Banner 8 Unified Product Release
Technical FAQs

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Banner 8 Unified Product Release Technical FAQs

This document provides answers to a number of frequently asked questions about the technical requirements necessary to install and implement the Banner 8 Unified Product Release (UPR).

Q. What are the minimum database requirements for Banner 8 and other products included in the UPR?

To support a number of enhancements, Banner 8 will require Oracle 10.2.0.3, the latest upgrade to the proven and reliable 10g RDBMS. To support expanded bio-demographic and currency fields, the database must be set to support UTF8. In general, all Banner 8 UPR products will also support Oracle 10.2.0.3 running a UTF8 character set; however, some products support other versions of Oracle or other database components as necessary. These are outlined in the following table:

Product	Database Version	Application Server	Oracle Forms
Banner 8.0	10.2.0.3 with UTF8	Oracle 10.1.2.x	Oracle 10.1.2.x
Banner Document Management Suite 8.0	10.2.0.3 with UTF8	Oracle 10.1.2.x	Oracle 10.1.2.x
Banner Performance Reporting and Analytics EDW 8.0 ODS 8.0	10.2.0.3 with UTF8 and Oracle Warehouse Builder 10.2.0.2.8	Oracle 10.1.2.x	NA
Luminis Platform 4.1	Oracle 9i or 10g SQLServer 2000 or 2005	NA	NA

Q. What is the UTF8 character set and why is it necessary?

To help customers address the rapidly changing, competitive global environment, the Banner 8 UPR will provide support for international characters and expanded name, address, telephone number, and identifier fields that adhere to Postsecondary Electronic Standards Council (PESC) and US Postal Service standards. In addition to these expanded bio-demographic fields, the Banner 8 UPR will also provide support for longer currency amount fields in Banner General and Banner Finance.

The UTF8 character set is required to support these changes in Banner 8. Unicode is the common standard encoding scheme for international characters and text. It provides a unique number for every character, regardless of the platform, program, or language. UTF8 is the eight bit variant of Unicode. Standards such as XML, Java, JavaScript, LDAP, and SOA all require Unicode. Many operating systems, browsers, and applications such as Microsoft Office support Unicode. By providing support for the UTF8/Unicode, SunGard Higher Education positions the Banner Unified Digital Campus to utilize current and evolving open standards and to support further developments that adhere to international standards.

Q. I don't plan on using international characters in Banner; do I still need UTF8?

Since this is a database change that provides a number of enhancements in addition to international characters, like expanded bio-demographic and currency fields, the UTF8 character set is still required for installing Banner 8 even if your institution does not plan on using international characters. The Banner ODS and EDW products will also require the UTF8 character set once the Banner 8 database is installed or upgraded to support UTF8. The Luminis Platform database does not require UTF8.

Q. Do database changes such as lengthened or additional fields and UTF-8 support impact any customizations that an institution may have made?

Customers that have made customizations to their Banner UDC applications should pay special attention to project planning to take into account potential additional analysis, coding work, and testing as part of the upgrade from Banner 7.x to Banner 8.x. Porting customized code from Banner 7.x to Banner 8.x, and updating that code to work with the UTF8 database, could require more time and additional effort than moving from one Banner version to another as in the past. The level of effort depends on the type of customization, how it was implemented, including the programming language, the degree to which it accesses the Oracle database, and the level of expertise of the developer(s) doing the port. Customers should pay particular attention to any custom code that the institution developed that accesses the Oracle database, this includes code that acts as an interface between applications.

SunGard Higher Education estimates that customized code affected by the UTF8 database change could require twice as much time to convert as in past. Customized code not affected by the UTF8 database change should require approximately the same time as it has in the past. To assist customers with the conversion of their custom code, SunGard Higher Education is providing an SDK to help institutions understand all of the technical issues that surround the needed modification to their customized code. As part of that SDK, SunGard Higher Education will provide a tool that will automatically update all customized code created by the institution to any of the Oracle forms, including those forms that were created by the institution. This should greatly decrease the time required to do this work. SunGard Higher Education is currently exploring additional tools to aid with the update of customized C code created by an institution.

This conversion is a natural step in evolving the Banner code base to address the globalization of higher education and to comply with international standards. This effort will be a one-time update to the customized code; future ports of customized code from one version to another should require the same amount of effort as in the past.

Q. Are there specific technical requirements for Banner 8 UPR products?

Since the primary change involves installing or upgrading Banner 8 to support UTF8, you must create a new database, or rebuild a current database to run the UTF8 character set. If this is a new installation, the database must have the character set to UTF8 (Oracle = AL32UTF8) during the initial install. Clients that are upgrading must create a new database, set Oracle= AL32UTF8, export the data, and then import data into the new database.

There is also a set of libraries that allows for internationalization of the code. Therefore, installation of IBM's international component for Unicode is also required. Finally, there are some components of Banner that require Java. Currently Banner 7.x requires at minimum Java 1.4.x. For Banner 8, Java 1.5.x will be required.

Q. What is involved in migrating to the UTF8 character set?

When moving from a database with a single-byte character set to a database with a multi-byte character set, the semantics must be changed from BYTE to CHAR. Since standard export and import procedures do not consistently reset the semantics in the target database, columns sometimes need to be changed manually to use CHAR semantics. Oracle released a patch to Oracle version 10.2.0.3 (which is required for Banner 8) that allows the datapump operation to be used for the export and import process. The use of datapump will help reduce downtime during the upgrade.

SunGard Higher Education has been working with clients during Banner 8 UPR implementation programs to evaluate database migration procedures to help identify improvements and to get benchmarks for the overall duration of the process so that we can provide detailed information about the steps involved in the migration and the duration.

Prior to any migration, SunGard Higher Education encourages clients to move to the latest Oracle features (such as locally managed table spaces), as well as reorganize or consolidate their table space structures.

Q. Will my existing client tools work with AL32UTF8?

An application needs to be able to use and write Unicode. On Windows, these applications should be specifically written to use the Windows Unicode API. Setting NLS_LANG to AMERICAN_AMERICA.AL32UTF8 is not enough. Institutions should consult with the tool vendor to check whether and how to use the application as an AL32UTF8 or Unicode client. For example older versions of the popular Toad tool cannot run against AL32UTF8 database. Oracle's SQL Developer tool is able to address the AL32UTF8 character set.

Q. Where can I find additional information regarding UTF8 and Unicode?

For more information on how UTF8 impacts your database, we encourage you to consult Oracle's Web site or contact your Oracle representative. The following resources provide additional information regarding Unicode:

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http://www.oracle.com/technology/tech/globalization/index.html

http://www.oracle.com/technology/tech/globalization/pdf/
TWP_AppDev_Unicode_10gR2.pdf

http://download-uk.oracle.com/docs/cd/B19306_01/server.102/b14225/
ch11charsetmig.htm
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You can also obtain more information about UTF8 and Unicode from the SunGard Higher Education Customer Support Center and specifically from the following FAQs:

- FAQ 1-2WRFAU (Metalink Note 225912.1) Changing the Database Character Set, a Short Overview"

- FAQ 1-2WRFAY (Metalink Note 257736.1) "Changing the Database Character Set, an Extended Overview"

- FAQ 1-2WRFAQ (Metalink Note 119119.1) "AL32UTF8 UTF8 (unicode) Database Character Set Implications"

Q. Are there additional system requirements if I plan on using the Banner Student Catalog Extract and Load features?

No. If you plan to use Banner Student Catalog Extract and Load features, you will be able to use the Oracle 10g R2 Application Server, which is utilized by all other Banner 8 products. *For more information on the Banner Student Catalog Extract and Load features or other features and enhancements included in Banner 8 UPR products, see the following document: Banner 8 Unified Product Release Feature and Enhancement FAQs.*

Q. What browsers are supported for Banner 8, Luminis Platform 4.1, and other products included in the UPR?

The Banner 8 UPR products support standard Internet browsers including Internet Explorer, Firefox, Mozilla, and Safari (on Macintosh). While SunGard Higher Education makes every effort to ensure that its products will run on the most current versions of these and other browsers, there are some exceptions. The following table outlines anticipated browser support for applicable Banner 8 UPR products.

Product	Supported Browsers
Banner 8.0	Microsoft Internet Explorer 6.0 and 7.0, Safari 1.2 for Mac OS X (Webutil is not certified)
Banner Document Management Suite 8.0	Microsoft Internet Explorer 6.0 and 7.0
Banner Performance Reporting and Analytics EDW 8.0 ODS 8.0	Microsoft Internet Explorer 6.0 and 7.0, Firefox 1.5 and higher
Luminis Platform 4.1	Firefox 1.5.0.1 and 2.0, Mozilla 1.7.12, Safari 1.3.9 and 2.0

For more information on browser support, refer to FAQ 1-FDQJF, which is available from the SunGard Higher Education Customer Support Center.

Q. What operating systems are supported for Banner 8, Luminis Platform 4.1 and other products included in the UPR?

The following table provides a general list of the primary operating systems that are supported for UPR products. In some cases, UPR components may run on operating systems not listed, on older versions of the operating systems listed, or on newer versions not yet certified when this document was published. For the most definitive information on operating system support, contact SunGard Higher Education or access the Customer Support Center and refer to FAQ CMS-2554.

Product	Operating Systems
Banner 8.0 (including Intcomp and BDMS)	AIX 4.3.3, 5L (5.1, 5.2, 5.3) HP-UX (PA-RISC) 11.x Linux AS 3.0 Solaris (SPARC) 9, 10 Windows Server 2000, 2003

Product	Operating Systems
Banner Enterprise Data Warehouse (EDW) 8.0 and Operational Data Store (ODS) 8.0	AIX 4.3.2
	HP-UX (Itanium) 11
	Linux AS 3.0, AS 4.0
	Solaris (SPARC) 9, 10
	Windows Server 2000, 2003
Luminis Platform 4.1	Linux AS 3.0
	Solaris 10
	Windows Server 2003

Banner 8.0 will support OpenVMS on both Alpha and Itanium platforms; however, Oracle will not be releasing Database Server 10.2.0.3 for OpenVMS.Clients will need to wait until 10.2.0.4, which is tentatively scheduled for release in early June 2008.

Q. What are the technical requirements for Banner Enterprise Identity Services?

Some elements of the Banner Enterprise Identity Services have already been delivered in Banner General 7.5.1. However, in the Banner 8 UPR, the Banner Enterprise Identity Services elements will be integrated into more components. To implement Banner Enterprise Identity Services in your Banner 8 UPR environment, the following database and application server requirements must be met.

Database

- Banner General 8.0 on Oracle 10.2.03

- Oracle Forms 10.1.2.x

- Microsoft Internet Explorer 6.0 or higher (with Oracle JInitiator 1.3.1.18)

The Banner Enterprise Identity Services utilize Oracle Streams technology, which requires the database to be in archive log mode.

Application Server

Internet-native Banner (INB) requires Oracle Application Server 10.1.2.x. This is supported with JInitiator or Sun Java plug-in. Additional information can be found by referring to the Customer Support Center and specifically to FAQ 1-FDQJF.

Q. What are the overall hardware and software requirements for Banner 8?

In terms of computing power and memory requirements, the Banner 8 UPR components should behave similarly to current product versions. In terms of disk space, UTF8 support for enhancements that increase the size of bio-demographic and currency fields of the Banner 8 UPR will increase the storage requirements of your database. The increase to the database has not yet been determined. SunGard Higher Education will be working during Banner 8 UPR system testing and during Banner 8 UPR implementation programs to determine the increase that you can expect and will communicate this information as it becomes available.

Q. We use Macs in my organization; what must I do to use Banner 8?

In Banner 8, both INB and SSB are Web-based applications. Therefore, you must run Banner 8.0 with an Oracle-supported Internet browser for the Mac. This configuration requires Safari 1.2 browser (with Sun plug-in 1.4.2) on Mac OS X.

Q. Can I mix Banner 7.x products with 8.x products?

No. Due to the database changes inherent to the 8.0 release, you cannot run a mix of Banner 7.x and Banner 8.0 products, with the exception of Banner ODS 8.0. ODS 8.0 will support integration with Banner 7.x products, but if you are running Banner 8.0 you must use ODS 8.0. To benefit from the coordinated features of the Banner 8 UPR, we encourage you to upgrade all Banner products to their 8.0 versions.

Q. What are the supported upgrade paths for Banner 8 and other products included in the UPR?

As is typical with any major Banner upgrade, you must be at the previous major release level first, in this case Banner 7.0. You can then upgrade directly to Banner 8.0. It is not necessary to install any interim 7.x releases before upgrading as they are included in 8.0. We recommend you upgrade your Banner baseline products from 7.0 to 8.0, then upgrade your self-service products from 7.0 to 8.0.

For Luminis Platform you must be running version IV to apply the 4.1 patch. For ODS/ EDW you must be running version 3.1.1 to upgrade to 8.0. Alternatively, you can do a full install of 8.0. For Banner Document Management Suite (BDMS) clients running BXS 6.x versions, you must first upgrade to 7.0, then upgrade from 7.0 to 8.0.

Q: What are the steps necessary to upgrade to Banner 8?

While there are different methodologies for completing the upgrade, below is a recommended list of steps. It is important to note that this is a high level overview of he upgrade. The complete procedures necessary to upgrade Banner 8 are detailed in the installation guides that will accompany the Banner 8 software and in various pre-work documents that outline prerequisites and steps for exporting and importing database elements.

Software Upgrades:

1. Install Oracle Enterprise Edition 10.2.0.3.

2. Upgrade your application server to 10.1.2.0.2.

3. Upgrade your Oracle Forms toolset to 10.1.2.0.2.

Note

> Note: If you have local modifications to forms, you must also upgrade your Internet Developer Suite licenses to 10.1.2.0.2. ■

4. Install International Components for Unicode (ICU) release 3.6 on your Job Submission server.

Note

> Note: ICU requires GNU gmake to build. ■

Database Upgrade Method

1. Build an empty Oracle 10.2.0.3 database with UTF8 character set.

2. Run csscan on the existing 7.x database to fix character set issues before conversion if necessary.

3. Perform the export/import (expdp/impdp) into the empty database.

Q: Do I need to perform the steps to upgrade at the same time, or are there any the steps that can be performed in a staggered manner?

All software upgrades above (Installing Oracle Enterprise Edition 10.2.0.3, upgrading the application server and Oracle Forms toolset, and Installing the ICU) can be done prior to the 8.0 install (for example, in a separate weekend).

Q: What is the recommended method for recreating a new 8.x database?

Multiple methods have been tested within SunGard Higher Education and by our clients. There are advantages and disadvantages to each method depending on your database setup. Regardless of the pros and cons, we have discovered that the datapump method provides the best overall results.

Q: Is there anything new with this upgrade that a client may not have done before?

The International Components for Unicode (ICU) may be a new technology for your IT staff. Therefore, there could be a learning curve for installing and configuring ICU components.

Q: Are there any services available to help clients with the upgrade?

Yes, there are services available from SunGard Higher Education to assist clients with the upgrade of the Banner 8 UPR products. Clients should contact their Account Manager if interested in upgrade or other services related to the Banner 8 Unified Product Release.

Q: How long will a typical Banner 8 upgrade take?

There are many factors that contribute to the overall duration of the upgrade including the size of the database, the experience of the IT staff, the amount of prework, the preparation and testing performed in a test environment, etc. There are efficiencies that can be realized by completing some aspects of the upgrade process ahead of time (scripts, pre-compiles, form generates, etc.). With prework and minimal impacts, it is possible to confine database downtime to a long weekend.

Q. How will upgrade and installation media be delivered for Banner 8 and the other products provided in the UPR?

Clients who have licensed the Banner 8 UPR components will be able to download the new product versions from the Customer Support Center after they are released. Additionally, clients may request installation media for any or all products. Due to the size of some installation packages, some of the discs will be delivered in DVD format. As with all major releases, clients can also contract for upgrade and installation services, in which case media will be provided at the time of installation by your SunGard Professional Services representative.

Q. What type of testing is occurring for the Unified Product Release featuring Banner 8?

The standard test phases have been executed against each product contained in the Banner 8 UPR during development, including Client Test Drives and Beta programs. In addition, we conducted an overall Banner Unified Digital Campus (UDC) system test effort that covered high level end-to-end testing on all products in an integrated environment. This testing was coordinated within a new Banner UDC Test Center, which was built as part of the Banner 8 UPR development effort.