

Agenda

- > CA Gen Mission, Vision & Strategy
- > CA Gen and the Mainframe Business Unit
- > CA Gen Strategies
- > CA Gen r8.x Additional Enhancements
- > CA Gen Mainframe Enhancements
- > Additional Information
- > Q&A



CA Gen Mission Statement

- > Enable customers to deliver high quality enterprise applications that:
 - Meet the critical needs of the business or government agency and provide ongoing strategic value
 - Run on the platform and architecture of choice
 - Can be easily adapted to change (technology, business opportunity, legislation, etc.)
- > While at the same time, enabling these customers to:
 - Minimize total cost of application ownership (development and maintenance)
 - Accelerate time to market
 - Optimize developer productivity

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CA Gen Vision Statement

- > Provide ongoing enhancements to CA Gen that:
 - Support continually evolving technology and platform advancements
 - For example - SOA, web services, Eclipse, 64 bit, etc.
 - Enable customers to quickly and easily modernize and extend existing CA Gen applications to leverage new business opportunities
 - Enable customers to reduce application development, maintenance and operation costs
- > Expand use of CA Gen into new organizations
 - Legacy modernization, re-platforming
- > Increase use of CA Gen within existing customer base

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The Mainframe 2.0 Solution



Provide a familiar (GUI) operating environment for software management activities

- Software acquisition
- Software installation
- Software deployment
- Control panel
- Configuration wizards



Drastically reduce the human intervention required to take a product from delivery to execution

- Capitalize on z/OS dynamic capabilities
- Introduce new system configuration functionalities
- Provide capability to easily move forward as well as back out



Standardize the acquisition and management of z/OS software

- Enhance CA products to use SMP/E and follow z/OS packaging standards
- Simplify and automate the selection and delivery of CA products and services
- Release Synchronization – create a unified CA software stack that is released on predictable intervals
- Continuously test the stack and validate against IBM's RSU

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The Mainframe 2.0 Solution Impact on CA Gen

- > New ESD format
 - Tape recreation by customer no longer required
 - Installation directly from DASD files
 - Use of standard utilities (GMZIP)
- > Standardized SMP/E packaging
 - Product installation
 - Product maintenance (APAR's and PTF's)
- > Software Installation Manager (SIM)
 - GUI
 - Remove SMP/E complexities
 - Product installation and maintenance
- > Best Practices Guide (BPG)

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CA Gen and Mainframe 2.0

> CA Gen - a key technology in the implementation of Mainframe 2.0

- Used to gather and analyze installation and configuration data for CA mainframe products
- CA Gen applications create and maintain unique instances of CA products on the mainframe
- Designed to work with Mainframe Software Manager and other Mainframe 2.0 components

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The Mainframe 2.0 Advantage

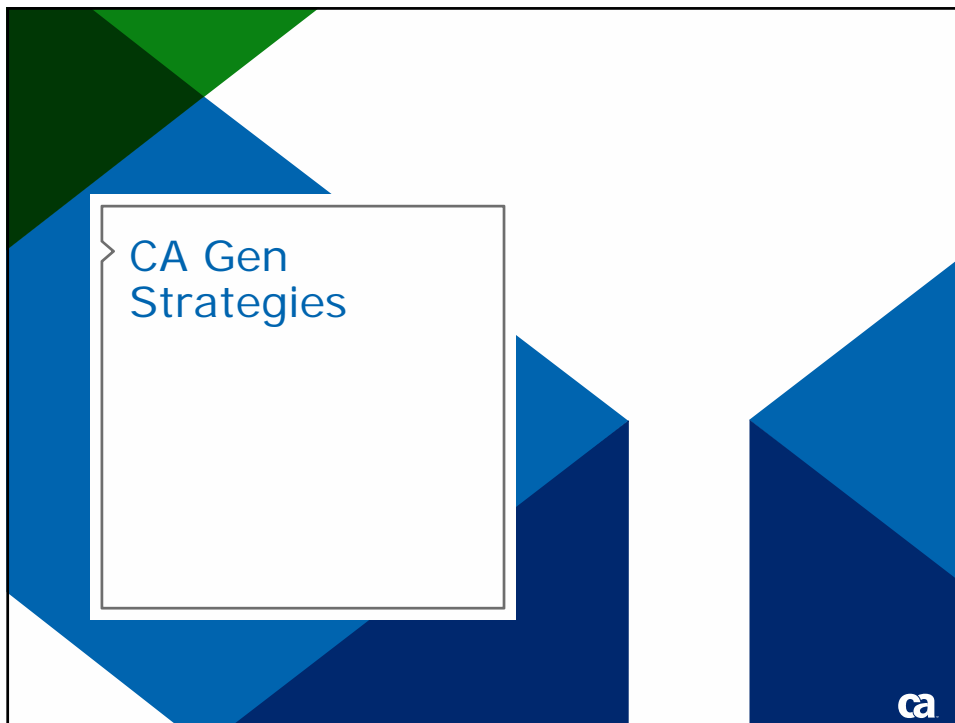
Ease of use improves productivity, accuracy and maintenance

Product Name	ESD Install - Expert	CA MSM Install - Expert	ESD Install - Novice	CA MSM Install - Novice
CA 1 st Tape Management	36 minutes	9 minutes	3 hours 12 minutes	14 minutes
CA SMF Director	40 minutes	5 minutes	1 hour 10 minutes	6 minutes
CA Auditor for z/OS	26 minutes	7 minutes	2 hours 22 minutes	8 minutes
CA JARS [®] Resource Accounting	37 minutes	5 minutes	1 hour 11 minutes	6 minutes
CA MIM [™] Resource Sharing	30 minutes	5 minutes	1 hour 31 minutes	5 minutes
CA OPS/MVS [®] Event Management and Automation	36 minutes	6 minutes	1 hour 50 minutes	7 minutes
CA Datacom [®]	1 hour 14 minutes	6 minutes	3 hours 8 minutes	10 minutes
CA Panvalet [®]	54 minutes	3 minutes	1 hour 11 minutes	5 minutes
CA Librarian [®]	28 minutes	2 minutes	1 hour 13 minutes	6 minutes
CA SymDump [®] for CICS	38 minutes	3 minutes	4 hours 3 minutes	6 minutes

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Strategies to Deliver on CA Gen Vision

- > Restructure underlying CA Gen architecture (CA Gen Studio)
 - Simplifies and speeds rollout of new CA Gen features
 - Optimizes use of internal CA Gen developer resources
 - Makes CA Gen easier to use
 - Increase openness of CA Gen to enable application integration
- > Reduce complexity and cost of migrating to new releases
- > Provide access to evolving technologies and 3rd party products that extend capabilities of CA Gen

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CA Gen r8 Delivers on these Strategies

- > Accelerate developer productivity and improve ease of use
 - Eclipse-based modernized and enhanced developer tools
 - Industry standard UI
 - Easily customized
- > Enable delivery of rich and dynamic Web 2.0 applications
 - Improve performance of web applications utilizing Ajax
- > Expand support for Web services and SOA
 - .NET Proxy as a Web Service
 - EJB Web Services
 - Web Services Mapper
- > Simplify release upgrades and application migrations
 - Upgrade Assistance Program

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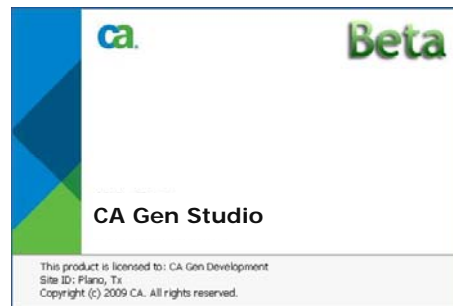


Modernize and Enhance the Design Tools



CA Gen Studio

- A modern model-based development environment
- Evolution path for the CA Gen Toolset
- Will be available as an installation option on Windows
- Covered by CA Gen Workstation Toolset license
- Based on Eclipse Framework
- It is an Eclipse Rich Client Platform (RCP)

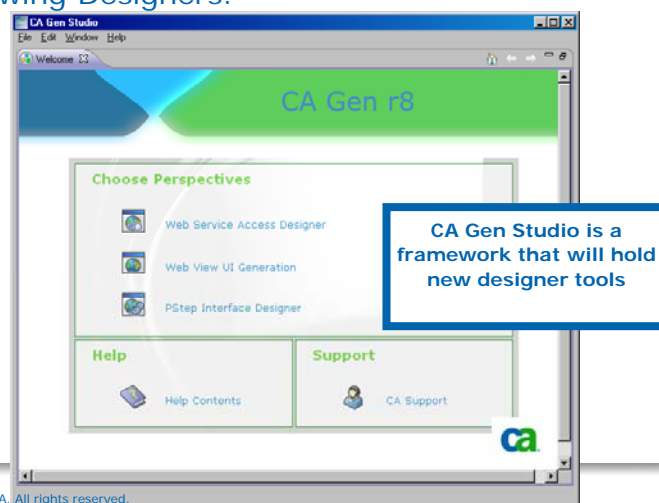


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Components of CA Gen Studio

- > Contains default Perspectives that mainly correspond to the following Designers:



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Benefits of CA Gen Studio

- > Provides a contemporary user interface
- > Uses Eclipse's built-in industry standard capabilities
- > Extends the set of customizable preferences and options
- > Facilitates feature delivery outside of a major product release
- > Frees CA developers from constraints of CA Gen Toolset's tightly-coupled architecture
- > Accelerates our development and feature delivery by taking advantage of pre-packaged features
- > Plug-ins can be written to extend functionality of CA Gen Studio
 - CA will provide a new API to allow access to the model

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CA Gen Web View

- > Web View creates Web 2.0 applications using CA Gen



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Components of Web View

> Design:

- You design it (UI and logic) using the Toolset
- You can customize the pages external to CA Gen, but back them up and maintain them external to the model

> Generation:

- You generate it from the Toolset and/or CSE
- HTML UI is generated from the Web UI Generation

> Build and Assemble:

- Uses our Build Tool

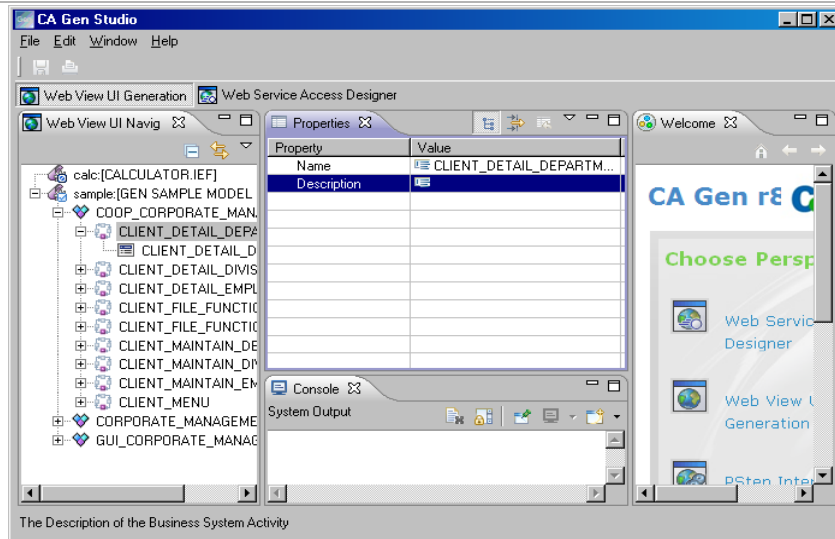
> Runtime:

- Executes under an application server

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Components of Web View – Web UI Generation



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Web View Benefits

- > Create rich and dynamic Web 2.0 applications
- > Utilize Ajax to improve performance
- > Execute on both Internet Explorer and Firefox
- > Deliver 508 compliant applications

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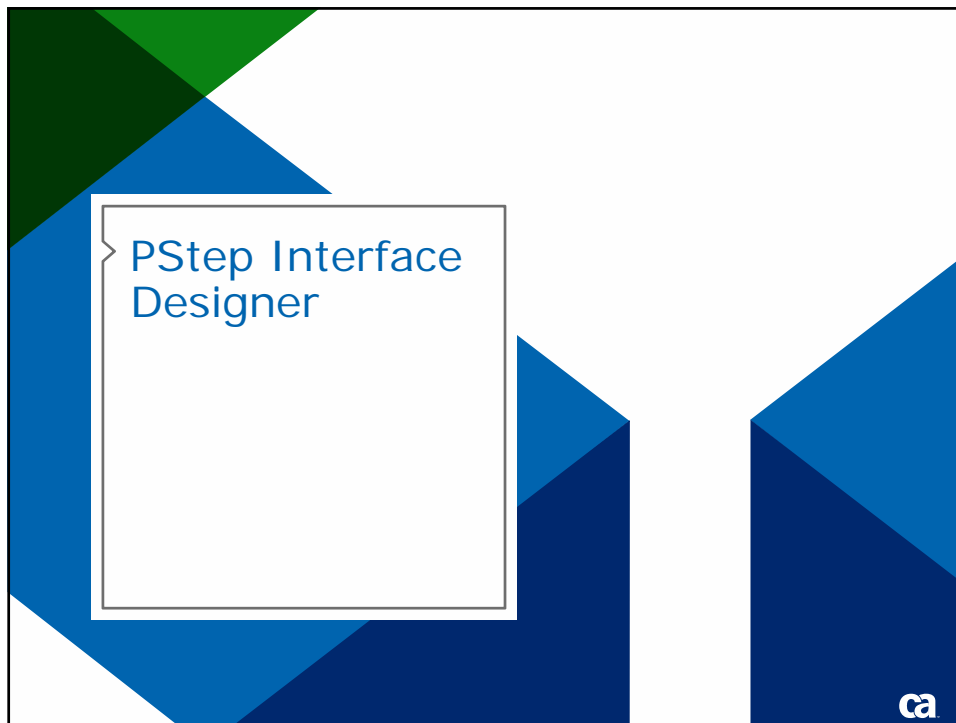
SOA and CA Gen – Today

CA Gen as the Service Implementer / Provider

- > Proxies allow CA Gen servers to be run on a variety of targets (Java, .NET, COM, C)
 - Wrap proxy to provide desired service interface
- > Web Service Wizard
 - Generates web service wrapper for Java proxy
 - Generates WSDL for Interface
- > Partners enable service discovery and code re-factoring to enable transition to SOA

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SOA and CA Gen

PStep Interface Designer

> PStep Interface Designer

- Customizes PStep interfaces
- Generates WSDL for customized PSteps
- Makes it easier for others to consume CA Gen Web Services

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Consuming Web Services and CA Gen Today

> OLE

- Use Microsoft HTTP or SOAP ActiveX control

> EAB

- Language dependant APIs (Java, C#)

> HTML Control

- Java script embedded in CA Gen HTMLControl and or HTMLText controls

> Partner Products

- QAT-WebDaptive
- COOLProfs-WebserviceConnector
- Jumar Solutions-Project Phoenix



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Web Service
Access



What is Web Service Access?

- > Enables users to call Web Service operations (Generated and/or 3rd party) from HTML pages in Dreamweaver
- > Hides the complexity of calling the operation and parsing the return values to display them back on the page
- > Uses Adobe Dreamweaver to design user interface
- > Has both Design and Runtime elements

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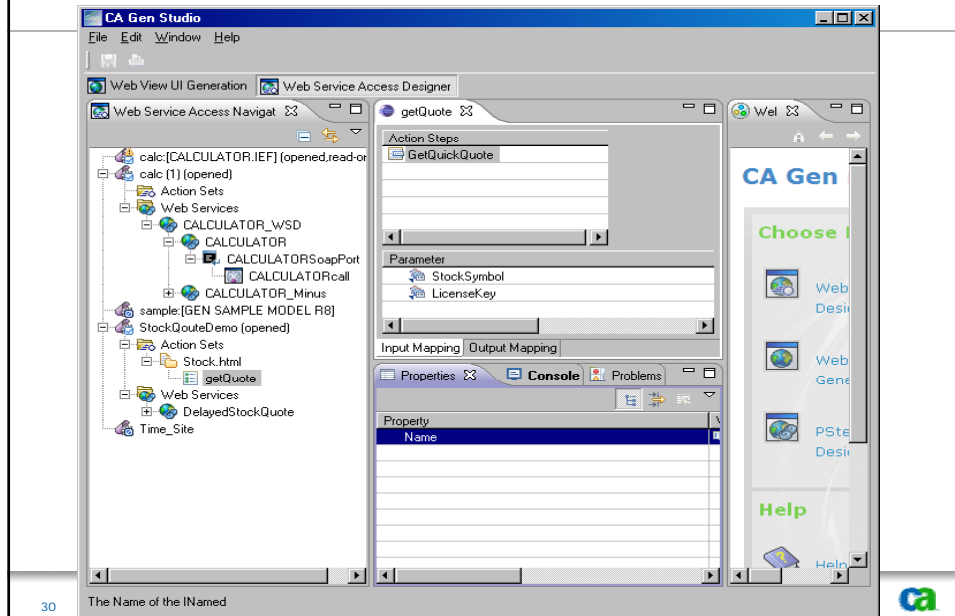
Components of Web Service Access

- > Web Service Access Designer
 - Contains a Dreamweaver plug-in which adds a CA Gen menu item in Dreamweaver that allows users to map an event to a Web Service operation
- > Runtime
 - When a user triggers an event (e.g. clicks a button), the selected Web Service operation is called. The output will be displayed per the design on the HTML page.

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Web Service Access Designer



Native CA Gen Web Services

- > New generation options that generate Web Services based on existing CA Gen servers
- > CA Gen will be capable of automatically creating Web Services from:
 - The .Net Proxy
 - EJB-Web Services



CICS Web Services

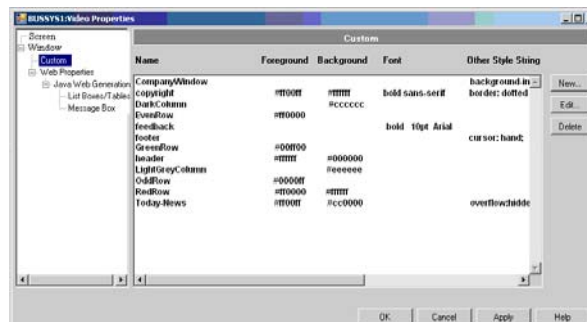
- > Allows the reuse of existing CICS server procedure steps as Web Service Provider applications
- > Uses IBM CICS Web Services through its CICS Channel facility to front end CA Gen's CICS server manager
- > The initial r8 baseline will implement the necessary runtime changes but the full implementation will follow as a subsequent r8 series release
- > Uses the same WSDL utility as Web Services Designer to define and generate WSDL from the model
 - Uses SOAP instead of CFB as its data exchange protocol

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Custom Cascading Style Sheets

- > Define custom cascading style sheets on the level of the Business System Defaults
- > Assign custom classes
 - Statically (through the Navigation Diagram)
 - Dynamically (through the Action Diagram)

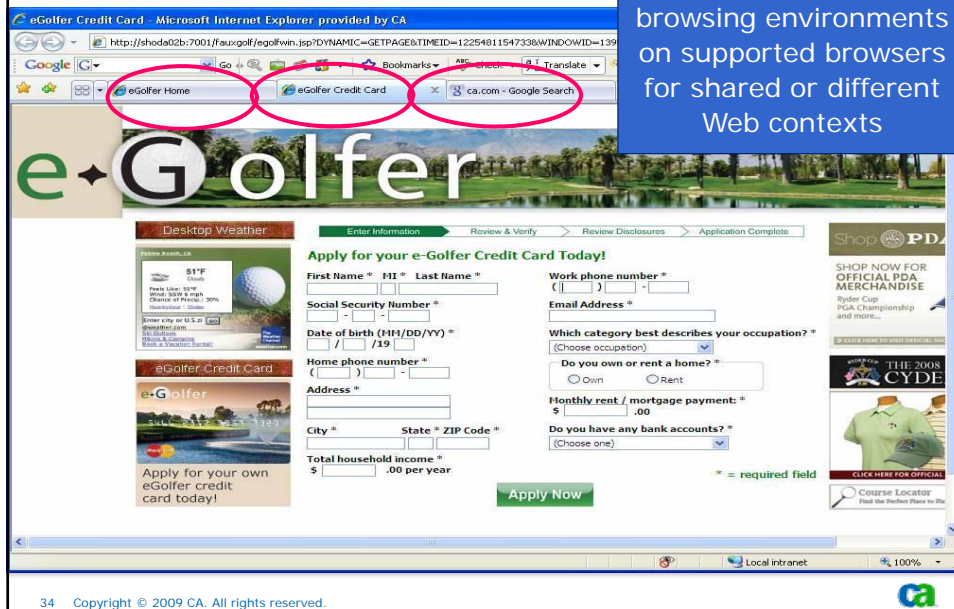


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Web Tabs

Generated Web Clients support for tabbed browsing environments on supported browsers for shared or different Web contexts



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Infrastructure Projects

- 64K total object limit expanded to ~1 million objects of any type
- Allow much larger subsets to be downloaded to workstation



- Provide IPv6 Support
- Allow customers to begin transition to IPv6 over time

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Database Enhancements

> Identity Columns

- Provide support for the identity column feature of DBMSs
- Applies to mainframe and distributed DBMSs

> Multi-Row Fetch/Block Fetch

- Support for DB2 Multi-Row Fetch/Block Fetch features
- Support for similar operations in other DBMSs planned
- Stretch item – Support for block update

> In and Between

- Available for all CA Gen supported DBMS's



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Auto Number Attributes

> An attribute whose value is assigned by the DBMS upon a CREATE.

- Implemented as an Identity Column in DB2 z/OS, DB2 UDB and MS SQL
- Implemented as a Sequence in Oracle

> Specify Auto Number in Attribute Properties dialog

A screenshot of the 'AUTO_NUMBER_9_0 Properties' dialog box. The 'Attribute Name' field contains 'AUTO_NUMBER_9_0'. The 'Category' dropdown is set to 'Auto Number' and is highlighted with a red rectangle. Other options include 'Optional', 'Varying Length', 'Domain', 'Case Sensitive', and 'Protected'. The 'Length' is set to 9 and 'Decimal Places' is set to 0. The 'Technical Design Properties' section shows 'TD Name' as 'AUTO_NUMBER_9_0' and a checked box for 'Set TD name to the attribute name'. There are also checkboxes for 'Implement in C, C# and Java with decimal precision' and a 'COBOL Data type' dropdown set to 'Default'. At the bottom are 'OK', 'Description...', 'Cancel', and 'Help' buttons.

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Auto Number Attributes

> Specify the DBMS-specific parameters in Technical Design

AUTO_NUMBER_9_0 (DB2 z/OS) Column Properties

General | Fieldproc | Default Value | **Auto Number**

Entity Type: ENT
Attribute: AUTO_NUMBER_9_0

☒ Starting with: 101
☒ Increment by: 5
☐ Minimum value:
☐ Maximum value:

Cache
☒ Do not generate a Cache clause
☐ Use the value:
☐ Generate NO CACHE

☐ Cycle values
☐ Order values

OK Description... Cancel Help

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Auto Number Attributes

- > Supported on DB2 z/OS, DB2 UDB, MS SQL and Oracle.
- > New DDL must be generated and implemented.
- > Only one Auto Number attribute per Entity is allowed.
- > Cannot specify an Auto Number attribute in a SET statement within a CREATE or UPDATE.
- > Value of Auto Number attribute is available immediately after the CREATE statement.

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Multiple Row Fetch

- > Performs a Multi-row Fetch or Block Fetch depending on the DBMS and access method.
- > Available on READ EACH statements.
- > Disabled by default.
- > To enable, set the option in the READ EACH Properties dialog.

The screenshot shows the 'READ EACH Properties' dialog box with the 'General' tab selected. The 'DB2' tab is also visible. The 'Multiple Row Fetch' section is highlighted with a red box. It contains the following options:

- ☒ Do not generate a Multiple Row Fetch.
- ☐ Use TARGETING value, when present.
- ☐ Use the value: 0

Other sections visible include 'Distinct', 'Limit to N rows', 'Optimize for N rows', 'Select Clause Isolation Level', and 'For Datacom and DB2 Only'.

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Multiple Row Fetch

- > Supported DBMS and access methods:
 - COBOL using embedded SQL to target DB2 z/OS.
 - C using embedded SQL to target Oracle.
 - C using ODBC to target DB2 UDB, Microsoft SQL Server and Oracle.
- > Option is ignored for unsupported DBMSs or access methods.

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IN and BETWEEN Predicates

- > Support IN and BETWEEN predicates in the READ, READ EACH, SUMMARIZE and SUMMARIZE EACH statements.
- > May also be negated: NOT IN and NOT BETWEEN.
- > Valid for all supported DBMSs and access methods.

```
= READ EACH required employee  
   TARGETING export_lines FROM THE BEGINNING UNTIL FULL  
   SORTED BY ASCENDING required employee number  
   WHERE DESIRED required employee number  
       IS BETWEEN (starting employee number, 31415927)
```

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Multiple Diagram Trace Utility (DTU)

- > Provides a GUI interface for tracing CA Gen C Client and Server applications
- > Support for multiple DTU's communicating independently with the same Server application
- > Enables multiple developers to trace different load modules from different client workstations

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Ongoing Platform Flexibility

> Continued platform support for Mainframe, Unix, J2EE, .Net, Linux

- Vista, HP-UX Integrity (Itanium), HP NonStop, Linux, IBM Power 6
- Recently certified EJB generation for Linux on System z

> New with CA Gen r8

- 64 bit support on HP-UX Integrity, followed by AIX, Solaris and Windows
- Java SE6
- EJB 3.0



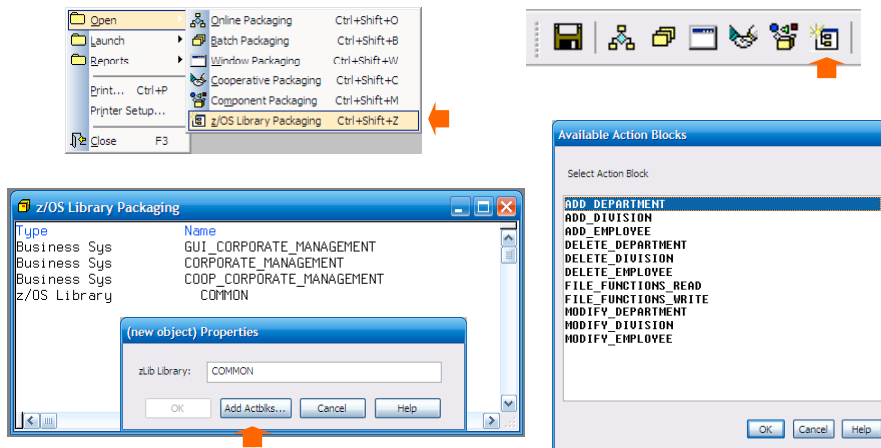
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CA Gen r8.0
Mainframe
Enhancements



OPSLIBs for z/OS



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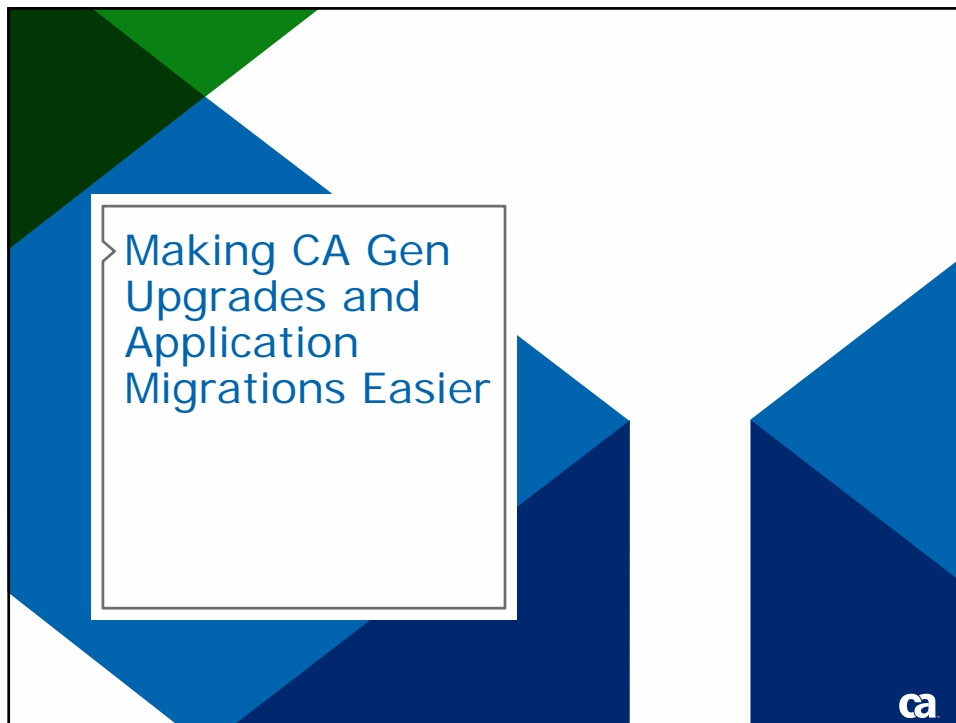
Mainframe Efficiency Improvements

- > z/OS Dynamic Link of RI Triggers
- > DB2 Bind Enhancements
- > CICS Socket Listener
 - Reduce use of mainframe CPU resources
 - Minimize client-side retry processing of TCPIP coop flows that target CICS socket server listener (TISL)
 - **Will** retire the TICONMGR in CA Gen r8



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Reduce Testing Requirements

> New Impact Analysis Tools

- Identify impact of changes to exiting functionality on current applications
 - Runtimes
 - Generators
 - Build Processes
- Help you better focus testing efforts
- Minimize your time and cost of regression testing



Support for “Side-by-Side” Development Tools

- > Run CA Gen r8 toolset on the same workstation as a CA Gen r7.6 toolset
 - Don't have to un-install existing release before installing new release
- > Compare same model in current and new release
- > Maintain different models in two releases
 - Simplifies incremental upgrade of models and applications
- > Simplifies transition to new releases

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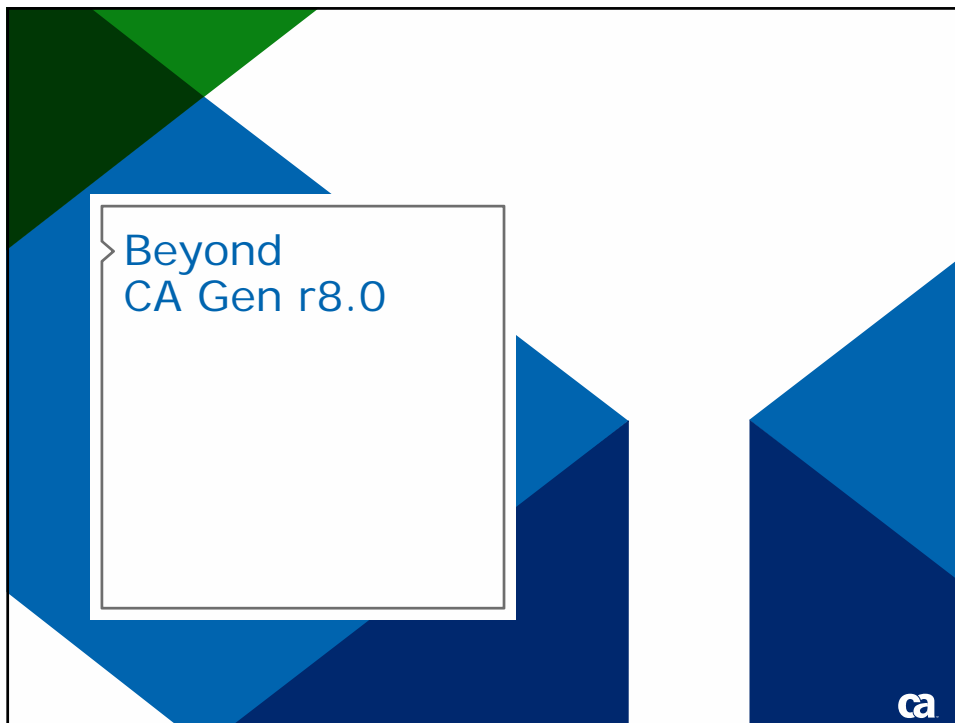


CA Gen r7.6 Life Cycle Announcement

- > CA Gen r7.6 will be fully supported on all platforms through March 31, 2012 – five year life cycle
- > Upgrading now ensures three years of stability
- > Support for 3rd party products will be for versions listed in the CA Gen r7.6 Technical Requirements as posted on Support Online

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Projects Under Consideration

**** THIS IS NOT A COMMIT LIST ****

- 1 CICS Web Services
- 2 64-bit IT & CSE for UNIX, Linux, and Windows
- 3 Customizing Gen Proxy Interfaces
- 4 Gen Web Services Consumption (alternative transport without 32K limit)
- 5 Gen Studio Generation Diagram (designer)
- 6 Gen Studio capabilities (Undo, sort, search, etc)
- 7 BLOB Support
- 8 Model Migration Utility
- 9 Solve 32K CFB Limit Problem

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Projects Under Consideration (cont'd)

- 10 Comm Bridge Remote Administration Interface
- 11 Gen Studio New UI Designers (use 3rd party designers)
- 12 Store Files in the model
- 13 Gen Studio Action Language Designer
- 14 Next Generation Microsoft GUI Clients
- 15 Make HE LE Compliant
- 16 z/OS Build Tool
- 17 Z/Linux Port for C++ Applications

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CA Gen
Product Advisory
Program



CA Gen Product Advisory Program

- > Partner Summits held in London and Plano in May and June 2009
- > Customer Advisory Board Web Conferences were held in June



Additional
Information



CA Gen r8 Beta Details

- > Beta will occur late October 2009 timeframe
- > **Please email** CA Gen Product Manager if you are interested in participating in beta. Provide details of the r8 functional area you are most interested in
 - Mike.Amundsen@ca.com
 - Cc Andy.Wyatt@ca.com
- > Anti-spam measures prevent us from sending out mass beta participation invitations

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CA Gen On-Demand Web Seminar Series

(available on www.ca.com/events)

- Migrating to CA Gen r7.6
- Preparing New Oracle Database for Client Server Encyclopedia
- Converting from TICON manager to TIS
- Accessing CA Gen Servers as Web Services via the .NET Proxy
- Modernisation Strategies: For 21st Century CA Gen Applications
- A Gen Multi-User Diagram Trace Utility for C Servers
- Reduce Time and Cost of Upgrading and Modernising CA Gen with Automated Model Analysis
- Componentisation, SOA and Web Services
- CA Gen Basics: Deployment of Web Applications and Web Servers
- From Block Mode to Web and Services
- Moving to Modern User Interfaces
- CA Gen Product Update and Strategies
- Conclusions, Practicalities and Case Studies
- Support Each Stage of your Component Architecture Process
- Explore how to Efficiently Create Components by Automating the Production of your Code and Data Structures

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CA Gen User Group

- *Independent international CA Gen user group*
- *CA Gen expertise and best practices at your fingertips*
- *Online developer forums*
- *Annual conferences*
- *Register Today! Membership is FREE!*



Details:

<http://edgeusergroup.org>

<http://www.gentalk.biz>

<http://caforums.ca.com/ca/>

EMEA – October 10-13 – Amsterdam

USA – October 28-30 – Plano

Asia Pacific – November 11-13 - Canberra

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Questions and Answers



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CA Gen Services in NL

- > COOLProfs is the largest supplier of CA Gen services in NL
- > COOLProfs and Jumar Solutions have strategic partnerships to enable best of breed solutions to CA Gen customers globally