CSCF Objectives and Milestones

May 2017

Hardware Acquisition, Deployment, and Lifecycle Management

Plan, purchase, configure, deploy and manage lifecycle of equipment for offices, labs, and server rooms.

- **Objective:** timely deployment of desktop/laptop equipment to incoming graduate students
  - S17 (INF): acquire desktop equipment for incoming F17 students based on graduate enrollment estimates and historical equipment type distribution
  - S17 (INF/RSG): image, assign, and deploy equipment for incoming F17 students by 31 August, for equipment choice/locations identified by the grad office before 1 August.
  - W17 (INF): desktop equipment prepared for assignment to incoming S17 grads by April 15th, based on March 1 best estimate of requirements (done)
  - F16 (INF/RSG): acquire and deploy equipment for incoming W17 grads before the holiday break, for equipment choices/locations identified by the grad office before 2 December (not done - we did not have info from the grad office by 2 December)
  - F16 (INF): purchase grad equipment for W17 in mid-October, based on best estimates of requirements available at that time, so that all equipment is here by end of November (done)

- **Objective:** CSCF-standard equipment configurations and images, updated on an annual cycle
  - S17 (INF/RSG/TOP): eliminate use of roaming profiles for staff/grad desktop machines
  - W17 (INF): new (Fall 2017) Win10/Ubuntu image ready for use on May desktop deployments (done)
  - F16 (INF): patch the current (Win10/14.04) image for W17 deployments (done)
  - F16 (INF): tentative 2017 hardware configuration (done)

Machine Rooms and Server Infrastructure

Machine rooms and infrastructure for School and research equipment.

- **Objective:** redundant machine rooms to host CS on-line services
- **Objective:** rationalize CS networks
  - F16 (INF): server vlans routed on server room switches, client vlans routed on building
aggregation switches *(not done, not a priority for W17)*

- **Objective:** flexible, up-to-date server infrastructure
  - S17 (INF) no SCS servers running end-of-life ubuntu 12.04
  - W17 (INF/TOP) no SCS servers running end-of-life ubuntu 12.04 *(not done)*
  - F16 (TOP/INF) migrate/update fms12.cs from Vmware4 to Vmware5 *(done)*
- **Objective:** load balancing and failover for critical CS on-line services
  - F16: (INF): deploy redundant load balancing service *(done)*

### Teaching Labs

*Management of teaching labs in support of academic programs.*

- **Objective:** usage statistics for all teaching labs
  - S17 (TOP/INF): Director-accessible tabular usage data (room, time, count) for all MC labs, with on-going updates and no discard of old data
  - W17 (TOP/INF): Director-accessible tabular usage data (room, time, count) for all MC labs, with on-going updates and no discard of old data *(partially done – only for Mac labs)*
- **Objective:** evergreen Lab computing equipment
  - S17 (TOP/INF): refresh computers in MC2062 and MC2063
  - S17 (TOP/INF): evergreen MC3003
  - W17 (INF/TOP): acquire/install new desks in MC3027 *(done)*
  - W17 (INF/TOP) – prepare project plan for evergreening MC3003 in August *(done)*
- **Objective:** ensure that lab equipment is functional and secure
  - S17 (TOP): configure sound support in graphics lab
  - W17 (TOP): investigate alternatives to punch key code access to (real time and graphics) labs, to simplify code management *(done – don’t need alternative)*
  - F16 (TOP): docs for external users explaining what’s available in the teaching labs *(not done, cancel)*
  - F16 (TOP): incorporate monitoring systems (Nagios) into Caspar admin interface *(done??)*
- **Objective:** simple access to programming contest server from any general purpose lab
  - S17 (TOP/INF) evaluate approaches to dual-boot Macs in MC3005 for CEMC-type events, propose one, and implement if agreed
- F16 (INF): system for providing remote contest server desktops available for use in Mac labs for F16 contests *(mostly done, some unresolved issues with Mac xserver hanging)*

**Objective:** lab for use by CS coursework MMath students

- S17 (TOP/INF) plan log-in environment for shared-use machines (Mac/Linux/Windows), and implement on Macs and dual-boot machines in the coursework MMath lab
- S17 (TOP) simple, clear help signs in coursework MMath lab
- W17 (TOP/INF) update work-sites in DC3335 coursework MMath lab - 1/3 Mac, 1/3 dual-boot PC, 1/3 power/networking only. *(done)*
- F16: (INF/TOP) plan for refurbish of coursework Mmath lab, and move to new space once identified *(new space not known yet)*

**Meeting Room and Public Space Management**

*Management of A/V in CS meeting rooms.*

**Objective:** A/V for grad classrooms and meeting rooms

- S17 (TOP): develop plan for improving A/V in DC2585
- W17 (TOP/INF): install podium monitor in DC2585 *(done)*
- W17 (INF/TOP): plan, get approval for, and deploy video upgrade in DC2568 grad classroom *(done – problems resolved without upgrade)*
- F16 (TOP): plan, get approval for, and deploy video upgrade in DC2568 grad classroom *(not done)*

**Objective:** Manage and maintain SCS public display boards

- F16 (TOP) – plan and obtain approval for third SCS public display, in Great Hall *(cancelled)*

**On-Line Services: Database Management**

*Backend database services to support other on-line services and School operations.*

**Objective:** Highly available MySQL cluster to serve non-teaching applications, including ST, inventory.

- W17 (TOP): implement auto-restart for HA-MySQL *(done)*

**Objective:** Highly available Postgres service to support OAT and other CS applications

- S17 (TOP/RSG/INF): migrate remaining apps and databases from postgres.cs, shutdown service, and decommission/repurpose hardware
• Objective: DB2 for teaching
  ◦ S17 (TOP): upgrade DB2 server from ubuntu12.04

**On-Line Services: Linux Computing Environments**

*Linux computing environment(s) for teaching and for faculty/staff/grad general use.*

• Objective: track Ubuntu LTS releases in teaching and general environments
  ◦ W17 (INF/TOP): linux.cs and linux.student.cs refer to ubuntu 16.04 servers (*done*)

**On-Line Services: Teaching Systems**

*Systems for marking, assignment submission, and other teaching-related tasks.*

• Objective: manage on-going operation of Seashell service

• Objective: manage and maintain Markus
  ◦ W17 (TOP/INF): update assignments.student.cs container to 16.04 (*done*)
  ◦ F16 (TOP): upgrade Markus to version 1.2 (*done, upgraded to 1.4*)
  ◦ F16 (INF/TOP): update assignments.student.cs container (12.04 to 16.04) (*deferred to April 2017*)
  ◦ F16 (INF/TOP): saltify markus and marmoset deployment onto assignment.student.cs (*deferred to April 2017*)

• Objective: manage and maintain Marmoset
  ◦ S17 (TOP): replace or repackage pswatcher for Ubuntu systems
  ◦ F16 (TOP): configuration improvements to Marmoset to improve reliability (*progress*)

• Objective: ISG server for CS200
  ◦ F16 (TOP) decommission and shut down Oscar, old ISG server for CS200 (*done*)

• Objective: support phones for CS446 and other courses
  ◦ W17 (TOP): acquire ThinkingApe-funded phones, and develop plan for managing them beyond W17. (*done*)

**On-Line Services: File Storage**

*File storage for students, staff, and faculty.*

• Objective: highly-available network file service (NetApp) with limited capacity (4GB/undergrad, 20GB/ grad, 50GB/faculty)
• **Objective:** highly-available, performant, high-capacity file service (DFS) for SCS faculty, staff, grads
  - S17 (INF): migrate non-home-directory network mounts to DFS
  - S17 (RSG/INF): handover of on-going management of the DFS to the INF group
  - W17 (RSG/INF/TOP): Director-accessible downtime records (start time, duration, planned/unplanned, reason) for DFS and FSS services, regularly updated and not discarded *(not done: FSS only, data link not accessible)*
  - W17 (RSG/INF): DFS in production under FSS *(done)*
  - F16 (INF/RSG): DFS in production under FSS *(not done, progress)*

• **Objective:** file syncing/sharing (FSS) service for SCS faculty, staff, grads
  - F17 (RSG/INF): official launch of FSS service to SCS
  - W17 (RSG/INF): soft roll-out of FSS service to SCS *(done)*
  - F16 (INF/RSG): roll-out of FSS service to SCS *(not done, progress)*

• **Objective:** reliable Samba service
  - F16: (INF): Redundant samba service for both teaching and general environments *(done)*

**On-Line Services: Email**

*Supplemental e-mail services to support of SCS-specific requirements.*

• **Objective:** SCS mail exchange service supporting local mail scripting and SCS-specific aliases.
  - S17 (INF/TOP): review, re-design and re-deploy existing (MX) exchange service, modernizing and avoiding current spam-forwarding problem.
  - W17 (INF/TOP): review, re-design and re-deploy existing (MX) exchange service, modernizing and avoiding current spam-forwarding problem. *(not done)*
  - F16 (INF): re-design and re-deploy existing (MX) exchange service, modernizing and avoiding current spam-forwarding problem. *(not done)*

**On-Line Services: WWW**

*Web presence for SCS and CSCF*

• **Objective:** refresh/upgrade CSCF web presence
  - F16 (TOP/RSG) - plan content of revised site *(not done)*
  - F16 (TOP/RSG) - decision about moving CSCF web to WCMS *(not done)*
• Objective: support CS web presence
  ◦ S17 (RSG) – all SCS web-based applications work with new clustered web server
  ◦ S17 (TOP/RSG) – support migration of CS WCMS content from Math to UW, update CS WWW proxy
  ◦ S17 (INF/RSG) – deploy Ubuntu-16.04 Apache 3-node cluster
  ◦ W17 (INF/RSG) – deploy Ubuntu-16.04 Apache 3-node cluster (not done)
  ◦ W17 (TOP/RSG) – migration of CS WCMS content from Math to UW (not done – external delay)
  ◦ F16 (TOP/RSG) – migration of CS WCMS content from Math to UW (not done)

Teaching/Administrative Services

Custom services in support of teaching and School administration.

• S17 (TOP): deploy Xerox fleet printer in DC2320

Research Services

Custom services in support of research activities.

• Objective: “Paper” cluster – research infrastructure from surplus equipment, operated on a cost-recovery basis.

• Objective: SCS research computing systems and grad/faculty desktops behind UW-mandated firewall
  ◦ F16 (RSG): get remaining research nets behind the firewall (done)

SCS Software Projects: Exam Management System (EMS)

System to support exam seating, printing, and marking.

• Objective: migrate support and operational responsibility for EMS to RO and IST
  ◦ S17 (RSG): migrate operational instance of EMS to IST server in time for S17 exams
  ◦ W17 (RSG): PoC for EMS for other Depts: Accounting & Financial Mgmt, Chemistry, Engineering, Stats, Distance – posted on the Odyssey EMS help page. (not done)
  ◦ F16 (RSG): PoC for EMS for other Depts: Accounting & Financial Mgmt, Chemistry, Engineering, Stats, Distance – posted on the Odyssey EMS help page. (not done - there is a page of contacts, but it is not linked and some are confirmed)
Objective: on-going feature development
- W17 (RSG): revamped EMS UI is live (done)
- F16 (RSG): revamp EMS UI (supervised by Daniel) (not done, progress. Beta is live.)

SCS Software Projects: Grad Visit Day System
System to support annual Grad Visit Day, including scheduling
- Objective: ensure reliable system operation, customization and enhancements

SCS Software Projects: TA Evaluation System
Proposed system to support TA Evaluation workflow for the Grad Office.
- Objective: design, develop, deploy, maintain
  - F16 (RSG): solicit feedback on TA evaluation system, propose any Phase 2 changes (Isaac) (not done, not a priority for W17)

SCS Software Project: Teaching Preference System
System to collect faculty teaching preferences.
- Objective: ensure reliable system operation, refine and enhance as needed

SCS Software Projects: OAT
Backend database supporting advising tools, UW Portal, EMS, and other applications.
- Objective: ensure reliable system operation, enhance functionality
  - W17(RSG): all raw data inputs made available in the OAT DB for querying (progress, not done – external delays)

SCS Software Projects: OGSAS
System to support graduate admissions workflow.
- Objective: ensure reliable system operation, on-going feature enhancement
  - F16 (RSG): solicit feedback, propose new features if needed (not done, not a priority for W17)
- Objective: port OGSAS to OAT backend
CSCF-Internal Systems: Accounts Management

Manage and utilize accounts data for CS students, faculty, and staff

- **Objective:** exploit OAT database for accounts data
  - F16 (INF/RSG): get course enrollment (group) data in Directory Service from OAT DB (not done, some progress)

CSCF-Internal Systems: Inventory

System to track equipment inventory.

- **Objective:** ensure reliable operation, feature enhancements
  - S17 (RSG/INF) inventory-driven tftpboot and salt configuration for server provisioning

CSCF-Internal Systems: Research Subscription System

System to manage research support subscriptions, track time, generate bills

- **Objective:** ensure reliable operation, feature enhancements
  - W17 (RSG): prepare subscription system to support annual billing (not done, required changes not determined)
  - F16 (RSG): modify subscription system as necessary for revised billing model (unnecessary)

CSCF-Internal Systems: Request Tracking

System to track research support requests.

- **Objective:** CSCF request tracking via campus RT system
  - S17 (RSG): integration of RT time tracking with existing tools
  - W17 (RSG/TOP/INF): RT goes live (all new requests and updates in RT) on 1 May. (done)
  - W17 (RSG/TOP/INF): fewer than 50 open requests per staff member by term’s end, and none assigned to non-staff (progress)
  - F16 (RSG/TOP/INF): RT replacement for ST system in test, with sample queues and staff dashboards (not done)

Strategic Planning

Review and long-term planning of CSCF services.

- S17 (INF/TOP/RSG) develop plan for home directory file services for linux.student.cs and
linux.cs beyond end-of-life of current NetApp file server, including transition timeline

- S17: (INF/TOP/RSG) develop plan for printing services for SCS faculty, staff, grads – usage tracking not necessary
- W17: (INF/RSG) develop plan for SCS PostgreSQL servers (done)
- F16: (INF/TOP) develop printing support plan (not done)
- F16 (TOP) investigate and possible deploy/migrate on campus Slack alternative (done)

Financials

Manage CSCF spending on staff, equipment, and services.

- **Objective:** Produce annual equipment budget proposal for SCS.
  - W17(INF/RSG/TOP): final FY17 budgets to SCS (done)
  - F16 (INF): draft FY17 budget (not done)
- **Objective:** Timely and well-managed spending – avoid last minute spending.
  - S17 (INF/TOP/RSG): complete S17 spending according to budget targets
  - W17 (INF/TOP/RSG): complete FY16 equipment spending (done)
  - W17 (TOP/INF/RSG): develop a process for managing staff budget (done)
  - F16 (INF): At least 85% of CSCF budget spent by 31 December (not done, progress – about 70% spent through November)
- **Objective:** timely billing of researchers for research services
  - S17 (RSG): establish FY17 RSG unit billing rate and distribute single annual bill for each support account
  - W17 (RSG): combined F16/W17 bills distributed in Jan 2017 (done)
  - F16 (RSG): F16 billing under new billing model by end of October (not done, progress)