CA Gen

Release Notes

Release 8.5

Fifth Edition

CA Technologies Product References

This document references the following CA Technologies products:

- Advantage™ Gen
- AllFusion® Gen
- CA Gen
- CA Common Services for z/OS
- CA Chorus Software Manager™ (CA CSM)
- COOL:Gen
- Unicenter® Software Delivery

Document Changes Summary

The following documentation updates have been made since the last release of this documentation:

- Updated sections to reflect incremental release specific information.
- Added the CA Gen Support and Certification Policy for z/OS (see page 49)
- Known Issues (see page 81)-Added known issues in Toolset, Runtime Applications, and Build Tool. Removed issues that were fixed in Runtime GUI, Runtime Web Generation, Proxy Generation, and UNIX Installer.
- Updated configuration instances information in Client Server Encyclopedia Servers (see page 18) and Host Encyclopedia (see page 23).

Contact CA Technologies

Contact CA Support

For your convenience, CA Technologies provides one site where you can access the information that you need for your Home Office, Small Business, and Enterprise CA Technologies products. At http://ca.com/support, you can access the following resources:

- Online and telephone contact information for technical assistance and customer services
- Information about user communities and forums
- Product and documentation downloads
- CA Support policies and guidelines
- Other helpful resources appropriate for your product

Providing Feedback About Product Documentation

If you have comments or questions about CA Technologies product documentation, you can send a message to techpubs@ca.com.

To provide feedback about CA Technologies product documentation, complete our short customer survey which is available on the CA Support website at http://ca.com/docs.

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Chapter 1: Introduction

After the release of CA Gen Release 8.5, several new features were introduced as PTFs. Apart from the PTFs, we have released three incremental releases so far. The following chapters describe the features that were added in each incremental release.

The version of the CA Gen Release 8.5 Release Notes on CA Support supersedes any other version of the Release Notes.

For more information about upgrading from an earlier release of AllFusion Gen, review the release summaries/notes for all releases between your release and CA Gen Release 8.5 to understand the changes that have occurred since your release. The release summaries/notes for all releases are available on CA Support Online.

For published fixes for CA Gen, see the Published Solutions area on the CA Support site: http://ca.com/support

Chapter 2: CA Gen 8.5 Changes Until the Release of CA Gen Interim Enhancement 1

.Net Clients w/WebSphere MQ

Support is now provided to allow .NET based clients (ASP.NET, .NET Proxy, and Component Services Servers) to perform cooperative flows to CA Gen Servers running under WebSphere MQ. The CA Gen Servers could be C or COBOL based running on Windows, UNIX, or z/OS machines.

The following configuration steps are required to run .Net Proxy:

- WebSphere MQ v7.1 is required to run .Net proxy using WebSphere MQ as the transport protocol.
- Modify the ASP.NET web.config file to authenticate using the current user credentials instead of using the default .Net process ID.
- If your host environment does not support UTF8 format, change the encoding user exit to return 1252 instead of UTF8 and rebuild the user exit.

.NET Generated Applications

CA Gen Release 8.5 includes updates that require you to regenerate .NET-generated applications.

Regeneration

CA Gen Release 8.5 includes an updated .NET assembly version number and public key to enable applications generated with CA Gen Release 8.5 to run concurrently with applications generated with CA Gen 8.0. You must regenerate your .NET and C# applications to work in a CA Gen Release 8.5 environment.

DBMS Connection Information

In client and server .NET applications, the DBMS connection information moved to the web.xml and application.xml config files. In these files, you can specify to encrypt the connection information during the application assembly step.

.NET Proxy

The .NET XML Proxy Export Date view format was changed to make the .NET XML proxy consistent with the Java XML proxy and other CA Gen clients. This change makes the .NET XML proxy Export Date views consistent with the .NET XML proxy Import Date views. In CA Gen r7.6, Import Date views were in the usual YYYYMMDD format (example 20130523) while the Export Date views were returned in the default format of the C# DateTime structure (example 5/23/2013 12:00:00 AM). The change made in CA Gen r8 now returns Export Date views in our usual YYYYMMDD format. This allows you to now have a consistent logic for both Import and Export Date views.

Access to Product Documentation

The CA Gen guides are now available through electronic downloads from http://ca.com/support and on wiki - https://wiki.ca.com/display/GEN85/CA+Gen+Home.

BLOBs

With CA Gen Release 8.5, the second phase of BLOB support provides the ability to store BLOBs in a database, fetch BLOBs from a database, and to include BLOBs in views so that they can be passed around in the generated application (including external action blocks). This functionality does not include presenting or collecting BLOB data at the user interface, the file system interface, or any other system interface.

Because most of the CA Gen target databases support the BLOB data type, you can now leverage that support within your applications.

Some points to consider when using BLOBs in CA Gen Release 8.5 include:

- One or more BLOB attributes can be included in views that are defined as IMPORT, EXPORT, ENTITY ACTION, or LOCAL.
- The BLOB attributes are always variable length.
- The BLOB attributes are specified as optional or mandatory the same way as other attribute types.
- The BLOB views are passed to and from procedure steps and action blocks (including external action blocks).
- Operations on BLOBs in the action diagrams are limited to setting their value to NULL or to the value of another BLOB and comparing them to NULL.

- BLOBs are supported on the following technologies:
  - Windows / C / Oracle, DB2, SQL Server (ODBC)
  - UNIX, LINUX / C / Oracle, DB2
  - CLR / C# / ADO.NET - Oracle, DB2, SQL Server
  - JVM / JAVA / JDBC - Oracle, DB2, SQL Server
- BLOB attribute views can be used in all SQL statements (CREATE, READ, UPDATE, DELETE) and in non-SQL statements (SET, USE…) that operate on entity views.

Notes:

- BLOB attribute views are not placed on a screen or a window/dialog.
- BLOB attribute views are not used as identifiers nor they be used as classifying attributes in a partitioning.
- Non-BLOB attribute views cannot be set to BLOB attribute view values and BLOB attribute views cannot be set to non-BLOB attribute view values.

Build Tool

No Longer Deliver Java Runtime

As of Release 8.5, CA Gen will no longer deliver a copy of the Java Runtime. Installation of the JRE will be the responsibility of the customer.

On Windows, the %GEN85JRE% environment variable should be set to the Java Runtime Home directory. Although the Build Tool will function with a 64-bit JRE, Gen Studio and Diagram Trace Facility need a 32 bit JRE.

On UNIX/Linux, the new environment variable $IEFJRE should be set to the Java Runtime Home directory.

CA Gen Tutorial

The CA Gen Tutorial provides an introduction to the features and capabilities of CA Gen. The Tutorial covers the complete development lifecycle from Analysis, Design, Construction, and Testing. It targets new CA Gen developers, but could also be used as a refresher and to introduce new technologies. “Starter models” are provided to begin the Tutorial and progress through the development process. For CA Gen 8.5, we also provide “completed models” which can be used in lieu of actually completing certain sections of the Tutorial or to check against your own work. These “completed models” represent work corresponding with completing analysis, design, and construction. These models are installed with CA Gen, along with the “starter models”.

The CA Gen Tutorial describes building a window application and a cooperative application targeting the Web. With the new features of CA Gen supporting Web View applications, a scenario was created: *How to Build the Tutorial Model as a Web View Application in CA Gen Studio*. Both the CA Gen Tutorial and the scenario can be downloaded from the CA Support website.

CA Gen Studio

CA Gen Studio, introduced in CA Gen 8.0, is a plug-in framework for several CA Gen development tools that provide the common functionality required by various tools. You can integrate CA Gen Studio with supported CA Gen tools and third-party Eclipse-based plug-ins.

Eclipse is a software platform comprising extensible application frameworks, tools, and a runtime library for software development and management. It is written primarily in Java to provide software developers and administrators an integrated development environment (IDE). You can extend CA Gen Studio functionality by creating your own plug-in modules and installing plug-ins written for the Eclipse software framework, such as development toolkits for other programming languages.

The initial release of CA Gen Studio in CA Gen 8.0 included the following three designers:

Web Service Access Designer

Defines and maps Actions to business operations. These actions execute following an event triggered in the browser. You can use Adobe Dreamweaver to design your web pages.

PStep Interface Designer

Creates customized web service interfaces and proxies to CA Gen Server Procedure Steps.

Web View UI Generation

Generates the Web content (HTML, JavaScript, and Cascading Style Sheet files) from an existing model for Web View applications.

Client Server Encyclopedia

CA Gen supports proxy generation in UNIX/HP CSE and UNIX/AIX CSE.

Client Server Encyclopedia Servers

Changes to the CA Gen Release 8.5 Client Server Encyclopedia Servers include:

Support for Configuration Instances that were created by CA Gen Studio.

Support for Configuration Instances means that you can now store your configurations in the model and therefore you can upload or download configurations to or from an encyclopedia when using Gen 8.5. This functionality was provided in the GA release of Gen 8.5. For more information, see the *Client Server Encyclopedia Subsetting User Guide* and the *Client Server Encyclopedia Version Control User Guide.*

Note: In Client Server Encyclopedia, we refer to a configuration as Configuration Instance. In CA Gen Studio, we refer to a configuration as Generation Configuration.

The following Consistency Check rules have been added to the CSE in CA Gen 8.5:

ICCCU20E

USE statement leads to recursion.

ICCDL04E

The dialog flow has more than eight 'returns on' exit states. Delete the 'returns on' exits states until you have eight or fewer.

ICCDV23W

Matched views should have the same nullable setting.

ICCDX01E

This Dialect text string MATCHES the name of a COMMAND in the DETAULT Dialect for which there is no corresponding Dialect text string.

ICCEN18W

The target attribute view (for a numeric aggregate function other than COUNT) has fewer decimal places (right of the decimal point) than one of the expressions used in the argument to the function.

ICCEN19W

The target attribute view (for a numeric aggregate function other than COUNT) has fewer decimal places (left of the decimal point) than one of the expressions used in the argument to the function

ICCEN30W

The target attribute view (for a character aggregate function) is shorter in length than the character view used as the argument to the function.

ICCEN31W

The target attribute view for aggregate function COUNT(OCCURRENCES) has fewer decimal places (left of decimal point) than the maximum cardinality of one of the entity types used in the argument to the function.

ICCOO01W

Function cannot be executed in Web Client applications (see help file for more details)

ICCOO02W

OLE functions are not supported on the following platforms (see help file for more details)

- Linux
- UNIX (any)
- MVS
- CLR

ICCOO03W

Function cannot be executed in ASP.NET applications

ICCOO04W

CreateNetObject is supported only in a .NET environment.

ICCOO05W

Function is not multi-thread safe in C# or Java (see Toolset Help for more details)

ICCOO06W

Function cannot be executed in Web View applications.

ICCPV10W

A NUMERIC field with no decimals defined is using an edit pattern which contains decimals.

ICCRD10F

(DB2 z/OS) A data table with size greater than 4050 bytes should be in the tablespace of 32K page buffer pool.

ICCWN05W

This window contains an Enterable DropDown List. Enterable DropDown Lists are not supported for use in Web Client, ASP.NET, or Web View applications.

ICCWN06W

This window contains an Enterable List. Enterable Lists are not supported for use in Web Client, ASP.NET, or Web View applications.

ICCWN07W

This window contains Auto Tabbing on an Entry Field. This function is not supported for use in Web Client, ASP.NET, or Web View applications.

ICCWN14W

This window contains a multi-state bitmap. Multi-state bitmaps are not supported for use in ASP.NET applications.

ICCWN15E

Generation does not support multiple window controls with the same name on the same window. Use the Navigation Diagram to detail the properties of the controls and rename them to have unique names.

ICCWN16W

This window contains an OCX Control. OCX Controls are not supported for use in ASP.NET or Web View applications.

Note: These CC rules are already present in the CA Gen 8.0 Toolset.

CSE Client

The CA Gen Release 8.5 CSE Construction Client shows NonStop as a generation option. However, NonStop generation is not supported.

CICS Socket Listener

The CICS Sockets Server Listener (program TISRVLIS) is supported for CA Gen Release 8.5 but with limitations. This Listener cannot be used by Common Format Buffers greater than 32K and will reject such requests with the message “TISRVLIS <eibtrnid> TASK=<eibtaskn> date time TISRVLIS CANNOT PROCESS REQUEST GREATER THAN 32K” if the buffer size exceeds 32K bytes. The CICS Multi-Socket Listener does not have this limitation.

Custom Proxies

Custom interfaces that were previously meant to be used as web services only can now act as proxies as well.

The PStep Interface Designer introduced with Gen Studio in CA Gen 8.0 allowed users to provide alternate interfaces for PSteps that target EJB Web Services applications.

The alternate interfaces are customized versions of the original PStep interface and may include hard-coding, renaming, or changing the order of the selected attributes and renaming of selected views. The customized interfaces are then saved in the model.

You can create custom interfaces to be used with Java and C# proxies.

The existing proxy interfaces export every view and attribute defined in server procedure steps as defined, however, exporting everything with the specified name is not always an ideal interface for client developers.

Custom Proxies provides the following functionalities for views and attributes defined in server procedure steps.

- Renaming of views
- Renaming of attributes within views
- Mapping a view attribute to a literal
- Removing a view attribute
- Retaining a view attribute

Custom Proxies functionality supports the following targets:

- Non classic Java Proxy including XML and async options
- .NET Proxy including XML and async options

DB2 Table Partition

Starting with CA Gen Release 8.5, DB2 is supporting range and size table partitions as well as range and growth tablespace partitions. To support this new functionality with CA Gen Release 8.5, two new plug-in applications—Table Partitioning Plug-in and Tablespace Partitioning Plug-in—have been created to collect the information needed to generate the DDL to support these new types of partitions.

The plug-ins may be installed from the CA Gen custom installation dialog. After it is installed, the Table Partitioning Plug-in is enabled on the Tool, Plug-in menu in the Data Structure List and the Data Store List whenever a table is selected. The Tablespace Partitioning Plug-in is enabled on the Tool, Plug-in menu in the Data Store List whenever a tablespace is selected.

Download CA Gen z/OS Products

CA Gen Release 8.5 delivers the z/OS products using a CA CSM-compliant Electronic Software Delivery (ESD) PAX file.

CA CSM allows you to acquire CA Gen Release 8.5 software and maintenance directly from the CA support web site.

Note: For more information about CA CSM, see CA Support Online at http://ca.com/support.

The CA Common Services for z/OS software is also delivered using the CA ESD format.

Note: For more information about installing CA Common Services for z/OS, see the ESD topics on CA Support Online at http://ca.com/support.

Environment Variable Changes

CA Gen Release 8.5 includes two new Windows environment variables, %GEN85% and %GEN85JRE%. These environment variables mimic the two new environment variables that were introduced with CA Gen 8.0.

%GEN85%

Specifies the location of the root directory for the CA Gen installation. This environment variable contains a trailing delimiter, such as c:\Program Files\CA\Gen 85\. Use %GEN85%Gen to refer to the \Gen subdirectory. Using %GEN85% makes this environment variable unique from previous CA Gen installations, and supports Side-by-Side installations.

%GEN85JRE%

Specifies the installation directory for the Java Runtime Environment (JRE). Using %GEN85JRE% makes this environment variable unique from previous CA Gen installations, and supports Side-by-Side installations.

The installation will set GEN85JRE if a 32-bit JRE is already installed on the system. If only a 64-bit JRE is installed, the installation will not set GEN85JRE, because CA Gen Studio and the Diagram Trace Utility will not work with a 64-bit JRE.

On 64-bit Windows, %GEN85JRE% should be set to a 32-bit JRE.

On UNIX/Linux platforms, CA Gen Release 8.5 includes one new environment variable, $IEFJRE.

$IEFJRE

Specifies the installation directory for the Java Runtime Environment (JRE).

Host Encyclopedia

Changes to the CA Gen Release 8.5 Host Encyclopedia include:

Support for Configuration Instances that were created by CA Gen Studio.

Support for Configuration Instances means that you can now store your configurations in the model and therefore you can upload or download configurations to or from an encyclopedia when using Gen 8.5. This functionality was provided in the GA release of Gen 8.5. For more information, see the *Host Encyclopedia Subsetting User Guide* and the *Host Encyclopedia Version Control User Guide*.

Note: In Host Encyclopedia, we refer to a configuration as Configuration Instance. In CA Gen Studio, we refer to a configuration as Generation Configuration.

GUI Runtime

Help for Help

On Windows 7 and Windows Server 2008, the behavior of Help for Help has changed to invoke the Help index. These operating systems do not include a system help file.

Java-Generated Applications

Regeneration

CA Gen Release 8.5 includes updated Java package names in generated applications to enable applications generated with CA Gen Release 8.5 to run concurrently with applications generated with CA Gen 8.0. You must regenerate Java applications to work in the CA Gen Release 8.5 environment and you must update all external action blocks to use the new package names.

Java Proxy

Generation of XML interfaces for Java proxies now uses schema validation. This matches the behavior found in .NET proxies.

Gen Studio

Common Workspace Location

The same Workspace is now used for CA Gen Studio and Diagram Trace.

Gen Studio Generation

The original release of Web View required users to generate Web content using Gen Studio. This included all the contents in the WebViewUI output directory including HTML, JS, and CSS files. The remainder of the generation was done in the Toolset. This additional content consisted primarily of Java code, installation files (ICM), and DDL code. With the Gen Studio Generation feature, all of the generation that is required for Web View is done from within Gen Studio including the Web content, the application server runtime support, and the DDL.

The Gen Studio Generation feature also introduces the ability to maintain multiple generation configurations for each model. The configurations are stored on the file system.

The user interface for Gen Studio Generation follows modern UI standards. For those that are already experienced with Eclipse, the paradigm that is used for Gen Studio Generation Configurations is the same as the built-in Eclipse Run/Debug Configurations.

Configurations may be added, modified, and deleted using the Generation Configuration dialog from within Gen Studio.

After creating a generation configuration, the configuration can be “Run” to generate the model objects selected in the configuration. The user can also "Run" the configuration from the Web View UI Navigator and generate the model objects selected in the configuration. This can be useful when a full generation has already been done and only certain modified objects need to be regenerated.

With CA Gen Release 8.5, generation configurations can be stored in the model. Configurations that have been added to a model may be included in subsets.

Note: Existing configurations do not work with the current release and you need to recreate the configurations. If there are any configurations available in a model, then delete these configurations before installing the latest version.

Plug-in Registry Location

CA Gen registers plug-in applications in the following locations:

Windows 32-bit Machines:

HKEY_LOCAL_MACHINE\Software\ComputerAssociates\CA Gen\Plug-ins

Windows 64-bit Machines:

HKEY_LOCAL_MACHINE\Software\ Wow6432Node\ComputerAssociates\CA Gen\Plug-ins

Remove 32 KB CFB Limit

The Common Format Buffer (CFB) contains the formatted information that is passed between a CA Gen client and a CA Gen server over various transports including TCP/IP, Tuxedo, and WebSphere MQ. Earlier to this release, the size of the buffer was limited to 32,768 bytes (32 KB) but could contain only 31,400 bytes of actual user data.

CA Gen 8.5 supports a maximum CFB limit 16,777,215 bytes, but is enforced as 16,775,847 bytes of actual user data.

To take advantage of these larger sizes, you have to change the view sizes appropriately, regenerate, and re-build the applications. In a similar vein, check any sizing parameters on the transports that you may use. This includes, but is not limited to, default WebSphere MQ message length, and on z/OS, user exits like TIRSIPEZ, temporary work datasets that are allocated by parameters TICASUTP and TICASUTS (found in PARMLIB members TIUHE and TIUIT).

z/OS CA Gen CICS applications, generated by CA Gen 8.x and executing CA Gen 8.5 Runtimes, use a TSQ named MMCB<APPLID>…. to handle memory management. This TSQ is automatically deleted when dialog flows are executed under the control of CA Gen but need to be manually deleted when flows are executed from EABs, particularly when using CICS XCTL or CICS START API commands.

z/OS CA Gen CICS applications, generated by CA Gen 7.6 or earlier release and executing CA Gen 8.5 Runtimes use a TSQ named AMCB<APPLID>…. to handle memory management. This TSQ is automatically deleted when dialog flows are executed under the control of CA Gen but need to be manually deleted when flows are executed from EABs, particularly when using CICS XCTL or CICS START API commands.

z/OS Servers that use TCP/IP must use the CICS Multi Sockets Server implementation for transactions with CFBs larger than 32 KB.

z/OS encryption and decryption routines have been modified to use a temporary buffer if the view data size is greater than 32K. The temporary size allocated is twice the size of the view data size, making sure that it does not exceed the max size of 16.7 MB. This temporary buffer is released as soon as the algorithm has completed processing the buffer. Messages TIRM640 and TIRM644 have been modified to indicate the user area that is used by encryption and decryption routines when that area exceeds the maximum size that is allowed, instead of 32K.

Note: PTF RO72754 corrected allocation for temporary buffer. Previously, it was always allocated at the max size of 16.7 MB which caused a performance degradation.

Current applications that conform to the 32-KB CFB does not require any changes to operate with the new runtimes.

Note: The maximum cardinality for z/OS Server Managers Import and Export views remains 9999.

Currently, applications generated entirely for Java and the .Net environment have no view size limit. The CFB Extensions on Windows, UNIX, and Linux (for TCP/IP and WebSphere MQ) have a limit of 16.7 MB.

The following CA Gen components do not allow exceeding the 32-KB limit:

- Tandem C Servers
- SNA/ CPI-C Servers
- ECI transport
- WebSphere MQ TDC
- CICS Sockets Server Listener (TISRVLIS)
- IMS Servers

Server Runtime

IEFPLATFORM Variable for AIX

The IEFPLATFORM variable for AIX has been changed from RS6000 to IEF_AIX.

Support for 64-bit CA Gen Servers

64-bit Windows Support

CA Gen supports compiling and executing generated C block mode and server applications as 64-bit images on Windows using Visual Studio. You can choose to build your generated C block mode and server applications as 64-bit by setting the new Build Tool token, OPT.BITS, to 64 in your profile (the default is 32). You will need to regenerate your code to gain access to 64-bit data types used in the Windows X 64 API to create 64-bit images. Regenerated code can be compiled into either 32-bit X86 binaries or 64-bit X64 binaries by setting the OPT.BITS Build Tool token.

The VS110\amd64 folder contains a collection of files that support 64-bit Windows. When setting token OPT.BITS to 64, the shared libraries and executables in the VS110\amd64 folder will be utilized. A set of user exit rebuild procedures are also available in the VS110\amd64 folder and must be used to rebuild any necessary 64-bit designated user exits.

If you choose to use the 64-bit runtimes provided with CA Gen to execute your application, you must modify PATH to prepend %GENxx%Gen\VS110\amd64 before %GENxx%Gen\VS110 and %GENxx%Gen (based on which Visual Studio compiler you are using). If you build a 64-bit application and execute outside the Build Tool without modifying PATH, the application will crash. If you execute from the Build Tool, the Build Tool is aware that you want to use 64-bit runtime libraries and the application will run.

Note: Prepending %GENxx%Gen\VS110\amd64 to PATH must only be done in the current command window session, and must not be set in the System Environment variables.

Support for 64-bit AIX, Solaris, and Linux

Due to vendor transition to the 64-bit platform, CA has ported the Implementation Toolset to work in 64-bit mode for our remaining Unix and Linux platforms (HP Itanium already supports 64-bits). All generated servers built with this release will result in 64-bit applications. All servers built before this release will need to be rebuilt to run with this version of the Implementation Toolset, because 32-bit support has been dropped.

Note: The CA Gen CSE on AIX will continue to run as a 32-bit product.

Support for Tuxedo on Linux

CA now supports compiling and executing generated server applications with Tuxedo on Linux systems.

32-bit Support Compared to 64-bit Support

All CA Gen products and the generated applications are 32-bit, on all platforms unless otherwise stated in this document. As such CA Gen products and the generated applications require 32-bit runtimes and libraries to be built and executed on 32-bit and 64-bit systems. The majority of vendors of the third party distributed products listed in this document supply 32-bit versions of their runtimes. You can use these libraries with CA Gen generated 32-bit applications that run on 64-bit operating systems and communicate with 64-bit databases.

System Requirements

For information about system requirements, see the *CA Gen 8.5 Technical Requirements* document in the CA Gen Support home page: https://support.ca.com/irj/portal/prddtlshome?productID=256 under Product Status, Product Information.

Toolset

Changes to the CA Gen Release 8.5 Toolset include:

In the Data Structure List, you can select VARCHAR as the data type for DB2 text columns whose length is greater than 4000. Previously, only LONG VARCHAR was allowed.

For DB2, "Type 2" is the only allowed index type. We no longer allow setting it to "Type 1" or "Unspecified".

The DLL BROWSER in the HelpAbout Box is a new version of DLL Versions. It provides a list of files, detailed information about each file, and it allows you to browse subdirectories.

In Generation Defaults, with OS as WINDOWS for TP Monitor as IEFAE, the option <NONE> has been removed from COMMUNICATION option.

The Generate New Model functionality within the Toolset has been modified. The purpose of the change was to store the update.trn into an ‘always writable’ output directory. Also, if an update.trn already exists in that location, a prompt is displayed before overwriting it. The location of the output directory is displayed on the Generate New Model dialog. This change also allows the Generate New Model functionality to be enabled for read-only models, and the model is not left in a read-only state after performing the Generate New Model functionality.

The CA Gen Release 8.5 Toolset shows NonStop as a generation option in construction. However, NonStop generation is not supported.

Data Model

CA Gen supports user-defined default values for date, time, and timestamp fields.

Model Preferences

You can set the following model preferences:

- Allow NOT NULL for non-identifying mandatory relationships-This feature allows the user to choose how non-identifying mandatory relationships are implemented during transformation and re-transformation. They were implemented as NULL but with this feature they can be implemented as NOT NULL.
- Generate comments in DDL-This feature applies only on the IBM DB2 database. When generating DDL, any comments that are associated with the generated artifacts are included in the generated DDL. This feature lets you specify that these comments must not be included in the generated DDL.
- Use VARCHAR instead of LONGVAR for DB2 text fields > 4000 characters- This feature applies only on the IBM DB2 z/OS. The implementation type for DB2 text attributes whose length was greater than 4000 characters was LONGVAR. This datatype is being deprecated by IBM so this feature lets you select VARCHAR instead.
- Limit the number of characters in the Inline Code statement.

Model Unlock

When you request an upload of a model or subset from the Toolset to the CSE, and if the model is locked by the CSE, you receive an error message to try again later. When this happens the model is set to read-only. With this enhancement, you have the choice of either continuing the way the Toolset was behaving, that is, the model becomes read-only and you must try the upload again later. Or, you can cancel the update attempt and continue updating the model.

Words Split in Comments During DDL Generation

We modified DDL generation to no longer split words within a COMMENT statement. This enhancement may cause the addition of extra spaces in the COMMENT statement.

Toolset Ease of Use Enhancements

- Pass item information from selected controls within the Navigation Diagram to plug-in applications. While designing plug-in applications for the Gen Toolset, you can determine the controls that are selected on an open window in the Navigation Diagram. Earlier, you could only obtain that information when it was selected from the pane in the lower right corner of the Navigation Diagram.
- Default deletion rule that is indicated when adding a relationship. When creating relationships in the Entity Relationship Diagram, the default deletion rule is indicated with the appropriate radio button being set. While not necessary, this enhancement eliminates the need to manually set the rule after adding the relationship.
- View matching dialogs displayed only when necessary. When adding a USE statement, Import and Export view matching dialogs are only presented when there are views to be matched. Previous to this, you were always presented with Import and Export view matching dialogs even when the called action diagram had no parameters to match. While adding USE statements in an action diagram depending upon the import and export view existence, the dialog is displayed. Earlier, you had to explicitly close the view matching dialogs while adding USE statements in an action diagram that did not have any import or export views. This makes it easier to add USE statements.
- Create an action diagram from the Action Diagram Selection dialog. A New button is added to the Action Diagram Names Selection dialog to create an Action Diagram. This New button simplifies the creation of action diagrams.
- Default Import entity view optionality is set to mandatory. While creating import views for action diagrams, the default value of optionality for the entity view and any selected attribute views is mandatory (Always).

  Note: This enhancement does not affect procedure step action diagrams which continue to have the default value of optionality for the entity view and any selected attribute views set to optional (Sometimes).
- Partitioning indicated for Data Structure and Data Store List Diagrams. The Data Store and Data Structure lists indicate whether a table or tablespace has been partitioned by the Table Partitioning Plug-in or the Tablespace Partitioning Plug-in. This makes it easier to determine the partitioning status of tables and tablespaces in the two diagrams.
- Retain the selection of a Procedure Step within the Window Selection dialog after a sort operation has been performed. This ensures that the item selected before a sort is done remains selected after the sort completes.
- Populate the Procedure Step name In the Window Selection dialog for any Procedure Steps listed for Dialect Windows. This makes it easier to determine what Procedure Step a Dialect window belongs to.

Web Services Transaction Enabler

CA Gen Release 8.5 now allows all CA Gen servers that execute under the CA Gen Transaction Enabler (TE) to support the web service protocol. Prior to CA Gen Release 8.5, only CA Gen EJB Servers were capable of using the web service protocol.

TE Servers have always used a CA Gen specific protocol that works over TCP/IP to communicate with clients. The TE environment was modified to support web services over TCP/IP. Since the same port is used for both protocols, there were no additional configuration settings added to TE. Use of web services does require that the CA Gen Server Manager be regenerated. However, existing CA Gen Server Managers will continue to work with the 8.5 TE (just without Web Service support).

The URL for accessing a TE web service WSDL is in the following format:

http://*hostname*:*port*/*LM*/*PSTEP*?wsdl

hostname

Specifies the name or IP address of the machine.

port

Specifies the location where the TE is listening.

LM

Specifies the load module name of the server manager.

PSTEP

Specifies the long name of the procedure step.

The support for web services extends to the following platforms running the TE: Windows, AIX, IA64, and Solaris.

With the Web Services Middleware support added, all CA Gen Clients (C, Java, and .NET) can now communicate with TE using web service as the protocol.

Web Services Middleware

CA Gen Release 8.5 now provides a new CA Gen Web Services Middleware, so that all CA Gen generated clients (C GUI, ASP.NET, Web Generation, Web View, and C/Java/.NET Proxy applications) can communicate with CA Gen generated Web Service applications (currently EJB Web Services and TE Web Services) using Web Services as the protocol.

No changes were made to the Toolset, Client Server Encyclopedia, or Generators for supporting the Web Services protocol.

Communication between CA Gen Clients and CA Gen Servers that are listed above can be routed through Web Services Middleware using the Comm Config file (commcfg.ini, commcfg.properties, and commcfg.txt) associated with each client runtime and the Web Services Middleware user exits.

Note: For more details about how to use the new Web Services Middleware, see *Distributed Processing - Overview Guide*, *Distributed Processing Proxy User Guide*, *Distributed Processing - Enterprise JavaBeans User Guide,* and *User Exit Reference Guide.*

Web View

Web View, introduced in CA Gen 8.0, is a new type of Web application generated from the Web View UI Generation diagram in CA Gen Studio. Web View is an evolution of the existing CA Gen Web client technology, Web Generation. While the primary focus of Web Generation is to emulate traditional CA Gen GUI functionality in a Web environment, Web View creates more standard looking Web applications with a feature set similar to Web Generation, although not identical. Web View solves many of the problems inherently restricted by the Web Generation architecture such as additional thread requirements and recognizing the close button for message boxes. Web View also introduces Web 2.0 features such as Ajax.

Web View Enhancements

Support for JBoss

Web View now supports JBoss as an Application Server in addition to Oracle WebLogic Server and IBM WebSphere Application Server. You can generate applications targeting JBoss by selecting Generic as the target Application Server in the Build Tool Assemble wizard.

Web View Customization

Web View now supports adding custom HTML, JavaScript, and Cascading Style Sheets. You can add custom content by using HTML Text and HTML Control objects in the Navigation Diagram.

The contents of HTML Control and HTML Text are not compatible between Web View and other CA Gen web products.

The contents must be XHTML-compliant. CDATA sections cannot be included.

Special characters must be escaped using the “&;”. For example, the ‘&’ character must be escaped as &

The HTML Control and HTML Text elements are generated as separate HTML pages and are included using an <iframe>. References between different elements must take this into account.

With CA Gen Release 8.5, an entire document may be included by starting the HTMLText content with a <!DOCTYPE> tag. Web View generation will include the content as is into the <iframe>.

Dot Notation

This release includes expanded Dot Notation capabilities and tables to show the available functionality.

Library Updates

The Eclipse platform is updated to version 3.7.

The YUI library is updated to version 2.9.0.

The Prototype.js library is updated to version 1.7.

Alleviated CSS Limitation

This release includes alleviated limitation on the number of CSS descriptors used in an application by dynamically unloading CSS for closed Windows.

Web Content Compression

Generated static content is now compressed in the assembled EAR file.

The Web View JavaScript runtime is now compressed in the assembled EAR file.

The OPT.DEBUG key may be set to YES in the Build Tool's Profile Manager to include debug versions of the Web View runtime, YUI library, and generated static content into the assembled application.

z/OS Enhancements

Host Encyclopedia Configuration using CA CSM

The CA Gen 8.5 Host Encyclopedia can be configured using CA CSM System Configuration Services (SCS). The steps required to Install, Deploy, and Configure the Host Encyclopedia using CA CSM can be found in the *z/OS Installation Guide*.

Enterprise COBOL 5

CA Gen 8.5 Host Construction and z/OS Implementation Toolset can be configured to use Enterprise COBOL 5 to compile Gen generated code.

New Sample Library member MK5EXITS can be used to compile CA Gen User Exits using the COBOL 5 Compiler.

GLOBDATA

CA Gen 8.5 GLOBDATA was modified and the size of the data area was inadvertently reduced. In Interim Enhancement 1, the overall size of GLOBDATA was corrected to be the same as was in CA Gen Release 8.0. The size is 3645 bytes.

New Messages

When z/OS runtimes that handle memory management encounter a problem, new messages are produced. Most of these messages are written to the CICS Joblog but may also be displayed by TIRTERMA or TIRELOG exits. The new messages are formatted as follows:

```
<ExecutingLoadModuleName> TASK=<task-id> date time TIRHSTG MEMORY ALLOCATION ERROR.
TERMINATION CODE: XXX
```

where XXX is any of the following values:

- 850 – for CFB
- 851 – for W-GLOBAL-AREA
- 852 – any HEAP
- 853 – TSQ MMCB*
- 854 – TSQ AMCB*

```
<ExecutingLoadModuleName> TASK=<task-id> date time <Runtime-name> - TASKID XXXX DOES
NOT MATCH CURRENT TASKID
```

z/OS Runtime DLLs

The following DLLs were introduced in CA Gen 8.5:

- TIRMMDLL, used only by CICS applications.
- TIRHSTGC and TIRHSTGD used only by CICS applications.
- TIRCALLZ, used by CICS Servers only.
- TIRIEXSZ used by CICS, IMS, and TSO applications.
- TIRIALLZ used by IMS Servers only.

Chapter 3: CA Gen Interim Enhancement 1

The CA Gen Interim Enhancement 1 consolidates all earlier PTFs (except on z/OS where individual PTFs must be installed) and adds new features.

This section contains the following topics:

Web Service Consumption

CA Gen provides the facility to consume SOAP Web Services using the Call External statement in an action diagram. The Web Service Consumption feature in Interim Enhancement 1 targets C applications.

To use the new Web Service Consumption functionality with the existing 9.2.A6 models, the encyclopedia schema tables must be updated and the models run through model conversion as follows:

- For the Host Encyclopedia, reload the schema tables by running CEJOB05 (or CAJOB05) again after applying and deploying Interim Enhancement 1.
- Run model conversion on existing models to add the objects that are used by Web Service Consumption to those models, if you want to use the CALL EXTERNAL Web Service statement in action diagrams.

SOAP 1.1 and SOAP 1.2 are currently supported.

Documentation Impact:

The following documentation deliverables were updated for this feature:

- A scenario document has been created that demonstrates the process of calling external web services.
- The Toolset Help was updated.

Inline Code Statement

With the Inline Code statement, CA Gen supports the ability for users to add target-specific source code (COBOL, C, Java, C# and/or SQL) directly into an action diagram. Although this ability is similar to that provided by external action blocks (EABs), with this statement, the code is stored in the model instead of outside the model.

To allow customers to limit the amount of code that may be placed in an individual Inline Code statement, there is a model preference (Model / Model Preferences) in the Toolset. This model preference sets the maximum number of characters that are allowed in any single Inline Code statement in an Action Diagram.

Visual Studio 2012 Support

CA Gen supports compiling generated C applications on Windows using Visual Studio 2012. C# applications (ASP.Net Web Clients and .Net Servers) can use Visual Studio 2012 as well with .Net Framework 3.5. By default, applications are compiled using Visual Studio 2010.

The %GENxx%Gen\VS110 (for 32-bit) and %GENxx%Gen\VS110\amd64 folder (for 64-bit) contains a collection of files that support Visual Studio 2012. A set of user exit rebuild procedures are present in the VS110 folder and are used to rebuild any necessary Visual Studio 2012 designated user exits.

When using Visual Studio 2012, users must modify the PATH to append %GENxx%Gen\VS110 before any other GEN directories %GENxx%Gen. If you build with Visual Studio 2012 and execute the application outside the Build Tool without modifying the PATH, the client application crashes. If you execute the application from the Build Tool, the application executes because the Build Tool is aware that you want to use Visual Studio 2012.

Note: Prepending %GENxx%Gen\VS110 to the PATH must only be done in the current command window session, and must not be set in the System Environment variables.

GENENV.BAT for Windows

CA Gen delivers the genenv.bat file to assist with setting the PATH environment variable when executing C applications built with Visual Studio 2010 or 2012. The file, genenv.bat, is delivered in the %GENxx%Gen folder, and accepts 2 parameters:

[bits] either 32 or 64 (the default is 32)

[vsver] either 2010 or 2012 (the default is 2010)

After it is executed, the PATH environment variable will be prepended with the appropriate CA Gen path, along with correct Visual Studio 2010 or 2012 paths.

Support for Oracle 12c

Oracle 12c support is added to the CA Gen runtime applications.

Note: For platform-specific support, refer to the *CA Gen Technical Requirements* document.

Note: For more information, see the CA_Gen_8.5_PTF_Document.pdf in the <PTF>.zip file that is available on the CA Support site.

Chapter 4: CA Gen Incremental Release 2

The CA Gen Incremental Release 2 adds only new features and does not consolidate any earlier PTFs.

This section contains the following topics:

Web Service Consumption - Support for JAVA

The Web Service Consumption feature in Incremental Release 2 supports C and JAVA. For more information about web service consumption, see here (see page 37).

Note: To use the CALL EXTERNAL Web Service statement (Web Service Consumption) in an action diagram, the encyclopedia schema tables must upgraded to at least 8.5 Interim Enhancement 1 (IE 1) or later.

User-Added Functions in Action Diagrams

CA Gen has added the mechanism to work with user-added functions in an action diagram. The following are the pre-defined functions for BLOB attributes:

concatblob

Concatenates two BLOBs together.

substrblob

Splits part of a BLOB from a larger one.

lengthblob

Returns the length of the given BLOB.

blobdbcs

Converts a BLOB type into a DBCS type.

blobmbcs

Converts a BLOB type into an MBCS type.

blobtext -

Converts a BLOB type into a TEXT type.

dbcsblob

Converts a DBCS type into a BLOB type.

mbcsblob

Converts an MBCS type into a BLOB type.

textblob

Converts a TEXT type into a BLOB type.

Notes:

- These functions are implemented as user-added functions and thus are only added to the model when the function is actually used. For more information about how the functions are implemented, see the *User-Added Functions in Action Diagram* article.
- For more information about the BLOB Functions in an action diagram, see the *Toolset Help*.

Increase in Number of String Properties Allowed in CA Gen Toolset Models to Support Larger Model Downloads

When an existing model is opened, the string properties in the model (.DAT files) may be converted to a new format which allows the model to support up to half a million string properties. Once the .DAT files are converted, an older release of the CA Gen 8.x toolset cannot read the new format although the model may be uploaded and then downloaded to an older release of the 8.x toolset. A confirmation message is displayed to let you decide whether to make that conversion now. Once the .DAT files are converted, you will not receive this message again.

Previously, a toolset model allowed only 64K string properties to be stored locally.

Note: For more information, see the WKS85002.pdf in the <PTF>.zip file that is available on the CA Support site.

Chapter 5: CA Gen Incremental Release 3

The CA Gen Incremental Release 3 consolidates features from the earlier incremental releases, all earlier PTFs, and adds new features.

This section contains the following topics:

Create and Publish Web Services to CA API Gateway

Web services interfaces are created using CA Gen Studio, which is published to the CA API Gateway. Other applications consume these services using the API Gateway as a repository for web service interfaces. The CA API Gateway Policy Manager is used to monitor and control the usage of these web services.

Note: For more information about how to create web service interfaces and publish those interfaces to CA API Gateway using CA Gen Studio, see the *Create and Publish Web Services to CA API Gateway* scenario.

Web Service Consumption - Support for C#

The Web Service Consumption feature in Incremental Release 3 supports C, JAVA, and C#. For more information about web service consumption, see here (see page 37).

Note: To use the CALL EXTERNAL Web Service statement (Web Service Consumption) in an action diagram, the encyclopedia schema tables must upgraded to at least 8.5 Interim Enhancement 1 (IE 1) or later PTFs.

Modeless Search Dialogs

The Action Diagram search dialog was changed to be modeless in Gen 7.5. However, the Search dialogs for other diagrams (for example, Navigation Diagram, Data Structure List) remained modal. For a consistent user interface perspective, all the Search dialogs are changed to be modeless.

Unable to Have Double Quote in Literal

If a Literal with a double quote is added to a window, the double quotes are not displayed. This capability was never implemented.

Chapter 6: CA Gen Incremental Release 4

This Incremental Release 4 includes CA Gen 8.5 support for NonStop Platform with SQL/MP and SQL/MX as databases.

Support for SQL/MP and SQL/MX Databases

CA Gen Release 8.5 Incremental Release 4 supports the NonStop platform with the following databases:

- SQL/MP
- SQL/MX

The building of applications targeting SQL/MX is performed using the Build Tool, while applications targeting SQL/MP are built using the Setup Tool.

Note: For more information about using the Build Tool, see *Using the Build Tool in CA Gen* under NonStop Implementation Toolset in the CA Gen 8.5 Wiki. For more information about using the Setup Tool, see *Using the NonStop Setup Tool* in CA Gen under NonStop Implementation Toolset in the CA Gen 8.5 Wiki.

Chapter 7: CA Gen Support and Certification Policy for z/OS

The following statement defines the CA Gen support and certification policy for z/OS and its included components (MVS, Comm Server, JES, and so on) as well as IMS/TM, CICS/TS, Enterprise COBOL, and DB2:

CA will support any current version of Gen (for those operations expressly supported by Gen) with all releases currently also supported by IBM. For example, if Gen is released when supported IBM z/OS versions are 1.10, 1.11 and 1.12, Gen will support those versions at that time. If z/OS 1.13 is subsequently released and z/OS 1.10 is dropped during the Gen releases supported lifetime, the now supported versions would be 1.11, 1.12 and 1.13, and support for z/OS 1.10 is withdrawn.

CA will not provide material support to assist in the operation of Gen on non-supported releases of these IBM products, regardless of their status at the time the currently supported Gen release(s) were first made available. So, in the above example where support for z/OS 1.10 is withdrawn, any current CA Gen release(s) would no longer be supported on that release of z/OS.

CA will perform certification testing only at major version changes for these products. For example, CICS/TS certification testing would be performed for release 5.1, and again for 6.1, but not for 5.2. CA will, when warranted by product changes, perform additional certifications between versions on an ad hoc basis.

Chapter 8: Removed Features

CA Gen Release 8.5 no longer supports the following features:

- All HP-UX PA-RISC Servers
- Windows Server 2003 with Terminal Services
- Windows XP, Windows Server 2003, and Vista
- Support for 32-bit applications on AIX, Solaris, and Linux was replaced by 64-bit support
- Web Generation generated applications no longer support the Internet Explorer v5, Internet Explorer v6, and Firefox browsers
- ASP.NET generated applications no longer support the Internet Explorer v6 browser
- CA Gen Release 8.5 no longer includes Datacom as a supported target DBMS

Chapter 9: Deprecated Features

The CICS Sockets Server Listener (program TISRVLIS) will no longer be supported for releases subsequent to CA Gen Release 8.5. The CICS Multi Sockets Server Listener (program TISRVMSL) is the replacement product.

The Web Service Access option of Gen Studio is supported for the CA Gen 8.5 Release but will not be available in subsequent releases of CA Gen.

Chapter 10: Installation Considerations

This section contains the following topics:

Windows Installations

Upgrades

On a Windows system, CA Gen Release 8.5 does not require that you uninstall CA Gen 8.0. The CA Gen Release 8.5 can run side-by-side with CA Gen 8.0 in different directories on the same system.

Note: For additional information, see the *Distributed Systems Installation Guide*.

User exits included with CA Gen may change during the installation of any new release or service pack.

Important! Backup customized user exits before begin the install process.

When installation completes, check to see if the installation updated your modified user exits. If the installation updated the user exit, you must make the modifications to the new version of the user exit and rebuild it. Do not just replace the updated user exit with the previous version.

Unsupported Operating Systems

CA Gen Release 8.5 does not support Windows Vista and earlier operating systems as described in the Removed Features section. If an installation is attempted on an unsupported operating system, the CA Gen installation displays a message to notify the unsupported environment.

Click Cancel to terminate the installation. However, clicking OK will continue the installation process; even though the environment is not supported.

Uninstalling Earlier Versions

Important! You must uninstall all versions of COOL:Gen, Advantage Gen, and AllFusion Gen 6.5, 7, and 7.5.

If you choose to uninstall a version of CA Gen, back up or archive your customized files before uninstalling the software. After installing CA Gen Release 8.5, migrate the archived customized files to the CA Gen Release 8.5 versions of the files.

Note: Generated applications that rely on the earlier version of CA Gen no longer execute after you uninstall the earlier versions.

While uninstalling CA Gen, you may see a dialog reporting that other programs are using files that are shared with CA Gen. The dialog identifies the programs and offers the following options:

- To ignore the conflict and continue uninstalling CA Gen
- To stop the programs causing the conflict and retry the uninstall process
- To cancel the uninstall process

Since the file causing the conflict is a system file that the installation process would not remove, it is safe to ignore the conflict and continue with the uninstall process. It is also safe to save work associated with the programs causing the conflict and retry the un-install process.

Rebooting

On Windows 7, when trying to start the Toolset for the first time you may receive a message to ensure that you have typed the name correctly and then to try again. Restarting Windows will activate the environment changes made during install and the Toolset starts.

If you uninstall CA Gen from one directory location and then install it into a different directory location, restarting Windows will correctly set the Start Menu options.

Anti-Virus Heuristics

Some anti-virus programs may quarantine one or more CA Gen dll modules, specially the IEFCB85n.dll, during the installation of CA Gen on Windows. These products use heuristics to try and identify potential viruses which may result in false positives and quarantine of these modules.

There are two approaches to work around this problem; one is to disable heuristics during the install process and the other is to remove the affected modules from quarantine using the tools provided by the anti-virus software provider. However, removing the modules from quarantine may make it difficult to later uninstall this version of CA Gen.

UNIX Installations

Upgrades

On UNIX systems, CA Gen Release 8.5 does not require that you uninstall CA Gen 8.0. The CA Gen Release 8.5 can run side-by-side with CA Gen 8.0 in different directories on the same system.

Since installations of CA Gen components are associated to named instances, you must use a different names instance when installing CA Gen Release 8.5 on a UNIX system that already has CA Gen components from earlier releases installed. If you use the same instance for the new installation, a warning screen displays that asks you to restart the installation and provide a different name. The warning screen can also display when you attempt to install CA Gen Release 8.5 without a named instance, and you did not supply a named instance when installing an earlier version of CA Gen.

If you install CA Gen Release 8.5 in the same directory as an earlier version of CA Gen and the directory is not empty, the installation process renames (and retains) configuration files that have been modified in the earlier version. After installation, you must migrate the work you did to customize an earlier release's configuration file.

User exits included with CA Gen may change during the installation of any new release or service pack.

Important! Backup customized user exits before begin the install process.

When installation completes, check to see if the installation updated your modified user exits. If the installation updated the user exit, you must make the modifications to the new version of the user exit and rebuild it. Do not just replace the updated user exit with the previous version.

Mounting Instructions for Linux

The CA Gen Release 8.5 for Linux is now distributed as an ISO file. Use the following instructions to mount the ISO file:

```
# mkdir –p {temporary mount location}
# mount –o loop {iso file}  {temporary mount location}
```

Example:

```
# mkdir –p /mnt/iso-disk
# mount –o loop /tmp/CAGen85.Linux.iso /mnt/iso-disk
```

Mounting Instructions for Solaris

The CA Gen Release 8.5 for Solaris is now distributed as an ISO file. Use the following instructions to mount the ISO file:

```
# mkdir –p {temporary mount location}
# lofiadm –a {iso file}  (lofiadm creates a mountable device)
# mount –f hsfs –o ro {device} {temporary mount location}
```

Example:

```
# mkdir –p /mnt/iso-disk
# lofiasdm –a /tmp/CAGen85.Solaris.iso
# mount –f hsfs –o ro /dev/lofi/1 /mnt/iso-disk
```

Mounting Instructions for AIX

The CA Gen Release 8.5 for AIX is now distributed as an ISO file. Use the following instructions to mount the ISO file:

Follow these steps:

1. Obtain the size of the ISO image.

   Example:

   ```
   ls –la /tmp/CAGen85.AIX.iso
   -rwxr-xr-x    1 root     system    253929472 Dec 26 16:05 /tmp/CAGen85.AIX.iso
   ```

2. Identify the nearest multiple of 128 MB that will provide enough space for the image.

   In our example, the image is approximately 254 MB, so use 256 MB as an image size.

3. Make a logical volume of this size. Ensure that there is enough space on the physical volume.

   For example, hdisk0.

   ```
   # mklv -y cdlv -s n -L /dev/cdlv rootvg 256M hdisk0
   ```

4. If the command fails, increase the volume size by a multiple of 128.

5. To create a pseudo-device, use the dd command. Ensure that the partition has enough space for the pseudo-device.

   In the following example command, the pseudo-device is /dev/cdlv.

   ```
   # dd if=/tmp/CAGen85.AIX.iso of=/dev/cdlv
   ```

   Note: This command may take a long time and creates two dd processes.

6. Mount the device like a CD-ROM in AIX. Ensure that the mount point exists.

   ```
   # mkdir -p /mnt/iso-disk
   # mount -v cdrfs -o ro /dev/cdlv /mnt/iso-disk
   ```

Mounting Instructions for HP Itanium

The CA Gen Release 8.5 for HP Itanium is now distributed as an ISO file. Use the following instructions to mount the ISO file:

Follow these steps:

1. Download the free software depot ISOIMAGE-ENH from the HP software web-site. Install the software depot with swinstall.

   The preceding mentioned package also contains four patches to patch mount and unmount commands to deal with CDFS format. Type the following command to install the depot:

2. Before mounting an ISO image load the Dynamically Loadable Kernel Module (DLKM) named fspd. To load and unload the fspd module after installing the depot, use the following commands:

   - To load:

   ```
   kcmodule fspd=loaded
   ```

   - To unload:

   ```
   kcmodule fspd=unused
   ```

3. Mount the ISO image as follows:

   ```
   mount -F cdfs /tmp/CAGen85.HPIA64.iso /tmp_mnt
   ```

4. To view the mount options, type the following command:

   ```
   mount -v | grep /tmp_mnt
   /dev/fspd1 on /tmp_mnt type cdfs imagepath=/tmp/CAGen85.HPIA64.iso inode=46218
   residing on blockdevice 0x40000003, ro,rr,dev=6000001 on Thu Jan  3 15:12:41 2013
   ```

Uninstalling Earlier Versions

It is not necessary to uninstall earlier releases of CA Gen if you install CA Gen Release 8.5 to a new location and give it an instance name. To reuse a location or to reuse an instance name, you must uninstall the older release.

The uninstall process does not remove any files that it considers a configuration file, including modified and unmodified configuration files. It deletes all the other files distributed as part of the original installation, even if they have been modified. The uninstall process does not remove files and directories added by users in the CA Gen installation tree.

If PTFs have been applied to the CA Gen IT or CSE on a UNIX platform, the uninstall process leaves the PTF backups and scripts in place. You must manually delete these backups and scripts.

Installation Modes

The *Distributed Systems Installation Guide* describes installing the UNIX and Linux products using Unicenter Software Delivery (USD). USD presents the installation dialogs in a Graphical User Interface (GUI) mode or a VT100 mode (character terminal interface).

In CA Gen Release 8.5, the character terminal interface installation uses the curses library that requires a terminal emulation that supports cursor addressing.

If you are using the Microsoft Telnet terminal emulator, you must add -t vt100 to enable the VT100 mode.

On some systems, the Microsoft Telnet in vt100 mode displays the characters l, m, k, and q instead of the graphic line drawing characters. When this happens, consider using another terminal emulator such as Putty in xterm mode.

The environment variable TERM must be set to the capabilities of the terminal or terminal emulator you are using so the line drawing characters display correctly.

z/OS Installations

Upgrades

User exits included with CA Gen may change during the installation of any new release or service pack.

Important! Back up customized user exits before you begin the install process.

When installation completes, check to see if the installation updated your modified user exits. If the installation updated the user exit, you must make the modifications to the new version of the user exit and rebuild it. Do not just replace the updated user exit with the previous version.

Important! Although you can modify user exits provided for z/OS applications, you must not put the customized version of the exit in the libraries used to install and deploy CA Gen Release 8.5. These datasets are under CSM and SMP/E control and applying maintenance overwrites the modifications.

Using SMP/E

The installation of CA Gen z/OS products was changed beginning with CA Gen 8.0. The software is available for download in a PAX-enhanced ESD file and has been restructured to be installed using SMP/E either by CA CSM or by SAMPJCL.

The installation process is intended to be straight forward, particularly for those using CA CSM, but it is different from what was offered in previous releases. For instance, the dataset blocksize is now 32k where possible. Dataset suffixes have changed to conform to CA standards and they must not be modified. There is no longer a CA Gen library in ISPTLIB concatenation. Instead a temporary table library, with BLKSIZE 27920, is allocated during installation. These changes may impact the existing CA Gen logon procedures at your sites. We strongly recommend that you read the CA Gen z/OS Installation Guide before starting the installation and including someone familiar with SMP/E during the install process.

Host Encyclopedia Configuration using CA CSM

Configuration by CA CSM requires that the Host Encyclopedia FMID be installed and deployed by CA CSM. When selecting products to create a deployment for the CA Gen Host Encyclopedia 8.5 a runtime product, either CA Gen CICS Runtime 8.5 or CA Gen IMS Runtime 8.5, is required to ensure that a deployment version of the runtime load library (CEHBPLD1) is also created.

All CA Gen 8.5 products are available to be deployed but only the CA Gen Host Encyclopedia 8.5 product is configurable by CA CSM now. CA Gen can only be deployed and configured using CSM 5.1.

Installation, Deployment, and Configuration are documented in the *z/OS Installation Guide*.

Upgrading a Host Encyclopedia in Place

The schema for CA Gen Release 8.5 has more rows than the AllFusion Gen 7.6 release. Therefore, if you allocated the AllFusion Gen 7.6 schema tablespaces with zero secondary allocation and choose to upgrade a Host Encyclopedia in place, the existing tablespace sizes may be smaller than required and cause a DB2 error during the schema load job CEJOB05.

To correct this issue, increase the sizes of the SPRP, SASC, and SOBJ tablespaces using the following ALTER TABLESPACE commands before upgrading in place:

```
ALTER TABLESPACE schemadb.SASC PRIQTY 4800;
ALTER TABLESPACE schemadb.SOBJ PRIQTY 2400;
ALTER TABLESPACE schemadb.SPRP PRIQTY 4800;
```

User Exits

A new Samplib member MK5EXITS is provided to enable CA Gen User Exits to be complied using Enterprise COBOL 5.

When the MKCRUN procedure is used to customize the Codepage that is used in CA Gen applications, if the TIRXINFO user exit is modified the resulting TIRXINFZ DLL needs to be deployed to the CICS or the IMS the regions where the CA Gen applications execute.

Chapter 11: General Considerations

This section contains the following topics:

Introduction

Note: The CA Gen software uses the words MVS, mainframe, and z/OS interchangeably.

Technical Design has been changed to allow longer generic names for tables, columns, indexes, and constraints. A model can fail DDL installation if the model was not transformed or specialized for the target DBMS. Therefore, we recommend specializing the Technical Design for the target DBMS before generating and installing the DDL.

In general, Encyclopedia API functions perform better than the comparable Toolset automation OLE functions.

Accessibility

Many CA Gen components go through a Voluntary Product Accessibility Template (VPAT) program to test and correct any identified issues that can affect a user's accessibility experience. To review the CA Accessibility statement at the CA support web page at: http://ca.com/support.

Contact your account manager if you need access to a CA Gen VPAT.

ASP.NET

When using ASP.NET with CA Gen, there are considerations when working with Export Views, script injection validation, and third-party web controls.

Export Views

ASP.NET updates the export views on the page more frequently than the GUI client. When ASP.NET generates code for a GUI client in a window event, a message box is invoked. In that window event, if the export views displayed on the main window change, such as through a SET statement, the main window continues to display the export view's original values. In ASP.NET, the views on the primary window update instantly.

Script Injection Validation

HTML controls that contain the less than or greater than special characters , < or >, are classified as script injection attacks. To turn this request validation off, add the following line to the web.config file:

```
<pages validateRequest="false" />
```

Between the following existing lines in the web.config file:

```
<configuration>
  <system.web>

  </system.web>
</configuration>
```

Properties of Third-Party Web Controls

Properties for Third-Party Web Controls in CA Gen are stored and transferred through the Session State mechanism of ASP.NET. You must use this mechanism for CA Gen to support browser-controlled history handling.

You may notice subtle differences in the rendering of some third-party controls, especially as related to width and height changes. For example, in the Microsoft List Web Control, when you change the row's property by running a normal Visual Studio .NET developed Web Application, the height property automatically changes because of the control's ViewState.

To prevent SessionState value from overriding the ViewState property, you must manually modify the height when changing a row's property. When the row's value changes, the height value remains unchanged and, it seems that the row's value did not change. In this case, you must use the CA Gen Application Object's SetHeight method to correctly update the height property.

Note: You only notice this type of difference when one property forces a change to another property through the ViewState.

Asynchronous Support

Note: To identify the asynchronous flows that CA Gen supports, see Asynchronous Support in CA Gen *Technical Requirements.*

CSE Configuration

Always run cse_config after installing the CSE Encyclopedia Server software, even if you are reinstalling the same release of the software. Treat reinstallation as an update. The minimum configuration requirement is to create the Message Dispatcher INI file. cse_config copies the appropriate csedb##.dll into the cse\bin directory. This directory is already included in the PATH.

On a Windows platform, reboot after running cse_config if it is the first installation of CSE Server on the machine.

National Language Support

General considerations for National Language Support (NLS) for CA Gen Release 8.5 include double-byte characters and considerations with IBM WebSphere.

National Language and Double-byte Character Considerations

Consider the following information and limitations if you use National Language Support (NLS) and DBCS characters with CA Gen:

- The acronym *CJK*, used in the documentation, means Chinese, Japanese, Korean.
- The CA Gen software does not support DBCS language or right-to-left languages, such as Arabic and Hebrew, for cross-generation from the Toolset or CSE to the z/OS platform.
- Since CA Gen Toolset is not Unicode-enabled, it can only display characters within the local character mapping.
- MIXED and DBCS domain type characteristics of an input field on a Web Generation application are not enforced as they are in a GUI application.

CA Gen does not support using NLS characters in the following entities:

- Dialect Name, Message Table Name, and Trans Table Name of the Dialect dialog
- Pathnames
- Load module names
- Model name

- Transaction name
- The Build Tool Assemble dialog for GUI applications
- Component Architecture Diagram name
- Scoping subject area name
- Web Services Definition names

Custom Proxies

General considerations for Custom Proxies include the following:

- Mapping date, time, and timestamp to literal value.
- Exposing the import view attributes mapped to literal.

Mapping Date, Time, and Timestamp to a Literal Value

Date, Time, and Timestamp attributes can be mapped to a literal value in Gen Studio. Gen Studio only accepts the appropriate length of numeric value for the literal assigned to these attributes. However, it does not check the range of values. For example, Gen Studio only accepts the date format 'YYYYMMDD' where 'YYYY' represents four digits year; 'MM' represents the month in a year; 'DD' represents a day in month. If the literal value '01234567' is mapped to a date attribute, Gen Studio does not prevent it, but executing the generated proxy code will throw the exception when the given value is assigned to the internal view structure. To avoid the unexpected termination of the client application, mapping a literal value to these attribute types requires extra attention.

Gen Studio accepts the following format for each attribute type.

- Date: YYYYMMDD
- Time: HHMMSS
- Timestamp: YYYYMMDDHHMMSSssssss

Exposing the Import View Attributes Mapped to a Literal

The current Custom Proxies implementation exposes the import view attributes that are mapped to a literal to the consumer of proxies. This is not the intended behavior and will be changed in future releases. Therefore, the client application that consumes the proxies should not take advantage of this feature.

Runtimes

The following sections explain the general considerations for Runtimes.

Visual Studio 2012

When a generated application is built with Visual Studio 2012, the following path needs to be prepended to the PATH environment variable in order to use the correct CA Gen runtime dynamic link libraries:

%GENxx%Gen\VS110

The following command must be used to set the PATH environment variable:

PATH=%GENxx%Gen\VS110;%PATH%

Prepending the PATH environment variable as shown only needs to be done in the current command window when invoking an application that has been built with the Visual Studio 2012 compiler. Do not make this modification to the PATH system environment variable.

64-bit C Blockmode and Server Support

When a generated Windows block mode or server application is built for 64-bits, the following path needs to be prepended to the PATH environment variable to use the correct CA Gen runtime dynamic link libraries:

%GENxx%Gen\VS110\amd64

The following command must be used to set the PATH environment variable:

PATH=%GENxx%Gen\VS110\amd64;%PATH%

Prepending the PATH environment variable as shown only needs to be done in the current command window when invoking an application that has been as a 64-bit image. Do not make this modification to the PATH system environment variable.

Note: xx refers to the current release of CA Gen.

64-bit Windows User Exit Rebuilds

Any user exit, while working with 64-bit runtimes on Windows, must be rebuilt using batch files and make files stored in the the %GENxx%Gen\VS110\amd64 folder. The user exit must be executed from the same folder. The resultant user exit dynamic link libraries are placed in the same folder.

Note: xx refers to the current release number.

Security Token User Exits—maximumLength Parameter

If messages exceed the 32K limit, the security token user exits calculate the length considering a maximum length of 16777215 bytes and then truncate the result to a maximum of 32768 bytes as this is the length allowed by the generated code for the security token.

If you do not exceed the 32K limit, the maximum length remains the same as 31900 bytes.

Date Validation

When using date duration in expressions, the results of the duration calculation must be a valid date, as a month, day, and year combination.

Failure to provide a valid date can lead to unpredictable results.

Examples:

00000000

All zeros is a valid date

01010001

Month, day, and year each set to 1 is a valid date

10002006

A zero day value is an invalid date

00012006

A zero month value is an invalid date

Web Generation

The following sections explain the general considerations for Web Generation and ASP.NET.

Closing Dialogs

Dialogs do not generate close events when terminated using the System Close icon in the upper-right corner of the browser window. Use the CA Gen-generated X button or a control designed to trigger the close event, such as a push button.

Focus Events

Under certain circumstances, GainFocus and LoseFocus events act slightly different in ASP.NET than they do in Web Generation and GUI clients because of architecture differences in these environments. Without this behavior difference, ASP.NET applications could go into an infinite loop.

For example, if the First Control on a page has GainFocus and LoseFocus events associated with it and the mouse is clicked where no other control on the page acquires focus, such as on the window where no other control resides, or on the Address Box in browser, the LoseFocus event fires for the control. When the page redraws, focus is back on the First Control. A GainFocus event does not fire because the First Control had focus and is the next control to acquire focus.

If another mouse click occurs, the LoseFocus event fails to occur since it would be a duplicate event because LoseFocus was the last processed event. In this case, if the mouse clicked is in the Address Box, the focus stays in the Address Box because the event processing was never sent to the server, and there would be no reason to redraw the window and reset focus to the First Control.

Modal and Modeless Dialogs

The current Web Generation implementation of modeless dialogs in CA Gen Release 8.5 is no longer supported in Microsoft's Internet Explorer 9. Looking forward, our Web Generation and ASP.NET implementations of modal and modeless dialogs are no longer supported in Microsoft's Internet Explorer 10.

Modal and modeless dialogs are used solely for Pop-Up Dialog Boxes and MessageBoxes so the impact of this problem is somewhat limited. We are in the process of implementing changes to resolve this problem for both versions of Internet Explorer.

Until these changes are available, if you are using Pop-Up Dialog Boxes or MessageBoxes in your application with Internet Explorer 8, continue using that version of Internet Explorer until a solution is provided. We will notify you as soon as a fix is available.

Toolset

The following sections explain the general considerations for the Toolset.

Seamless Upload and Download

When executing a seamless upload or download to a Toolset running on a CJK (Chinese, Japanese, Korean) Windows operating system and using the IBM Personal Communications (PC3270) product, CA Gen issues the following message:

```
Fatal Error has occurred.
```

This is a problem with the IBM software and an issue, IBMLINK Record 36052, 7TD, 000, is open. As a workaround, use the General tab to change the default packet size option from 8000 to 2000. To open the General tab, choose these menu options: Edit, Preferences, Transfer.

Running CA Gen Components from the LAN

CA Gen does not support running components, such as the Toolset and Build Tool, from a central server.

HTML Control and HTML Text Object

The Disabled By menu item in the detail menu of the Navigation Diagram is disabled when an HTML Control or an HTML Text object is selected in HTML and ASP.NET modes. It is impossible to disable an HTML control or HTML Text object using the Disabling States Dialog.

DBCS String Routines

Do not use SUBSTR with DBCS character strings; use SUBSTRDBCS.

Do not use SUBSTRMIX on Java. Since Java is Unicode, use SUBSTR or SUBSTRDBCS. SUBSTRMIX counts bytes that return odd results on Unicode.

.NET Framework 3.5

.NET Framework 3.5 can be installed on a Toolset workstation concurrently with earlier releases of the .NET Framework, but CA Gen Release 8.5 only supports .NET Framework 3.5.

Important! Infragistics controls 1.1 version must be uninstalled.

Web Controls and ASP.NET

CA Gen only supports Web Controls derived from the .NET System.Web.UI.WebControls. WebControl classes that can be used at design-time with Visual Studio 2010, when a third-party .NET Web Control can't be used at design-time in Visual Studio 2010, will not work within the Host.

Note: CA Gen has not been tested with all ActiveX controls available in the market. Therefore, we cannot guarantee they will all work with CA Gen.

Tab Control

Support of TAB controls for GUI applications is limited to the Tab Pro control provided by FarPoint Technologies Inc. While this control is no longer supported by its distributing company, it will continue to work with this version of CA Gen.

Treeview Web Control

The Microsoft Internet Explorer Web Control Treeview has problems reflecting changes to a subset of its properties, such as INDENT, at design time. This is a problem with the Treeview control. Visual Studio can produce the same conditions with a sample application.

Edit Patterns for Decimal Fields

The fractional part of a number moved to an edit field can display a different behavior depending on the client type.

With a GUI or ASP.NET client, when a decimal number is moved to a field with an edit pattern that does not include decimals or has fewer decimals, the decimal digits that are not displayed are truncated.

For example, when 156.123 is moved to a field with an edit pattern of 999.99 the value displayed on the screen is 156.12. If that number is moved back to a field with an edit pattern of 999.999, the value displayed is 156.120; the rightmost digit is truncated. A Web Generation client would display the value as 156.123. The behavior of the GUI and ASP.NET clients will be corrected in a future release.

Common Edit Modification (CEM)

When pushbuttons are added to Toolbars in different modes with CEM OFF, and more pushbuttons are added after turning on CEM, the new pushbutton may be hidden behind the original pushbuttons. To work around this issue, move each pushbutton off the toolbar and then back onto the toolbar again.

Note: You must move every pushbutton off and back on, or the problem will persist.

Online Help

Some Toolset dialogs may have missing or incorrect help information. These problems should be resolved in a future release. To find helpful information on many topics, use Help, Help Topics, Index, or Help, Help Topics, Search.

Migrating Applications

Migrating Windows C Applications

Windows users must rebuild (recompile and relink) any External Action Blocks and generated applications built with a prior version of CA Gen when migrating to the latest release of the product. The latest release of CA Gen Runtime is compiled using a new version of the Microsoft compiler hence the generated code and EABs must be recompiled with the same version of the compiler. If any user exits were modified in a prior CA Gen release, these modifications will need to be merged with the latest CA Gen user exits and rebuilt as well. If you use the CA Gen Build Tool to assemble your application in an MSI file, you must also reassemble these applications.

Migrating UNIX/Linux C Applications

UNIX/Linux users should rebuild (recompile and relink) any External Action Blocks and generated applications built with a prior version of CA Gen when migrating to the latest release of CA Gen. New versions of the compilers are being used on all target systems. CA Gen components targeting HP-UX Itanium have migrated from 32-bit to 64-bit. Applications targeted for HP-UX Itanium must be regenerated, recompiled and relinked. If any user exits were modified in a prior CA Gen release, these modifications will need to be merged with the latest CA Gen user exits and rebuilt as well.

Migrating z/OS Applications

A re-generation or re-install of the following z/OS runtime FUNCTIONS is not required when moving applications built with AllFusion Gen 7.6 and CA Gen Release 8.0 to CA Gen Release 8.5 environment. However, a re-generation or a re-install may be required for reasons other than a code change to the functions themselves, like a PTF that changes runtime DLLs. Such a change is evaluated and published as required.

Function Name	Type	Description
CONCAT	String	Concatenates two character strings.
CONCATMIXED	String	Concatenates two text or mixed character strings.
CONCATDBCS	String	Concatenates two double-byte character strings.
CYYDATE	Numeric	Translates a date into a pre-4.0 CYYMMDD format. The input is a date.
CYYNUM	Numeric	Translates a number into a pre-4.0 CYYMMDD format. The input is a number in the format of YYYYMMDD.
DATEDAYS	Numeric	Translates a positive integer which represents the number of days since December 31, 0000 into an IEF date value.
DATEJUL	Numeric	Translates a valid Julian date (YYYYDDD) into an IEF date value.
DATENUM	String	Translates a number into an IEF date value. The input format is a number in the format of YYYYMMDD.
DATETEXT	String	Translates a valid character string date into an IEF date value. Input formats are YYYY-MM-DD6 MM/DD/YYYY, DD.MM.YYYY & YYYYNNN.
DATETIMESTAMP	Numeric	Translates the date part of an IEF timestamp value into an IEF date value."
DAY	Numeric	Extracts the day part of an IEF date value.
DAYOFWEEK	String	Calculates the day of the week from an IEF date value.
DAYS	Numeric	Translates an IEF date value to a positive integer which represents the number of days since December 31, 0000.

Function Name	Type	Description
DAYSTIMESTAMP	Numeric	Translates an IEF timestamp value to a positive integer which represents the number of days since December 31, 0000.
DAYTIMESTAMP	Numeric	Extracts the day part of an IEF timestamp value.
FIND	Numeric	Returns the position of a substring within a given text or mixed string. If the substring is not contained within the string, 0 is returned.
FINDDBCS	Numeric	Returns the position of a substring within a given double-byte string. If the substring is not contained within the string, 0 is returned.
HOUR	Numeric	Extracts the hour part of an IEF time value.
HOURTIMESTAMP	Numeric	Extracts the hour part of an IEF timestamp value.
JULDATE	Numeric	Translates a valid IEF date value into a valid integer Julian date (YYYYDDD).
LENGTH	Numeric	Returns the length of a text or mixed character string.
LENGTHDBCS	Numeric	Returns the length of a double-byte character string.
MICROSECOND	Numeric	Extracts the microsecond part of an IEF timestamp value.
MINUTE	Numeric	Extracts the minute part of an IEF time value.
MINUTETIMESTAMP	Numeric	Extracts the minute part of an IEF timestamp value.
MONTH	Numeric	Extracts the month part of an IEF date value.
MONTHTIMESTAMP	Numeric	Extracts the month part of an IEF timestamp value.
NUMCYY	Numeric	Translates a number in the pre-4.0 CYYMMDD date format into a number in the format of YYYYMMDD.
NUMDATE	Numeric	Translates an IEF date value into a numeric integer which is the date in a numeric format of YYYYMMDD.
NUMTEXT	Numeric	Translates a character string representation of a number into the number.

Function Name	Type	Description
NUMTIME	Numeric	Translates an IEF time value into a numeric integer which is the time in numeric form: HHMMSS.
SECOND	Numeric	Extracts the second part of an IEF time value.
SECONDTIMESTAMP	Numeric	Extracts the second part of an IEF timestamp value.
SUBSTR	String	Extracts a substring of a string starting at a specified position and containing a specified length.
SUBSTRMIXED	String	Extracts a substring of a text or mixed character string starting at a specified position and containing a specified length.
SUBSTRDBCS	String	Extracts a substring of a double-byte string starting at a specified position and containing a specified length.
TEXTNUM	String	Translates a number into a character string representation of the number.
TIMENUM	Numeric	Translates a number into an IEF time value. The input format is HHMMSS.
TIMESTAMP	Numeric	Translates a valid character string timestamp into an IEF timestamp value. Input formats are YYYY-MM-DD-HH.MM.SS.NNNNNN, YYYY-MM-DD-HH.MM.SS, and YYYY-MM-DD.
TIMETEXT	Numeric	Translates a valid character string time to a time value.
TIMETIMESTAMP	Numeric	Translates the time part of an IEF timestamp value into an IEF time value.
TRIM	String	Trims trailing blanks from a character string.
TRIMMIXED	String	Trims trailing blanks from a mixed character string.
TRIMDBCS	String	Trims trailing blanks from a double-byte character string.
UPPER	String	Returns the uppercase character string of the input character string.
UPPERMIXED	String	Returns the uppercase character string of the input mixed character string.

Function Name	Type	Description
UPPERDBCS	String	Returns the uppercase character string of the input double-byte character string.
VERIFY	Numeric	Derives the location of a text or mixed character in the input string which is not in the validation string.
VERIFYDBCS	Numeric	Derives the location of a double-byte character in the input string which is not in the validation string.
YEAR	Numeric	Extracts the year part of an IEF date value.
YEARTIMESTAMP	Numeric	Extracts the year part of an IEF timestamp value.

Chapter 12: Documentation Changes

This section contains the following topics:

Bookshelf

The bookshelf on the CA support site is available on CA Gen Wiki in a new format. On the CA Gen Wiki, you can comment on the pages and can receive a quick response. You do not have to wait for the next release to see the documentation fixes. You do have the option of publishing it in ePub and PDF formats. So it is available offline too. You can access it using mobile devices.

New Deliverables

The following guides and help systems are new to the CA Gen Release 8.5 documentation set:

- *How to Create and Publish Web Services to CA API Gateway scenario*
- *User-Added Functions in Action Diagram article*
- *How to Call External Web Services scenario*
- *How to Add Inline Code for ODBC/JDBC/ADO .NET scenario*
- *DB2 z/OS Table Partitioning Plug-in Help*
- *DB2 z/OS Tablespace Partitioning Plug-in Help*

Changes to Existing Guides

The following guides were updated:

- *CA Action Diagram User Guide*
- *CA Gen Best Practices Guide*
- *CA Gen Message Reference Guide*
- *CA Gen User Exit Reference Guide*

The CA Gen Release 8.5 NonStop Implementation Toolset product is not available. However, references to this product were not removed from the various guides which reference it.

Deleted Guides

The *Database Schema Import Facility User Guide* was removed from the CA Gen Release 8.5 documentation set.

Chapter 13: Known Issues

This section contains the following topics:

Build Tool

The following known issues were identified in Build Tool in this release:

- When you start building on an UNIX Build Tool server using the Build Tool client, the build process may sometimes hang with the status that the build is scheduled. This may happen when the build profile is changed from Default to any other profile.
- When connecting to a remote server, the initial remote path is blank. If a new path is entered in the path entry field, either press TAB or ENTER before attempting to perform a File Transfer.
- After a successful use of the CLEAN command on the command line, the STATUS command does not accurately reflect the current status, which should be 'NEW'.
- Assembly is not enabled for a remote Windows Build Tool server.
- In Build Tool Help, sometimes the name of a topic is displayed partially in the search result. Clicking the topic link in the search result list displays the topic.

Client Server Encyclopedia

The following known issue was identified in Client Server Encyclopedia in this release:

- In certain instances for the generation targeting MVS/Cobol/DB2/CICS where a server procedure step contains a large cardinality (that is 999) group view and many views, the remote file generator on AIX fails. As a workaround, generation can be performed from the Toolset or Host Encyclopedia.

DB2 z/OS Tablespace Partitioning Plug-in

The following known issue was identified in the DB2 z/OS Tablespace Plug-in in this release:

If the root subject area is not available with modify access in a subset, modifying the DB2 z/OS Tablespace Partitioning using the Plug-in gives a protection violation error. The DB2 z/OS Tablespace Partitioning object protection should be checked and modifications in the Toolset prevented based on the object protection.

Documentation

Enterprise JavaBeans

The following known issue was identified in Enterprise JavaBeans (EJB) in this release:

A Procedure Step that contains no Import Views or no Export Views may cause the generation to fail for Java Server Managers, Java Proxies, Web Generation Window Managers or Web View Window Managers.

Enterprise JavaBeans Web Services

The following known issues were identified in Enterprise JavaBeans (EJB) Web Services in this release:

- The Java Standalone, JAVA XML, Proxy NET, or GUI applications fail to access through https protocol.
- Clients fail to communicate to EJB Web service servers via IPV6 address.
- Web service failing with exception when NLS characters in WSDL.

Gen Studio

Gen Studio is not yet fully 508-compliant. Some features may still require using a mouse, might not display well in high-contrast, or support use by screen reader software.

The following known issues were identified in Gen Studio in this release:

- From Dreamweaver add all the controls (button, Txtfld, txtarea, table, chckbx, radiobtn, list/menu, file field). Add an action to one. In Gen Studio an Exception is displayed in the Console view. Does not happen if controls are added individually to different html files.
- Tables defined in Dreamweaver do not get populated with non-repeating group views mapped in Web Service Access Designer.
- Whenever a licensing error is displayed, the error message refers to the Toolset product, instead of Gen Studio.

Linux IT Installation

The following known issues were identified in Linux IT Installation in this release:

Garbage characters are displayed along the border of the installation screens.

When performing an IT installation on either Redhat or SuSE (using VT100 mode via PuTTY), garbage characters are displayed along the border of the installation screens, instead of the lines that make up the rectangular box surrounding the text. As a work around, on the left hand side of the PuTTY Configuration window, click on the ‘Translation' Window tab. Select UTF-8 for the Remote Character Set, then launch your session.

Proxy Generation

The following known issue was identified in Proxy Generation in this release:

- The User Funnel is crashing on Windows when targeting remote daemons.

Runtime Applications

The following known issue was identified in Runtime Applications in this release:

If we build our models using Visual Studio 2012 compiler and select the theme as Aero or any other theme which contains padded or thick border, the dialog box size is reduced.

Runtime ASP.NET

The following known issues was identified in Runtime ASP.NET in this release:

CA Gen .NET runtime does not properly handle overflows and underflows when performing decimal precision arithmetic.

Runtime Distributed

The following known issue was identified in Runtime Distributed in this release:

Tuxedo

When using the Tuxedo TP monitor, sometimes server to server flows will cause the second server to shut down when an error occurs and the commit/abort logic cannot complete its processing. Also with the Tuxedo TP monitor, server to server flows will fail when passing a 1 Mb view.

Runtime GUI

The following known issue was identified in Runtime GUI in this release:

- Key Press events are triggered for Arrow keys and Function keys.

SuSE SLES 11 Installation

The following known issues were identified in SuSE SLES 11 in this release:

- Missing library

  The CA Gen installer requires the *compat* library which is no longer shipped as part of the SuSE SLES 11 product. The compat package can be downloaded from the following directory:

  http://linux.mirrors.es.net/opensuse/factory/repo/oss/suse/i586

  Select the current version of compat-*.i586.rpm. Download and install it.

- End User Licensing Agreement is blacked out

  Some Xservers have a problem displaying the scrolling window of text containing the CA End User Licensing Agreement. The text can be made readable by covering and uncovering the text with another window or the installation can be restarted in VT100 mode by adding "-V" (capital Vee) to the setup command arguments.

Transaction Enabler/User Funnel

The following known issue was identified in Transaction Enabler/User Funnel in this release:

A Windows User Funnel will fail to start when connecting to a Unix Transaction Enabler.

Toolset

The following known issues were identified in Toolset in this release:

- The copy functionality for an action diagram containing a CALL EXTERNAL statement does not correctly add all objects.
- BLOB attributes must not be selectable as a List Box item. The Consistency Check report provides visibility for BLOB attributes placed on a window.
- The CALL EXTERNAL statement cannot be copied into another action diagram, and an action diagram containing a CALL EXTERNAL statement must not be copied until a known issue is addressed.
- Code generation fails for large views even though Consistency Check indicates that view lengths are within acceptable limits.
- The error message dialogs that are associated with the CALL EXTERNAL or INLINE CODE statements are modeless. When the error message dialogs are active, interacting with other parts of toolset may cause toolset to either be unresponsive or crash.

UNIX Installer

The following known issues were identified in UNIX Installer in this release:

- The end of the End User License Agreement (EULA) does not accurately state the use of the pushbuttons that are used to either accept or reject the EULA. The text should state “Select the “I accept the terms of the License Agreement” pushbutton to accept and continue the installation process, or select the “Cancel” pushbutton to halt the installation process. There are no radio buttons.
- The UNIX installation fails with the following error:

  “++ Component {component name} installed with error: 224”

  There is not enough disk space to complete the installation. This error is given by the installation tool used to install CA Gen. Free up needed disk space and reinstall.

- The Modify, Reinstall and Uninstall options of the UNIX installation are not functional.

  To uninstall the product, use the command 'lsm –e'. Installing the CSE and the IT at the same time results in an error. The error can be found in the log file in the directory /opt/CA/installer/log. Installing the CSE and the IT in different installation executions will result in successful installations.

Web View

The following known issues were identified in Web View in this release:

- Buildtool EAR File Assembly Details dialog does not give an option to modify the default session timeout value.

  Modify the web.xml in the assembled ear file.

- Vertical menu bar is extended up to the total window height.
- Vertical and horizontal scrollbars do not appear when window is resized.

Web Service Access Designer

The following known issues were identified in Web Service Access Designer in this release:

- Setting an export date, time, or timestamp view to an equivalent local "empty" view will not clear out the export view.
- Data is not returned for Web Service Access using an external site through a published WSDL.

  Browsers have increased security restrictions and most now prohibit cross site scripting. Because of this, Web Service Access is unable to access remote Web Services directly. Any web services that are accessed by a Web Service Access application need to be located within the same domain.

Windows Installer

The following known issues were identified in Windows Installer in this release:

After removing a CA Gen feature that depends on the GEN85 environment variable, other features that depend on GEN85 fail to execute at all or execute with errors. GEN85 has become undefined because the feature was removed. As a work-around, start the installer and run the repair option; it will restore the definition of GEN85.

If CA Gen 8.5 is installed and Dreamweaver CS6 has not been installed, the CA Gen Dreamweaver Plug-In will not be installed. The workaround is to uninstall and reinstall CA Gen 8.5, after installing Dreamweaver CS6.

Uninstalling the Proxy product feature does not disable the generation and installation functionality for proxy modules.

z/OS

The following known issues were identified in z/OS in this release:

- CICS Cooperative Server-to-Server abend

  CICS Server-to-Server transactions generated and installed using Gen 8.5 abend with S0C4 in TIRMOVP.

  CICS Server-to-Server transactions generated and installed using Gen 8.0 or earlier releases do not encounter the abend.

- CommID mismatch

  When executing cooperative clients with z/OS IMS servers and certain error states are encountered, the following incorrect error message is displayed:

  TIRM626E: Error client/server send/recv protocol not in sync.

  In addition, the CMIDEBUG log indicates that there is a CommID mismatch.

- Codepage

  When the server runtime TIRCRUNI or TIRCRUNC does not have the correct code page translations that are linked into them, the server abends with either a U3500 or IEFT. This must be changed so that the client receives an error instead of the abend. A possible workaround is to verify that the correct translation modules are linked in.

- IMS Cooperative Server-to-Server abend

  IMS Server-to-Server transactions abend with S0C4 in TIRMOVP.

- IMS transaction using zLib abends S0C4 in DSNHLI

  IMS Block Mode transaction that executes zLib Action Block abends S0C4 in DSNHLI.

- Host Encyclopedia

  Occasional panel error: ISPD113 Invalid panel. As a workaround, press the Enter key.

- Build zLib application using z/OS Implementation Toolset

  When processing a remote file created by CA Gen Toolset or CSE to build a z/Lib application using z/OS IT, the techsys name for the CASCADE Action Block is blank and the split step fails with message:

  ERROR – BUILD PROC – COMMON MEMBER'S BUSINESS SYSTEM NOT FOUND. Workaround build using Host Construction or manually add Business System Name to .rmt file.

  When processing a remote file to build a z/Lib application using the z/OS IT, the execute step of the IP gets error message: Link-edit Failed, RC=8 and an UNRESOLVED reference.

Chapter 14: Acknowledgements

The third-party software license agreements are available in the \Bookshelf_Files\TPSA folder in the CA Gen Bookshelf.