

Banner Intcomp Release Guide

*Release 8.0
April 2008*



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Revision History Log**Publication Date Summary**

April 2008	New version that supports Banner Intcomp 8.0 software
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Introduction

This release guide describes the following enhancements delivered with Banner Intcomp 8.0:

- Support for Banner Enterprise Identity Services
- Support for PIN encryption
- Internationalization

Banner Intcomp comprises the Banner components that support data synchronization and messaging with third-party products. Specifically, it includes the Banner components that support Banner Integration for eLearning, which includes integration among Banner, Luminis Platform, and learning management systems such as Blackboard, Nuventive TracDat, and iWebfolio.

Banner Intcomp 8.0 is a cumulative release that also includes enhancements, RPEs, and problem resolutions delivered in the Banner Intcomp 7.1, 7.2, and 7.3 releases. The following table summarizes the interim releases that are included with Banner Intcomp 8.0. For complete documentation about these interim releases, refer to the associated release guides.

Release Number	Contents	Date
7.1	Role administration	October 2005
7.2	Event processing changes Support for Multi-institutional Functionality (MIF) Role calculation enhancement	June 2006
7.3	Support for Multi-institutional Functionality (MIF) Support for Integration Control functionality Support for TracDat	November 2006

Problem resolutions are summarized at the end of this release guide. The detailed description, impact, and resolution information for each problem resolution are delivered in a separate file named `intcomp80000resolutions.txt`.

Dependencies

Some products are required for Banner Intcomp 8.0. Others are optional.

Note

For Banner Intcomp release requirements for previous versions, refer to *SunGard Higher Education Integration Solutions Dependencies*, available on the SunGard Higher Education Customer Support Center. ■

Required Products

Your institution must license the following products that support Banner Intcomp Release 8.0:

- Banner General 8.0
- Banner Student 8.0
- Learning Management Gateway 3.2

Supported Optional Products

Banner Intcomp 8.0 supports the following optional Banner products (minimum versions listed):

- Banner Finance 8.0
- Banner Advancement 8.0
- Banner Human Resources 8.0

Related Documentation

Refer to the following documentation during the installation and configuration of Banner Integration for eLearning:

- *Banner Integration for eLearning Administration Guide* – Describes implementation of the eLearning product, ensuring data synchronization and successful event and report processing.
- *Banner Integration for eLearning Installation Guide* – Describes installation and configuration of Banner and Luminis components with partner systems.
- *Banner Integration for eLearning Message Reference Guide* – Defines the business processes and XML messages that are part of Banner Integration for eLearning partner systems.
- *LMB Installation and Administration Guide* – Describes installation and configuration of the Luminis Message Broker, the software component used to transfer information between Banner and Blackboard Learning System products.
- *Integration Solutions Dependencies* – Lists the hardware and software dependencies required for installing Banner Integration for eLearning.
- Release and upgrade guides for various Internet-native Banner, Self-Service Banner, and Integration Technologies component middleware – Describe the installation and implementation of the products used with Banner Integration for eLearning. The specific manuals used depend on the products your institution is using. The latest documentation is available on the SunGard Higher Education Customer Support Center under the product name.

- Luminis Platform documentation – Describes installation and configuration of the Luminis products.
- *Data Integration SDK IMS Protocol Specification* – Provides guidelines for developing adapters to support integration with products, such as Luminis Platform, that use the SunGard Higher Education Integration Technologies. This document was known as *LDIS-P Protocol Specification 2.0*.
- Blackboard Learning System product documentation – Describes installation and configuration of Blackboard products including CE Enterprise and Vista Enterprise. Find the most current Blackboard Learning System documentation at <http://www.blackboard.com>.



1 Functional Enhancements



This section provides a functional description of the enhancements delivered with Banner Intcomp 8.0.

Support for Banner Enterprise Identity Services

Banner Intcomp 8.0 supports two features of Banner Enterprise Identity Services 8.0:

- Common definition of identity across SunGard Higher Education applications
- Common identifier across SunGard Higher Education applications

For detailed information, refer to the *Banner Enterprise Identity Services 8.0 Handbook*.

Common Identity

The foundation of Banner Enterprise Identity Services architecture is a common definition of identity shared across SunGard Higher Education applications. The UDCIdentity XML structure, implemented in W3C XML Schema, forms the basis for exchanging user data between SunGard Higher Education applications and external provisioning components such as a third-party identity management systems or a central directory.

The UDCIdentity XML structure aggregates and packages data about a user of a SunGard Higher Education application. When Banner is the authoritative source for this data, the structure is used to provision enterprise user accounts in an identity vault. In turn, this data structure is used to provision other SunGard Higher Education applications as appropriate. When Banner is not the authoritative source for user identity, Banner itself can be provisioned using this structure.

The UDCIdentity XML structure includes person information that normally would be stored in a central directory. Person information includes person name, gender, birth date, email address, primary address, campus address, campus phone, mobile phone, fax, and institutional roles. Some of these structures are complex, having child attributes.

Common Identifier

The UDCIdentifier userid type is new to the LDIPERSON event and LDIPERSON object contained in the ICGORLDI extract process. This type of userid is unique among SunGard Higher Education applications and is the primary identifier for each system user synchronized with the third-party identity management system or central directory.

The userid of type UDCIdentifier is an unchanging, system-generated, 32-character, alphanumeric value. As a globally unique identifier, the UDCIdentifier can be used by systems to ensure that user data objects are properly located, created, and updated.

The PERSON object created by Banner Intcomp was modified to support a userid of type UDCIdentifier. The following example shows a sample person object containing the UDCIdentifier userid:

```
<enterprise>
<properties lang="en">
<datasource>BANNER System Test SCT Banner</datasource>
<datetime>2007-10-16T11:22:49</datetime>
</properties>
<person>
<sourcedid>
<source>BANNER System Test SCT Banner</source>
<id>1262</id>
</sourcedid>
<userid useridtype = "SCTID" >610009603</userid>
<userid useridtype =
"UDCIdentifier">3C9CBAC305933872E0440003BA1015A4</userid>
<name>
<fn>Chip A Barrens</fn>
<n>
<family>Barrens</family>
<given>Chip</given>
<partname partnametype = "MiddleName">A</partname>
</n>
</name>
<demographics>
<gender>2</gender>
</demographics>
<institutionrole primaryrole = "No" institutionroletype =
"ProspectiveStudent"/>
<institutionrole primaryrole = "No" institutionroletype = "Student"/>
<extension>
<luminisperson>
<academicmajor>Nursing</academicmajor>
<customrole>ApplicantAccept</customrole>
```

```
</luminisperson>
</extension>
</person>
```

Support for PIN Encryption

With the Banner General 8.0 release, PINs are stored in the database only in encrypted form. A cryptographic hash is used to transform the PIN before it is stored, so that the unencrypted password can never be retrieved from the database. The cryptographic transformation is a one-way process. Even if someone retrieves the encrypted PIN from the database and learns the details of the encryption process, the unencrypted form of the original password cannot be decoded.

For additional security, the PIN is “salted” before it is encrypted. Salt, in this context, refers to a randomly generated string that is added to the PIN before encryption. This string adds another layer of complexity to the encryption. For detailed information, refer to the *Banner General 8.0 Release Guide*.

To support this enhancement, the LDIS-P person object was modified to include an encrypted PIN and salt value in the XML. The following example shows a sample person object containing an encrypted PIN and salt value:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE enterprise SYSTEM "ldisp-2.0.dtd">
<enterprise>
  <properties>
    <datasource>SunGard SCT Banner</datasource>
    <datetime>2008-03-28T14:29:13</datetime>
  </properties>
  <person>
    <sourcedid>
      <source>Banner University</source>
      <id>118</id>
    </sourcedid>
    <userid useridtype = "Logon ID" pwencryptiontype = "SSHA"
password = "{SSHA}f3EXv0PX/3Ui+b0ZA0h+FUGEkHtPNzVNUTZSVQ==">psmithy
</userid>
    <userid useridtype = "SCTID" pwencryptiontype = "SSHA" password
= "{SSHA}f3EXv0PX/3Ui+b0ZA0h+FUGEkHtPNzVNUTZSVQ==">210039281</userid>
    <userid useridtype =
"UDCIdentifier">40B35A4BF2600C11E0440003BA9B2B5B</userid>
    <userid useridtype = "Email ID">psmithy</userid>
    <name>
      <fn>Mrs. Pamela Susan Smithy</fn>
    <n>
```

```

        <family>Smithy</family>
        <given>Pamela</given>
        <prefix>Mrs.</prefix>
        <partname partnametype = "MiddleName">Susan</partname>
    </n>
</name>
<demographics>
    <gender>1</gender>
</demographics>
<adr>
    <street>1029 S. Lancaster</street>
    <locality>Malvern</locality>
    <region>PA</region>
    <pcode>19355</pcode>
</adr>
    <institutionrole primaryrole = "No" institutionroletype =
"Faculty"/>
    </person>
</enterprise>

```

Internationalization

The Banner system is used by higher education institutions worldwide. As Banner is enhanced and modernized, one major initiative is to make the system more adaptable for use in different countries and with different languages. This ongoing effort is called internationalization (often abbreviated I18N). Internationalization reduces the amount of custom modifications required to make Banner usable for clients in various countries.

The following paragraphs summarize Banner 8.0 changes that were made to support internationalization. For complete information about I18N, refer to the *Banner General 8.0 Release Guide*.

Unicode Support

With this release, Banner supports the Unicode international character set through the character standard UTF8. As a part of the installation process for Release 8.0, Banner's Oracle database was converted to the UTF8 standard.

Enhanced Fields

For this release, many fields were expanded throughout Banner. These fields can now accommodate longer data values that might be needed. The following types of fields were expanded:

- Name
- Address
- Telephone number
- E-mail address



2 Technical Enhancements



This section provides a technical description of the enhancements delivered with Banner Intcomp 8.0.

Support for Banner Enterprise Identity Services

The following were modified:

- LDIPERSON event logic
- eLearning extract to call an API to retrieve UDCIdentifier userid for a given PIDM

These modifications enable LDIS-P to generate XML for the new UDCIdentifier userid:

```
<userid useridtype = "UDCIdentifier">value returned by the API</userid>
```

Support for PIN Encryption

The following changes support PIN encryption:

- The Banner Integration for eLearning extract (ICGORLDI) performs additional steps in the encryption process for all PIN values extracted.
- LDIPERSON event processing performs additional steps in the encryption process for all PIN values.

Internationalization

The following c programs were modified to support internationalization:

```
icgorgmk.pc  
icgorldi.pc  
icgorodm.pc  
icgovpdi.pc
```

Miscellaneous Enhancement

The `icsfkge1.sql` script was modified to support an incomplete grade processing enhancement in Banner Student.

3 Requests for Product Enhancements (RPEs)



This section describes the RPEs delivered in Banner Intcomp 8.0.

RPEs

Object Name	RPE #	Description
gobsridi_3FSLD4.sql	1-3FSLD4	If a user does not have a GOBSRID_SOURCED_ID, LMG might fail, causing errors in data synchronization. This new script ensures that all users in Banner have a GOBSRID_SOURCED_ID. The script should be run during the Banner Intcomp installation. It assigns a GOBSRID_SOURCED_ID to any user who does not have one.
iccheck.sql	1-10BTH2	A new parameter is used to check and display record counts, by role, in the GORIROL table. This helps verify record counts in the Banner database.
iccheck.sql	1-3GXHBY	Users with a Student or Faculty role don't necessarily have a GOBSRID record. If these users are assigned to or enrolled in course sections without a GOBSRID_SOURCED_ID, the LDIENROLL and LDIASSIGN events are generated without a SourcedID This causes LMG to fail and stop event processing. This script now identifies those users with a Student or Faculty role but not in the GOBSRID table. This helps you identify users for data cleanup before event processing.
icgtvintpi_30ujj5.sql	1-30UJJ5	The seed data script for GTVINTP now has a value for Desire to Learn.



4 Problem Resolutions



This section summarizes the *new* problem resolutions delivered in Banner Intcomp 8.0. The detailed description, impact, and resolution information for each problem resolution are delivered in a separate file named `intcomp80000resolutions.txt`.

 **Note**

Banner Intcomp 8.0 is a cumulative release and includes problem resolutions delivered in the 7.1, 7.2, and 7.3 releases. Refer to the associated release guides for information about the problem resolutions previously delivered. ■

Summary of Problem Resolutions

Object Name	Defect #	Summary
GJAPDEF	1-3FS0R3	The description of parameter 05 for the ICGORODM process was obsolete and misleading.
goriccri7030001.sql gorrsqllu7030001.sql	1-1EJIXL	If Banner Human Resources is not licensed, the scripts failed due to the absence of the PTRECLS table.
goriccri7030002.sql	1-1VM2KZ	Banner Human Resources clients who installed the reposted Banner Intcomp 7.3 release did not get the updated data for GORRSQL and GORICCR.
iccheck.sql	1-2DBE83	When the GORICCR <i>ACTIVE_TERM</i> setting was not present on the Integration Configuration Settings Form (GORICCR), the sync partner flag was activated and LDITERM events were generated. As of Banner Intcomp 7.3, the sync partner flag should not be used for processing.
iccheck.sql	1-33XT7N	The extract file did not pass accented characters correctly.

Object Name	Defect #	Summary
icgorldi.pc	1-1KXRBP	If Banner Finance is not licensed, ICGORLDI failed to extract college/department objects.
icgorldi.pc	1-2ODRWM	An Oracle error occurred if special characters in STVTERM_DESC caused the accepting variable in ICGORLDI to exceed its 40-character limit.
icsckld1.sql	1-2NUNI6	LDIENROLL events were triggered when a the course title was changed on the Basic Course Information Form (SCACRSE). This caused additional and unnecessary event processing.
icsfkco1.sql icsikco1.sql	1-1VT572	LDIENROLL and LDIASSIGN events were triggered even if the person had no SourcedID. This caused LMG to fail and event processing to stop.
icspkld1.sql	1-3DHSYW	The academic degree record was missing from the LDIPERSON event XML.
icsskco1.sql	1-1GVXLJ	The LDISECTION <code>deliversystem</code> element was processed incorrectly during section changes.
icsstovrr0.sql	1-1C8XGL	Section overrides triggered LDISECTION events without a SourcedID. This caused LMG to fail and event processing to stop.