

## Murray State University

### White Paper - Enterprise Resource Planning Recommendation

#### Product(s) Recommendation

The Selection Committee recommends the SunGard Higher Education Banner and Luminis products for the core of the University's Enterprise Resource Planning (ERP) solution. The committee also recommends that the core solution be supplemented by certain auxiliary products, as detailed in this document.

#### Reasons Supporting this Recommendation

Following are the project objectives, supported by the benefits to be received by each objective and goals to be accomplished:

1. Provide near 24 x 7 real-time access to information from any computer with web capabilities.

**Benefits:** Allows all users of our systems and data the ability to obtain information when they want and need it.

**Goals:** Access to the applications and data are available on a near 24 x 7 basis. As warranted by security considerations, most applications and data are accessible from off campus via the Internet. Students and others served by the University can access essential services and information any time, from anywhere in the world.

2. Provide no-stop services and information that should make available an on-line fully integrated information system in a personalized, easy to find and easy to use format. These services should be personalized in a manner that identifies a specific student, faculty, staff, alumni, parent, potential student and/or potential employee and provides these constituents with functions critical to them. These services should be designed in an effort to build a strong competitive position by promoting academic excellence, improving recruitment, retention, advising, institutional advancement, public relations, and customer services.

**Benefits:** No-stop services and information that is made available in a personalized online fully integrated environment will provide all users with an efficient and easy to use method of obtaining information and communication with the University. This will also allow the University to work in the same environment and offer an efficient method of communication flow with all constituents.

**Goals:** A student will access most basic support services without being transferred from one office to another, and without having to explain the problem repeatedly to different offices. Service providers in each office will be trained to provide a wide

range of basic services. Basic matters relating to admission, financial aid, student accounts, and student academic records will be handled in a smooth and integrated fashion. *For example*, a prospective student calls about admission status. The service provider can tell the student the exact status regarding the approval of the application, even if the reason for the delay involves both admissions and financial aid documents that are lacking.

A core of “multi-functional” specialists in different offices can help answer the vast majority of student related enrollment, financial aid, payment, or housing questions. Information services that are made available to students will help decrease the need to visit or contact many offices.

The goal is to adopt this same no-stop philosophy for faculty and staff users and other constituencies of the University. *For example*, a faculty member will be able to obtain class rolls, transmit grades and obtain personal benefit and payroll information by signing on to one portal application.

3. Review workflow and procedures as they relate to industry best practices. Implement best practices where possible in order to provide streamlined operations and provide for efficient and secure self-service access to information and services, while maintaining the accuracy of information and preserving good internal controls throughout the University.

**Benefits:** Best practices are policies and procedures that have been proven to be the most successful and efficient within any specific industry. By designing operations around best practices, the University will be able to take advantage of these proven techniques and to improve workflow throughout the University. In most cases, best practices will be a more cost effective way of doing business, as well as providing enhanced customer service.

**Goals:** Self-service functionality is not only available to users but users are taking full advantage of self-service options as well. Adequate training and communication, both during training and afterwards, will be required to ensure widespread use of these options. The University has procedures in place for regularly studying the best practices at other peer universities and adopts those that are most effective. Most rules and exceptions are coded into the system so that human intervention is rarely required for routine matters.

4. Provide the assurance of system wide security that allows for a single sign-on for users to access data that is pertinent to them on a “need to know” basis and facilitate the use of the system to the fullest extent. Security should be designed to provide fine-grained control data access and should conform to University policies and external regulations regarding access to data.

**Benefits:** Single sign-on reduces the number of passwords that users must maintain and promotes more frequent changes of passwords. Single sign-on eliminates the time involved in accessing different applications.

**Goals:** Implementation of a single sign-on is available for all users of the Banner core application, including students, faculty, and staff. During future phases of the ERP, the Core Team will analyze the integration of access privileges and the benefits single sign-on will provide for peripheral applications.

5. Increase the University's power to communicate with constituents using a wide range of modern means and leading edge technologies.

**Benefits:** Effective communication across and beyond the university is essential for the University to meet expectations outlined in the strategic plan. Multiple means of communicating will help build stronger relationships between the University and the people it serves, through the entire lifespan of changing needs and changing roles. Examples of these roles include prospective student, enrolled student, alumnus, benefactor, faculty and staff, active employee, and citizen. Managing the lifespan of relationships helps the University be more competitive in recruiting and fundraising.

**Goals:** Make appropriate use of all available media to provide individuals the University serves with the information they need, when they need it, and in the format that is most convenient for them. Use leading edge technologies and allow users to select what information and notifications they want to receive and to indicate their preferred medium for receiving it, such as a personalized page on a Web portal, email, voice mail, or direct communication to a hand-held device. Reduce the time lag in communicating with prospective students to make recruiting more effective. Provide rich, highly personalized Web and email content to prospective students and donors.

6. Provide for a single source of data within one common information system that is shared across the University, which will serve to dramatically reduce the number of data silos currently utilized.

**Benefits:** Reducing the number of data silos that are currently utilized and converting these data to one common database will enhance the ability to retrieve data for analysis and reporting for all constituencies.

**Goals:** Data from all applications will be maintained in data fields supported by the core application. Any data element that cannot be maintained within the core application will be documented and justified. Each administrative area will adopt practices that encourage sharing and interchange of data.

7. Provide for a common set of data definitions that are clearly defined and consistently applied.

**Benefits:** Common data definitions will also greatly enhance the ability to gather data for analysis and reporting by providing a means to establish uniformity relative to what each data element represents. Well-established data definitions and procedures will be an essential part of the training process for new employees. Common data

definitions will help to ensure not only uniformity of data, but also will help eliminate the need for redundant databases throughout the University.

**Goals:** Policies and procedures for data standards are completed, approved and implemented by all areas of the University. Data definitions exist for all data and they are consistently applied.

8. Ensure necessary third party applications integrate seamlessly with the core vendor. Current applications will be replaced if necessary and new applications will be added to ensure a full integration of data. These will include, but are not limited to, applications for Residential Colleges, Bookstore, Food Services and Parking.

**Benefits:** The integration of third party applications will ensure that the campus users will be able to use common data sets. Integration will allow for users of third party applications to extract information that is available in the core application, which will eliminate the need to gather and maintain duplicate information.

**Goals:** All applications that are considered part of the ERP solution will be integrated. All data that is essential for university decision support and planning will be available in a unified system, without having to collect data from independent auxiliary systems.

9. Provide reporting capabilities that allow for accurate and timely internal and external reporting for the administration and necessary external agencies.

**Benefits:** Improved reporting capabilities will allow for specific data to be gathered in an efficient manner. The creation of standard reports to meet recurring request and external requirements will be done with less effort, allowing for more time to analyze the data.

**Goals:** Required reports are produced from the ERP applications for the administration and necessary external agencies.

10. Provide both the data architecture and the reporting tools that facilitate analysis and reporting at all levels and across all modules.

**Benefits:** The system should aid operational oversight, department-level planning, institutional research, reporting to regulatory and accrediting bodies, and multi-year and strategic planning.

**Goals:** Each area should be able to retrieve and manipulate the data that it needs to do its work directly, without relying on other areas to provide that data.

All users have the skills, knowledge, and tools to retrieve and manipulate the data needed to perform their jobs. Technical support is readily available for complex reporting analysis. The information in the core system is reliable and does not have to be checked against paper or shadow systems for accuracy and completeness. The information in the system stands on its own, and does not have to be “interpreted” by

the owner of the data. To facilitate adequate reporting at these levels, the system should be designed to allow for data export to MS Excel for additional report development.

11. Adopt a strong solution for identity management, based on a unique identifier that is not a social security or tax identification number. This solution will be used University-wide and will be adopted by all third party applications purchased by the University.

**Benefits:** In accordance with federal law and regulations, social security and/or tax identification numbers are not to be used as individual identifiers. By adopting a unique identifier not based on these two numbers, the University will be complying with federal requirements and taking a major step in the protection of these numbers for all users of our applications and helping to avoid security violations.

**Goals:** The unique individual identifier will be used by all applications, whether electronic, paper, voice, etc.

12. Create an environment that is less dependent on paper document flow to improve communications, reduce related expenses, and provide for operations that are more efficient. This will be accomplished by developing electronic forms with electronic signature verification and an integrated document management solution. The initial focus of this objective will only be on campus-wide forms as defined by the Core Implementation Team.

**Benefits:** Many state and federal regulations require the University to retain certain information for specified periods of time or indefinitely. In addition to regulatory requirements, the University also has internal requirements to retain data for analysis, research, and legal issues. The retention of paper documents is costly and not durable for long retention periods. A document management solution would provide a practical way of maintaining documents for these purposes.

**Goals:** The initial focus will be on developing campus wide forms as defined by the Core Implementation Team. Future phases of the ERP will include an analysis of documents that should be retained in an electronic format and developing procedures to transfer those forms to the document management solution.

## **Resources Needed**

The following items are being recommended for purchase:

### **Core Modules, including self-service functionality:**

Finance  
Student Services  
Financial Aid  
Human Resources  
Advancement

### **Overall applications to improve functionality and meet objectives:**

Workflow management  
Portal solution-Luminis Basic Operational data store  
Electronic data warehouse  
Document imaging  
Evisions for form development  
Integration application tools  
Cognos reporting tool  
Oracle licensing (various applications as required)

### **Third Party Applications to purchase if functionality for these areas is not available within the core application:**

Customer Relationship Management/CRM  
TouchNet (e-payment gateway)  
SEVIS (international student reporting)  
Motor Pool Facilities Management/Building and Land  
Inventory/Space Utilization  
Parking  
Faculty Activity Log  
Bookstore Textbook Management  
Housing  
Food Services

### **Interfaces with the core application will be purchased for the following third party applications:**

Blackboard (e-learning application)  
TouchNet (e-payment gateway application)  
CBord (Food Services and ID card application)  
Windstar (international tax application)  
DARS/DARwin (degree audit application)

### **Services for implementation:**

Implementation services at mid-level for software, hardware and operating systems  
Data migration/conversion tools and services  
Project planning and advisory services

Oracle database training  
Computer based training (after implementation training)  
Security assessment

**Hardware:**

Hardware necessary to run and secure the above applications

**Staffing Requirements**

Many organizational changes will be made throughout the entire campus. These changes will follow the procedures as outlined in the Change Management section below and may include reclassifying positions, shifting work and/or positions from one department to another, retraining current staff, reassignment of duties and new expectations for existing staff positions.

**Timetable**

Murray State University will consult with SunGard Higher Education to develop an implementation timeline that meets the objectives of the University. Planning for project implementation timelines will optimize software efficiency, vendor services and staff workloads. In accordance with SunGard estimates, implementation of Banner will occur over a 2-year period beginning July 2007. In order to meet Murray State University objectives, modules will be implemented in the following order:

- Finance
- Student/Financial Aid
- Human Resources
- Advancement

Finance will be implemented first because all other modules are dependent upon university account numbers. The review of the Chart of Accounts (COA) will be completed and the COA will be designed to take full advantage of the numerous fields available within the account numbers string to enhance budgeting and reporting at all levels.

The Student area, consisting of the Student and Financial Aid modules, will be implemented second. Selected portions of the Student modules must be in place prior to beginning the implementation of the Financial Aid module. The student service modules are very interactive thus requiring the two modules to be implemented simultaneously. The Financial Aid module must be completed by January 1, 2009.

Human Resources will be the third module for implementation. However, because there are several policy and procedural changes that will be needed in this area, Human Resources will work on these changes prior to the formal start date of the module's implementation.

Advancement will be the final core module in the implementation schedule. Advancement has a client server based application that is currently running. Therefore, interfaces with the new core application will be easier to develop as the other modules are going into production

status. Advancement will implement the core application module to reduce the need to rely on these interfaces for the long term and to take full advantage of the integration gained from being part of the core.

The Luminis portal and third party implementation schedules will be developed in consultation with SunGard Higher Education project management consultants and will reflect university priorities and objectives. However, a campus portal will not provide an immediate solution for all of the University's needs. Additional applications will be required to have true content management and consistent development of all University web pages. Refer to Attachment 2 for the subcommittee report on the portal recommendation.

## **Governance**

Governance for the implementation of the ERP solution and change management is the responsibility of the University's Project Manager and the Core Team, as recommended by the Steering Committee and approved by the President. The Core Team is comprised of individuals designated to provide leadership for each functional implementation team. Refer to Attachment 1 for the members of the Core Team. The Steering Committee will be responsible for appointing replacements to the Core Team. An individual appointed to the Core Team must have an understanding of the University's functional operations, be respected as a campus leader, and have the support of the entire Steering Committee. An individual's successor may not always be the best selection as a member of the Core Team.

During implementation, decision making will originate within functional implementation teams and be forwarded to the Core Team for approval. The Core Team will meet regularly to guide the work of the functional teams and will ensure that an institutional-wide perspective is used when reviewing issues and decisions of the functional teams. Decisions affecting more than one department or university process will be submitted to the Steering Committee for review prior to implementation. Priority will be given to timely resolution of issues, minimal project scope creep, and adherence to "Best Practices" as defined within Banner whenever possible. Any deviation from "Best Practices", implementation objectives, and existing university processes will require Core Team approval.

## **Evaluation**

Following completion of the implementation process, a governing committee will be established to provide continued oversight for decisions that will influence best practices of the University. This committee will be comprised of representatives from functional areas of the University.

The Core Committee will be responsible for the on-going evaluation of procedures and policies, revising them if they do not achieve the expected outcomes. This will include efficiency studies and user satisfaction surveys.

## **Change Management**

A primary objective of the project is to implement best practices where possible, while maintaining the accuracy of information and preserving good internal controls throughout the University. The impact of these changes will be thoroughly reviewed, analyzed and documented. Recommended organizational, policy or procedural changes will be discussed with all departments involved in the change.

### **Organizational Changes:**

The Core Implementation Team will recommend all organizational changes to the Steering Committee for approval.

### **Policy Changes:**

The Core Team will identify all policy changes and recommend them to the Steering Committee for approval. The Steering Committee will be responsible for obtaining Board of Regents approval when necessary.

### **Procedural Changes:**

The Core Implementation Team will approve all procedural changes; however, all procedural changes will be submitted to the Steering Committee for review and comments before implementation of the change.

## **Policies and Ground Rules for the Implementation**

### **Communication**

State of the art web technology utilizing portal functionality and CRM capabilities will provide opportunities to foster more effective communication among university constituents, alumni, parents, and potential students. An online fully integrated information system will provide efficient and seamless collaboration improving services to on and off-campus communities as well as enhancing the overall user experience through a virtual one stop personalized delivery of services. Each constituent's portal page will be individually tailored to provide delivery of services deemed important to the individual. CRM communication tools will be utilized to communicate effectively with potential students in order to provide shortened response times, current status review, and access to various self-service options.

### **Conversion**

A migration plan for all data within each legacy system will be developed and completed according to SunGard Higher Education methodology. Active data will be converted to the new applications based on the migration plan and maintained in the legacy system for a period to be determined by the Core Implementation Team. Data not converted to the new applications will be maintained via various mediums within the legacy systems until a predetermined date when these data will be archived in an easily accessible and usable format for future research and reference. Following implementation of the core modules, a strategy will be developed and implemented for electronic storage of paper records currently stored in various locations on campus. This strategy will take into consideration university requirements, federal and state mandates, security, reporting and departmental needs, and historical records.

## **Functionality**

The University will work to implement within the configuration of the core vendor's applications, with minimal code modifications. Modifications required by law, Board of Regents actions or by external reporting constituencies will be reviewed and considered. The proposed modifications to the baseline system must be submitted to the Core Team and be accompanied by justification/documentation outlining the business practice that requires the modification. The Core Team will be responsible for a thorough review and for making recommendations to the Steering Committee. Due to the on-going impact of modifications, they must be approved by the Steering Committee.

To limit the resources burden of internally developed solutions, the University will no longer develop applications in-house. Solutions for necessary functionality will be found within the core application or purchased from a third party vendor.

Changes or additions to the functionality of any integrated application may have an impact on data. Therefore, all changes in functionality of any integrated application or in data elements must be reviewed, documented and approved by the Core Team. Once the impact is determined and changes are approved by the Core Team, the requested changes will be submitted to the appropriate individual in the Information Systems Department for implementation.

## **Integration**

Per the Project objectives, the development of no-stop services and information that should make available an on-line fully integrated information system in a personalized, easy to find and easy to use format will require a very tight level of integration of all applications. The core application will be utilized for all development where absolutely possible. Necessary third party applications will be required to seamlessly integrate with the core application.

All current secondary (third party and in-house developed) applications will be analyzed to determine if the functionality can be performed within the core application. If the core application can provide the necessary functionality, the secondary application will be phased out at a scheduled time. In the event the core application is not able to provide the necessary functionality and the secondary application is being phased out, or cannot be satisfactorily interfaced with the core system, or is no longer providing the kind of functionality the University needs, the secondary application will be replaced by a vendor provided solution.

In order to meet integration requirements, a common set of data definitions must be clearly defined and consistently applied. To ensure that a full set of data elements is available for query, analysis, and reporting, all data elements must feed into the core application. Decisions regarding changes to the data set from third party applications will be submitted to the Core Team. A database manager will be responsible for working closely with the Core Team to ensure that data remain consistent and unduplicated.

All decisions related to the retention or replacement of current peripheral applications and the purchase of new peripheral applications will be approved by the Core Team. Once approved, peripheral applications will be placed on the project schedule.

### **Customer Relationship Management (CRM)**

The objective of designing a fully integrated solution with a common database will allow for the development of a CRM. A CRM will enhance the recruiting, retention and development processes by providing personalization of communication through web access and other leading edge technologies. The CRM solution will be purchased from a third party vendor and enhanced as the core application is developed. Standard content of the CRM will be routed and approved by the Core Team. The ongoing content management of the CRM solution will be managed by a team of individuals assigned from each executive area.

### **Reporting**

Priority will be given to providing the campus community with user-friendly reporting tools, which enhance abilities to evaluate data. Implementation of Banner modules will increase the potential for sophisticated data analysis and reporting capabilities in support of a data warehouse environment. Improved data access and reporting tools will better serve the needs of campus constituencies and external agencies for accurate, timely internal and external reporting. Enhanced reporting capabilities facilitate improved decision-making, institutional research, regulatory compliance and strategic planning across all modules and departments.

The Core Team will develop a training and report approval process for the campus community that takes into account implementation dates, key stakeholders, and self-sufficiency necessary for generating frequently utilized reports. Standardized reports and simple ad-hoc queries will be available through self-service reporting tools and skilled report writers (super users) in key departments. Information Systems technical staff will be responsible for creating reports and more advanced ad-hoc queries utilized on a less frequent basis. For these more advanced needs requiring technical assistance, requests will be submitted to the Core Team for approval and prioritization prior to assignment to Information Systems staff. Functional units will work with the Core Team to determine report availability timelines during and following implementation.

### **Security**

The ERP solution will be designed with a fine-grain level of security to ensure that legal and regulatory requirements concerning data use and access are followed. A high level of security will allow the system to be fully utilized to gain the efficiencies and data sharing requirements that are necessary. The University will adopt a single sign-on for all users to access data that are pertinent to them on a “need to know” basis. The Core Team will be responsible for adopting a security policy, which will include the owner/responsible party of specific types of data that will be used both during and after implementation. Data security will be the responsibility of all

employees that are identified as owners of specific data fields as defined in the security policy. A security manager, within Information Systems, will be responsible for implementing security changes and maintaining security levels for the campus.

The University will adopt a strong policy for identity management. This policy will require a unique identifier that is not a social security or tax identification number to be used for identity purposes. This identifier will be used campus wide for all applications and for University purposes.

### **Training**

Training for the campus community will be provided utilizing a variety of delivery methods appropriate to university roles. During implementation, training will include classes provided by SunGard Higher Education consultants in a timely manner relevant to implementation schedules and job responsibilities. Key members of the campus community will be identified as campus trainers with appropriate backup to ensure ongoing training opportunities for new faculty and staff. Technical training will be provided by SunGard Higher Education and third parties to allow university staff to implement, support, and maintain these systems on an ongoing basis. Ongoing training opportunities for the campus community will be provided to ensure continued functionality.

### **How We Arrived at These Recommendations**

The University created an ERP Selection Committee in August 2006 that is comprised of the following members:

Jim Baurer (co-chair), Curris Center  
Phyllis Baurer, Information Systems  
David Blackburn, Procurement Services  
Ricky Cox, Faculty-Chemistry  
Jackie Dudley (co-chair), Accounting & Financial Services  
Joyce Gordon-Human Resources  
Kathy Kerr-Registrar's Office  
David McKenna-Information Systems  
Adam Moore-Student representative  
Fugen Muscio-Institutional Research  
Linda Myhill-Development  
Anita Poynor-Bursar's Office  
Carl Prestfeldt-Budget Office  
Mary Smith-Admissions  
Janice Thomasson-Information Systems  
Jim Vaughan-Enrollment Management  
Charles Vinson-Student Financial Aid

This committee developed a needs analysis, project objectives and a Request for Proposals that were released in October 2006. Proposals were received in November 2006 and were thoroughly reviewed by the Selection Committee. After this review, the committee chose the

top two vendors and invited these two vendors to campus for campus wide demonstrations of their products. These demos were well attended by the campus community. After the campus demos, each member of the committee contacted their peers at multiple schools supported by each vendor, inquiring about various aspects of the systems as related to their individual areas and evaluating these responses. Many members of the committee accompanied by several others from the University, visited two schools, one supported by each vendor, to see the software in a similar environment to ours and to learn from a University that has experienced a similar implementation. The committee evaluated all information gathered from the demos, peer-to-peer calls, and school visits using various evaluation exercises. After this extensive review process, a recommendation can be made.