AllFusion® Gen

Release Summary

r7

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New Features

The following major enhancements have been added to AllFusion® Gen r7 (formerly known as Advantage™ Gen). For a list of changes to the existing features, see the chapter "Changes to Existing Features" in this guide.

Support for Microsoft .NET

AllFusion Gen r7 can now generate applications that target the Microsoft .NET environment. Some highlights of this new support include:

- Ability to generated CLS-compliant C# code

- Generate Web Clients for the ASP.NET environment

- Server Procedure Steps can be generated as .NET Servers executing under Microsoft Component Services

- Communications between the ASP.NET Web Client and AllFusion Gen .NET Server is through .NET Remoting

- The .NET Proxy allows user-written .NET applications to access most AllFusion Gen servers via the TCP/IP or .NET Remoting cooperative runtimes.

- Hand developed .NET clients may call generated .NET servers without using a generated proxy.

■ Expands the number of cooperative flow runtimes between AllFusion Gen clients and servers. The following illustration shows some of these combinations. For more detailed information see the AllFusion Gen *Technical Requirements* and the *AllFusion Gen Distributed Processing – Overview Guide.*
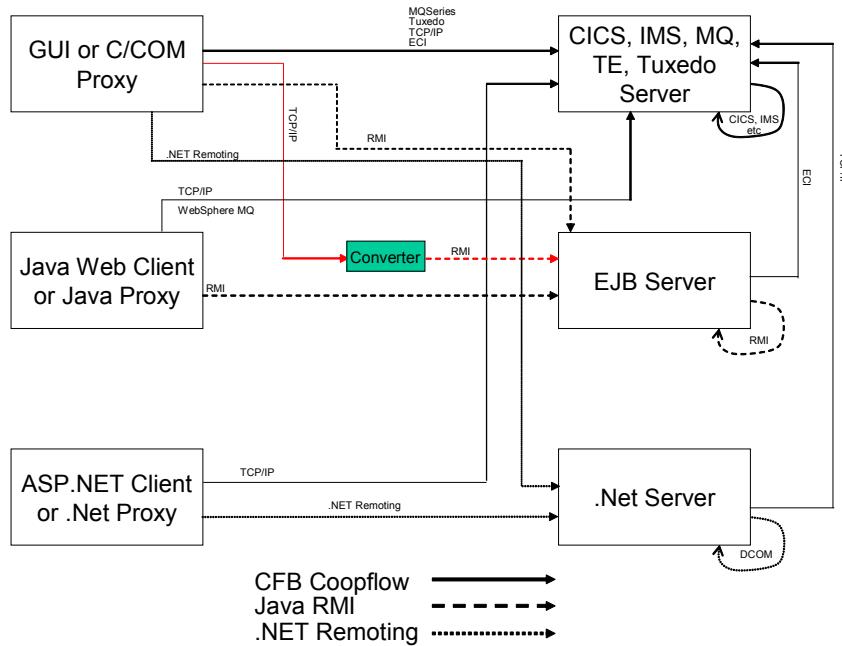
Microsoft .NET Framework and ASP.NET

The Microsoft .NET Framework is a Microsoft Windows component for building and running the next generation of applications and XML Web services. The Microsoft .NET Framework consists of two main parts: the common language runtime (CLR) and the Framework libraries (FCL).

The FCL includes Microsoft ASP.NET for Web applications and XML Web services, Microsoft Windows Forms for smart client applications, and Microsoft ADO.NET for loosely coupled data access. This version of AllFusion Gen targets only the Microsoft .NET Framework. AllFusion Gen generates C# applications with C# runtimes to provide thin client ASP.NET Web applications.

To provide client/server capabilities, AllFusion Gen ASP.NET Web clients can access AllFusion Gen CICS, IMS, TE (Windows and UNIX), Tuxedo (using TCP/IP) and Microsoft .NET servers.

ASP.NET Implementation Features

The ASP.NET implementation includes the following features:

■ Generated C# code.

■ Internet Information Server (IIS), the application server used with ASP.NET applications.

■ Internet Explorer, the only Web browser used with ASP.NET applications.

■ The GUI user interface design is the basis for the ASP.NET user interface.

■ User interface modifications can be designated as common across the Windows for GUI, ASP.NET, or HTML for Java, or they can be made specific to each individual target environment.

■ Third-party Web controls can be hosted in the toolset and supported by generated applications.

■ Action block logic is common across target platforms.

■ Generation takes place on the Windows workstation or CSE (the Host is specifically excluded).

■ Database access is through ADO.NET.

■ AllFusion Gen Referential Integrity (RI) and DBMS RI are supported.

■ There is no 32K limit on the ASP.NET Web client to AllFusion Gen server for .NET server flows.

■ ASP.NET Web client-to-C and COBOL server flows to AllFusion Gen generated servers in the following TP environments; CICS, IMS, Tuxedo, and TE through TCP/IP.

Notes:

■ OCX controls are not supported in the ASP.NET Web client.

■ The new features for Java Web Generation clients in AllFusion Gen r7 are not available in the ASP.NET Web client. For more information, see Web Client (Web Generation) Enhancements in the chapter "Changes to Existing Features" in this guide.

For more information about the Microsoft .NET Framework and ASP .NET, see the *AllFusion Gen ASP.NET Guide*.

AllFusion Gen .NET Servers

This feature allows customers to generate their server procedure steps as COM+ serviced components. Combined with the ASP.NET feature described earlier, this allows customers to generate a complete .NET application from an AllFusion Gen client/server model.

The server load modules are generated for execution under COM+ - the next evolution of Microsoft Component Object Model (COM) and Microsoft Transaction Server (MTS).

AllFusion Gen .NET servers include the following features:

■   Generation of the Server Manager in C# as a COM+ application. A server load module is generated as a set of DLLs and executes under COM+.

■   Interoperation with AllFusion Gen generated ASP.NET Web clients using .NET Remoting.

■   No 32K limit on the ASP.NET Web client to AllFusion Gen Server for COM+.

■   Hand developed .NET clients may invoke AllFusion Gen .NET servers without the need of a generated proxy.

■   A C to C# coopflow which allows MFC GUI clients and C and COM proxies to interoperate with AllFusion Gen .NET Servers is provided.

For more information about the AllFusion Gen .NET Servers, see the *AllFusion Gen Distributed Processing – .NET Servers Guide*.

New Proxy Interface

Starting with AllFusion Gen r7, selected generated proxies provide a new API that is designed to present a more object-oriented paradigm.

Group Views, Rows, Entity Views, and Work Views are all created as classes that are referenced by their parents as designed in the AllFusion Gen Workstation Toolset. This allows for a more intuitive method of addressing an attribute view within an import or export view. For example:

```
double amount = Export.Employee.Salary();
```

All import and export views can be easily serialized, cloned, reset, and validated.

Repeating Group Views can now be accessed with a looping construct within the user code allowing more natural usage from the user code.

Other features include changing the interface to have purely independent implementation and allowing the code to be more efficiently used in multithreaded applications. Error notification is accomplished through the use of the native facilities of the implementation language by throwing exceptions.

The new proxy API is implemented in the Java Proxy and the new .NET Proxy.

Java Proxy Interface Changes

The Java Proxy has been modified to provide the new proxy API as the default interface.

It should be noted that the new Java Proxy API is not backward compatible with the classic Java Proxy API. For this reason, the classic Java proxy API can be selected by checking "Use Classic Style API…" in the generation dialog as shown in the following illustration.
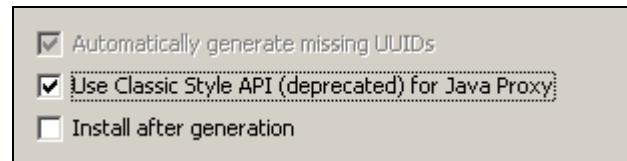
For more information about the new Java Proxy interface, see the chapter "Java Proxy" in the *AllFusion Gen Distributed Processing – Proxies Guide.*

.NET Proxy

The .NET Proxy is new for AllFusion Gen r7. This proxy implements the new proxy API which was described in the previous section. It exposes a C# interface to allow hand-coded .NET clients to interoperate with AllFusion Gen servers running on specific platforms.

High-level capabilities of this new feature include:

■   The proxy code is generated in C# and provides synchronous, asynchronous, and XML interfaces.

■   The proxy generates sample code.

■   The proxy is supported by a new runtime written entirely in C#.

■   Generation can take place on the Windows Workstation Toolset or the Windows Client Server Encyclopedia.

■   Windows Build Tool is used to build the .NET proxy code and samples.

To interact with the generated servers, the .NET proxy can use any of the following cooperative flow runtimes:

■ TCP/IP cooperative flow— to communicate with C or COBOL generated servers executing on CICS, IMS, Asynchronous Daemon or other platforms reachable through TCP/IP

■ The new .NET Remoting cooperative flow— to communicate with the new AllFusion Gen .NET Servers

For more information about the .NET Proxy option, see the chapter ".NET Proxy" in the *AllFusion Gen Distributed Processing – Proxies Guide.*

User-Written Clients

The generated AllFusion Gen EJB servers and the new AllFusion Gen .NET servers have been enhanced to allow user-written clients to invoke them directly rather than having to utilize a generated proxy. The server's new interfaces are very similar to the new Java proxy and .NET proxy interfaces.

For more information on how user-written clients may interact with AllFusion Gen EJB and .NET servers, see the *AllFusion Gen Distributed Processing – Enterprise Java Bean Guide* and the *AllFusion Gen Distributed Processing - .NET Server Guide.*

Build Tool

The Build Tool delivered with AllFusion Gen r7 replaces the existing Build Tools in Release 6.5 and prior releases, and is common across Windows and UNIX systems. It provides more functionality than the existing Build Tool and has an updated user interface.

The Build Tool provides the following enhancements:

■ Java-based code provides a common version with similar features and capabilities across Windows and UNIX platforms.

■ Provides a GUI interface for both UNIX and Windows systems.

■ Retains the command line interface available on UNIX systems to facilitate batch processing. Adds a command line interface for Windows.

■ Provides multithreading capabilities to allow parallel builds to occur.

■ Provides a tool for assembling GUI, ASP.NET, and Java applications.

■ Allows remotely administered builds so users can initiate, monitor, and control builds on remote systems. Remote systems are supported on different platforms.

■ Provides distinct profiles on the same machine to enable specifying different setup options and simple switching between them.

■ Supports long directory names including spaces and NLS (National Language Support) characters.

■ Supports Application Versioning – users may set version properties for generated application DLLs and executables. This is valid for GUI and Blockmode applications and UNIX servers.

For more information about the new build tool, see the *AllFusion Gen Build Tool Guide*.

Web Services Plugin

The AllFusion Gen r7 Web Service Wizard has a new interface. The Wizard fully automates the process of exposing new and existing AllFusion Gen Java proxies as web services, further extending their ability to integrate with other external applications with no manual coding.

The wizard wraps the XML interface of the Java proxy so it can be installed on an Apache Axis SOAP server and receives and returns data formatted using SOAP. The wizard also generates a WSDL file that details the web service interface and a sample Java client source file that can be used as an example of how the web service is called. Also, the wizard generates the files needed to deploy the service to the Axis SOAP server and optionally allows the generated web service to be compiled and deployed to a local target environment.

The wizard is developed and deployed as an AllFusion Gen plug-in. After this plug-in is installed, a menu item for it appears in the toolset Plug-in menu. Selecting this menu item runs the Web Service Wizard.

The wizard allows you to select the operations, or server procedures, to include in the Web service. It then generates the Java wrapper code for the proxy, the WSDL for the web service, a sample Java client to be used to test the Web service and the supporting deploy and un-deploy files used to indicate to Apache Axis that a new web service is available. If the web service is to be deployed locally, the wizard can optionally copy the necessary files from the generation directory to the correct locations under the Apache Axis directory structure.

You must download the free Apache Axis SOAP server and the Apache Tomcat application server, or get an application server that includes Axis. Some application servers that include Axis are highlighted on Apache Axis web site.

The web services generated by the wizard have been tested in the following environments:

■ Sun Java Web Service Development Kit 1.0.01 (includes Apache Tomcat) and Axis 1.0

■ Apache Tomcat 4.1.24, Axis 1.1, and Java Development Kit (JDK) 1.3

■ Apache Tomcat 4.1.24, Axis 1.1, and JDK 1.4

For more information about the Web Services Wizard, see the *AllFusion Gen Web Service Wizard Guide*.

Changes to Existing Features

The following modifications or enhancements have been made for AllFusion Gen r7.

Installation Changes

In this release, the installation process for Windows and UNIX systems gathers all necessary parameters before beginning the actual installation and then runs to completion without further user interaction.

Configuration is also generally separated from installation allowing changes in configuration parameters without going back to the installation or requiring the installation media.

A major change in this release is that license keys are not required to select options for installation. You can install any AllFusion Gen options for a thirty-day trial period. At the end of the trial period only those options for which license keys are available continue to be enabled.

AllFusion Gen r7 supports Unicenter® Software Delivery Installer option, which allows you to perform a remote installation of the AllFusion Gen software components. For more information about the USD Installer option, see the *AllFusion Gen Installation Guide*.

Windows Installation

If the typical install option is selected, the following AllFusion Gen components are installed on Windows systems:

- Workstation Development Tools

- Workstation Construction Toolset

- Encyclopedia Client and Checkout Client

- Implementation Toolset

- Transaction Enabler

- Transaction Enabler User Funnel

- TCP/IP Middleware

- Java Web Client

- ASP.NET Web Client

- GUI Runtime

- .NET Servers

Note: When custom install is selected, the initial settings are identical to the settings used in the typical install.

UNIX Installation

AllFusion Gen r7 UNIX installations are now performed under the control of the Unicenter Software Delivery Installer. The user interface for the installation supports a GUI or VT100 interface. Users can either install the AllFusion Gen Implementation Toolset (IT) or Client Server Encyclopedia (CSE) on UNIX systems from the delivered CD or for companies that have a centralized Unicenter Software Delivery facility, remote installations will be supported. For more information about UNIX installation, see the *AllFusion Gen Getting Started* and the *AllFusion Gen Installation Guide*.

CSE Installation

For the CSE clients, configuration was moved from installation time to runtime. That is, configuration information is requested when the CSE client starts running for the first time. Configuration of the CSE is provided by a separate utility, which is run after installation completes.

The installation of the CSE on UNIX and Windows platforms has changed in several areas. These changes were necessary to support the USD remote installation feature. For more information about the CSE Installation changes, see the *AllFusion Gen Installation Guide*.

One of the most significant changes is that the CSE database and tablespaces are no longer created as part of the installation. These databases and tables must exist before the configuration is started.

The Windows installation now uses Microsoft Installer (MSI) Package and supports silent or unattended installation. This installation supports the Microsoft Add/Remove Programs capability.

GUI Runtime Enhancements

The following GUI runtime enhancements for AllFusion Gen r7 are described in this section.

- An additional help style is available to generated applications. You can use either the existing HLP help style or the new HTML help.

- A new initialization file, GUIEnvironmentVariables.ini, allows you to set your environment variables and preserve them in a centralized location.

- Generated applications can use the mouse scrolling-wheel (both horizontal and vertical).

- You can now view help descriptions for the top-level menu items. The standard Window and Help menus that you can generate do not provide help.

Toolset Enhancements

The following toolset enhancements are included in AllFusion Gen r7.

Keyboard Navigation in Action Diagram

The keyboard can be used to navigate the Action Diagram notation, logic, and syntax. The key assignments follow the guidelines from the Windows User Experience and Windows Keyboard Shortcuts Overview Guides. For more information about the keyboard navigation, see the Windows Online Help.

Space in Path Name

Spaces in path names of AllFusion Gen models and associated files are supported. Model names are still limited to eight characters.

HTML Help

Toolset help is now displayed in HTML format using the Internet Explorer browser.

An optional help system, optimized to use both mouse and keyboard navigation is available. The latter help was put in place to help in complying with U.S. Section 508 of the Rehabilitation Act and can also satisfy similar laws in other countries.

To use either help systems, the "Allow active content to run in files on My Computer" option must be set in your Internet Explorer if you are running Windows XP SP2 or Windows 2003 Server.

Note: This help system does not imply that AllFusion Gen fully satisfies Section 508.

New Report w/XML

The toolset now produces report output files using XML data format, which is governed by customizable style sheets. This enhancement helps you to modify the associated XML style sheet to customize the report output.

Help About Box

Designers of AllFusion Gen applications may now easily customize the generated Help About dialog.

In the Navigation Diagram tool, the designer uses the Window/Dialog Box Properties dialog for detailing the properties of an existing dialog or in creating a new one.

A new "Help About box" is added to the existing types (Primary window, Primary dialog, and dialog box.) Only one Help About box is allowed for every procedure step, and if the application designer does not choose to create one for any particular procedure step, then a default Help About box is created automatically, just as it was created before this enhancement.

Xcopy View in PAD

Select views separately for Xcopy from one Action Diagram (AD) to another in a model without having to copy the statements.

Previously, the Xcopy functionality was only available for statements and not for views. So the only way to copy views from one Action Diagram to another in a model was to perform an Xcopy operation on a set of statements. In addition, Xcopy automatically copied any views that were referenced by those statements.

To perform this new view Xcopy operation, open both action diagrams and highlight the views to be copied from the source action diagram, then highlight the target data view group in the destination action diagram, then select Edit and choose Xcopy.

Note: The Xcopy of statements is still available.

Consistency Check Filtering

Consistency Check Filtering allows application developers to specify the severity of errors reported in their Consistency Check reports. This is useful when application developers are debugging an application at a particular level and want to focus on certain errors without having to see additional clutter in their Consistency Check reports.

With this enhancement, after a model is opened, from the Model menu, select Settings, and click Consistency Check options. You can then choose what you want to include in the Consistency Check report:

■   All Warnings and Errors

■   Severe Warnings, Errors, and Fatal Errors

■   Errors and Fatal Errors

■   Fatal Errors Only

Tool Tips for Menu

When the application developer places the mouse cursor over a menu item, a one-line text description of that menu item is displayed on the status line (at the bottom of the screen) called the Rolling Prompt. The text description changes for each item as the cursor is rolled down the list of menu items. Not all menu items have associated Rolling Prompts.

For example, when you place the mouse cursor over the Add Subject menu item of the Edit menu in the Analysis Data Modeling diagram, the following text is displayed: Adds an area of interest to the enterprise (Subject Area) to another selected Subject Area.

When you place the mouse cursor over the Add Entity Type menu item of the Edit menu, the following text is displayed: Adds a fundamental thing of relevance to the enterprise (Entity Type) to a selected Subject Area. The text is displayed on the status line at the bottom of the screen.

3270 to Web Transform

AllFusion Gen 3270 blockmode applications use screens that were created in the AllFusion Gen Screen Design tool. Prior to this release, to migrate blockmode applications to the Web, the user interface had to be redesigned using the AllFusion Gen Window Design tool. This enhanced transform facilitates the migration of the user interface to the Web. The Toolset online topics that describe the 3270 to Web transformation include Transform Screen Design into Window and Transform Existing Business System.

Transformation of 3270 screens to a Web based interface always assumes Left to Right Dialect Direction, regardless of the setting.

Navigation Diagram

The x and y coordinates (and width and height) of the selected control are displayed in the status bar and the values dynamically updated as the control is moved.

Window design has been enhanced to provide common behavior between GUI, HTML and ASP modes. In prior releases, when switching from GUI to HTML mode, any controls on the page appeared to shift up. This difference is no longer there. The position of controls between the three modes is consistent.

In prior versions of the Window designer, when expanding the HTML frame size by grabbing the upper left corner of the web page and expanding to the upper-left, all controls on the web page followed the upper left corner of the frame as shown in the following illustration.
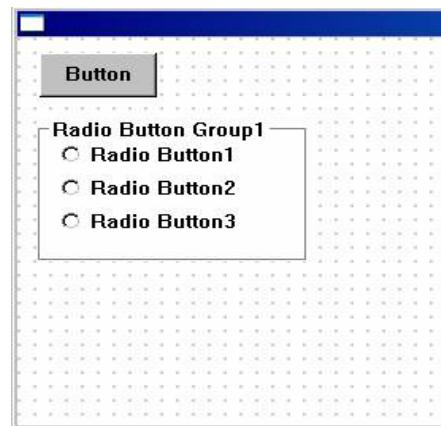
In AllFusion Gen r7, when the web page is expanded in the upper left direction by grabbing the upper left corner, the controls do no move as shown in the following illustration. The ASP .NET designer will also behave the same way.
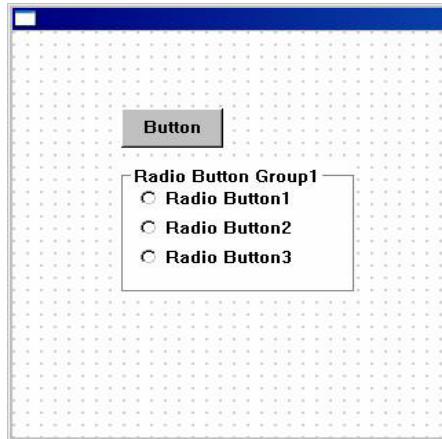
CSE and HE Enhancements

The following CSE and HE enhancements are available in AllFusion Gen r7.

Upload Packaging

In AllFusion Gen r7, all types of packaging, regardless of packaging type, are uploaded to the Host Encyclopedia (HE) and Client Server Encyclopedia (CSE). In previous releases, online packaging and batch packaging were not uploaded from the toolset and CSE, but Window packaging and Cooperative packaging were uploaded. Now, all updates to packaging are uploaded consistently and saved permanently in the model.

For more information about the Upload Packaging enhancement, see the chapter "Load Module Packaging" in the *AllFusion Gen Host Construction Guide* or the chapter "Packaging" in the *AllFusion Gen Client Server Construction Guide*.

Object Delete

Previously, the Object Delete function for the CSE was available only using the encyclopedia client. In AllFusion Gen r7, this function is also available as a command line utility to delete one or more objects in background.

In previous releases, the Object Delete function on the Host Encyclopedia was only available online. With this release of AllFusion Gen, the Object Delete function has a batch option on the HE. It enables selecting one or more objects and generates a batch delete JCL ready for submission.

For more information about Object Delete enhancement, see the chapter "How to Manage Models" in the *AllFusion Gen Host Encyclopedia Guide* or the *AllFusion Gen Client Server Encyclopedia Guide*.

Multi-Object Delete HE

With the new batch option for the Object Delete function, you can select multiple objects and create a batch job to delete the selected objects in the background.

For more information about the Multiple Object Delete enhancement, see the chapter "How to Manage Models" in the *AllFusion Gen Host Encyclopedia Guide.*

CSE Clients Enhancements

The following is a description of each CSE Client enhancement available in AllFusion Gen r7:

- The user interface is more consistent with Microsoft user interface guidelines.

  Note: In this release, copyright splash screens are removed and blanks in path names are supported.

- User ID/Password prompting includes prompts for the Message Dispatcher connection. It also enables you to configure the Message Dispatcher connection after you complete the installation.

- CSE reporting uses Microsoft Windows' Notepad to display reports.

- .NET Proxy generation is supported.

- Java Proxy generation includes added support for an enhanced interface that supplements the original interface.

- EJB/RMI Server generation is supported.

- .NET Remoting Server generation is supported.

- HTML Help is provided to allow you to easily access topics by hyperlinks.

- The CSE clients verify there is a valid license key on the platform on which the CSE client is running.

Model Conversion

Previously, Host Encyclopedia model conversion was only available online. AllFusion Gen r7 provides the capability to convert a model to the new schema level in batch. It also has a new option to convert all models in the Host Encyclopedia to the new schema level through batch.

Incremental Subsetting

Incremental Subsetting provides the ability to add additional scoping objects to a checked out subset on the workstation. Protection and expansion values can also be modified for scoping objects. Without Incremental Subsetting, to make a change in the subset definition, the subset must be uploaded to the encyclopedia, the subset definition must be updated, and then the subset must be downloaded again.

For more information about the Incremental Subsetting changes, see the chapter "Incremental Subsetting" in the *AllFusion Gen Client Server Subsetting Guide*.

CSE Password Fields

The CSE Password field now displays asterisks and not blanks when you enter your passwords.

CSE Backward Compatibility

When using an Advantage Gen Release 6.5 model and toolset with an AllFusion Gen r7 encyclopedia, packaging behavior can be different from the packaging behavior of the Advantage Gen Release 6.5 encyclopedia. For AllFusion Gen r7, the packaging logic always performs protection checking before allowing any updates to the packaging; therefore, if packaging is checked out to the toolset or child CSE with Modify or Delete, no CSE updates are allowed.

If you are using a previous release of the encyclopedia, the update of packaging might be allowed. In addition, existing subset definitions can have the protection levels modified to allow updates on toolset or child CSE encyclopedia. The subset definitions should be modified before you download the subset or by using increment subset to change the protection levels. Using an Advantage Gen Release 6.5 toolset with an AllFusion Gen r7 encyclopedia does not cause any corruptions, but may enforce protection checking.

CSE Construction - Directory Names

CSE construction appends the targeted operating system and language to various directories during the generation process. With the introduction of JAVA, the conventions for using upper or lower case characters for the operating system and language became inconsistent. A more consistent convention was established for AllFusion Gen r7. When operating system, language, or dialect is included as an element of a directory name, lower case characters are used.

CSE and Toolset Database Reserved Word Checking

The CSE and the Toolset compare the names in various database related objects to the reserved words for the supported databases in order to detect possible conflicts. In prior releases, the conflict was automatically resolved by modifying the name in the model and updating the model.

In order to avoid making these unexpected model changes, the model will no longer be automatically updated. Instead, a report of the conflicts will be presented and the generation will stop. You may then choose one of the following options:

- Change the model to avoid conflicts.

- Disable reserved word checking by setting "no reserved work checking" in the Technical Design properties.

- Edit the files that contain the reserved work list for each database, removing the conflicting words. These files are in the GEN directory for Toolset generation and in the CSE/bin directory for CSE generation.

The file names of the files which contain the reserved word list follow the pattern ief72<n>.dat, where <n> is replaced by a two digit number. The database to which the file applies is mentioned in comments in each file.

Host Encyclopedia Utilities

The AllFusion Gen Host Encyclopedia uses DB2 utilities to perform installation. The Host Encyclopedia install suite contains jobs that use IBM's DB2 utilities to complete the installation. In AllFusion Gen r7, the install suite will also contain jobs that use DB2 utilities available in CA Unicenter DB2 Products for z/OS. The customers who already have CA's DB2 products can use these jobs to perform Gen Host Encyclopedia installation.

UNIX Runtime Restructuring

The installation and management of databases has been simplified on UNIX systems to match those in place for Windows systems. During installation, the environment for all databases supported in the AllFusion Gen r7 is loaded. At execution, the selected database environment for the generated application is used. It allows you to change either the database or execution environment at the application level without reinstalling the UNIX runtime.

If you plan to use database versions earlier than those identified in the Technical Requirements, see the appendix "Rebuilding DBMS Shared Libraries" in the *AllFusion Gen Implementation Toolset Guide for UNIX*.

Modifications to the z/OS C Runtimes

In previous releases of AllFusion Gen, a number of AllFusion Gen runtimes were created using SAS/C. The SAS/C runtimes required to execute the AllFusion Gen runtimes were provided as part of AllFusion Gen without the need to separately install the SAS/C product.

In AllFusion Gen r7, these runtimes have been created using IBM C. This requires the availability of the IBM Language Environment. Specifically, libraries CEE.SCEERUN and CEE.SCEERUN2 must be available in the end-users MVS LNKLST or STEPLIB concatenation as specified during AllFusion Gen Host Construction or the IT installation. The Exception is TSOAE and the Application Test Facility, which still uses SAS/C runtimes. As in previous releases the required SAS/C runtimes are provided in the AllFusion Gen Load library.

AllFusion Gen Requires PDSE

AllFusion Gen r7 runtimes are supplied as Program Objects and must reside in PDSE library (data set type of LIBRARY). The installation jobs provided with both Host Encyclopedia and Implementation Toolset create PDSE data sets for AllFusion Gen LOAD and LOADTRCE libraries.

Host Construction

The generated code is also installed as Program Objects so the Business System data sets specified for NCAL, Executable and RI Trigger Compiled load modules must be PDSEs. If AllFusion Gen user exits are created using the option DYNAM(DLL), as specified in the *AllFusion Gen Distributed Processing - Overview* document, the External System Load Libraries containing these user exit modules must also be PDSEs. Likewise, when external action blocks are created using the DYNAM(DLL) option, the External Action Block Load Libraries used must be PDSEs.

Implementation Toolset for z/OS

The scripts used by the Implementation Toolset for z/OS have changed. The new scripts supplied with AllFusion Gen r7 must be loaded and used to install AllFusion Gen r7 applications.

The Implementation Toolset for z/OS produces Program Objects so Target Environments must be updated to use PDSE libraries for the NCAL, Exe, Impl and RI Load Lib locations. In addition, if the AllFusion Gen user exits are created using the option DYMAN(DLL), as specified in the *AllFusion Gen Distributed Processing - Overview* document, the System Load Libraries containing these user exit modules must also be PDSEs. Likewise, when external action blocks are created using the DYNAM(DLL) option, the External Action Block Libraries used must be PDSEs.

AllFusion Gen Server Dynamic Runtimes

Previous releases of AllFusion Gen combined the SAS/C runtime routines used by an AllFusion Gen Distributed Processing Server (DPS) into a single module that was dynamically loaded at execution. These dynamic runtimes are TIRENTC for CICS and TIRENTI for IMS.

In AllFusion Gen r7, the equivalent modules are called TIRCRUNI for IMS and TIRCRUNC for CICS. The AllFusion Gen r7 Dynamic Runtime cannot be used by applications created by the previous versions of AllFusion Gen.

Code Page Customization

AllFusion Gen runtime code page translation routines have changed from using SAS/C to using IBM C. User modifications to AllFusion Gen r7 code pages should be made to the AllFusion Gen r7 TIRCRUNC and TIRCRUNI Dynamic Runtime modules.

Previous versions of AllFusion Gen provided the sample utility MKTIRE to enable the customization of the code page used by TIRENTC and TIRENTI. The equivalent utility for AllFusion Gen r7 is called MKCRUN. The MKCRUN utility requires Samplib member TIRXINFO be customized with the relevant code page information.

AllFusion Gen Block Mode Enhanced Map Dynamic Runtimes

With the conversion to IBM C some runtimes used by Block Mode Enhanced Map application are now dynamically called. These runtimes must be made available to the target TSO, IMS, or CICS system before the application is executed.

For TSO specify the AllFusion Gen Load Library as one of the Test Libraries or copy the relevant runtimes to the Application load library specified in the Application Test Facility.

For IMS, ensure that the relevant runtimes are copied to one of the PDSE libraries specified in the IMS STEPLIB concatenation.

For CICS ensure that the relevant runtimes are copied to one of the PDSE libraries as specified in the CICS DFHRPL concatenation and either define them as LE 370 Programs or let them auto-install.

The required runtimes are TIRCGSPZ, TIRCHPZ, TIRCHPRZ, TIRCIIMZ, TIRCO2PZ, TIRCO2SZ, TIRCPINZ, TIRCPUIZ and TIRCVINZ.

Coexistence

At execution time, applications created entirely with a prior release of AllFusion Gen can coexist in the same target environment with applications created entirely with AllFusion Gen r7.

Applications created by different versions of AllFusion Gen runtimes communicate with each other either by using Dialog Flows or Server-to-Server Flows can coexist as long as the applications involved in the flow are packaged in separate load modules.

z/OS Application Migration

The modifications made to AllFusion Gen r7 affect migration differently for different application types. The type of linkage (static or dynamic linked) used also impacts migration. When External Action Blocks are included in an application that uses Dynamically Link option for Action Blocks, migration to AllFusion Gen r7 requires that the EABs be recompiled and reinstalled as DLLs. The following table describes the action required for each application type and for each component:

Application Type	Component Requiring Regeneration	Component Requiring Reinstall
TSO block mode, standard map	None	Dialog Manager
TSO block mode, enhanced map	Map	Map, Dialog Manager
Batch	None	Batch Manager
IMS block mode, standard map	None	Dialog Manager
IMS block mode, enhanced map	Map	Map, Dialog Manager
CICS block mode, standard map	None	Map, Dialog Manager **Note:** It is required only when using Dynamic Linking of Screen or Map components(s)
CICS block mode, enhanced map	Map	Map, Dialog Manager
IMS server	Server Manager	Server Manager
CICS server	Server Manager	Server Manager
Trace	Any component to be traced	Any re-generated

Note: Because only certain elements need to be recompiled and linked when creating the AllFusion Gen r7 migrated applications, make sure that only those elements are included in any remote files that you generate to install using the Implementation Toolset for z/OS.

Threadsafe

Since CICS/TS 1.3, all user programs defined in CICS have a concurrency attribute of either Quasirent or Threadsafe. In CICS terms, "Quasirent" indicates that the program requires CICS protection when using sharable resources while "threadsafe" means that the program handles concurrent access of shared resources in a way that maintains data integrity. CICS uses the concurrency attribute in conjunction with info about the CICS API commands to decide under which TCB to execute the program, switching between TCBs if necessary.

In CICS/TS 2.2, IBM modified the task-related user exit used by the CICS-DB2 attachment facility so that it executes as threadsafe and has started to modify the CICS API commands to make them threadsafe. However not all CICS API commands have been made threadsafe.

CICS starts all tasks using the quasirent TCB and when the program associated with a task executes a SQL command CICS changes the task to the threadsafe TCB. Once the SQL command is completed CICS decides on what TCB to continue executing the task based on the concurrency attribute of the executing program and of the CICS API command, if applicable. When the program is defined as quasirent, CICS switches the task to the quasirent TCB where it remains until the next SQL command is executed. When the program is defined as threadsafe, the task continues executing in the threadsafe TCB until the next non-threadsafe CICS API command is executed.

This means that applications that access DB2 resources and are defined as quasirent are forced to do TCB switching. This TCB switching has an impact on the application's overall performance.

The Advantage Gen 6.5 z/OS runtime is not threadsafe. Advantage Gen 6.5 CICS applications fail with a variety of 0Cx abends if defined as threadsafe so the concurrency attribute of quasirent must be used.

The AllFusion Gen r7 z/OS runtimes have been made threadsafe so AllFusion Gen r7 applications installed using the AllFusion Gen r7 runtimes should be defined as threadsafe and will operate without abending. To benefit from reduced TCB switching the AllFusion Gen DB2 Dynamic Plan Exit TIRC$EXT must also be defined as threadsafe, if used. The DB2 Dynamic Plan Exit is used for plan selection when the Gen CICS option XCTL for Flows is selected.

AllFusion Gen programs execute the non-threadsafe API commands at the start of each program (to receive/retrieve the input data) and at the end (to send/xmit the response) while the SQL calls are combined together. So defining Gen programs, as threadsafe will reduce TCB switching compared to the same programs being defined as quasirent. This applies to both statically and dynamically linked Gen applications. There are a few things to notice:

- The CICS-DB2 Attach Dynamic Plan Exit TIRC$EXT MUST be defined as threadsafe for applications to benefit from the reduction in TCB switching.

- TCP/IP DC programs for CICS – TILSTNR and TICONMGR should be defined as quasirent. But, since these programs do not access DB2 this has no impact.

- Transaction Dispatcher for CICS – TIRMQTDC does not access DB2. So, this should be defined as quasirent. But, since it does not access DB2 this has no impact.

- If you use EABs, remember to place the SQL calls as close together as possible, or at least without interspersing with CICS API non-threadsafe commands.

Java Application Changes

The following Java Application enhancements are available in AllFusion Gen r7.

Web Client (Web Generation) Enhancements

AllFusion Gen r7 Java Web Client provides a set of new features to enhance the user interface and performance and provide a more dynamic look and feel. These features include:

- Performance improvements that vary from one application to another. In this release, the architecture of View Matching and Set Cursor were changed specifically to improve the performance of generated Java applications.

- Support for dynamically changing multi-state bitmaps.

- Support for the SetBitmapName function.

- Three types of hypertext links: Bookmarks, Button style, and open new window.

- Customizable help and close buttons.

- A redesign of the Web Group Box Title:

    – HTML Group Boxes are enhanced to display title text in the upper line of the rectangle that surrounds the items in the group box rather than the previous style that placed the text in the top left corner inside the group box.

- Fixed size and varying size HTML tables.

- Extended selection for List Boxes.

    Note: This feature is not available when using Mozilla.

- Importing and mapping OCX controls using HTML editing.

- Ability to map Submit and Reset buttons, which are very frequently created by third party Web Authoring tools.

Note: Dot notation cannot be used with Hypertext links. This restriction is similar to the restriction on HTMLText and HTMLControl, which were introduced in Advantage Gen Release 6.5.

For more information about the Web Client HTML enhancements, see the *AllFusion Gen Web Generation Guide*.

Changes to EABs in Java

The way External Action Blocks (EABs) are handled in Java has changed. This change is required due to changes in the way application server class loaders resolve class references.

In the past, the EAB source files under the Java directory were compiled and placed in the generated application JAR files. Any implementation of the EABs were placed in an additional JAR file and located in a directory that appeared earlier in the class path. At runtime, the EAB in the external JAR file was executed.

The class loader of most application servers has changed so this technique no longer works. The class loader now searches the current JAR file before searching the class path.

Starting with AllFusion Gen 6.5 SP2, EAB classes are removed from the generated application JAR file. All implemented EABs must be placed in a JAR file and that JAR file must be deployed to a directory located in the class path or placed in the EAR file before deploying to the application server. For more information, see the *AllFusion Gen Distributed Processing – Enterprise Java Bean*.

Note: This change affects both Web Generation and EJB Generation.

Deployment to Application Servers

There has been a change in the deployment of Java-based applications due to the substantially improved capabilities of individual application servers over the past year. That trend, combined with considerable feedback from our customer base indicating their preference to use the deployment facilities of their application servers led to a feature change in performing deployment.

In prior releases of AllFusion Gen, users had the option of using AllFusion Joe's universal deployment mechanism to perform the deployment function.

In AllFusion Gen r7, the automatic invocation of AllFusion Joe is removed and the end user can now perform deployment with facilities supplied by their application server.

Migrating Advantage Gen Release 6.5 Java Applications to AllFusion Gen r7

Use the following guidelines for previous releases for Java applications that migrate to AllFusion r7:

- All Java applications must be regenerated in total.
    - Advantage Gen Release 6.5 Java Web clients cannot interact with AllFusion Gen r7 EJB servers due to changes in the views and the use of Java RMI.
    - In Java environments, EABs must be regenerated and their code needs to be updated as a result of changing the structure of the views.
- CBD
    - Consumers and sub-transactional components must be generated from the same release of AllFusion Gen.
- Consumers and transactional components must be generated from the same release of AllFusion Gen.

Data Validation

The EJB interface has been improved so that user-written applications can call the EJBs without the benefit of a proxy. To ensure the EJB receives valid data, the EJB interface now performs data validation.

The generated application also uses the same interface that validates data. The AllFusion Gen r7 users may experience application failures for the same applications that executed successfully under Gen 6.5. This is probably due to a permitted value validation failure on the data being passed to the EJB. If this occurs, the required action is to correct the problem in the model.

Communications and Middleware

The following Communications and Middleware changes are available in AllFusion Gen r7.

Client Manager

Configuration of the Client Manager is no longer performed during installation. You are now prompted for configuration information during the first start-up after installation.

The Client Manager supports spaces in file and path names used for configuration and log files. The program that is used to view configuration and log files is now configurable using the setup dialog.

Additional enhancements include:

■ A standard CA Help About box, which includes a link and one click connection to the Computer Associates corporate web site

■ The Client Manager supports renaming the test transaction load module name when flowing to a Comm Bridge that uses ECI to flow to CICS servers

For more information see *AllFusion Gen Distributed Processing – Client Manager Guide.*

Communications Bridge

Configuration of the Communications Bridge (Comm Bridge) is no longer performed during installation.

The Comm Bridge now supports ECI as a server side target transport. In support of ECI from the Comm Bridge, there is a new CICS ECHO transaction you can invoke when using ECI to flow to CICS servers.

The Comm Bridge supports spaces in file and path names used for configuration and log files. The program used to view configuration and log files is now configurable through the setup dialog.

Additional enhancements or changes include:

- A standard CA Help About box, which includes a link and one click connection to the Computer Associates corporate web site.

- A default client configured port number was changed to 5500 due to a conflict with a Windows XP system service.

- Statistical data gathered by the Comm Bridge, can optionally be written to the log file. Control of the refresh rate and logging of statistical data has been moved to the File-Setup dialog. A separate Statistics – Refresh Parameters dialog is no longer provided.

- Added the ability to prevent the automatic refresh of the client status area. This option eliminates the overhead associated with frequent refreshing activities.

- Provided external activation of Comm Bridge tracing..

For more information see *AllFusion Gen Distributed Processing – Communication Bridge Guide.*

Middleware

The C Proxy, COM Proxy, and MFC GUI runtimes can flow to CICS using the ECI coopflow. With AllFusion Gen r7, the commcfg.ini file can now be used to designate the CICS system name. For ECI coopflows, the system name that is specified using the commcfg.ini is supplied to the ci_eci_get_system_name user exit. The default implementation of the ci_eci_get_system_name user exit has been modified to comprehend the possibility of the system name being provided using the commcfg.ini file.

IMS TCP/IP DIRECT CONNECT EXIT CAGRITSC

The IMS TCP/IP Direct Connect TCP/IP Security Exit CAGRITSC has been modified to expose the address of the Exit Interface Block (XIB) Control Block. Customers who have previously customized this exit need to incorporate their user modifications to the AllFusion Gen r7 version of this exit. The changed exit is documented in the Distributed Process- Overview document.

commcfg.ini File Changes

Previous versions of commcfg.ini used to read as follows:

For ECI the format is: (Use the ECI exit to control the system)

```
<TRANCODE> ECI
```

The r7 version of the commcfg.ini replaces the previous comments with the following:

For ECI the format is: (Use the ECI exit to control the system)

```
<TRANCODE> ECI <ECI System Name>
```

CICS TCP/IP DIRECT CONNECT (TICONMGR)

The following new features have been added to the CICS TCP/IP Direct Connect program TICONMGR:

■ Option to enable the collection of trace information.

■ Summary information is automatically written to the CICS Joblog when TICONMGR terminates.

■ TICONMGR can be launched by either the AllFusion Gen TILSTNR utility or the IBM-supplied Enhanced Listener.

Tracing

Tracing activities are enabled by the presence of a TSQ in the same CICS region as TICONMGR. Because the TSQ is external to TICONMGR, trace activation is done without having to stop and restart TICONMGR. However, after the TSQ exits, all TICONMGRs within the CICS region will produce trace information.

The trace data is written to a log file and this feature requires two files to facilitate file switching.

TSQ TICMDBG contains the parameters required to control the data produced. The options available are:

- N or absence of TSQ—do not produce any data.

- D—Write client IP address and port to CICS Joblog only (no trace information is written to the TICMLOG file).

- Y—Write all trace information to the TICMLOG file (including what is written to the CICS Joblog).

Summary Information

Before TICONMGR terminates, it writes a summary of activity to the CICS Joblog. This information includes the reason for termination and activity information.

For more information see *AllFusion Gen Installation Guide for Host Encyclopedia and Host Construction* or *AllFusion Gen Implementation Toolset Installation Guide for z/OS*

Miscellaneous Enhancements

The following miscellaneous enhancements are available in AllFusion Gen r7.

Oracle Timestamp Support

Oracle has added support for a new Timestamp data type. The prior data type, Date, did not provide resolution below 1 second. The new data type allows timestamps similar to other databases, 6 places to the right of the decimal.

Starting with AllFusion Gen r7, the default data type is Timestamp. This data type will be used during transformation and retransformation.

In order to support existing Oracle databases, customers may use the Data Structure List diagram to change the data type of timestamps.

To display the Data Structure List diagram, from the Design menu, choose Data Structure List. This allows you to change the data type for timestamp fields. You can choose to change all Dates to Timestamps or Timestamps to Dates, using Edit and clicking To Date or using Edit and clicking To Timestamp. To change the data type of a single field, simply double-click on the field and select the data type.

Repeating Group Views with Cardinality of 10,000 or Greater

AllFusion Gen r7 supports repeating group views with an estimated or absolute cardinality of 10,000 or greater in a COBOL environment. This affects only local views and action block imports and exports; it does not affect procedure step imports or exports. The new limit is 99,999,999.

The only pre-AllFusion Gen r7 COBOL applications that should have an impact by this change are those that have been defining local or action block import or export repeating group views as size 10,000 or greater but do not actually use that many occurrences. In this case, the application works properly in prior AllFusion Gen releases because no high-order digits have been truncated. However, if an action block or procedure step with such a view is regenerated, and that view is passed to or from any other action blocks or procedure steps, the latter must also be regenerated to incorporate the longer count.

Only COBOL applications are potentially affected by this change. Other target languages already supported repeating group views of this size.

Cursor Hold Option Added to Summarize Each

The properties dialog for the SUMMARIZE EACH statement now allows designers to specify whether a WITH HOLD clause should be added to the SQL SELECT statement. This dialog may be reached by either double clicking on the statement or selecting the statement and selecting Detail->Properties… from the main menu.

This option is only available for DB2, Informix and COBOL that targets Oracle.

IBM DB2 COMMENT ON DDL Statement Support Added

IBM DB2 allows COMMON ON statements in DDL. The DDL Generators for DB2 have been enhanced to generate these statements for tables, columns and indexes. The text to be inserted as a comment is taken from its description in the model. The descriptions from the physical data model are used first when present. If no description is present, the description from the local data model is used. Only the first 256 characters from the description is used as a comment.

Longer IBM DB2 MVS Index Names

The maximum length of an IBM DB2 for MVS index name has been increased to 18 characters.

Larger IBM DB2 Secondary Storage

The maximum secondary storage parameter has been increased to 4,194,304.

IBM DB2 Read Stability Support Added

IBM DB2 allows SQL SELECT statements to include an isolation level clause. The value READ STABILITY may now be specified.

The properties dialogs for the entity action statements READ, READ EACH, SUMMARIZE and SUMMARIZE EACH have been enhanced to allow designers to specify READ STABILITY. These dialogs may be reached by either double clicking on the statement or selecting the statement and selecting Detail->Properties… from the main menu.

Note that if the entity action statement results in multiple SQL SELECT statements being generated, the WITH clause will be generated only for the first statement.

IBM DB2 Query Number Support Added

IBM DB2 for MVS allows SQL SELECT statements to include a QUERYNO clause.

The properties dialogs for the entity action statements READ, READ EACH, SUMMARIZE and SUMMARIZE EACH have been enhanced to allow designers to specify the query number. These dialogs may be reached by either double clicking on the statement or selecting the statement and selecting Detail->Properties… from the main menu.

Note that if the entity action statement results in multiple SQL SELECT statements being generated, the QUERYNO clause will be generated only for the first statement.

Support for Microsoft SQL Server and Oracle Hints Added

The properties dialogs for the entity action statements READ, READ EACH, SUMMARIZE and SUMMARIZE EACH have been enhanced to allow designers to specify hints to Microsoft SQL Server and Oracle. These dialogs may be reached by either double clicking on the statement or selecting the statement and selecting Detail->Properties… from the main menu.

Note that the hint is copied as-is into the SQL statement.

Also note that if the entity action statement results in multiple SQL SELECT statements being generated, the hint will be generated only for the first statement.

Support for Microsoft SQL Server Top Clause Added

The properties dialog for the READ EACH statement allows designers to specify a "Limit to N rows". This dialog may be reached by either double clicking on the statement or selecting the statement and selecting Detail->Properties… from the main menu.

If appropriately specified, the code generators will generate a Top Clause for Microsoft SQL Server.

Support for TRIM and UPPER in Entity Actions Added

The functions TRIM and UPPER may now be used in the WHERE clause in the entity action statements READ, READ EACH, SUMMARIZE and SUMMARIZE EACH.

Support EJB Local References Added

EJB Local References are a performance improvement option for those applications that have all client and server modules operating within the same JVM. This option saves processing time by avoiding the serialization and de-serialization of the classes being passed between clients and servers.

This option may be selected on the EJB tab of the AllFusion Gen Build Tool's EJB File Assemble Details dialog.

Database <None>

During generation, you may select a Database option of <NONE>. This is intended for load modules where no database access is required. GUI load modules that are generated with the database option <NONE> will use stubn.exe as their executable, as opposed to database specific stubs.

If your application accesses a load module that has no database prior to accessing a load module that requires database access, your application will not establish a database connections. In this case, you have to select a database choice for the former load module even though it has no database transactions. Setting the Build Tool token in your profile Options - OPT.HAS_SQL to YES will also make sure your application uses a database specific stub.

Other Items of Note

The following items of note are available in AllFusion Gen r7.

Discontinued Embedded SQL Support in SQL Server 2000

Compiling embedded SQL 'C' applications targeting Microsoft SQL Server 2000 is not supported by Microsoft Visual Studio .NET 2003. Consequently, the DBMS access method in the MS/SQL Technical Design will be set to ODBC. An ODBC Data Source appropriate for the application must be defined. All MS/SQL applications must be regenerated.

WebSphere 5.1 Threading

In order for MessageBoxes and OCX controls to be used with AllFusion Gen's Web Generation option, the threading option of the Assembling utility must be turned on.

Web Generation passes the ServletRequest and ServletResponse objects to the thread it creates. Some Application Servers such as WebSphere 5.1 do not allow applications deployed to them to create secondary threads and implement a non-thread safe version of the ServletRequest and ServletResponse objects. If your Web Generation application uses either MessageBoxes or OCX controls, you will not be able to execute it under such Application Servers.

User Exits

AllFusion Gen supplied user exits are subject to being replaced during the installation of any new release or service pack; therefore, customized user exits should be backed up before the installation process. Once the installation has completed, modifications to the user exits must be reapplied and the user exits must be rebuilt. Customized user exits from previous versions of AllFusion Gen are not upwardly compatible with AllFusion Gen r7.

Server Security Validation User Exit

For DPS applications, the Server Security Validation User Exit is invoked early in the processing of an inbound cooperative flow request. The user exit permits the validation of the request using the security data associated with a given request.

With AllFusion Gen r7, the generated Server Managers for C and COBOL always invokes the Server Security Validation User Exit (TIRSECV). The default C and COBOL implementation of this user exit assumes that a blank User ID indicates that the associated request does not contain Enhanced Security data (a Standard Security buffer is being processed). In this case, the default implementation returns SECURITY_USED to indicate that the request is authorized.

The provided user exit logic should be modified if the Cooperative Flow request buffers are to contain Enhanced Security data. As in previous releases of AllFusion Gen, this user exit requires modification to validate the security data associated with the inbound cooperative flow request.

The generated EJB and .NET servers always invoke their version of the Server Security Validation User Exit.

SET/MAKE Usage

Mixing MAKE statements and SET <window>.<field>.<property> (automation) for updating same properties of controls in the same PStep is not supported. For more information about the SET/Make usage, see the *Online Help.*

Verify Function

The Verify function is changed to coincide with the documentation in the Toolset Online Help. Trailing spaces in both strings are now ignored. This change has been in effect for several releases of AllFusion Gen.

Starting with COOL:Gen Release 6.0, the following changes were made:

- A fixed length attribute view pads spaces, whereas in releases prior to COOL:Gen Release 6.0, trailing spaces were trimmed.

- A variable length attribute view trims trailing spaces, whereas in releases prior to COOL:Gen Release 6.0, spaces were padded.

Plugin Registry Entries

For users who have created plug-in applications for Advantage Gen 6.5, the following changes have been made for AllFusion Gen r7:

The registry path has changed from
"HKEY_CURRENT_USER\Software\ComputerAssociates\Advantage(tm) Gen\Plug-ins" to
"HKEY_CURRENT_USER\Software\ComputerAssociates\AllFusion Gen\Plug-ins"

A new key, StartTran, has been added so that plug-in applications that were created using Gen may specify the starting transaction of their application instead of having to use XXX, which is the default start tran if this key is not specified

Load Module Names

Load Module names and Transaction Code names may no longer use NLS (National Language), space or underscore characters.

JVM RMI renamed to EJBRMI

The JVM RMI in the COMMCFG files has been renamed to EJBRMI. This affects commcfg.ini and commcfg.properties in the <AllFusion Gen> directory.

Browser Prototype Behavioral Change

In Gen r7 the Browser Prototype feature is enabled only in HTML mode.

GUI Runtime Changes - Open Statements in a Close Event

In AllFusion Gen r7, an Open Dialogbox statement in a Close Event will cause the Dialogbox to be opened and displayed. In prior releases, if an Open Dialogbox statement was encountered within a Close Event, the Dialogbox was not displayed. If you have such an Open Dialogbox statement in window Close Event and you want the original window to remain open when the Dialogbox is closed, you must explicitly provide an Open Window statement. This will cause the Close action to be aborted. Otherwise, the original window will be closed.

Literals

The AllFusion Gen r7 Toolset and GUI, Web Generation and ASP.NET runtimes have been enhanced to provide vertical centering capability for literals.

Decimal Precision Divide by 0

Arithmetic operations performed from within Action Diagram logic on numeric attributes with the Decimal Precision flag turned on may now result in errors at runtime if a divide by zero operation is performed. Previously, the Gen runtime ignored this situation which potentially could result in erroneous results

GUI Environment Variable

The GUI Environment variable IEFNOCHANGEONMAKEERROR is no longer supported.

Tuxedo/Jolt Upgrade Incompatibility

AllFusion Gen r7 has changed the algorithm by which attribute names within the View Data structure are generated. Names are now created to be consistent with the target language (C# or Java).

For Java clients (either Web Generation or Java Proxy) that communicate with Tuxedo servers, the names in the JVF are required to match the names used by the generated Java clients. If Advantage Gen 6.5 Java clients need to communicate with a Tuxedo server (either Advantage Gen 6.5 or AllFusion Gen r7) they should do so by using the JVF generated by Advantage Gen 6.5. AllFusion Gen r7 Java clients are required to make use of the JVF generated using AllFusion Gen r7.

Jolt supports a single JVF loaded for a given Tuxedo service. Cooperative flows targeting a given Tuxedo service can either originate from an Advantage Gen 6.5 Java client or an AllFusion Gen r7 client but not both.

Microsoft Common Dialog

The user interface for the AllFusion Gen Toolset is localized to English and Japanese only. The Toolset uses the Microsoft Windows common dialog box and this dialog has been localized by Microsoft. When the Toolset is installed on non-English systems, Microsoft Windows common dialog boxes are localized and other user interface elements are still in English as shown in the following illustration of an Open dialog box on a French system:
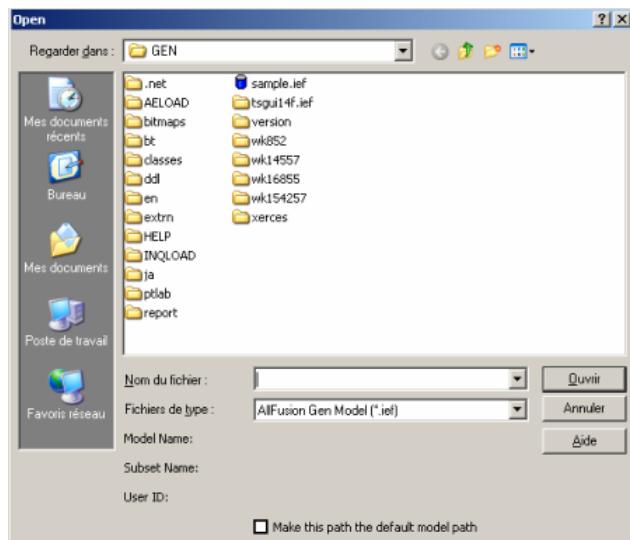
Features No Longer Supported

This chapter provides a list of features not supported by AllFusion Gen r7.

AllFusion Gen r7

1. AllFusion Gen r7 does not support the following features:

   - Windows 2000 and TRU64 (UNIX)

   - The COBOL Connector

   - OS/390

   - ASP .NET does not yet support the CleverPath Portal.

2. The following middleware products are not supported in AllFusion Gen r7:

   - TXSeries

   - DCE

3. The Arabic.ief model is not delivered with AllFusion Gen r7 and subsequent releases.

4. The following utility is not provided with AllFusion Gen r7:

   - The Component Manager utility will not be provided with AllFusion Gen.r7. It will be delivered at some future date.

Documentation Changes

Changes in Guide Titles

The changes in guide titles for AllFusion Gen r7 follows:

Advantage Gen 6.5 Name	AllFusion Gen r7 Name
Host Encyclopedia Installation Guide	Installation Guide for Host Encyclopedia and Host Construction
IT Installation Guide for OS/390	Implementation Toolset Installation Guide for z/OS
Host Encyclopedia Public Interface Guide	Host Encyclopedia Public Interface
Host Encyclopedia Performance Guide	Host Encyclopedia Administration Guide
CSE Performance and Server Administration Guide	Client Server Encyclopedia Administration Guide
Host Encyclopedia Version Control Guide	Host Encyclopedia Version Control Guide
CSE Guide	Client Server Encyclopedia Guide
CSE Construction Guide	Client Server Construction Guide
CSE Public Interface Guide	Client Server Encyclopedia Public Interface Guide
CSE Subsetting Guide	Client Server Subsetting Guide
CSE Performance and Server Administration Guide	Client Server Encyclopedia Administration Guide
CSE Version Control Guide	Client Server Encyclopedia Version Control Guide

Advantage Gen 6.5 Name	AllFusion Gen r7 Name
Encyclopedia and Workstation API Guide	Encyclopedia API Guide
IT User Guide for OS/390	Implementation Toolset Guide for z/OS
UNIX IT User Guide	Implementation Toolset Guide for UNIX
Windowed Environments IT User Guide	Implementation Toolset Guide for Windows
MQSeries Distributed Processing Guide	Distributed Processing – WebSphere MQ
EJB Generation Option Guide	Distributed Processing – Enterprise Java Beans

New Guides

The list of new guides for AllFusion Gen r7 follows:

Guide	Description
Web Services Wizard Guide	Describes the usage of the Web Services Wizard
ASP.NET Guide	Describes the implementation of AllFusion Gen thin clients in the Microsoft .NET environment
Build Tool Guide	Build Tool Guide
Distributed Processing – Overview	Describes concepts and terminology commonly used when discussing AllFusion Gen Distributed Processing applications and the environments in which they are executed
Distributed Processing – Client Manager	Describes the characteristics and usage of the Client Manager
Distributed Processing – Communication Bridge	Describes the characteristics and usage of the Comm Bridge

Guide	Description
Distributed Processing – .NET Servers	Describes the implementation of AllFusion Gen servers in the Microsoft .NET environment
Distributed Processing – Proxies	Describe proxies such as C, COM, Java and .NET that are now available in one proxy guide.

Guides No Longer Provided

The following list of guides are no longer provided for AllFusion Gen r7:

Guide	Description
Communications Guide	The content of this guide has been divided into the Distributed Processing – Client Manager Guide and the Distributed Processing – Comm Bridge Guide.
TXSeries Encina API Guide	This release of AllFusion Gen does not support TXSeries; consequently the TXSeries Guide is no longer provided.
Active X/COM and Java Proxies Guide	The content of this guide has been merged into the Distributed Processing – Proxies Guide.
C Proxy API Guide	The content of this guide has been merged into the Distributed Processing – Proxies Guide.
Asynchronous Processing Guide	The content of this guide has been merged into the Distributed Processing – Overview Guide and the Action Diagramming Guide.