

# Banner Upgrades Custom Code Management

A whitepaper for Banner upgrade services by IData Incorporated

## **Overview**

Colleges and universities who have modified SunGard's Banner baseline code (either by modifying baseline objects directly or by creating a copy of the object and modifying this copy) are often faced with extra challenges when a new release of Banner is delivered. For these schools, the significant steps that must be taken to understand the new functionality or modifications delivered by the new code aren't enough. They must also to identify, analyze and test the effects a code release will have on all customized or modified baseline packages, functions, procedures, and external database objects before the custom code is reapplied to the newly delivered Banner baseline code.

## **Institutional Needs**

Identifying and modifying custom coding changes often requires many hours of development. This development can't begin until a development environment<sup>1</sup> has been properly set up, which requires obtaining all of the correct pieces and can be a difficult task in its own right. In addition, the developer will typically need to have skills in PL/SQL (including understanding the difference between API and SSB packages), PRO\*C, and Oracle Forms to be able to handle all of the required coding changes.

Project Management and Functional Testing, which are both vital to the success of upgrading local modification, are another large hurdle to overcome after each baseline version is released. This too is often a labor-intensive exercise because it involves creating or updating test plans to facilitate the testing, educating users on the new functionality they are testing, and tracking and resolving issues found.

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<sup>1</sup> Typically, a developer needs the original baseline object, the new version of this baseline object and the current, locally developed, modified version of this object.

## **IData Upgrade Methodology**

IData has developed a methodology that eases the burden of the Banner release update process on your institution, saving you time while conserving your budget. We've summarized the technical steps of this methodology for you below:

- Download new releases from SunGard.
- Apply upgrades to SEED<sup>2</sup> or an instance where no custom code has been applied.
- **IData has developed a script that automates the extremely manual process of identifying all code that needs to be changed.** This script creates a development environment (by extracting the correct files) that allows for easy merging of the custom code to the latest Banner baseline code.
- Use a Merge Tool for PL/SQL (such as TOAD or WinMerge) and modify the PL/SQL code that requires customization.
- Use a third-party tool such as FormsTool (by Oracle Toolbox *\*requires additional purchase*) to merge Oracle Forms.
- Create an install package that adds the modified objects with a single command after the baseline upgrades are applied.
- Refresh a Test instance with data and code from the Production environment, apply the baseline upgrades, and follow those upgrades with the install package created. Verify that the install package adds all of the custom code correctly to upgraded instance.
- Create and execute a test plan against the Test instance with functional staff. Record issues in an issue tracking and resolution system.
- Apply baseline upgrades and custom code package to both Pre-Production and Production, checking approved code into a version control system such as Subversion.

## **IData Solutions**

IData has helped other institutions through this process and offers both technical and project management services to help you manage your Banner upgrades. These services include:

- Project Management to kickoff your project and to establish timelines and milestones.
- Application of Banner baseline upgrades or patches to the SEED database.
- Identification of all objects that will need to be modified prior to applying upgrade(s) to Test, Pre-Production, and Production.
- Application of development changes to these identified objects.
- Creation of install packages that allow the new objects to be applied with a single command.
- Creation and administration of test plans with your functional staff to aid User Acceptance Testing.
- Upgrade the Oracle RDBMS to the required version needed by Banner baseline upgrades.
- Upgrade INB or SSB Application Servers to the required version of iAS.
- Application of Banner baseline upgrades and modified objects to PROD as needed.
- Post-Implementation technical support.

For more information, visit [www.upgradebanner.com](http://www.upgradebanner.com) or [www.idatainc.com/services](http://www.idatainc.com/services).

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<sup>2</sup> SEED is a SunGard Banner Baseline instance with no institution specific data or custom code.  
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