Project FRESH
Finance Systems Testing & Acceptance Plan

By Dwight Fischer and Alice Samuel

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Overview: Mitigating Murphy

The purpose of this document is to delineate a systems test, validation and acceptance plan for Project FRESH that needs to be executed prior to going live with Banner finance in January 2002 and later with the HR system in July.

Specifically, there must be a demonstrable degree of certainty that the fundamental components of Banner and all related hardware, software, subsystems, interfaces and network systems function properly and as intended. To accomplish this, we will begin with unit testing. Units are defined as the various components of the Banner and related systems. Once units are tested, they will be "graduated" to one of three phases of full system testing. Full system testing will be a scripted routine where several processes will be conducted that test as many system components that are completed and ready. With three planned full system test phases, it is expected that each is successively more rigorous and complete.

The Plan (as it will be referred to from here on) will include a testing methodology, resources (people, machines), test schedule and methods for documenting, evaluating, and communicating and accepting test results.

The specific components, or units, that will be addressed in the Plan are:

**Functional Testing**
- Finance modules
- Business Procedures
- HR Bridge (HUM, until HR goes live on Banner)
- Interfaces
- HR modules
- Web for Employees
- Web for products

**Modifications**
- SCT
- USNH

**Security**
- Application

**Management Reporting (MR2)**
- BusinessObjects Reporting Environment for Finance
- Financial Control Reports
- Financial Compliance Reports
- Nightly Extract, Transformation and Load Process for Financial DataMart
- BusinessObjects Reporting Environment for HR
- HR Control Reports
- HR Compliance Reports
- Nightly Extract, Transformation and Load Process for HR DataMart

**User Acceptance**
- Business Processes
- Training
- Documentation
- Support

**System Testing**
Via Middleware Components
- Web Forms
- Business Objects/WebI
- Bottomline
- Workflow
- Kronos
- FTP Processes

(Each above process will include the following checks:
- Desktop
- Network
- Backup and recovery
- Database integrity
- Security
- Stress testing
- Performance testing
- Printing
- Training

**Big Iron** (central hardware) Backup & recovery systems
- Oracle
- Unix

**Version Test** (which we go live with)

**User Productivity** (impact assessment)
Murphy’s Law dictates that anything that can go wrong, will. The primary purpose of this process is to put FRESH and all its components through the paces early, and to identify mission-critical elements that pose unacceptably high risk and to correct them prior to going live.

Murphy may indeed show up, but not by surprise.

Assumptions

- It needs to be recognized and acknowledged that the test & acceptance plan is going to be an intense process, on top of an already full plate of implementation activities.
- In light of above, participants need to work well together. Everyone needs help from everyone else. We are wholly interdependent.
- Our process for decision-making will need to be expeditious given the Project schedule.
- Communication is critical, and the team will do it’s best to keep everyone informed by email and in the dynamic test plan located in "<file:\Louise\User\System Replacement\Project Management\Test Plan Unit and Full Testing\Test Acceptance Plan WIP.doc>"

Testing Procedure

The following section will describe the Banner and related systems testing strategy. Given the dependencies of several key modifications on particular instances and Banner releases (5.2, 5.3), dates will need to be established that designate what instances and what release versions on which the testing will occur.

Testing will occur on at least two tiers: unit and full system.

Unit Testing

Each separate process whether it uses the Banner finance software, an SCT or USNH Modification, or a manual process and the various technology components will be tested. Data transactions will be tested and monitored, input to output. The goal is to validate the environment that USNH has architected around the Banner finance and HR systems, and that the components work without unexpected problems. The goal is to assure that each unit works - that a user can input the document or use the process - that results are reasonable, predictable and operate as expected.

Unit testing will also involve components for the BusinessObjects Financial Reporting Environment including the financial data mart structures and related processes, the BusinessObjects universe, and the WebIntelligence/BusinessObjects application. The HR reporting environment will also be unit tested following similar procedures.

Specifically tested will be:

- Individual business processes
• All IT infrastructure subcomponents

Full Systems Testing

Once units are testing by the functional and IT areas, they will be 'graduated' to a second tier of testing. In September, October and November, several full systems tests will occur. All components of the Banner finance system will be activated in a live simulation. All related applications, as well as interfaces, will be tested. The system will be load-simulated and security will be in place. In each of the three months of full testing, it is expected that problems and glitches will occur, either in the systems or the business processes. Yet the drive to perform full testing in September, October and November allow time for remedies or workarounds. Furthermore, the functional experts will be consumed in the final 5-6 weeks prior to January 1 with final data conversion.

Full systems testing does not imply that everything is ready in the first round in September. It is expected, however, that the primary components of the finance, MR2 and IT infrastructure will be unit tested by this time, and that various scenarios for full system testing will develop incrementally over the months of September, October and November.

Specifically tested will be:

• All business processes for go-live
• Financial control and compliance reports as produced in MR2 reporting environment
• All IT infrastructure components are in production-ready mode
• Software stress & load
• Basic security structure
• Mods that have been delivered and installed
• Feeds being processed (interfaces)

Unit and full system testing will include user involvement at various campuses such that they can provide a control group to identify network and other WAN issues, if any.
The following schedule is designed to overlay unit and full systems testing such that three series of full system tests will occur prior to end of November, allowing as much time as possible for resolving issues or developing work-around solutions.

Once unit tests are completed, they will be ‘graduated’ to the full systems testing periods. This integrated testing plan will be organized and overseen by Alice Samuel and Dwight Fischer, working closely with their respective staffs.
The early focus of this Plan is on the cutover to Banner finance. Similar procedures will be tested in the HR module throughout the following six months. The bulk of the HR role in this plan will reside in the Banner finance 'bridge' for HUM.

**Systems Testing & Assessment Team**

A concerted effort is required among several people representing the integrated components of the Plan. The following people are assigned to the Integrated Testing & Assessment Team:

- Dwight Fischer, Team Co-Leader
- Alice Samuel, Team Co-Leader
- Bill Baber
- Jackie Snow
- Pedro
- Ki Cheng
- Richard Dockery
- Susan Sullivan
- Steve Stofanak
- Bob Cape (ex-officio)
- Ken Cody (ex-officio)

Unit leaders will be responsible for creating detailed test plans for each of their assigned areas, and coordinating their efforts with various other units with the larger Testing & Assessment Team. A schedule for the Plan will be created in Microsoft Project and integrated with the larger implementation schedule.

It is expected that unit leaders will communicate work plans and deadlines to their respective groups, and keep them informed routinely.

**Testing Procedure, Problem Reporting & Acceptance**

Each unit within IT and functional areas will be assigned a leader responsible for unit testing. That individual is responsible for developing a Unit Test procedures and acceptance criteria. Both will need to be approved by either the functional team leader (Alice Samuel, Jackie Snow or Carol Powers) or, for all IT units, Bill Baber or Dwight Fischer.

Finance unit test plans are incorporated in the Banner Finance process development. Acceptance criteria are relatively straightforward: they are based on a casual user's ability to read the documentation, trigger a process and see it through to a successful end. Alice Samuel will lead the finance unit testing.

Jackie Snow is leading MR2 unit testing for Finance, but there are several dependencies on finance and IT units before they can begin developing reports in earnest. MR2 unit testing involves testing of the financial data mart structures and related processes, validation of the BusinessObjects meta data layer and associated data, and a review of the BusinessObjects/WebIntelligence functionality. The acceptance of the Financial Management Reporting Environment is twofold and is based on: 1) a casual end user's ability to easily access reports and retrieve accurate data and 2) a report developers ability to use the available meta data to produce accurate and meaningful reports. As financial control and compliance reports are
developed, they will also be tested and reviewed for accuracy and adherence to development standards and then formally accepted by MR2 and the report’s functional owner. MR2 unit testing for HR will follow similar guidelines. IT unit tests are being built into six categories, five of which are the middleware components that rely on all other IT aspects. They are listed below, with the person responsible for leading the unit test.

- Biz Objects: Jackie Snow
- Web Enabled: Richard Dockey
- Kronos: Eileen Cooley
- Workflow: Eileen Cooley
- Bottomline: Eileen Cooley
- File Transfer Protocol: Eileen Cooley

Full systems testing for finance (through the fall of 2001) will be planned by the Test & Acceptance Team and coordinated by Alice Samuel and Dwight Fischer. Scenarios for full systems testing will be developed and testing criteria proposed for approval by Bob Cape and Ken Cody by September 7. Full system test criteria need to be approved prior to the commencement of each full system test period.

A critical component of this testing process will be version control. It is critical that the final full system test occur on the version planned for going live. Hence, a decision on that matter needs to occur prior to October 15.

Problem Reporting and Resolution

The full system test will simulate ‘a day in the life’ of a finance system. Business processes currently conducted in the CUFS system will be enacted in the Banner from points throughout the University System. Payroll and checks will be run, normal documents processed and control procedures applied. The processes need to pass through the system with the desired results.

The person coordinating each test procedure will report testing errors. Reporting will take the following format for each full system test:

1. **Problem Identification and Description**
2. **Problem Classification**, defined in one of the following categories:
   a. **Showstoppers** - A critical process that does not function, or functions so poorly that it is unacceptable to users. Showstoppers further defined as:
      i. An alternative exists and is feasible within the time frame required to go live.
      ii. An alternative exists but is not feasible within the timeline required to go live.
      iii. There is no known alternative, or if there is it is far too costly.
   b. **Bugs** - Processes that are slow, laborious, and problematic but work well enough to be marginally acceptable to users.
      i. Alternatives will be identified and costs projected in terms of resources: time, people and money.
c. Errors- Defined as issues or processes that function acceptably yet cause minor inconveniences to users.

3. Identify alternatives and cost benefit analysis- Alternatives are identified by FRESH teams and SCT, and there is a high degree of confidence that it can be accomplished in order to go live at the designated date. Individuals reporting the showstoppers, bugs and defects will report on possible solutions and identified timelines for such resolution.

4. Recommendation to Project Managers: from the Test & Acceptance Team Leaders at the end of each full system test.

In each full system test, only showstoppers of the I category will be tolerated. There will be zero tolerance for levels II and III showstoppers.

The Test & Acceptance Plan team leaders will review the aggregate cost (defined by people, money and time) in regard to showstoppers, bugs and errors found in each full system test. They will make an appropriate recommendation to the Project co-directors as to whether or not to continue.

Full System Test Plans: September through Mid-November

<table>
<thead>
<tr>
<th>Full Sys. Phases</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Setup of tables, processes, data and systems, etc.</td>
<td>Testing to occur in BTST instance</td>
<td>Test #1 Local Entry</td>
<td>Debrief meetings Thursday afternoons</td>
<td>&quot;</td>
</tr>
<tr>
<td>Dates:</td>
<td>&quot;</td>
<td>&quot;</td>
<td>FIS Teams and IT support. IT will be assessing system stress and performance.</td>
<td>Recommendations to data setup, FIS team and IT Report to Project Managers</td>
<td>&quot;</td>
</tr>
<tr>
<td></td>
<td>Form security only, no approval queues at this point.</td>
<td>Analysis &amp; Evaluation</td>
<td>&quot;</td>
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</tr>
<tr>
<td>#2</td>
<td>Implement recommendations/changes from last week.</td>
<td>Repeat: Setup of tables, processes, data and systems, etc. Snapshot of data pre-test.</td>
<td>Test #2: Group expands to process groups. Multi-campus participation</td>
<td>IT will be assessing system stress and performance.</td>
<td>&quot;</td>
</tr>
<tr>
<td>Dates:</td>
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#3

Dates:

Test #3: Group expands to process groups and departments, USNH-wide
Multi-campus participation
IT will be assessing system stress and performance.

#4

Dates:

Test #4: Group expands to process groups and departments, USNH-wide
Multi-campus participation
IT will be assessing system stress and performance.

Final Report to Project Managers

This process will be continually refined each week, as new elements are added and as debriefing results in recommendations to the following test phase. Each phase will be successively more complete.

Evaluation Tool for Users will include:

- Ease of access
- Performance
- Problems encountered
- Functional assessment

Communication Strategy

- The Test Plan will continue to be the overall summary of testing. Reports and updates will be posted to this document routinely.
- Test Plan debriefing sessions will result each Thursday, in summary bullets with recommendations to subsequent test phases and recommendations to project managers.
Roles & Responsibilities

- Karen Daniels - Training Coordinator: architect, consensus around activities, organize, collects user feedback, analyze and work with process groups to effect changes.
- Process Team Chairs - Liaison between Karen Daniels and Process Groups
- Process Group Members - Testers
- Selected Department Users - Testers within departments
- Finance IT Group - Coordinators with DBAs and Finance Team
- IT Coordinator - Works with Finance IT team to ensure middleware and systems are established, load tested, monitored, evaluated, fed back, etc.