

CA Gen Update 2014 - APAC Product Update and Roadmap

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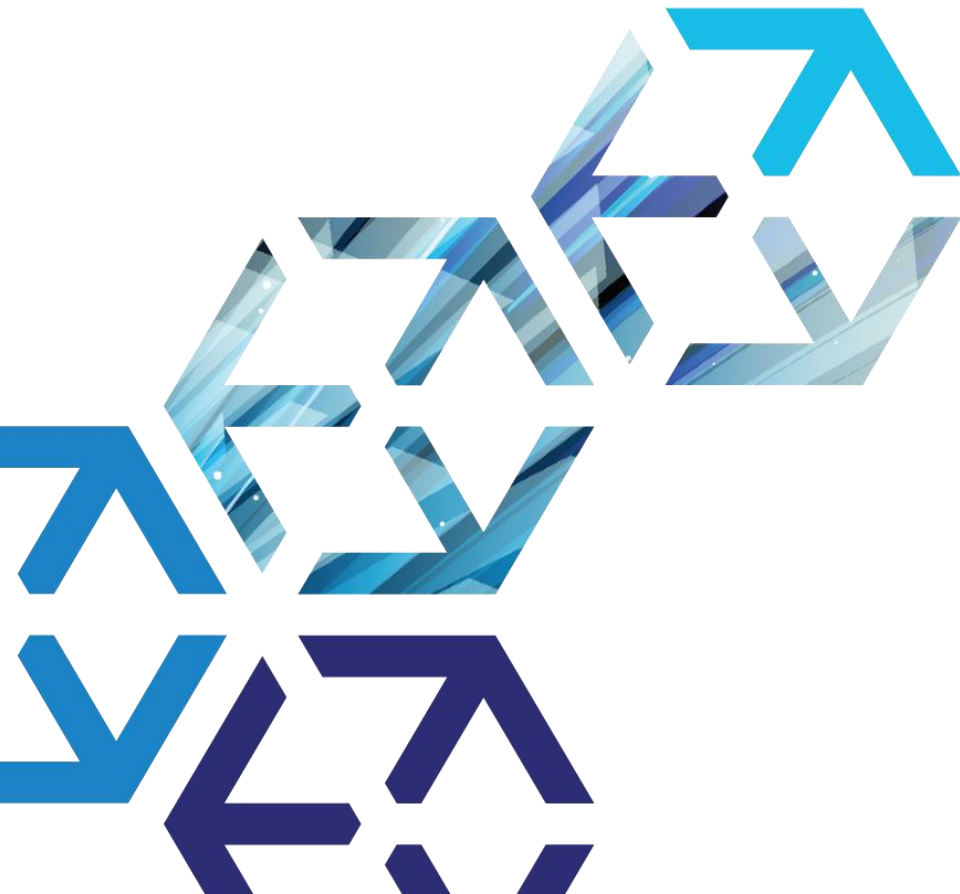
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Agenda

- Organizational Changes
- Agile @ CA
- CA Gen Overall Strategy
- CA Gen Roadmap
 - Recent releases
 - Planned releases
- Q&A
- Features Demonstration

Organizational Changes



Reorganizations, Restructuring, and Retirements

- Russ LeClaire retired
- Andy Wyatt left the company (again)
- Jean Rissmiller moved over to Chorus
- Increased CA Gen headcount in India Technology Center
- Formed a new Application Development Business Line

Application Development Business Line Components

- Software Configuration Management Tools
- Test Tools
- Application Development Tools

Application Development Business Line Product Management

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Agile @ CA



Communities.ca.com - Ideas

The screenshot shows a web browser window displaying the CA GEN EDGE community page. The browser's address bar shows the URL: <https://communities.ca.com/community/ca-gen-edge/content?filterID=contentstatus%5Bpublished%5D~objecttype~showall>. The page features the CA Technologies logo and a navigation menu with links to Products, Services, Support, Insights, Communities, and Partners. Below this is a secondary navigation bar with links to Home, Content, People, Communities, Help, and Apps. The main header area includes a search bar and a 'Connect 1-800-225-5224' link. The central banner for 'CA GEN EDGE' includes a profile picture, the name 'CA GEN EDGE', and tabs for Overview, Content, People, Subcommunities, Reports, and Calendar. Below the banner is an announcement for 'Webcast: CA Gen 8.5: Toolset Ease of Use Enhancements'. The bottom section displays a list of content categories: All Content (712), Blog Posts (0), Documents (558), Discussions (135), Polls (0), Videos (0), Ideas (16), and Events (3). The 'Ideas (16)' category is highlighted with a red circle. A 'Filter by action' dropdown menu is set to 'None'.

Community: CA GEN EDGE | CA Communities - Windows Internet Explorer

Share Browser WebEx

Connect 1-800-225-5224

Products Services Support Insights Communities Partners

Home Content People Communities Help Apps

CA GEN EDGE

Overview Content People Subcommunities Reports Calendar

ANNOUNCEMENT: Webcast: CA Gen 8.5: Toolset Ease of Use Enhancements Show Details

Categories

CA Gen

All Content (712) Blog Posts (0) Documents (558) Discussions (135) Polls (0) Videos (0) **Ideas (16)** Events (3)

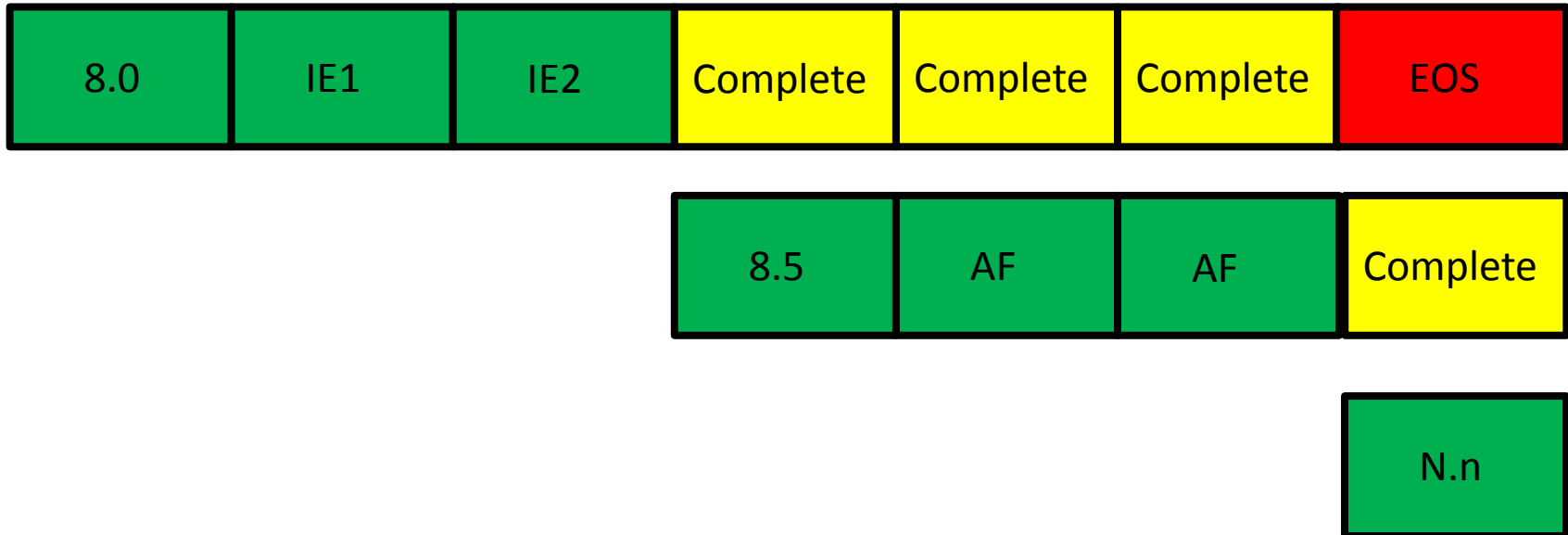
Filter by action: None

Ideation process

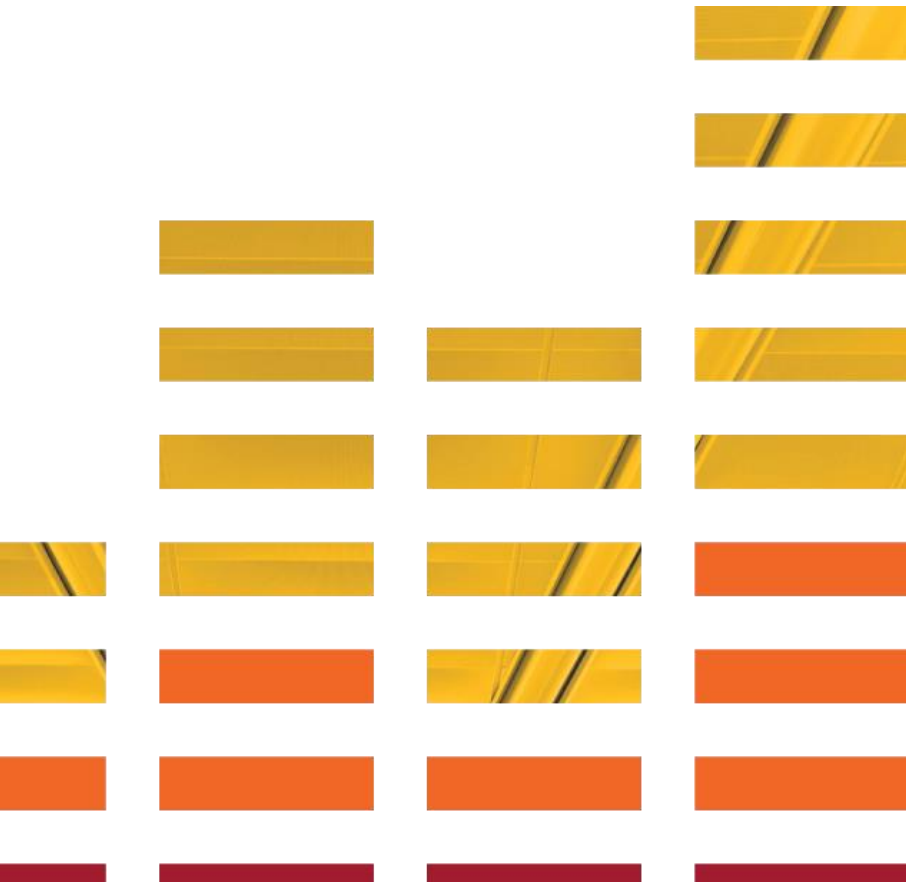
- Periodically we will review the Ideas and the top-rated Ideas will be added to the Gen backlog as either Epics or Stories
- Stories are worked on in Sprints
- At the end of each Sprint we review progress with customers
- Customers provide feedback
- Customers get access to the software
- Customers must signup for the ***Customer Validation Program***



Support - Incremental and Complete Releases

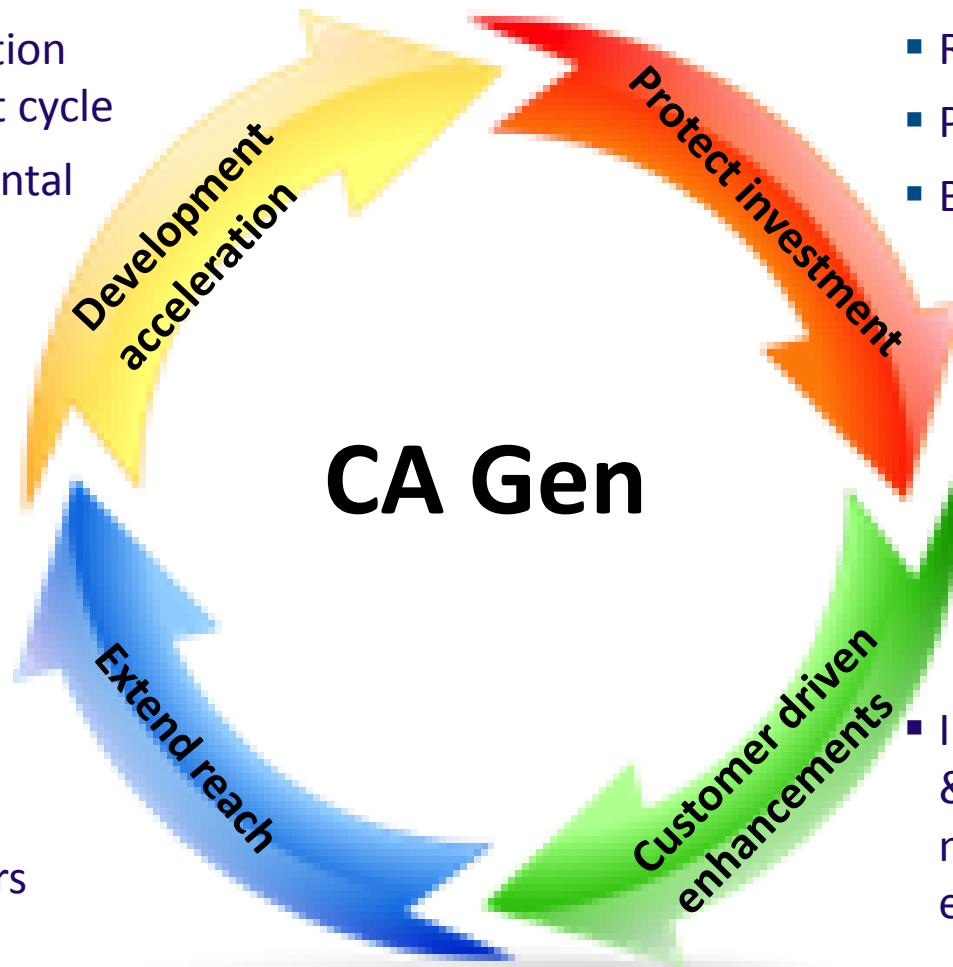


CA Gen Overall Strategy



CA Gen Strategy Plan

- Customer collaboration during development cycle
- Complete / Incremental Release Plan

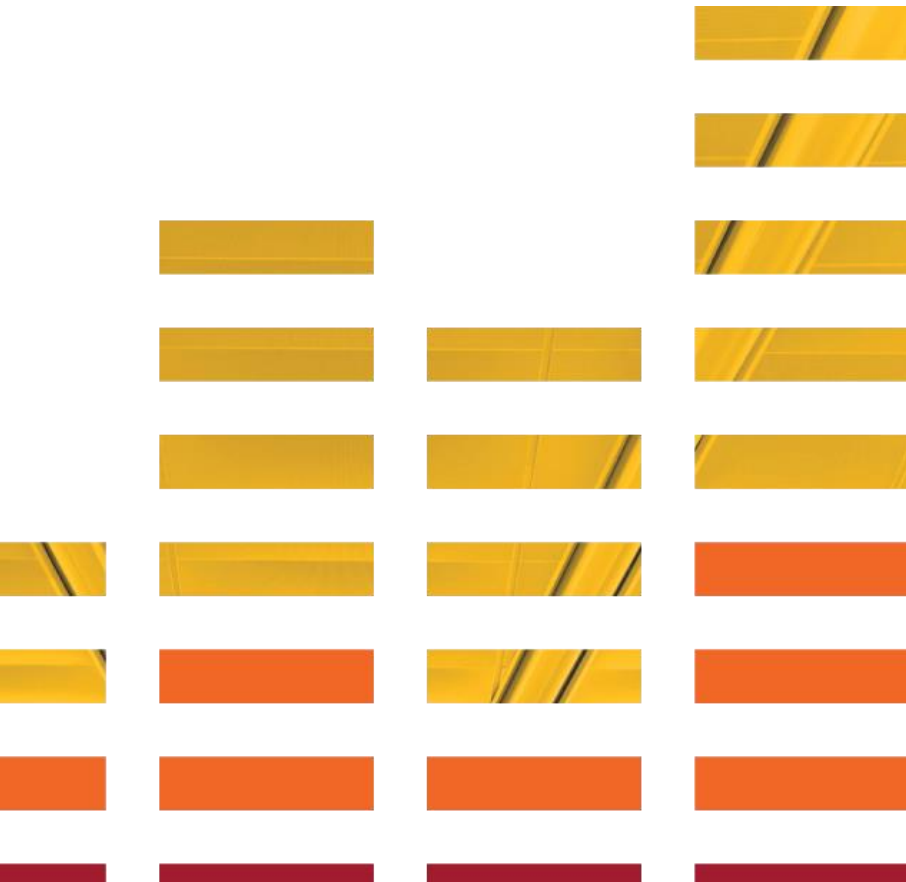


- Reliability & stability
- Predictability
- Backward compatibility

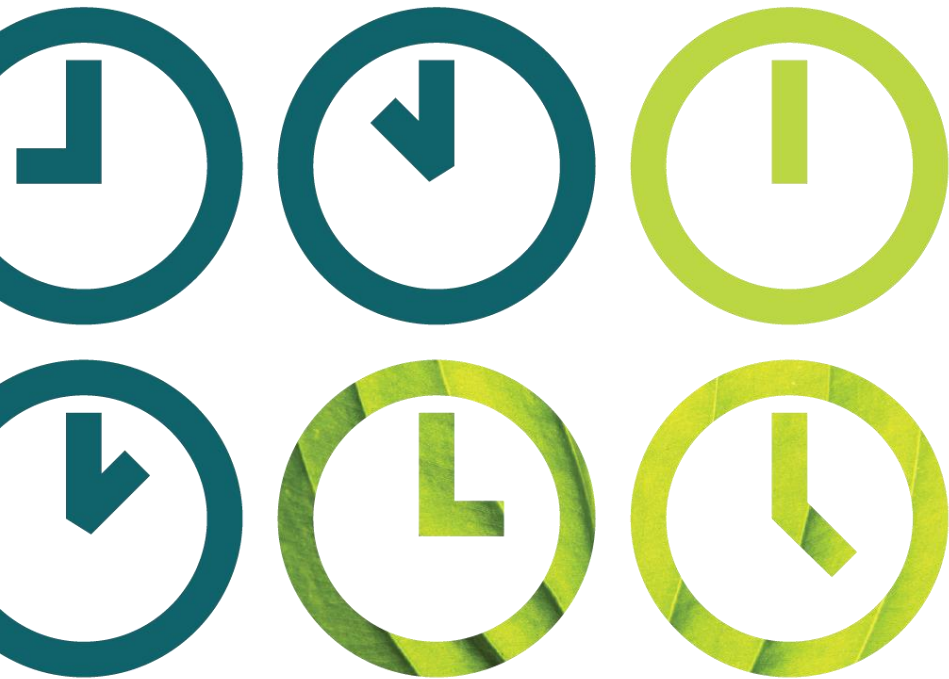
- Web Services
- Gen Studio
- New name customers

- Interact with customers & partners to determine new features and enhancements

CA Gen Roadmap



Recent Releases



Recent Releases

CA Gen 8.0

- Release each of last three years
 - CA Gen 8.0 May 2010
 - Interim Enhancement - 1 April 2011
 - Interim Enhancement - 2 January 2012
- Interim Enhancements (IE) added functionality to the active release
- Over 23 certifications to date for CA Gen 8.0 keeping the release relevant
- End of Service anticipated May 31, 2015

Features in CA Gen 8.0

slide 1 of 2

- Support Dynamic RI Triggers for Blockmode and Servers
- Created zLib for Blockmode and Servers
- Multi-socket listener
- DB2 package bind enhancements
- Multi-row fetches
- Larger models and subsets
- New READ / READ EACH statement relational operators
 - In
 - Between

Features in CA Gen 8.0

slide 2 of 2

- Identity columns (auto number)
- Compatible release runtimes
- Gen Studio
- Web Enhancements
 - Web View

Features in CA Gen 8.0

Multi-Row Fetch

- Default is to not generate a Multiple Row Fetch
- Option to use the value of the targeted group view to specify the number of rows to be returned
- Specify a range of 2 to 32,767 rows to be returned

The screenshot shows the 'READ EACH Properties' dialog box with the 'DB2' tab selected. The 'General' tab is also visible. The 'Distinct' section has three radio buttons: 'Always generate cursor with Distinct', 'Never generate cursor with Distinct (may allow duplicates)', and 'Use default algorithm to determine if Distinct is required' (selected). The 'Limit to N rows (For DB2 z/OS, MS/SQL and Oracle Only)' section has three radio buttons: 'Do not limit the number of rows returned.' (selected), 'Use TARGETING value, when present.', and 'Use the value: 0'. The 'Optimize for N rows (For DB2 Only)' section has three radio buttons: 'Do not generate OPTIMIZE clause.', 'Use TARGETING value, when present.' (selected), and 'Use the value: 0'. The 'Multiple Row Fetch (For DB2 z/OS, MS/SQL and Oracle Only)' section is highlighted in yellow and has three radio buttons: 'Do not generate a Multiple Row Fetch.', 'Use TARGETING value, when present.' (selected), and 'Use the value: 0'. The 'Select Clause Isolation Level (For DB2 and SQL/MP Only)' section has five radio buttons: 'Repeatable', 'Read Stable', 'Cursor Stable', 'Uncommitted / Browse', and 'Do Not Specify' (selected). The 'For DB2 Only' section has a checkbox 'Generate with cursor hold.' which is unchecked. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

Features in CA Gen 8.0

Larger Models and Subsets

- Prior to this change, you could only download models and/or subsets containing fewer than 64,000 of any object type
- Examples of object types include;
 - Views
 - Attributes
- After this change, you can download models and/or subsets containing as many as 1,000,000 of any object type

Features in CA Gen 8.0

New READ / READ EACH statement relational operators

Add Statement

```
READ EACH golfer
  TARGETING
  export_group_of_golfers FROM THE BEGINNING UNTIL FULL
  WHERE DESIRED golfer handicap_index
```

Select a relational operator.

- IS EQUAL TO
- IS NOT EQUAL TO
- IS EQUIVALENT TO
- IS NOT EQUIVALENT TO
- IS GREATER THAN
- IS LESS THAN
- IS GREATER OR EQUAL TO
- IS LESS OR EQUAL TO
- IS VALID
- IS NULL
- IS NOT NULL
- IS BETWEEN**
- IS NOT BETWEEN**
- IS IN**
- IS NOT IN**

Add Complete Qualify View Maintenance Cancel Help

Features in CA Gen 8.0

New READ / READ EACH statement BETWEEN operators

```
XXX_READ_EACH_BETWEEN
IMPORTS:
EXPORTS:
  Group View export_group_of_golfers (1000,implicit,export only)
  Entity View export_grp golfer (transient)
    userid
    password
    first_name
    last_name
    email_address
    handicap_index
LOCALS:
ENTITY ACTIONS:
  Entity View golfer
    userid
    password
    first_name
    last_name
    email_address
    handicap_index

  READ EACH golfer
    TARGETING export_group_of_golfers FROM THE BEGINNING UNTIL FULL
    SORTED BY ASCENDING golfer handicap index
    WHERE DESIRED golfer handicap_index IS BETWEEN (0, 10.0)

  MOVE golfer TO export_grp golfer
```

Features in CA Gen 8.0

New READ / READ EACH statement IN operators

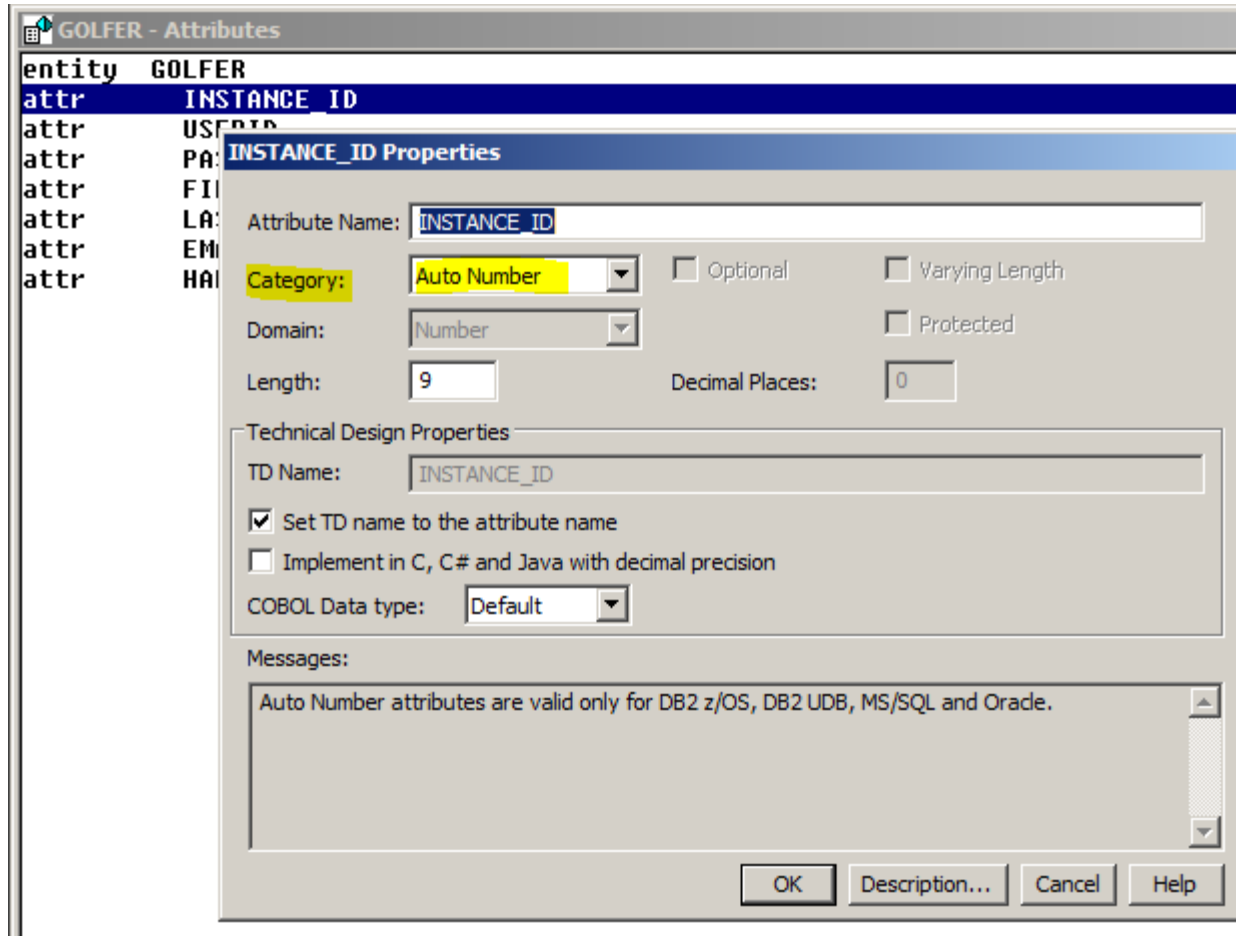
```
XXX_READ_EACH_BETWEEN
IMPORTS:
EXPORTS:
  Group View export_group_of_golfers (1000,implicit,export only)
  Entity View export_grp golfer (transient)
    userid
    password
    first_name
    last_name
    email_address
    handicap_index
LOCALS:
ENTITY ACTIONS:
  Entity View golfer
    userid
    password
    first_name
    last_name
    email_address
    handicap_index

  READ EACH golfer
    TARGETING export_group_of_golfers FROM THE BEGINNING UNTIL FULL
    SORTED BY ASCENDING golfer last name
    WHERE DESIRED golfer last name IS IN ("Short", "Wie", "Woods", "Norman",
      "Poulter", "Player", "Sorenstam", "Palmer")

  MOVE golfer TO export_grp golfer
```

Features in CA Gen 8.0

Identity Columns (aka Auto Number)



GOLFER - Attributes

entity **GOLFER**

attr **INSTANCE_ID**

attr **INSTANCE_ID Properties**

Attribute Name:

Category: **Auto Number** ☐ Optional ☐ Varying Length

Domain: ☐ Protected

Length: Decimal Places:

Technical Design Properties

TD Name:

☒ Set TD name to the attribute name

☐ Implement in C, C# and Java with decimal precision

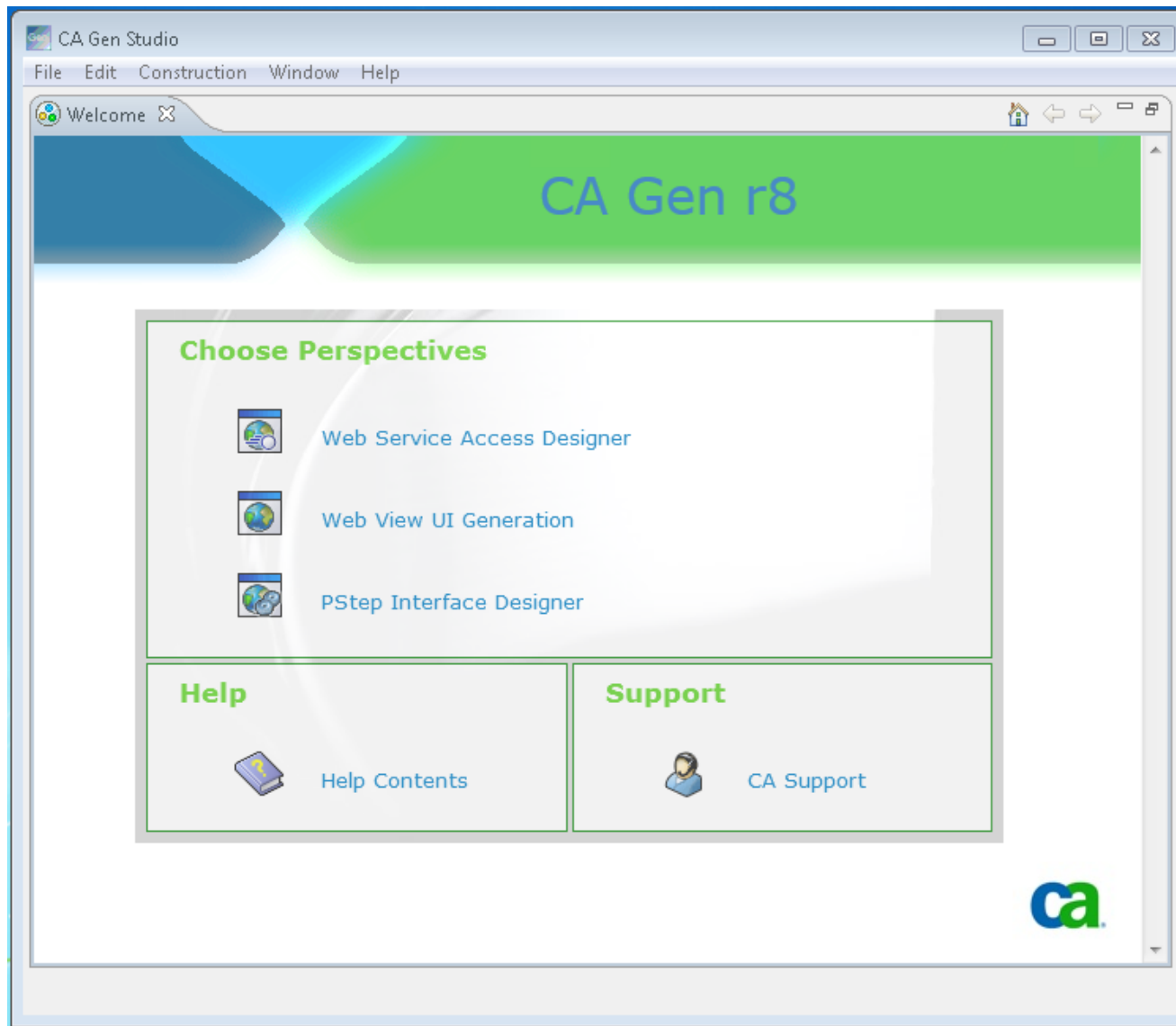
COBOL Data type:

Messages:

Auto Number attributes are valid only for DB2 z/OS, DB2 UDB, MS/SQL and Oracle.

OK Description... Cancel Help

Features in CA Gen 8.0 Gen Studio



Features in CA Gen 8.0 Interim Enhancement - 1

- Visual Studio 2010
- Mozilla Firefox
- JBoss
- Web View Customization (UI)
- Support Dynamic RI Triggers for Batch
- Support for zLib for Batch
- Performance improvements in z/OS Batch Processing

Features in CA Gen 8.0 Interim Enhancement - 2

- Support 64-bit Windows Servers
- Custom Proxies
- Increased CFB Limit from 32K to 16MB (except for Mainframe)

Features in CA Gen 8.0 IE2

Gen Studio – Custom Proxies and Web Services

The screenshot displays the CA Gen Studio application window. The main workspace is the 'PStep Interface Designer', which is currently showing the 'Custom Proxies' tab. On the left, a tree view shows the project structure: '*calc:[CALCULATOR.IEF] (opened)', 'CALCULATOR.IEF', 'S_CALCULATOR', 'div2nbr', 'mul2nbr', 'sub2nbr', and 'add2nbr'. The 'mul2nbr' proxy is selected, and its details are shown in the main pane.

Parameter	Gen Name	Gen Attribute	XSD Data T...	Mapping S...	Mapping
clientPassword	clientPassword	Text(256)	string	<None>	
clientId	clientId	Text(256)	string	<None>	
command	command	Text(80)	string	<Literal>	MULTIPLY
dialect	dialect	Text(8)	string	<None>	
exitState	exitState	Numeric(10,0)	int	<None>	
nextLocation	nextLocation	Text(256)	string	<None>	
ImportCalcCalculator	ImportCalcCalculat...				
Operation	Operation	Text(10)	string	<None>	
Num2	Num2	Numeric(10,2)	decimal	<Variable>	
Num1	Num1	Numeric(10,2)	decimal	<Variable>	

Below the table, there are tabs for 'Input Mapping' and 'Output Mapping'. At the bottom, the 'Properties' tab is active, showing '0 errors, 5 warnings, 0 others'. A table below this shows the warnings:

Description	Resource	Path	Location	Type
Warnings (5 items)				

Features in CA Gen 8.0 IE2

CFB Extension

Increased the amount of customer data that can be sent between CA Gen clients and Distributed Servers using Common Format Buffer (CFB) from 32K to 16MB

- Windows
- Unix & Linux
(TCP/IP, MQ & Tuxedo)



Recent Releases

CA Gen 8.5

- Releases

- CA Gen 8.5 May 2013
- Agile Features Continuous
- Interim Enhancement - 1 September 2014

- Agile Features and one last Interim Enhancement added functionality to the active release
- Over 70 DARs were implemented in this release
- End of Service not announced

Features in CA Gen 8.5

- Increased CFB Limit from 32K to 16MB for Mainframe (all platforms)
- BLOBs – added CRUD actions and View passing
- Support 64-bit Unix/Linux Servers (all Distributed Servers)
- DB2 Table and Table Space partitioning
- CA Gen Studio Web View - full generation
- SOAP Middleware
- Transaction Enabler (TE) Web Services

Features in CA Gen 8.5

CFB Extension

Increased the amount of customer data that can be sent between CA Gen clients and Mainframe Servers using Common Format Buffer (CFB) from 32K to 16MB

- z/OS CICS (TCP/IP & MQ)

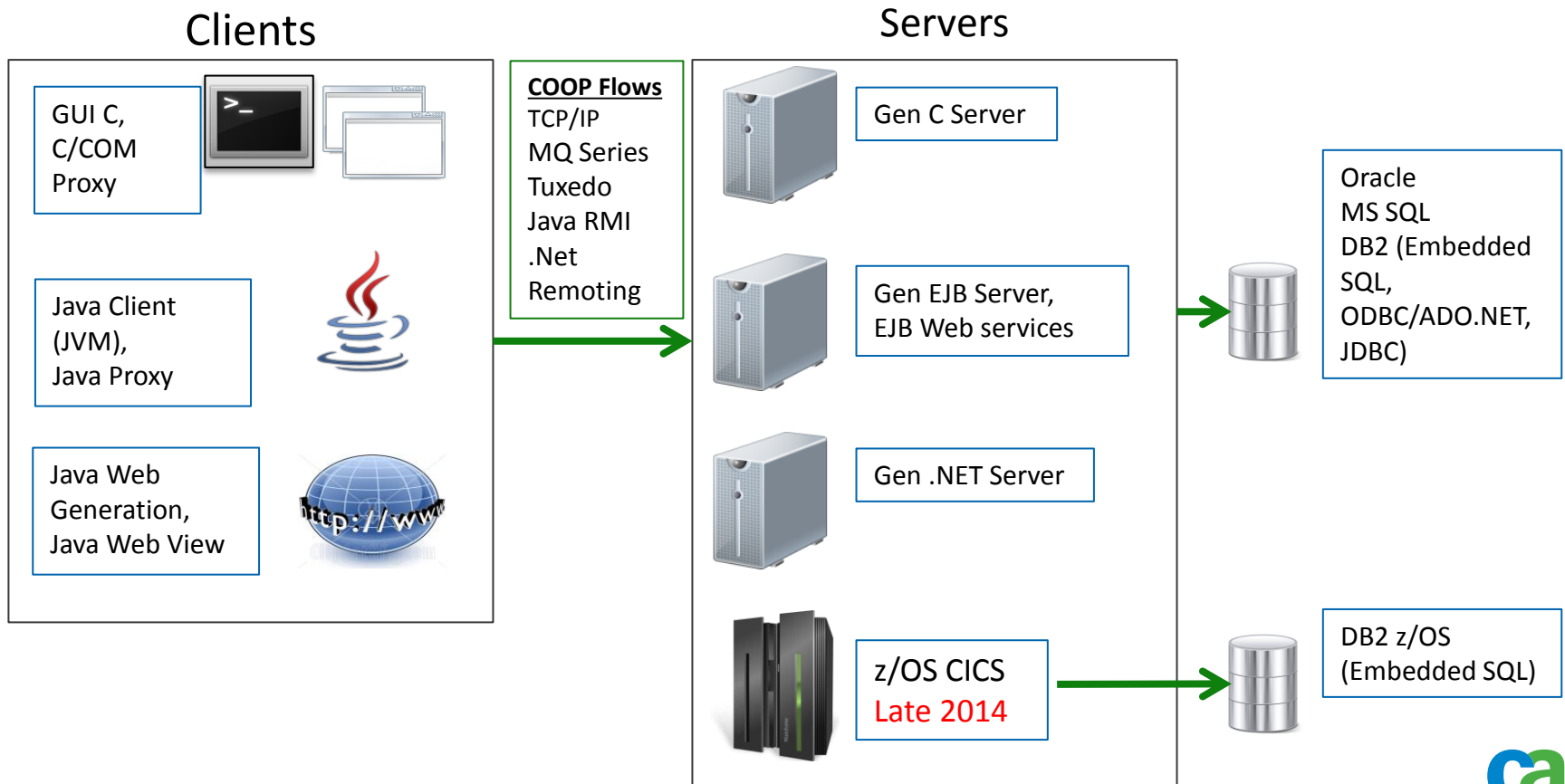


Features in CA Gen 8.5

BLOB Support for Cooperative Applications

Support for binary large objects for generated applications

- Create, Read, Update, and Delete entity types containing BLOB attributes
- View support



Features in CA Gen 8.5

Attribute Properties - BLOB

The screenshot shows the "(new object) Properties" dialog box. The "Attribute Name" field contains "image". The "Category" dropdown is set to "Basic". The "Domain" dropdown is set to "BLOB". The "Length" field is set to "2" and the unit dropdown is set to "MB". The "Decimal Places" field is set to "0". The "Optional" checkbox is checked, and the "Varying Length" checkbox is also checked. The "Case Sensitive" and "Protected" checkboxes are unchecked. The "Technical Design Properties" section has a "TD Name" field, a checked "Set TD name to the attribute name" checkbox, an unchecked "Implement in C, C# and Java with decimal precision" checkbox, and a "COBOL Data type" dropdown set to "Default". The "Messages" section contains a text box with the message: "BLOB attributes are valid only for DB2 z/OS, DB2 UDB, MS/SQL and Oracle." At the bottom are buttons for "OK", "Description...", "Cancel", and "Help".

(new object) Properties

Attribute Name:

Category: ☒ Optional ☒ Varying Length

Domain: ☐ Case Sensitive ☐ Protected

Length: Decimal Places:

Technical Design Properties

TD Name:

☒ Set TD name to the attribute name

☐ Implement in C, C# and Java with decimal precision

COBOL Data type:

Messages:

Features in CA Gen 8.5

64-bit Support

- Unix/Linux Transaction Enabler upgraded to 64 bit
- CA Gen 8.5 supports Unix/Linux 64 bit generated server applications only
 - Available for Solaris, AIX and Linux
 - Support for 64 bit HP-UX Itanium already exists
 - Existing 32 bit servers need to be recompiled for 64 bit
 - Existing 32 bit EAB's need to be recompiled with correct 64 bit flags
 - 64 bit Tuxedo available for Linux
- Windows 64 bit was released with IE2
 - GUI clients remain 32 bits Windows
- Keeps up with 3rd party 64 bit only API support



Features in CA Gen 8.5

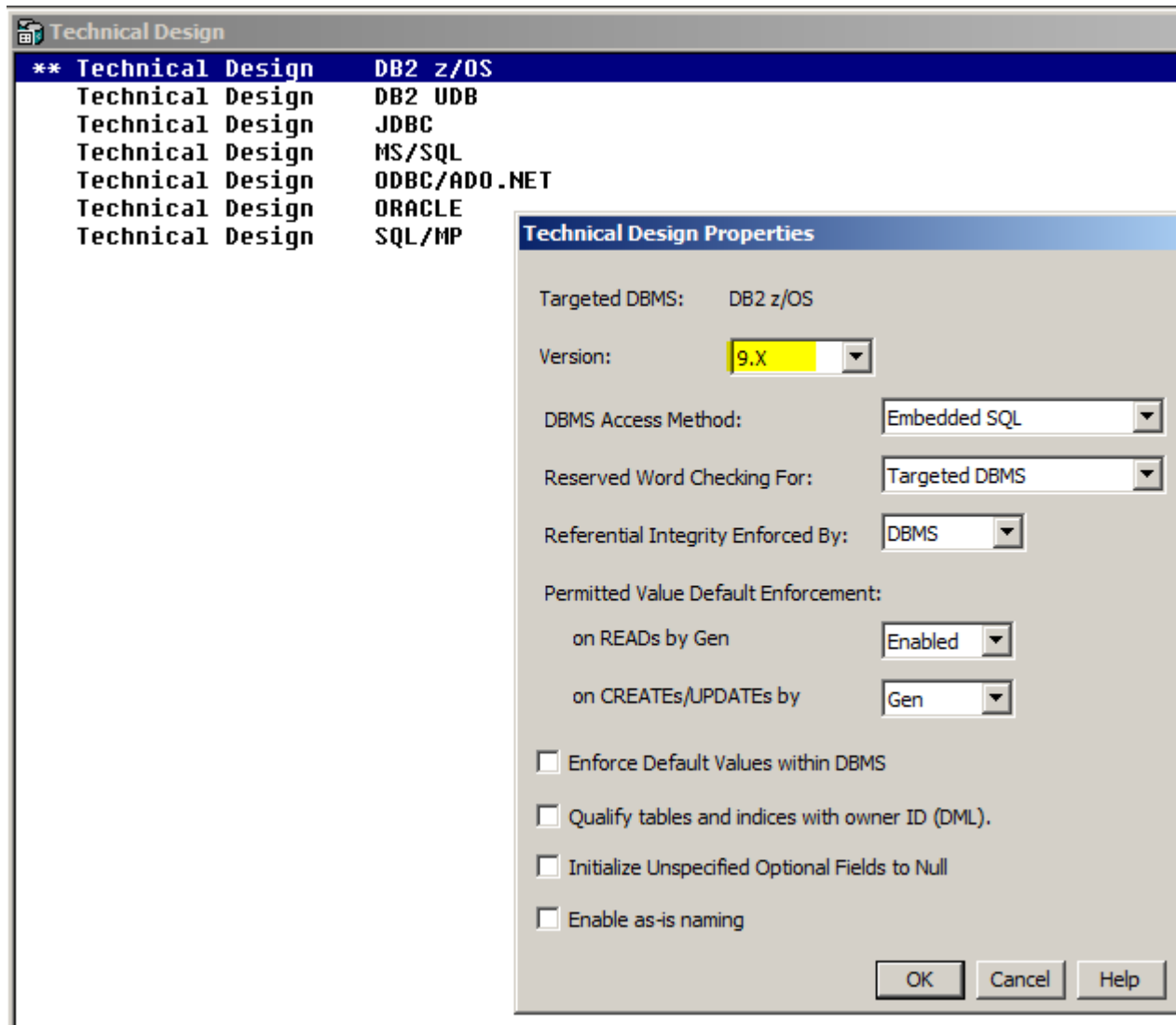
DB2 Table and Table Space Partitioning Plug-ins

- Table Partitions
 - partition database tables based on the values of any column in the table OR whenever the size of the partition exceeds a certain value
- Tablespace Partitioning
 - partition database tablespaces based on growth or by pre-defining a number of partition ranges
- Available with DB2 version 9

Data is stored in the model and used by the DDL generator when generating CREATE TABLE and CREATE TABLESPACE statements.

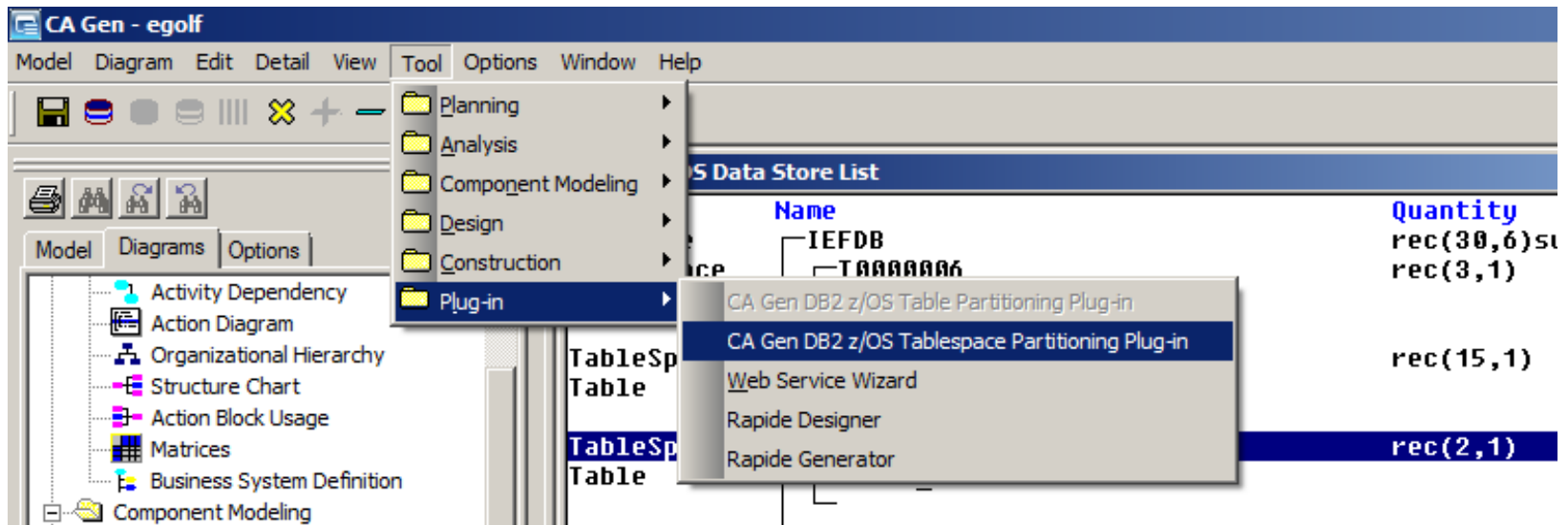
Features in CA Gen 8.5

DB2 Table and Table Space Partitioning Plug-ins



Features in CA Gen 8.5

DB2 Table and Table Space Partitioning Plug-ins



Features in CA Gen 8.5

DB2 Table Space Partitioning Plug-ins

CA Gen DB2 z/OS Tablespace Partitioning Plug-in

Tablespace T0000016

Partition by

☒ Growth

MAXPARTITIONS: ☐ Member Cluster

NUMPARTS:

☐ Range

NUMPARTS: ☐ Member Cluster

Partition Using	Free Block	GBP Cache	Compress	Track Mod
-----------------	------------	-----------	----------	-----------

DSSIZE:

Features in CA Gen 8.5

DB2 Table Partitioning Plug-ins

CA Gen DB2 z/OS Table Partitioning Plug-in

Table SCORE_CARD

Partition Type

☒ Range

Partition Number

Add Columns Modify Columns Remove Columns

Add Table Partitioning Columns

Column	Asc / Desc	NULLS
FK_SCORING_RECOFK_GOLFERUSERID	ASC	
FK_SCORING_RECODATE0	ASC	
FK_SCORING_RECOTIME0	ASC	

Add Range Change Range Delete Range

☐ Size 0 Gigab

☐ Append

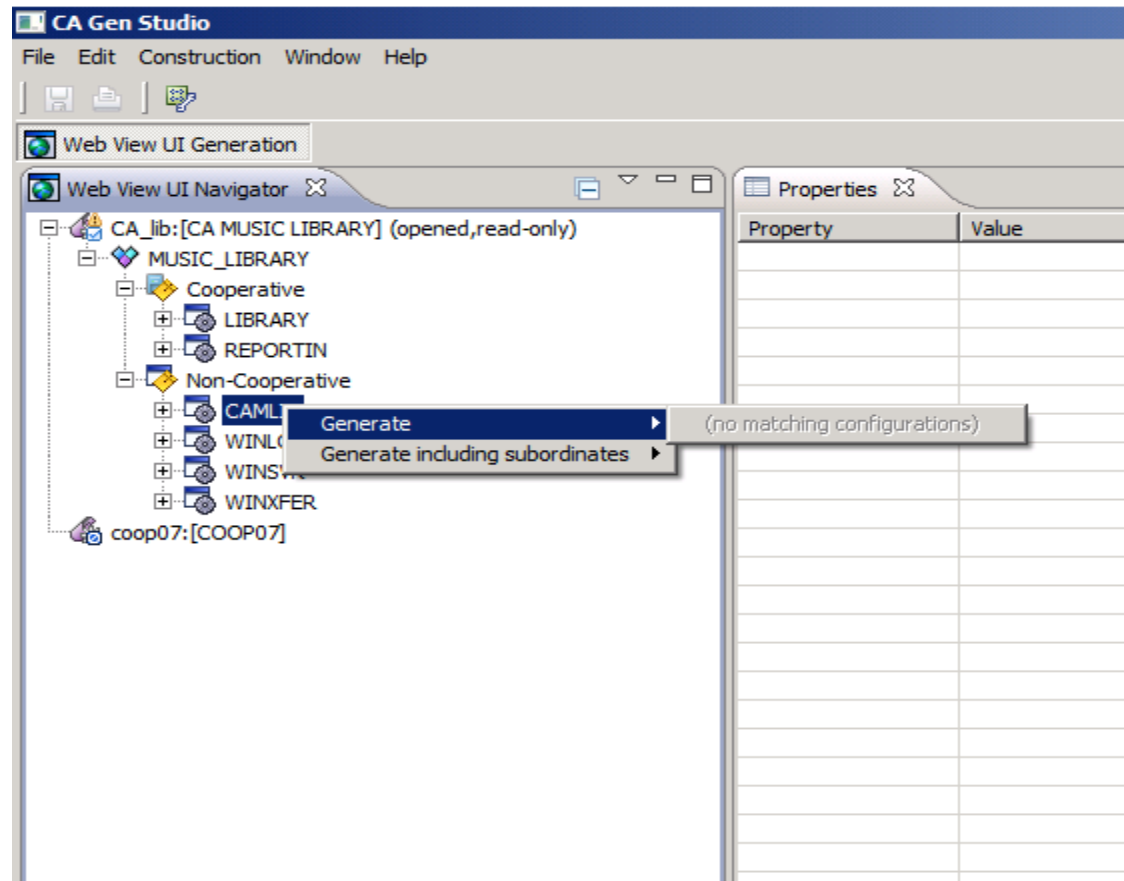
OK Clear All Cancel

Add Modify Cancel

Features in CA Gen 8.5

Web View Generation

- Full generation for Web View applications from CA Gen Studio
 - DDL
 - Window Manager
 - Action Diagrams
- Maintain multiple generation configurations for each model
- Configurations may be added, modified, and deleted using the Generation Configuration dialog from within CA Gen Studio



Features in CA Gen 8.5

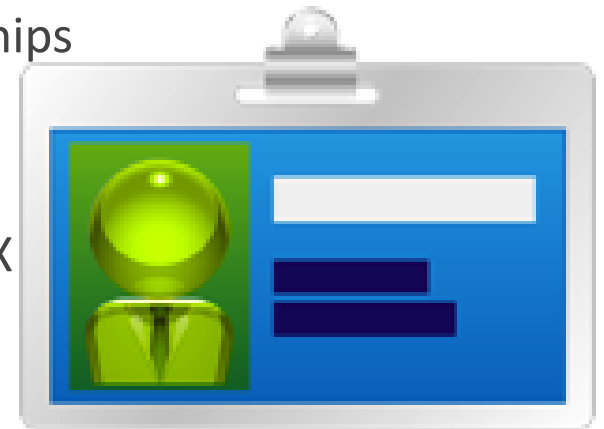
Transaction Enabler (TE) as a Web Service

- All CA Gen servers that execute under the CA Gen Transaction Enabler (TE) 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.
- 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.

CA Gen 8.5

Other Development Activities Post Release 8.5 1 of 2

- DB2 Features (August 2013)
 - DDL comment removal
 - VARCHAR for text > 4000
 - date/time/timestamp default values
 - NULL for mandatory non-identifying relationships
- Generate Proxies from UNIX CSE
 - Provide the ability to generate proxies on UNIX capability is available on Windows CSE
- Unlock Toolset if Upload to CSE Fails
 - Provide option to unlock the model in the toolset should errors



CA Gen 8.5

Other Development Activities Post Release 8.5 2 of 2

➤ Toolset Ease of Use

- Certify Java 7 and Visual Studio 2012
- Certify z/OS 2.1 and COBOL 5.1

Features in CA Gen 8.5 Post 8.5

Toolset Ease of Use Features

- Allow creation of a new action diagram from the action diagram selection list
- Default Import entity view optionality is set to mandatory
- Set default deletion rule when adding a relationship
- Fix highlighting after sort on the Navigation Diagram Open Window dialog
- Pass selected items on Windows to plug-in applications
- Partitioning indicated for Data Structure and Data Store List Diagrams
- Fix window sort when a dialect is displayed
- View matching dialogs displayed only when necessary

Features in CA Gen 8.5 Interim Enhancement 1

- In-Line Code
 - Write native code and/or SQL statements not natively supported by the CA Gen action language
 - Write free-form source code and/or SQL to reference CA Gen views
 - Pass data between hand-written code and the Action Diagram
- Web Services Consumption
 - Via the CA Gen Action Diagram, provide the ability to call any web service
 - Support all CA Gen language targets as well as all CA Gen environments (i.e. clients, servers, block-mode, batch, CICS, IMS)

Planned Releases



Plans beyond CA Gen 8.5 Interim Enhancement 1

...just to list a few....

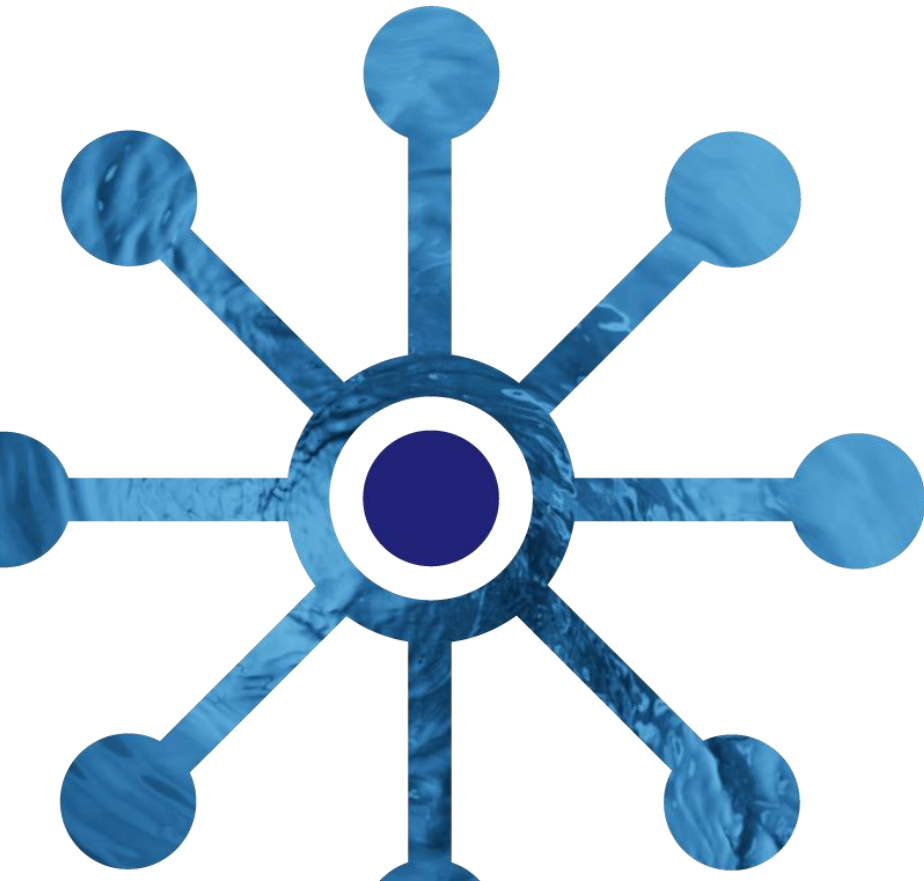
- BLOBs on z/OS (Late 2014)
- Mainframe Java Generation (need additional customers)
- Gen Studio Enhancements
 - Data Model List Diagram, Action Diagram, Window Designer
- Increase toolset support for larger models / subsets
- Add action diagram functions for BLOB (concat, substr, length, text-to-BLOB conversions)
- New targets: Eclipse plug-ins, HP NonStop MX
- CICS Web Services
- Diagram Trace Utility (DTU) on z/OS

CA Gen and Mobile Devices...

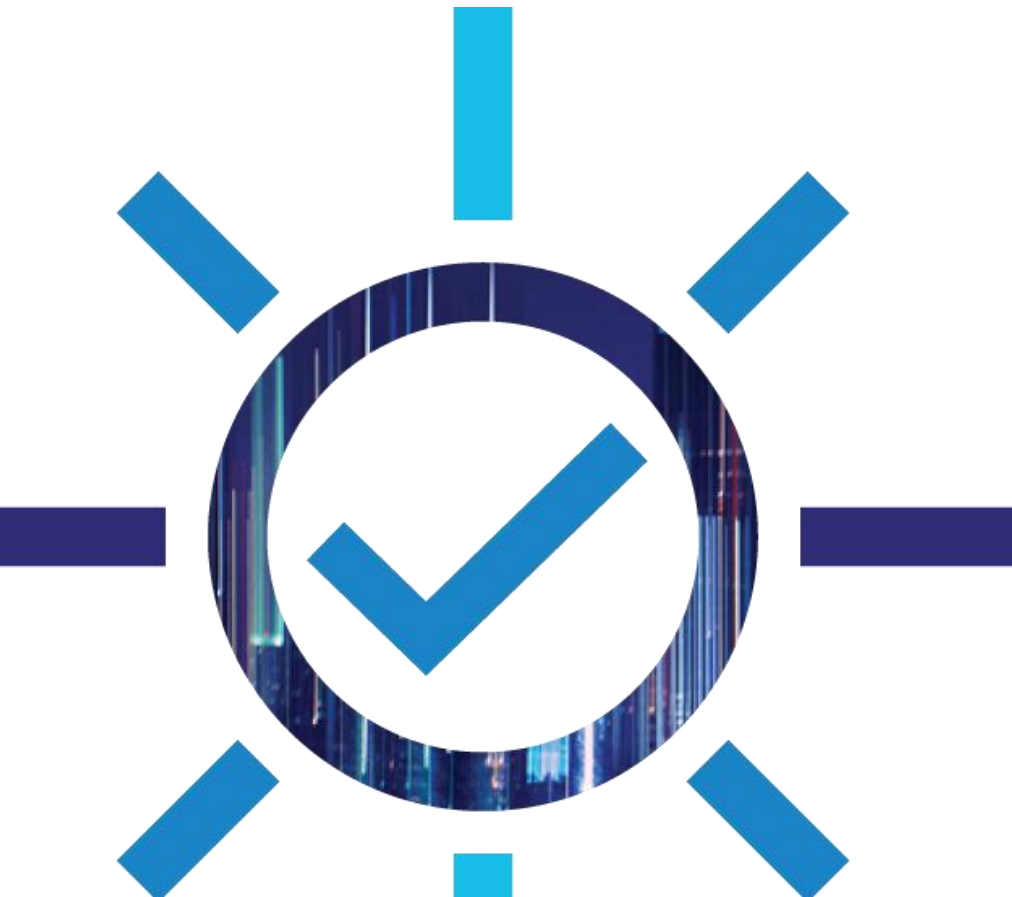
- IET's Rapide product allows current Gen models to be generated targeting tablets and smart phones
 - Android and iOS
 - Multiple platform design
 - Browser, Tablet, Phone
 - Same procedure step, multiple layouts
 - Native Controls and widgets
 - Sophisticated layouts
- CA will make minor modifications to the product to support Rapide in a more integrated fashion



Q&A



Demonstration



CA Gen

Demonstration of New Features

- Model Preferences
- Multi-Row Fetch
- Relational Operators IN and Between
- Identity Columns
- Table and Tablespace Partitioning Plugins
- BLOBs
- TE as a Web Service
 - http://localhost:2008/WEBAPSVR/MAINTAIN_GOLFER?wsdl
- Web Service Consumption Statement
- Custom Proxies
- Inline Code Statement

Demonstration of New Ease of Use Features

- Allow creation of a new action diagram from the action diagram selection list
- Default Import entity view optionality is set to mandatory
- Set default deletion rule when adding a relationship
- Fix highlighting after sort on the Navigation Diagram Open Window dialog
- Pass selected items on Windows to plug-in applications
- Partitioning indicated for Data Structure and Data Store List Diagrams
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