittently  
becoming unavailable over the net. Instructional IT staff  
worked with dept IT staff to failover to a duplicate server.

Alternate login servers that are identical to cory.eecs include:

pulsar.eecs.berkeley.edu  
quasar.eecs.berkeley.edu  
star.cs.berkeley.edu  
nova.cs.berkeley.edu

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For additional reports, please see <https://inst.eecs.berkeley.edu/reports>  
For additional information, please contact me:

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