

TECHNICAL SPECIFICATIONS
FOR NEW OR UPGRADED SYSTEM

Please complete and return as a separate pdf document when submitting your proposal.

SOFTWARE/PROJECT:

VENDOR:

PERSON/PHONE SUBMITTING SPECIFICATIONS:

DATE SUBMITTED:

IDENTIFY PROPOSED ENVIRONMENT:

LOCATION OF SOFTWARE/HARDWARE:

- Campus hosted only
- Vendor hosted site only
- Campus or vendor hosted option
- Partially campus and partially vendor hosted
- Software is hosted at one site but hardware is at another site

LICENSING:

- Enterprise (unlimited campus use)
- Limited number of concurrent user licenses
- Named user licenses
- Are additional licenses needed for TEST environment (Y/N)

DATABASE:

- Oracle
- MS SQL
- Other (please specify)

SERVERS NEEDED/RECOMMENDED:

OPERATING SYSTEM

- Production application server:
- Test application server:
- Production database server:
- Test database server:
- Production web server:
- Test web server:
- Will there be any middleware servers? (Y/N)
- Can servers be virtual servers? (Y/N)
- Can software operate in cluster? (Y/N)
- Is software RAC compatible? (Y/N)
- Does software support load balancing? (Y/N)
- Preferred local server firewall
- Specify services that proposed software needs running:

CLIENTS:

- Does solution require any fat clients to be loaded on desktop?

MIDDLEWARE:

- Does software require any middleware?

BROWSERS:

- List supported browsers and versions

NETWORK PORTS:

- What TCP & UDP ports are required by software? _____
- Describe network service running on TCP & UDP ports _____
- Provide list of all ports that will need to be opened (all ports default to being closed)
- Provide drawings reflecting ports, connectivity, and flows
- Describe network and bandwidth requirements

PROGRAMMING LANGUAGES:

- Specify languages used to create software: _____
- Will client have access to source code? _____
- Are local modifications allowed? _____

AUTHORIZATION/AUTHENTICATION/SECURITY:

- Describe/explain how or if your solution performs the operation of each component or task listed. Discuss any unique features or attributes that your system may have:
 - Tell the College how the application administration will allow highly granular security management, specifying not only general system access but also activity, screen and field access, where necessary, by user and class of user.
 - Explain how your Supervisor accounts and/or IT accounts will have the ability to define users and privileges and assign and/or age out passwords/accounts.
 - Explain Developers' access permissions and auditing of these permissions
 - Explain vendor support staff's access permission
 - Explain how your system will integrate with the College's existing LDAP/Microsoft Active Directory/CAS infrastructure. What versions? _____
 - Explain how federated authentication could be implemented
 - If software can be accessed via Facebook or other social networking connectors, describe how the authentication works
 - Explain e-Signature policies and procedures
 - Explain how credit card charges are processed? Can Touchnet be utilized for all transactions?
- File transfers encrypted (Y/N): _____ If so, how? _____
- Files stored encrypted (Y/N): _____ If so, how? _____
- Authentication encrypted (Y/N): _____ If so, how? _____
- Passwords stored encrypted in database (Y/N): _____ If so, how? _____
- Passwords stored encrypted in logs (Y/N)? _____ If so, how? _____
- Backups stored encrypted (Y/N)? _____ If so, how? _____
- Do you support an IPSEC connection (Y/N)? _____
- Are all successful and unsuccessful login attempts captured and stored (Y/N)? _____
- Are files restricted to campus only use (Y/N)? _____
- Web access by public – unrestricted access (Y/N)? _____
- Are SSN's captured and stored (Y/N)? _____

PASSWORDS:

- Strong password supported (Y/N)? _____
- Strong password required (Y/N)? _____
- Is password automatically generated or manually created? _____
- Required minimum length: _____
- Maximum length: _____
- Special characters allowed: _____
- Expiration timeframe(s): _____

INTEGRATION: (Strong preference will be given to interoperability with the College's ERP (Banner); Banner is considered the authoritative source for all constituents, courses, facilities, and other enterprise data)

- Do you provide a delivered, fully functional integration between proposed software and Banner? (Y/N)
- Describe/explain your plan for integration/interface with Ellucian Banner 8.x
- What information will your software need from Banner?
- What information will your software send to Banner?
- For each integration, specify if it is a batch integration or will use web services;
 - If batch, will scripts be provided to extract the needed data from the appropriate Banner tables? (Y/N) If yes, what tables? _____
 - If batch, will scripts be provided to import the needed data into the appropriate Banner tables? (Y/N) If yes, what tables? _____
 - If web services, specify if web services will be vendor provided, will use Banner baseline web services, or will need to be developed
- What file formats are supported for imported files?
- What file formats are supported for exported files?
- Does system provide a delivered solution for importing only changed data?
- Does system provide a delivered solution for extracting only changed data?
- Is any downtime required for integration processing (Y/N)?
- Please describe how your solution performs the communication of changes between Banner and proposed software (ie, a student has been added or dropped from a class)
- Describe communication of identity management changes (ie, an employee leaves the College)
- Will API's and supporting documentation be provided for proposed software?
- How are integrations and interfaces tested? Is a test environment provided? Is there a process for refreshing the test environment with production data prior to testing the interface?

CONVERSION/MIGRATION: (if yes to any of below questions, please explain)

- Is functionality provided to convert historical data into proposed software?
- Is conversion included in proposed implementation services?
- Are professional services available for customizations, conversions, and integrations?

DISASTER/RECOVERY:

- Describe your process for system disaster recovery (both data and applications)
- Describe how your proposed solution operates in a high-availability or clustered system environment supporting 24/7 availability
- Provide recommendation for any special backups needed
- Describe any archival/historical capabilities provided
- Describe data retention plan
- How many business days will it take to fully recover?
- If hosted, describe Data Center and power redundancy
- What is the notification process for breaches, outages, and mishaps?

EMAIL FUNCTIONALITY:

- Does proposed software utilize email user communications? If so, explain.
- Does proposed software utilize email system alert notifications? If so, explain.

REPORTING AND ANALYTICS:

- Is a reporting tool provided with proposed system?
 - If yes, explain
 - If no:
 - What is the recommended reporting tool?
 - Will the system integrate with the Ellucian delivered Oracle ODS database?
- List all delivered reports and provide samples showing content and format
- Explain the flexibility of the reporting tool
 - Can delivered reports be easily modified by CofC employees (IT or end users) within the delivered reporting tool?
 - Can end users modify or create their own reports or will IT be expected to do this by nature of required expertise?
 - Can the format of delivered reports be changed (add CofC logo, change from portrait to landscape, etc.)
 - List supported formats for output (ie, XML, comma delimited file, etc)
- Describe administrative reporting functions and include discussion of types of administration reports and actual examples (e.g., diagnostic, usability, analytics, and customization options)
- Does the reporting tool allow for external data usage?

- Is there security provided within the reporting tool so that the College can control who can do what with or to reports – either modification of reports or return only specific data? If no, does the system's security accommodate controlling the data returned?

COMPLIANCY:

- Comply with FERPA requirements (Y/N/NA):
- Comply with PCI requirements (Y/N/NA):
- Comply with HIPAA requirements (Y/N/NA):
- Comply with Sarbanes-Oxley requirements (Y/N/NA):
- Comply with Gramm-Leach-Bliley Act (GLBA) requirements (Y/N/NA):
- Comply with Section 508 as defined by the ADA (Y/N/NA):
- Comply with application software SCORM, IEEE LOM, and IMS (Y/N/NA)
- Comply with College of Charleston privacy policy (see <http://www.cofc.edu/policies/privacypolicy/index.php>) (Y/N/NA)

BANNER PARTNER:

- Are you a certified business partner with Ellucian Higher Education? (Y/N)
- Do you have written permission from Ellucian to see Banner table structures and other proprietary information? (Y/N)

VENDOR PARTNERS/SUBCONTRACTORS:

- Identify any software partners/subcontractors that will be part of the proposed solution.
- Identify any hardware partners/subcontractors that will be part of the proposed solution.

APPLICATION SUPPORT:

- Provide clear description of what can be expected from vendor support
- Provide statement of support methods and time availability (e.g., 24/7/365); present in Eastern Standard time
- Explain support options for emergencies outside of normal support hours
- Does support include access from both Windows and Apple computers?
- Include a description for resources needed to support application including system administration (i.e., typical resources used over 3 month period)
- Explain any installation services provided. If application is remotely installed, is a WebEx or similar session provided for College of Charleston staff participation and/or observation of installation (Y/N)?
- Explain training that is provided. Provide additional training options.
- Do you provide support (ex. upgrades, patches, etc.) for both a test/development and production server?
- Describe your typical technical and support staff structure to maintain and support your solution to support a campus of our size
- How does application re-establish sessions to recover connectivity in the event of brief network outages?
- Provide drawing with detailed information of the logical application data flow
- Provide database documentation including structure and data element details
- Systems support – Explain/discuss the following:
 - What is your methodology for incorporating Windows or Red Hat server operating system updates and hot-fixes, software and security updates
 - Which plug-ins are supported (e.g., Java, Flash QuickTime, etc.), and what versions of each plug-in are certified. List all plug-ins required for access to all of the application features
 - Discuss how and when application software is configured for compatibility with plug-in updates and new version releases
 - List supported browsers, application software compatibility with supported browsers and application software compatibility with updates to supported browsers. Discuss how and when software is configured for compatibility with supported browser updates.
 - Describe your process for notifying customers about software updates.
 - Is all your support provided within continental United States? If no, from where is it provided?

MAINTENANCE:

- How are upgrades and patches released?
- Historically, how often are upgrades and patches released?
- Who applies upgrades and patches? (Vendor/Customer)
- Are upgrades and patches coordinated and tested with Ellucian Banner?
- How are Banner upgrades and patches coordinated with proposed software?
- How are local modifications/customizations maintained?
- Do user communities have input into upgrades and enhancements?
- Explain any packet tracing (i.e., Opnet) utilized for troubleshooting and performance analysis.

TECHNICAL REQUIREMENTS:

- Proposed application should integrate with the College's existing applications (ie, Banner 8.x and other administrative and academic systems)
- The application software must be compatible with Intel x86 system architecture. Please describe your support for VMWare ESX (virtual servers).

- All software must be Section 508 compliant as defined by the ADA
- Microsoft Windows 2008 and Red Hat Linux 5 are the preferred Server operating systems for servers hosted at the College of Charleston. The proposed system must support Windows 2003 or Red Hat Enterprise version 4 or above and include pre-configured local firewall.
- The proposed system database must support either Microsoft SQL 2008 (or greater) or Oracle 11g (or greater).
- The proposed solution must support LDAP or CAS authentication to Active Directory or Single-sign-on from Banner 8.x.
- The application software must support Windows- and Mac-based personal computers on multiple browser platforms, including but not limited to recent and future versions of Internet Explorer, Safari, Firefox, and Chrome. It is desirable that proposed solution also support Linux and mobile browsers.
- All data collection, storage, and transmission must comply with FERPA requirements for higher education institutions.
- The proposed solution must be PCI compliant.
- Must have multi-level security with encrypted password protection.
- Must submit a physical topology and logical topology (both in graphical form) that describe an appropriate hardware and software environment for production and test/development including interfaces to ancillary systems. Must include TCP & UDP ports with source and destination in logical topography.
- Proposal must include both a production and test/development environment. All development, upgrades, and patches must be applied, tested, and approved in the test/development environment prior to moving to production environment.

CURRENT COLLEGE OF CHARLESTON INFORMATION TECHNOLOGY ENVIRONMENT:

- ERP: Banner 8.x for Student, Finance, HR/Payroll, Accounts Receivable, Financial Aid, Document Imaging, and Workflow
- DATA WAREHOUSE: Banner Operational Data Store (ODS) and Enterprise Data Warehouse (EDW)
- LEARNING MANAGEMENT SYSTEM: Desire2Learn
- CONTENT MANAGEMENT SYSTEM: Cascade Server
- LECTURE CAPTURE: Echo360
- PORTAL: Luminis 4
- NETWORK: Ethernet; Wired (803.11); Wireless (802.11n, b, & g)
- EMAIL: Exchange 2010 for employees; gmail for students
- DATABASES: Oracle and Microsoft SQL
- AUTHENTICATION: Active Directory/LDAP/CAS
- SERVERS: HP running Windows 2008 or Red Hat 5
- LOAD BALANCER: F5
- REPORTING TOOL: Cognos
- VPN: Juniper SSL
- SECURE FILE TRANSFER: SCP, sftp, or https
- ECOMMERCE: Touchnet hosted solution
- CENTRAL LOGGING: Splunk
- TELEPHONE PBX: Avaya G3R version 11 with 214 local in/out trunks and 44 inbound (LD) trunks that are shared by College of Charleston, The Citadel, DHEC, Highway Patrol, Employment Security, and 6 other small state agencies
- PRIMARY CAMPUS TELEPHONE SERVICE PROVIDERS: at&t and Spirit Telecom