Information Technology Services – Next Services Recommendation
A deliverable of the Defining and Delivering a Service Level Agreement

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Version 1.2

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Document Control

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Table of Contents

DOCUMENT CONTROL ............................................................................................................. II
  Change Record ................................................................................................................... ii
  Reviewers ......................................................................................................................... ii
  Distribution ....................................................................................................................... ii

TABLE OF CONTENTS ........................................................................................................... III

1 INTRODUCTION .................................................................................................................. 1

2 OBSERVATIONS AND REQUESTS .................................................................................. 2
  2.1 Transitional Service Team Input ..................................................................................... 2
    2.1.1 Reduce or eliminate redundancy between documents .............................................. 2
    2.1.2 Drive service alignment as deep as possible ........................................................... 2
  2.2 Divisional Liaison (DL) Council ..................................................................................... 2
    2.2.1 Feedback from Stakeholders .................................................................................. 2
    2.2.2 Local SLA progress .............................................................................................. 3
  2.3 SMT Planning Retreat .................................................................................................. 3
  2.4 Mission Critical Services .............................................................................................. 4

3 CANDIDATE SERVICES ..................................................................................................... 5
  3.1 Infrastructure and/or tools that are not “ITS services” ..................................................... 5
  3.2 ITS services documented in the Service Catalog ............................................................ 5
  3.3 Highly desirable features currently not provided as a service .......................................... 6

4 RELATED BACKGROUND INFORMATION ......................................................................... 7
  4.1 Transitional Service Team Concept ............................................................................... 7
  4.2 New tools and templates developed over the last 8 months ........................................... 7
    4.2.1 The Service Definition Checklist ........................................................................... 7
    4.2.2 Templates .............................................................................................................. 8
    4.2.3 Metric Worksheet .................................................................................................. 8
    4.2.4 OLA/SLA Validation Meetings .............................................................................. 8
    4.2.5 Service Schematic ............................................................................................... 8
    4.2.6 Quarterly Reports / IT Request Reports ................................................................. 8
    4.2.7 Internal Service Catalog (ISC) ............................................................................. 9
    4.2.8 New web pages .................................................................................................... 9

5 NEXT SERVICES RECOMMENDATION ............................................................................. 10

Preface – a work impact statement ..................................................................................... 10
Work identified during DDSLA Program but not completed................................................................. 10

5.1 Strengthen alignment to the existing 4 SLAs by completing OLAs-only for dependent infrastructure and internal tools, service definition for dependent ITS services.................................................. 11

5.2 Complete transition plans for services and/or service definition work in CRM, Core and Application Solutions groups .............................................................................................................. 12

5.3 Complete service definition work by way of the Instruction Technology Review ................................. 12

5.4 Complete service definition work for mission critical systems not already addressed by one of the previous goal statements ........................................................................................................... 13
1 Introduction

The Defining and Delivering a Service Level Agreement (DDSLA) charter specifies deliverables for Operating Level Agreements (OLAs) and Service Level Agreements (SLAs). The deliverable for the

- OLA is to provide “recommendations including but not limited to additional services and processes to support internal exchange of service and incident/problem requests.”
- SLA is to provide “recommendations including but not limited to additional services and processes to support the SLA framework.”

For presentation purposes, these deliverables translated into a single and simply stated deliverable known as “to create a plan to transition services into the SLA framework.”

This document is a result of the aforementioned deliverables. This document includes

- Observations and requests gathered throughout the DDSLA program between January and July 2007
- New tools and processes developed that support service management
- Candidate services that satisfy the identified requirements
- A recommendation to concentrate on infrastructure and ITS services based on four goal statements.
2 Observations and Requests

Throughout the DDSLA program, observations and requests have been gathered in preparation for this deliverable. The input came from four distinct sources.

2.1 Transitional Service Team Input
This section summarizes two main reflections from the CruzMail, CruzNet and Desktop Support OLA/SLA working teams.

2.1.1 Reduce or eliminate redundancy between documents
The service teams working on SLAs for the four highlighted services identified that all of the SLA elements and more are captured in the service page or the ITS and Campus SLA thus making the SLA for an individual service a confusing and redundant document.

These service teams recommended that individual service SLAs contain contact information, service levels, metrics and service specific deviations from our standard processes outlined in the ITS and Campus SLA. All other service definition items belong solely on the service page. This reinforces the message to look to the service catalog for service information. The goal is to reduce or eliminate redundancy between the SLA, ITS and Campus SLA and service page for any given service.

2.1.2 Drive service alignment as deep as possible
The service teams identified that the OLAs of the four highlighted services do not include dependent OLAs for services, tools, technologies and infrastructure. A sub-section was added to Section 2 of the OLA to state service, infrastructure, internal tools and technology dependencies. We are not completely aligned to the delivery of CruzMail, CruzNet, CruzTime and Standard Desktop Support services until OLAs are completed for each bulleted item. Predictability and reliability of service delivery will not be fully realized until these OLAs are completed.

2.2 Divisional Liaison (DL) Council
The DLs have provided two pieces of information that can be used as requirements.

2.2.1 Feedback from Stakeholders
From the SLA Element Summary, a subset of the academic DLs summarized their findings from stakeholder interviews conducted during the research phase of the
SLA Element Discovery working team. An excerpt of the information gathered states

- For those divisions willing to prioritize, desktop support was a priority
- Reliable desktop services are dependent on reliable network and server hosting. Customers access systems necessary to complete their work through their desktop and often do not distinguish one from the other

### 2.2.2 Local SLA progress

During a local SLA progress check-in with the DLs, they expressed concern regarding gaps in global service support contribute to the lengthy conversations about local support with their Principal Officers. Two areas

Five of the ten local SLAs have not been completed at this time. Student Affairs is requiring an SLA for support and maintenance of their globally supported applications in addition to their local SLA.

#### 2.2.2.1 Departmental Application Support

The first area of concern identified was development, support and maintenance of departmental applications. The DLs expressed that the applications services are not well defined in the service catalog and that work taken on by Apps Sol is not getting completed as scheduled. Additionally, application development and support needs are growing in divisions and because they cannot get work completed through ITS they are hiring outside help to complete the work.

After surfacing this concern, Christi Bengard attended a DL meeting to review application projects with the DLs. The DLs requested that she set up the desired governance committees and make work visible. This concern was better understood but not resolved at this meeting.

#### 2.2.2.2 Desktop Support

The second area of concern identified was desktop support. LITS continue to perform desktop support, which keep them from performing more specialized work. Some divisions are hiring resource assistants to do their desktop support work.

A Standard Desktop Support Service retreat took place to review, comment and approve the process flow for desktop support. Gaps were identified and action items were assigned to individuals. Many of the gaps and action items have been completed since the retreat. The OLA is in draft form, which depends on the process flow. Once the OLA has been reviewed and approved, the issue of transferring responsibilities will need to take place. The SLA and service page will also need to be finalized. We continue to move forward but are behind schedule in completing the initial OLA and SLA.

### 2.3 SMT Planning Retreat

One of the outcomes of the SMT Planning Retreat held on July 23, 2007 is a list of service categories to help clarify the role of the LITS. Focusing service definition work in these service categories allows globally provided service responsibilities to transition from the LITS to global service provider(s). In turn, this helps clarify the
role of the LITS in providing specialized services for their clients. The areas in which to clarify services are:

- Application services
- Server/storage services
- Desktop services (Beyond what is in-progress now – backup services)
- Instructional Technology Services

### 2.4 Mission Critical Services

A team spanning Support Center, Data Center Operations, Portfolio Management Group, Instructional Computing, IT Services, other Core Tech groups, and other CRM groups developed the Major Incident Handling (MIH) process.

This team identified select services that receive 24x7 support from the data center (calling them mission critical to the University) as candidates for Major Incident Handling. Much of the major incident process is in place for the services listed below as the Data Center has and will continue contact staff in the event problems occur during off hours. The piece of major incident processing that is not in place for many of these services is the communication and notification piece. Developing OLAs for these services codifies the communication and notification piece and documents an existing practice that is standardized. Completing SLAs would also be beneficial but are beyond the scope of the need being addressed. These IT services are:

- “The” Network
- CruzMail (OLA in place already through the DDSLA program)
- Web Services, especially for the main campus and ITS servers
- CruzTime (OLA in place already through the DDSLA program)
- Business Systems (FIS, PPS)
- AIS
- CruzID and source systems
- Unix Systems (Timeshares)
- Telephone
- Santa Cruz Tickets.com
- Other Mission Critical Systems as appropriate
3 Candidate Services

The requirements from Section 2 of this document can be categorized into three groupings. They are infrastructure and/or internal tools that are not “ITS services”, ITS services documented in the Service Catalog, and highly desirable features not yet provided as a service.

3.1 Infrastructure and/or tools that are not “ITS services”

- “The” Network
- CruzBuy (how we partner with purchasing to work towards standard hardware and software purchases)
- IT Request (that it is available as we depend on it to track incidents and service requests)
- Security
- Backups (Data Center)
- DNS
- DHCP
- Vendor maintenance and support agreements
- Server hosting (internally)

3.2 ITS services documented in the Service Catalog

- Server Hosting
- UCSC ID Accounts
- CruzID and source systems
- Unix Systems (Timeshares)
- Telephone
- Business Systems
  - Advisory Services
  - Application Maintenance and Support
  - Application Portfolio Management and Support
    - AIS (including GARP)
- Santa Cruz Tickets.com
- FIS
- PPS

- Web Services
  - Departmental Web Development
  - Web Hosting
  - Personal Web Pages

- Instructional Technology Services (this covers many services)

### 3.3 Highly desirable features currently not provided as a service

- Active Directory
- Storage (server)
- Desktop Support (Backups plus other components)
- PDA Support
4 Related Background Information

Each of the elements documented in this section will aid in completing the recommendation proposed in Section 5 of this document. Most of this collateral is being woven into a Service Methodology for ITS.

4.1 Transitional Service Team Concept

One recommendation of the OLA Element Discovery working team was a Transitional Service Team concept and process. This concept and process has been valuable in identifying the core service team, the service manager, and a venue for validating the service definition.

The Transitional Service Team concept includes identifying a small initial service team, evaluating the service, and finally, creating a project plan to work through agreed gaps in service definition, the SLA, OLA, process flows and procedures. The outcome is a better-defined service with service levels due to staff understanding/alignment and deepening the standard processes. Another benefit is a list of better known and documented gaps.

The Transitional Service Team can become the service team once a charter with well-documented roles and responsibilities is developed. Additional lessons learned from the service teams would also be valuable input into the creation of the charter and review cycle of the OLA/SLA.

4.2 New tools and templates developed over the last 8 months

The DDSLA charter was approved before the service definition checklist was created and the role of the service manager and service team emerged as important developments in moving to a service oriented organization. Each of these as part of a Service Management Methodology are important elements to continue to develop.

4.2.1 The Service Definition Checklist

The service definition checklist is an important tool to evaluate a service from a completeness perspective to ensure a service is ready for deployment (even though most of the services already are deployed). It helps to document and track completeness of a service. Two components included in the service definition checklist are the completed OLA and SLA.
4.2.2 Templates

The OLA and SLA templates are important elements of the service lifecycle. The templates have been updated to reflect lessons learned with three of the four highlighted services. Roles and responsibilities plus a workflow for support and maintenance have been created. The goal is to make the templates as intuitive as possible to complete for Service Managers outside of the IT Services group.

4.2.3 Metric Worksheet

The metrics worksheet was developed to evaluate potential metrics for internal (OLA) and external (SLA) use. The worksheet documents a service or process metric along with our ability to attain and monitor the metric. It also documents the outcome of the evaluated metric (approved, rejected (and why), in-progress, etc).

4.2.4 OLA/SLA Validation Meetings

Service validation meetings are being completed for the Virtual Server Hosting service. These meetings provide valuable client facing input prior to “release” of a service. This type of meeting albeit it would only be a partial-service validation meeting would be valuable when completing the OLA and SLA for a service to better understand service level expectations from a client’s perspective.

4.2.5 Service Schematic

At the CruzMail Retreat, the team completed a schematic for the CruzMail service. The top level of the schematic contains the features and functions of the CruzMail service. The middle layer includes the groups involved to provide the service. The lowest layer includes named hardware, software and people that supply the CruzMail service.

The schematic is a valuable tool to understand the service. Currently, the CruzMail schematic is kept as an excel spreadsheet. It compliments the SLA, OLA, service page and procedures. In the absence of a CMDB (Configuration Management Data Base), the largest benefit of completing a schematic for a service is to gain a better understanding of changes and down-the-road dependencies. Moving the schematic to a pictorial representation would be beneficial. Completing schematics for infrastructure and core services would allow us to better understand overlapping hardware, software and/or people. It would give us the ability to (roughly) measure capacity and better understand service dependences and change across services (CM).

This manual process will be difficult to keep up-to-date. Automating the generation of a schematic or keeping a rich CMDB will require a tool or set of tools.

4.2.6 Quarterly Reports / IT Request Reports

Reporting metric information from IT Request has been a challenge but beneficial in our first steps to monitor and measure service levels. The first metric chosen to monitor is the 8-hour response time of IT Request tickets. Generating this report has been a challenge due to the tool’s limitations and available resources to scrub and store the data in a Business Objects Universe.

A canned report is now available along with roles and responsibilities and workflow for those assigned the work. This report is run quarterly and posted in the Service
Catalog. The report is also run monthly and routed to senior managers to aid in bettering the next quarters percentage.

Quarterly reports will be generated for specific metrics for individual services. The service specific quarterly reports are the responsibility of the service manager.

All SLA-related quarterly reports are kept in a folder and displayed on a newly created metrics web page.

### 4.2.7 Internal Service Catalog (ISC)

Having a repository for service information which in part includes the completed SLAs and OLAs plus much more is vital to the internal support of services. The DDSLA program identified a gap in existing infrastructure and requested that the internal service catalog be launched.

The Internal Service Catalog (ISC) is being loaded with information however it has taken more time than expected to get authentication set up. It will be ready shortly and communication will be sent to ITS announcing this important new resource.

### 4.2.8 New web pages

Two new web pages have been added to the service catalog to display SLAs and quarterly metrics. Both of these web pages are linked from the left nav bar of the service catalog home page. They are currently displayed at the top of the service catalog home page to get your attention.

The SLA web page contains links to the ITS and Campus SLA, local SLAs or service catalogs and individual service SLAs. Besides the benefit of having all the SLAs located from one place, having all of the local SLAs or service catalogs located through here serves another purpose. It allows us to say that ALL of our services are located in the ITS Service Catalog. The link to this web page is: http://its.ucsc.edu/service_catalog/sla/.

The metrics web page provides an easy look at the metrics we are measuring on a quarterly basis. The web page also contains links to the full quarterly reports generated that make up each metric. Currently, the metrics we report on include the 8-hour response time performance via IT Request, CruzMail – Percentage of Spam Blocked, and CruzMail - IMAP response time. The link to this web page is: http://its.ucsc.edu/service_catalog/metrics/.
5 Next Services Recommendation

The goal statements are prioritized. The highest priority is to complete the alignment of the first 4 individual SLAs to the infrastructure, tools and services as noted in section 2.3 of each of the OLAs. The second highest priority is to better align the organization to service delivery.

Preface – a work impact statement

Each goal statement includes the infrastructure, tools and services from the candidate list. Completing all the services listed in any one of these goal statements would add up several-FTE year’s worth of work. With the experience of completing the ITS and Campus SLA and 3 individual SLAs/OLAs, it will take on average 6-8 weeks to complete

- An analysis of the service (working through the service definition checklist) – 1-2 mtgs
- The OLA – 3-5 mtgs
- Necessary procedures and process flows that support the OLA – overlapping OLA 3-5 mtgs
- The SLA (including client-facing metrics) – 2-3 mtgs.

The bulk of the work is in the alignment of service definition and documenting the working agreements.

The time frame assumes a team leader is named to complete this work. Ideally this would be the service manager. The team named would ideally be a subset of the service team and they are charged to complete these deliverables. The team works on the deliverables (during team meetings) on average of 2-4 hours a week. The team leader has the additional responsibility of authoring the OLA, SLA and updating the service definition checklist. The 6-8 week time estimate does not include the DL/SMT review and approval process, which would add 3 additional weeks time.

The time estimate does not include negotiating time to determine work transitioning from one unit to another or the resulting shift in work.

Work identified during DDSLA Program but not completed

During the process of completing the OLAs and SLAs for CruzMail, CruzNet, and Standard Desktop Support, the teams identified missing systems to provide adequately for various parts of the OLA and SLA. For example, information for
CruzNet uptime is available in HPOV but not easily reportable. This led the team to decide against the pursuit of a system performance metric. A global example of a missing system is that the estimated resolve time of incidents and service requests are documented in each of the OLAs however an investment in monitoring and reporting of the metric is needed to include it in the SLA. This will be true for all services developing OLAs and SLAs that use IT Request.

- Develop monitoring/metrics infrastructure, especially to support availability and performance
- Report writing capability to support automation and publication of metrics.
- Implement SLM tools, e.g. to track requirements, OLA and SLA compliance and alignment and create an actionable service catalog
- CMDB to understand mapping of service to components and inform OLAs
- Integrated tracking with SML tools for incident, problem and change requests.

## 5.1 Strengthen alignment to the existing 4 SLAs by completing OLAs-only for dependent infrastructure and internal tools, service definition for dependent ITS services

Candidate services for this goal statement are:

- Complete OLAs-only for dependent infrastructure and tools
  - The “network”
  - DNS
  - DHCP
  - Data Center Hosting and Backups (internally for ITS services; specifically CruzMail, CruzNet, CruzTime)
  - Security (firewalls)
  - IT Request
  - CruzBuy
  - Vendor maintenance and support agreements (Underpinning contracts that factor into service levels)
  - Active Directory
- Complete service definition work for these ITS Services
  - UCSC Accounts
- Extend service definition work for these desired features
  - PDA Support
5.2 Complete transition plans for services and/or service definition work in CRM, Core and Application Solutions groups

A lessons learned from the Staff Transition Project was that services were not transitioned in conjunction with staff to global service areas. The requirements gathered from the DLs and SMT Planning Retreat articulate concerns with service delivery due to this reason.

Completing transition plans for services is a larger task than service management or completing the OLA/SLAs for a service. Completing transition plans is an additional effort that ITS Managers must complete before or in conjunction with service definition.

In this case, when the Service Manager and a subset of the service team begin the work of understanding “the service” they will find that some services are provided in multiple areas in different ways. Once this is uncovered, the team will have to engage the appropriate Senior Managers and ITS Managers to work through the service definition. Candidate services for this goal statement are:

- Complete service definition work for these ITS Services
  - Data Center (Server Hosting and Backups)
  - Desktop Support (Backups plus other services)
  - Application maintenance and support
  - Web services

- Affected ITS Managers work on analyzing and where possible transitioning or consolidating
  - Server support from LITS to System Administrators
  - Additional desktop support services from LITS to Support Coordinators
  - Additional departmental application maintenance and support from LITS to Applications Solutions
  - Web services from LITS to Applications Solutions

5.3 Complete service definition work by way of the Instruction Technology Review

Per the Instructional Technology Review, Phase 3: Organizational Design report, “The question of which instructional technology services should remain with the LITS and which should be aggregated into the central instructional technology organization will need to be determined on a case by case basis in the implementation phase, possibly over the course of 1-2 years.” Furthermore the report states, “The implementation of the ITR should help further refine the role of the LITS both in service provision and where staff report. As the provision of particular services move among ITS units the resources supporting those services, including staff, would move with the services in a process similar to the previous staff moves during the ITTP. The relationships and processes between the LITS
and the instructional technology organization will need to be well defined and broadly understood in order for ITS to work as an effective and cohesive organization.”

This recommendation is under discussion with Senior Management. Services would be identified during the implementation phase.

5.4 Complete service definition work for mission critical systems not already addressed by one of the previous goal statements

These include:

- CruzID and source systems
- Telephone
- Unix Systems (Timeshares)