NORTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
DISTRICT INFORMATION SERVICES
TECHNOLOGY PLAN
2011-2015
Strategy #1: Provide the Best Technology for the Best Value

Information Services can best accomplish this goal by focusing on the following objectives:

- Implementing technologies that can directly impact student success,
- Exploring new and better technologies to meet the needs of our staff, and
- Leveraging the assets we already have including our people and systems to better serve our students and staff.

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<tr>
<th>GOALS</th>
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<th>ACTIVITIES</th>
<th>DISTRICT-WIDE STRATEGIC PLAN/CHANCELLOR GOAL(S) ADDRESSED</th>
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</thead>
</table>
| Leverage our people asset to improve student success | Training:  
- Oracle 11g – Adam  
- Shibboleth – (CCCApply) Brad and Adam  
- Groovy & Grails – Brad  
- Red Hat Linux Administrator - Hank  
- Windows Server 2008 – Mal and Tim  
- MIS – Heather  
- CISO Certification - Fred | Provide staff training opportunities for:  
- New technologies  
- Mobile solutions  
- Testing strategies to streamline testing efforts  
- Information Security  
- Investigate the use of collaboration tools such as Sharepoint and myGateway for use across the district; help employees learn to use them for improved service to students and better productivity | Strategic Plan:  
District Objective 1.1  
District Objective 1.2  
District Objective 1.3  
District Objective 2.1  
District Objective 4.1  
District Objective 4.2 |
| | Collaboration:  
- Core Switch upgrade  
- Single Signon  
- Centralized Banner training  
- Institutional Effectiveness reporting  
- Student Success initiatives including Priority registration, Orientation, Ed Planning, Appointments  
- Print Shop  
- District wide DNS  
- Credit Card Processing Upgrade  
- Wireless Anaheim | | Chancellor’s Goals:  
Increase Student Success  
Organize & Expand a District-wide Staff Development Program  
Continue with Accreditation Compliance |
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</table>
| Leverage our systems asset to improve student success | Wireless:  
- Implemented small wireless network for SCE ESL on the 1st floor of the Anaheim Campus  
- Received funding to complete wireless across Anaheim campus  
myGateway 2.0:  
- Currently testing myGateway (luminous 4.3) on Linux platform, VMWare servers and load balance device for redundancy and improved performance  
- Standardized documentation to provide the campuses with uniform practices for PIN resets and User ID discovery  
- Explored and implemented CAS and AD in a production environment  
Staff Assignment Sheets:  
- Payroll project analysis continues  
Imaging:  
- Document imaging system analysis underway for HR; investigating OCDE system  
International Students:  
- No progress to date; user not interested  
Mapper:  
- Payroll process analysis begun to address Payroll/Benefits  
- Health Science application completed  
Curricinet:  
- Curricinet to provide Chancellor’s Office interface not completed by the vendor  
- Vendor will not interface product to Banner  
Student Success Initiatives:  
- Degree Works implementation expected Spring 2014  
- Comevo implementation expected Fall 2014  
- SARS/Bookit interface expected Spring 2014  
- Priority Registration expected Fall 2014 | ➢ Investigate wireless alternatives for the Anaheim campus to improve student access to services and improve staff productivity  
➢ Implement myGateway 2.0 with the following objectives:  
  - Unify communication for better student/staff collaboration  
  - Consolidate items that are replicated across district servers  
  - Blend off-campus and on-campus worlds for students so they are encouraged to use the system  
  - Provide mobility of system functions  
  - Establish communities for learning and students success  
  - Improve security  
  - Improve content delivery that will assist students and staff  
➢ Automate staff assignment sheets for better efficiency  
➢ Provide a comprehensive and integrated Imaging strategy across the district to improve records retention and access for Board minutes/agenda items, Finance documents, Human resources documents and Student documents  
➢ Provide self service solutions for International Students including SEVIS and CCCApply  
➢ Retire Mapper by moving the Health Sciences, Payroll and Benefits components to Banner to eliminate redundancy and improve staff/student efficiency  
➢ Integrate Curricinet with Banner for streamlined tracking of courses from creation to Chancellor Office approval  
➢ Implement Students Education Plan/Degree Audit to improve student success  
➢ Implement Student Planner/Calendar for registration (shopping cart style registration) | Strategic Plan:  
District Objective 1.2  
District Objective 1.3  
Chancellor’s Goals:  
Increase Student Success |
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</table>
| Encourage innovation and explore new and better technologies that can make our student/staff more successful | Testing:  
• Centralized testing of annual Financial Aid changes  
• Coordinated training for DegreeWorks | ➢ Explore better automated testing for system upgrades to improve staff efficiency and reduce errors  
➢ Expand use of Virtualization using district-wide standards for:  
• Desktops; staff and student  
• Servers  
• Network | Strategic Plan:  
District Objective 1.2  
District Objective 1.3 |
| Virtualization:  
• Expanding VMWare server pool to improve redundancy, reliability and uptime of our production systems | | ➢ Explore lecture capture tools for improved instruction  
➢ Investigate Unified Communications alternatives once the CENIC pilot project is completed  
➢ Develop mobile applications for improved student self service for:  
• Tablet Devices  
• Smart Phones  
• Laptops/netbooks | Chancellor's Goals:  
Increase Student Success |
| Lecture Capture:  
• Not economically feasible at this time | | ➢ Expand one-card services to minimize the number of cards a student needs  
➢ Implement textbooks alternatives which decrease student costs including:  
• Text rentals  
• E-texts  
• Free texts | |
| Unified Communications:  
• Awaiting CENIC VoIP offering details | | ➢ Investigate and select desktop protection for anti-virus/malware to improve reliability of systems  
➢ De-invest in e-mail; re-invest in other technologies to move effectively communicate with students | |
| Mobile:  
• Works continues with Mt. Sac | | | |
| One Card System:  
• No work done on this project; no user interest | | | |
| Textbook Alternatives:  
• Completed pilot project; e-books available | | | |
| Anti-virus/Malware:  
• Diversified anti-virus/anti-malware products to improve effectiveness and reduce costs | | | |
| Communication with Students:  
• Voice carriers are not cooperative in improving message delivery times  
• Investigating mobile push notifications for emergencies  
• Looking at replacement alternatives for SARS Call | | | |
| Student Success Act of 2012:  
• Comevo (Orientation), DegreeWorks (Ed Plan), SARS/BookIT (Appointments) implementation in progress | | | |
| Other:  
• Continue transitioning external applications requiring access to Banner data to API based access  
• Investigating online catalog systems for all campuses  
• Created synchronizing process between Banner and AD to support Single Signon | | | |
**Strategy #2 : Provide High Quality Customer Service**

Information Services can best accomplish this goal by focusing on the following goals:

- Improving the responsiveness to user (staff and student) needs to aid in their success, and
- Collaborate across the district to provide better service, eliminate redundancy and improve user satisfaction.

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</table>
| Improve responsiveness to user needs | Self Service:  
- Developed Helpdesk ticketing system for Blackboard support. This system is expanding to other support areas (i.e. SCE)  
- Developing SARS/BookIT system for appointment scheduling; pilot projects underway  
- EPAF project on hold  
Distance Education:  
- District IS hosting Blackboard LMS in order to reduce costs for both Cypress and Fullerton College  
- Increased promotion of myGateway instructional resources for faculty offering web enhanced instruction  
- Expanded Blackboard licensing to improve testing, development and production environments  
Emergency Notification:  
- Investigating more effective communication options that will integrate with our existing systems and structure  
- One-call Now in place for staff  
- Banner messaging in place for students | Increase use of self service applications for:  
- Appointments  
- Financial aid  
- Employee payroll/personnel forms  
- Other applications  
- Improve delivery of Distance Education through a cost effective consolidated system  
- Implement notifications to students and staff for informational messages (see Disaster Preparedness below) | Strategic Plan:  
District Objective 1.2  
District Objective 1.3  
Chancellor’s Goals:  
Increase Student Success  
Maintain Financial Stability |
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<tbody>
<tr>
<td>Collaborate across the district to improve service to the end user</td>
<td>Collaboration Across District:</td>
<td>➢ Improve collaboration across the district I.S. and ACT units by sharing expertise and networking</td>
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<td></td>
<td>• Formed workgroups consisting of representation from all technology areas to implement:</td>
<td>➢ Use the newly formed Technical Advisory Committee to:</td>
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<tr>
<td></td>
<td>o Core Switch Upgrades</td>
<td>o Improve communications on technology strategies across the district</td>
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<td></td>
<td>o Single Sign On</td>
<td>o Develop standards for improved efficiency across the District</td>
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<td>o Custom Application Development</td>
<td>o Create a Technology Plan for the district based on the Educational &amp; Facilities Master Plan and campus technology plans</td>
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<td></td>
<td>o Active Directory</td>
<td>➢ Consolidate network equipment into fewer devices i.e. combined firewall, VPN etc. where practical</td>
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<td></td>
<td>o Centralized Authentication System</td>
<td>➢ Use common network vendors across district to contain costs</td>
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<td></td>
<td>o Shared DNS services</td>
<td>➢ Streamline parking permit process across district for cost savings and student convenience</td>
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<td></td>
<td>• Service Level Agreement process to delineate responsibilities</td>
<td>➢ Explore best way to implement single sign-on for all district applications (i.e. InCommon, LDAP, etc)</td>
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<td>Technical Advisory Committee:</td>
<td>➢ Create a central data warehouse for research to support data-driven decision making</td>
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<td>• Completed and functional committee</td>
<td>➢ Implement a dashboard of key performance metrics</td>
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<td>Network:</td>
<td>➢ Leverage cloud applications for cost containment and ease of access for students/staff including:</td>
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<td>• Network upgrades performed to improve response and performance including a move to the fiber ring</td>
<td>o Email across the district</td>
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<td>Parking Permit:</td>
<td>o Shared applications such as office appliances</td>
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<td></td>
<td>• Completed for Cypress &amp; Fullerton</td>
<td>o Virtual labs</td>
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<td></td>
<td>Data Warehouse/Key Performance Metrics:</td>
<td>o Storage</td>
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<td></td>
<td>Rejected as a priority for Districtwide Strategic Plan</td>
<td>➢ Improve integration of Banner with county applications</td>
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<td></td>
<td>Creation of common Institutional Effectiveness Reporting Tools using ACCJC format</td>
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<td></td>
<td>Continue investigating data warehouse tools with current vendors</td>
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<td>Cloud Applications:</td>
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<td></td>
<td>• SCE live with Google mail/tools</td>
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<td></td>
<td>• Cypress testing Microsoft 365; using for DegreeWorks issue tracking</td>
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<td></td>
<td>• Acquisition of a tool for internal cloud applications;</td>
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<td>investigating use of this</td>
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<td>County Payroll Integration</td>
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<td>• Payroll project analysis begun</td>
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</table>

**DISTRICT-WIDE STRATEGIC PLAN/CHANCELLOR GOAL (S) Addressed**

**Strategic Plan:**
- District Objective 2.1
- District Objective 4.1
- District Objective 4.2

**Chancellor’s Goals:**
- Increase Student Success
- Continue with Accreditation Compliance
- Maintain Financial Stability
### Strategy #3: Plan for the Future

Information Services can best accomplish this strategy by focusing on the following goals:
- Plan for the refresh of technology to insure current/relevant systems,
- Respond quickly to changes in the environment, and
- Prepare for emergency and business interruptions.

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| Maintain current and relevant systems | Technology Upgrade and Refresh:  
- Upgraded core switches district-wide to extend support window at minimal costs  
- Upgraded and expanded the virtual pool of servers  
- Assisted purchasing in implementation of copier/printer support standardization Standards:  
  - Standardized on Red Hat Linux and transitioning servers to this environment  
  - TCC Developed the following standards:  
    - Social media guidelines  
    - Mobile Computing Device Guidelines  
    - Instructional Technology Standards for Classroom Multimedia Systems'  
    - Website Guidelines  
- Working on standards for Single Signon using CAS, Shibboleth and AD  
- Working on standards for Bring Your Own Device Social Media:  
  - Social Media Guidelines developed and social media handled by campuses  
Open Source:  
- Investigated library and others; determined not to move in this direction due to security and other concerns  
- Using open source framework for mobile applications  
- Used open source framework for student ID retrieval | Plan for technology upgrade and refresh to insure systems are current and usable  
- Upgrade systems before end of life declared by vendor  
- Develop standards to create a district wide environment whereby resources can be shared for:  
  - Virtualization  
  - Virtual desktop  
  - And other technologies  
- Leverage social media for student/staff benefit  
- Investigate Open source alternatives for existing and new systems such as the Library System | Chancellor's Goals:  
Increase Student Success  
Maintain Financial Stability |
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<tbody>
<tr>
<td>Disaster Preparedness/Business Continuity</td>
<td>Backup:</td>
<td>Investigate off-site co-location facility for hot backup</td>
<td>Chancellor’s Goals:</td>
</tr>
<tr>
<td></td>
<td>• Evaluated CENIC and Amazon Cloud solutions and determined the costs for pursuing these options were not feasible for the benefits they would have provided</td>
<td>Participate in district Emergency planning activities and offer technology assistance for that effort</td>
<td>Maintain Financial Stability</td>
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<td></td>
<td>• Investigating a combination of hardware and software solutions that would allow campuses and district to provide backup services for one another using District wide DNS</td>
<td>Establish and communicate best practices to protect staff and student data stored on district computers</td>
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<td></td>
<td>• Implemented a backup recovery system (VEEAM) for VMWare servers. This is the first step towards the development of a disaster recovery process for all 3 campuses and district IS</td>
<td>Implement effective emergency notification systems (see Improve Responsiveness to User Needs above)</td>
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<td>Emergency Planning Activities:</td>
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<td></td>
<td>• Upgraded EOC technology including Computer equipment, network, power and radio</td>
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<td></td>
<td>• Upgraded IS datacenter technology to improve notification of power and air conditioning events</td>
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<td>• Performed an emergency total shutdown and restart of the District IS NOC, simulating a catastrophic power event on campus; documents produced</td>
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<td>• Improved and expanded monitoring software for early detection of system events and decrease response time</td>
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<td>Data Protection:</td>
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<td></td>
<td>• CatTales articles and email notifications as needed</td>
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<td></td>
<td>• Continued emphasis during Banner training</td>
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<tr>
<td>Respond to environmental changes</td>
<td>Carbon Footprint:</td>
<td>Monitor carbon footprint of data center and equipment</td>
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<td></td>
<td>• Continuing to transition physical servers to the virtual server environment to improve performance and reduce maintenance and environmental costs</td>
<td>Investigate alternative energy sources</td>
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<td></td>
<td>• Retiring older servers &amp; network equipment that consume more power</td>
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<td></td>
<td>• UPS upgrade done</td>
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<td>Alternative Energy Sources:</td>
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<td>• None found to date</td>
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Strategy #4: Meet Legal and System Requirements
As an institution of higher education, NOCCCD must adhere to the law and requirements put forth by other outside agencies. The objective is compliance with these mandates to insure a sound education for our students.

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<tbody>
<tr>
<td>Meet legal mandates and obligations</td>
<td>Records Retention:</td>
<td>Review record retention strategies when implementing Imaging solutions for compliance</td>
<td>Strategic Plan:</td>
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<tr>
<td></td>
<td>• Reviewed and updated inappropriate access/data changes to grades notification process</td>
<td>Meet requirements of “Red Flag” legislation to insure privacy of students and staff</td>
<td>District Objective 1.3</td>
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<td></td>
<td>• Policies and processes in place; completed Accreditation:</td>
<td>Implement peer-to-peer compliance strategies</td>
<td>District Objective 4.1</td>
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<td></td>
<td>• Completed Follow-up and Midterm Report resulting in full accreditation for all three campuses</td>
<td>Implement systems in such as way as to make e-Discovery easy</td>
<td>District Objective 4.2</td>
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<td>Security Awareness:</td>
<td>Provide assistance in meeting Accreditation requirements</td>
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<td>• Articles in CatTales each quarter</td>
<td>Establish a security awareness program for end users</td>
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<td>• Presented at Mgmt Brown Bag Lunch Staff Dev activity on Cloud Computing Do's &amp; Don'ts</td>
<td>Review systems for compliance with accessibility requirements</td>
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<td>Accessibility:</td>
<td>Work with areas throughout the district that accept payment cards and assure that Payment Card Industry Data Security Standards are met.</td>
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<td>• DegreeWorks team to address issues with product PCIDSS:</td>
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<td>• Worked with Bursar offices at both campuses to complete PCI DSS annual certification survey</td>
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<td></td>
<td>• Working on method of remote payment card processing</td>
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<td></td>
<td>• Implemented new credit card payment gateway to save costs</td>
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<td></td>
<td>• Reviewed contracts pertaining to PCIDSS compliance &amp; security of student data</td>
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<td>Other:</td>
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<td>• Assisting with 1098T SSN compliance</td>
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<td></td>
<td>• Retired use of SSN for login to myGateway</td>
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