

# CA Gen Vision and Strategy Update

EDGE EMEA Conference  
September 2007



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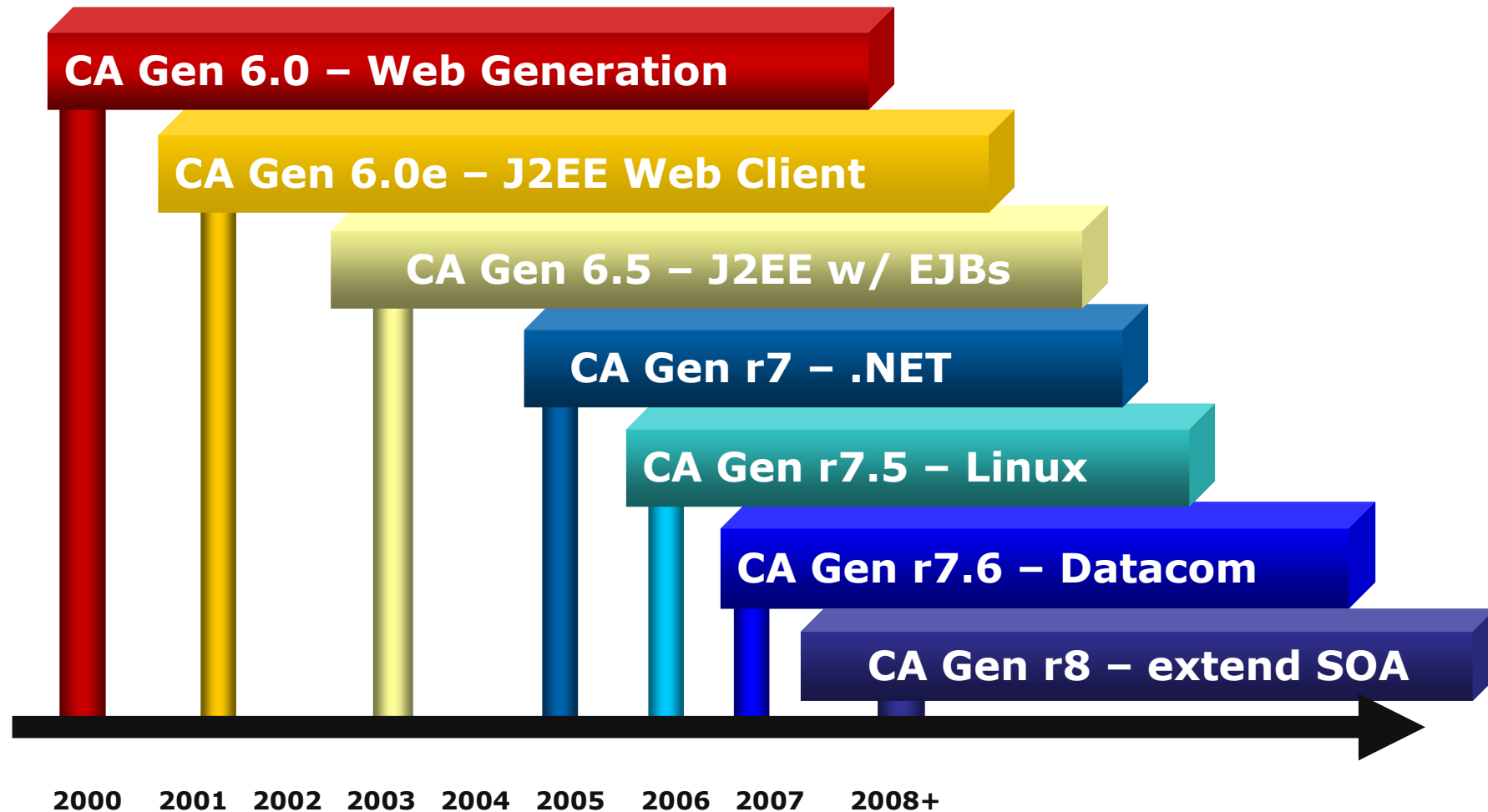
# Agenda

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- > Toolset Evolution to Eclipse Framework
- > New State of the Art Application Tools
- > Extended Web Services and SOA Enablement
- > CA Gen r8 Infrastructure Updates
- > Mainframe Updates
- > Other Updates
- > Q & A



# CA Gen – Past, Present and Future







# Toolset Evolution to Eclipse Framework

CA Gen Gets a Facelift!



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# CA Gen Gets a Facelift

## Evolution of Toolset to Eclipse Framework

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- > New Eclipsed-based ERD planned for CA Gen r8
- > New diagrams to exist within 'CA Gen Studio\*'
- > Remaining diagrams planned for delivery over subsequent releases
  - Context sensitive, text-oriented Action Diagram Editor based on Eclipse (post r8 series release)

\* CA Gen Studio is an internal project name



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# What is Eclipse and Why Do I Care?

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- > Eclipse is an open-source software framework/platform for building integrated web and application development tools
- > Provides contemporary user interface style/standards for existing Workstation Toolset Diagrams
  - Built in controls for tree views, tab views, property sheets, etc. will dramatically reduce the use of dialog boxes
    - Controls will look and behave to industry standards
    - Dialog box reduction will improve developer performance and facilitate new developer effectiveness
  - Pre-packaged capabilities will simplify the delivery of art, drawing, printing and sorting type features



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# Why Is Move to Eclipse Important to You?

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- > Has the potential to permit finer grained delivery of functionality
  - Relaxes some 'Big Bang' aspects of changes to existing toolset
- > Facilitates more rapid development and delivery of additional diagrams (UML for example)
- > Built in controls free our developers from a dated, proprietary user interface framework – allowing them to focus more on delivering the new features you need



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# New Diagram Trace Utility in CA Gen r7.6

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## > New Eclipsed-based Diagram Trace Utility

- Plug-in packaged as an Eclipse Rich Client Platform (RCP) application

## > GUI now consists of several views (windows) within a perspective:

- Each view has specific purpose – Editor, Variables, Breakpoints, ...
- Views can be repositioned, resized, hidden/shown, attached/detached, ...
- Organization of views in perspective is persistent; may be reset

## > Remote debugging performance issues have been addressed



# Diagram Trace

The screenshot displays the Diagram Trace application interface, which is used for debugging and tracing the execution of a process diagram. The interface is divided into several panes:

- Diagram Trace Explorer (Top Left):** Shows the overall structure of the trace, including the "Start Diagram Trace [Diagram Trace]" node, the "Diagram Trace Program (listening (port:4567))" node, and a list of connections and statements. The "VALIDATE\_INPUT statement: 0" is currently selected.
- Variables (Top Right):** Displays the current state of variables during the trace. The variables shown are:
  - ClientPassword =
  - NextTran =
  - TransactionRetryLimit = 10
  - TransactionRetryCount = 0
  - IMPORT View
  - EXPORT View
  - LOCAL View
- Diagram Trace Explorer (Bottom Right):** Shows the current state of the trace, including the "VALIDATE\_INPUT" node and its sub-nodes: "IMPORTS", "EXPORTS", and "LOCALS".
- Diagram Trace Explorer (Bottom Left):** Shows the current state of the trace, including the "VALIDATE\_INPUT" node and its sub-nodes: "IMPORTS", "EXPORTS", and "LOCALS".
- Diagram Trace Explorer (Bottom Center):** Shows the current state of the trace, including the "VALIDATE\_INPUT" node and its sub-nodes: "IMPORTS", "EXPORTS", and "LOCALS".

The main pane displays the "VALIDATE\_INPUT" diagram, which is a flowchart with the following logic:

```
graph TD
    Start([Start]) --> ImportMortgageInterestRate[IF import mortgage interest_rate < 0]
    ImportMortgageInterestRate --> OrImportMortgageInterestRate[OR import mortgage interest_rate > 100]
    OrImportMortgageInterestRate --> ExitStateIsBadInterestRate[EXIT STATE IS bad_interest_rate]
    ExitStateIsBadInterestRate --> Escape1[ESCAPE]
    Escape1 --> ImportMortgagePrincipal[IF import mortgage principal < 1]
    ImportMortgagePrincipal --> ExitStateIsBadPrincipal[EXIT STATE IS bad_principal]
    ExitStateIsBadPrincipal --> Escape2[ESCAPE]
    Escape2 --> End([End])
```

The console at the bottom shows the following output:

```
Diagram Trace
Resuming from breakpoint
Stopping at breakpoint
Resuming from breakpoint
```



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# New CA Gen Studio\* Planned for CA Gen r8

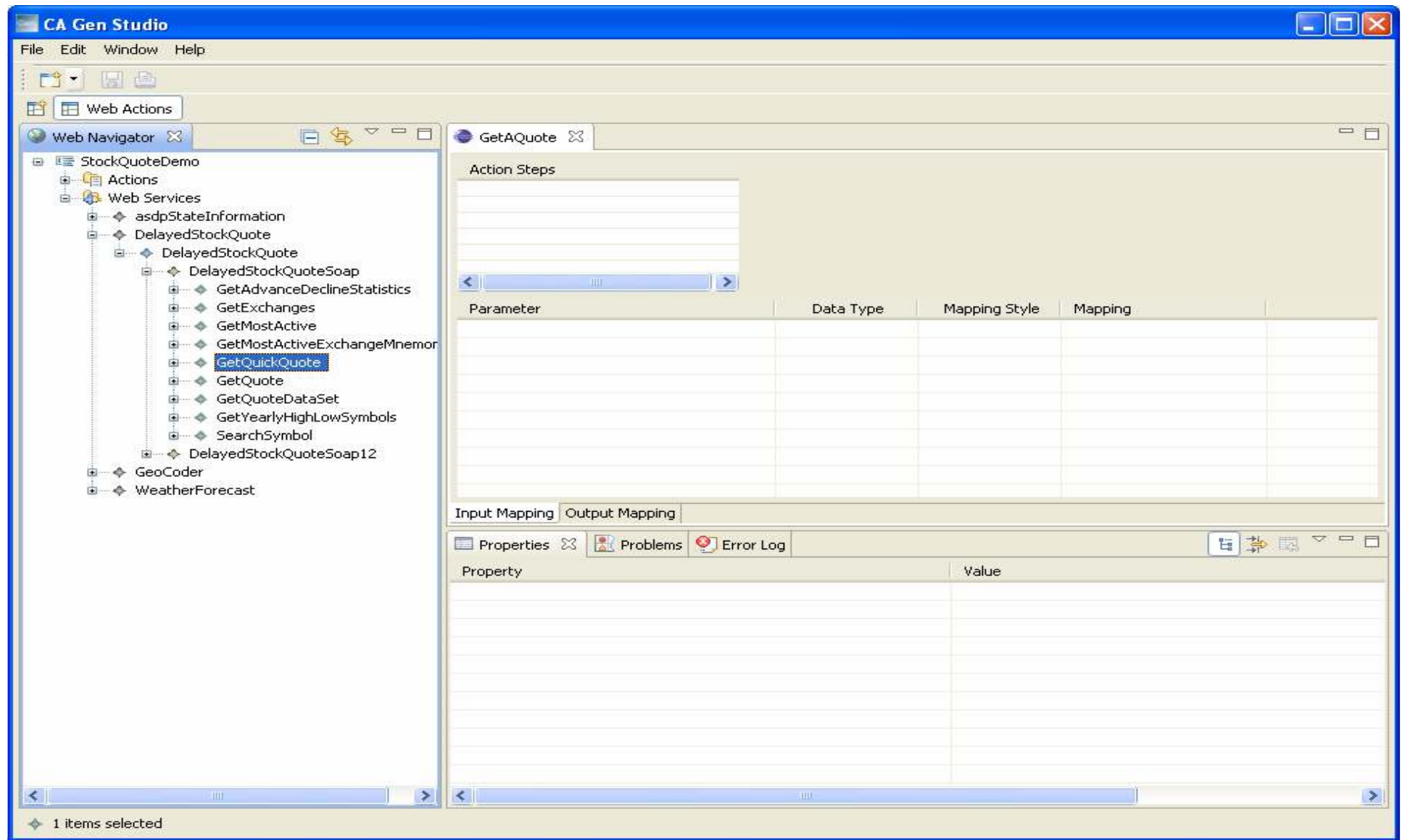
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- > Existing toolset will evolve over time to 'CA Gen Studio'
- > Essential infrastructure and common services elements of CA Gen Studio planned for delivery with r8
- > Provides a plug-in 'shell' for specific tools (Data Modeler, Web View...) and 3rd party tools
- > Provides common services for contained tools
  - Model open, close, save, copy functions...
  - Encyclopedia functions, printing support...
- > Additional Tools (Action Diagram, Component Modeling, Technical Design, etc) transition in later releases

\* CA Gen Studio is an internal project name



# CA Gen Studio





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# Enhanced Data Modeling Diagram

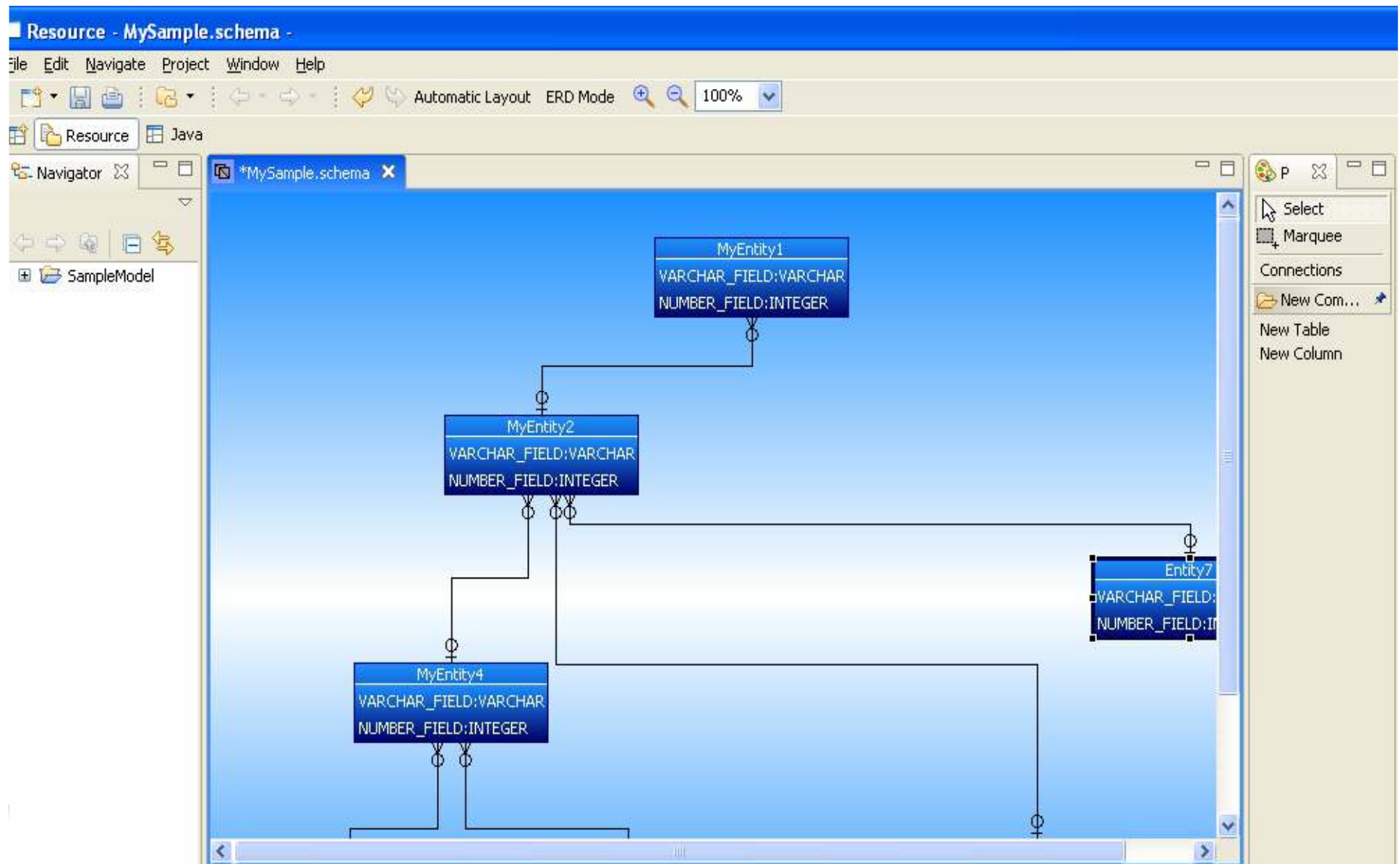
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- > All brand new (except for the underlying meta model)
- > Extensive use of property sheets for efficient model development
- > Support for user preferences
- > Resolves existing printing and display issues
- > Multiple view windows
- > Overview window
- > More flexible use of Subject Areas



# Enhanced Data Modeling Diagram

## Switch back & forth between IE and UML notation!







# New State of the Art Application Tools



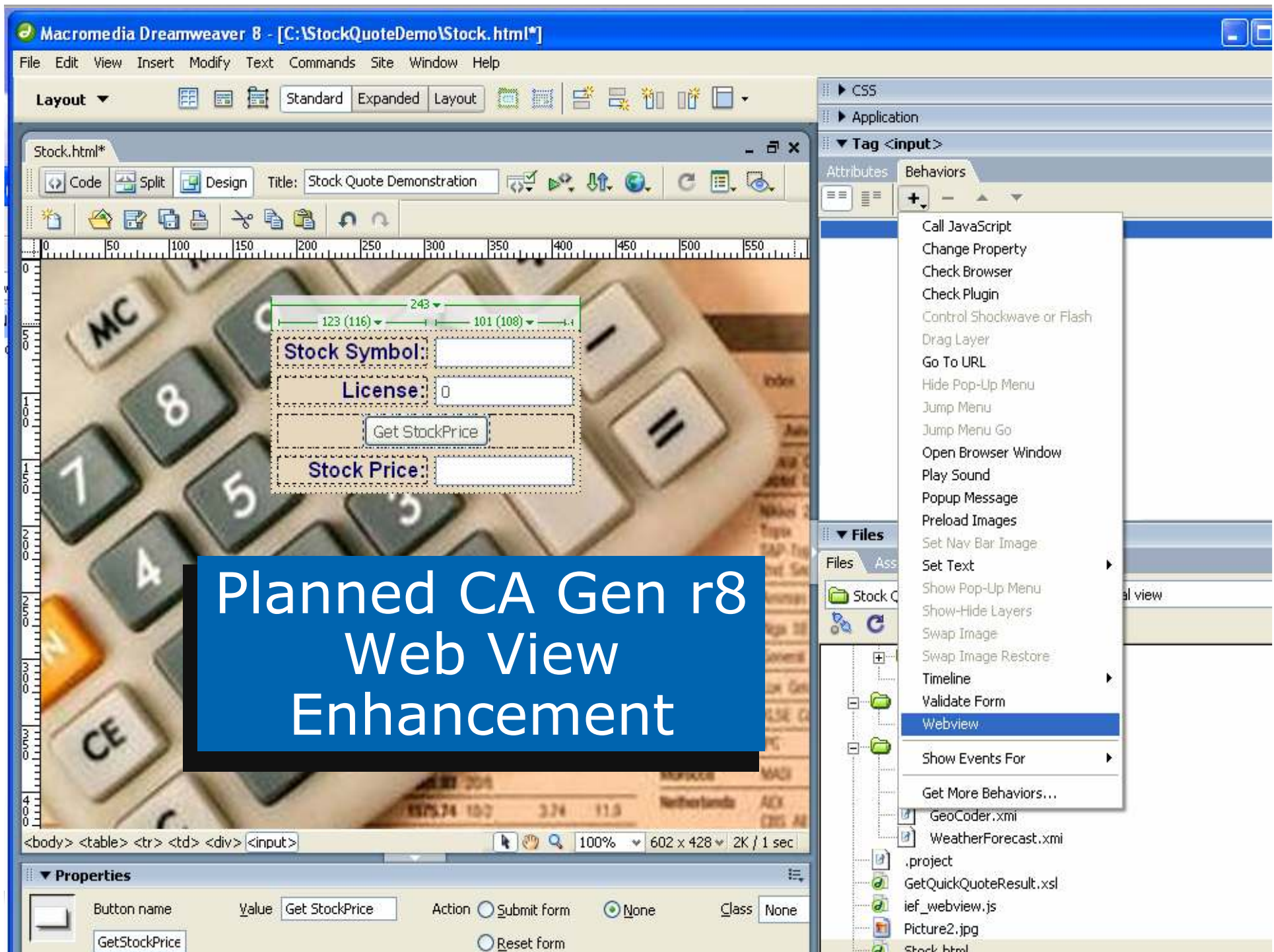
# Web View\* w/AJAX



- > Create/customize your Web Interface using tools such as Dreamweaver
- > Utilize AJAX to retrieve data asynchronously and seamlessly
- > Deliver state of the art web applications
  - Generate application logic with CA Gen
  - Or use third-party Web Services
- > Exploit Eclipse-based web application creation tools
- > Define WSDL using Gen model-based utility
  - Used by Web View and CICS Web Services

\* Web View is an internal project name





# Planned CA Gen r8 Web View Enhancement





# Extended Web Services and SOA Enablement



# SOA and Web Services Plans

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- > Update CA Gen to track the evolving Web Services standards



- > Generate J2EE and .NET targeted procedure steps as WS-I conformant Web Services



- > Allow CA Gen generated servers to be easily consumed by external applications without use of a proxy



- > Existing CA Gen component-based applications are prime candidates for SOA & Web services



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# Mainframe CICS Web Services in CA Gen r8

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- > Allows the reuse of existing CICS server steps as Web Service Provider applications
- > Uses IBM CICS Web Services through its CICS Channel facility to front end Gen's CICS server manager
- > Uses the same WSDL utility as Web View to define and generate WSDL from the model.
- > Data streams are no longer restricted to 32K
  - Uses SOAP instead of CFB as its data exchange protocol
- > May release out of phase - subsequent to CA Gen r8



# Web Service Consumption

New “WebView”  
facility will enable  
consumption of  
web services into CA  
Gen applications







# CA Gen r8 Infrastructure Updates



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# Planned r8 Infrastructure Projects

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- > 64K total object limit expanded to ~1 million objects of any type
  - Allows much larger subsets to be downloaded to workstation
  - Fast machines and a lot of RAM recommended
- > Provide IPv6 Support
  - Allows customers to begin transition to IPv6 as networks evolve over time to this standard
  - Avoid the need for a 'big bang' changeover



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# Planned r8 Infrastructure Projects

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## > Workstation Password Encryption

- Current encryption replaced with FIPS compliant encryption
- Existing Encrypted passwords migrated to FIPS encryption
- Separate from encryption opportunities offered in existing User Exits





# Mainframe Updates



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# CA Gen r7.6

## New Compatibility Enhancement

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- > Facilitates incremental transition to mainframe DLLs for those customers who use dynamic linking to invoke external CA Gen modules
- > Allows procedure steps, action blocks and screens marked for Compatibility to be generated and built
  - Supported with CA Gen r7.6 runtimes
  - Items marked for Compatibility will be built as non-DLL's
  - Can specify Compatibility as the default dynamic link option for procedure steps, screens and action blocks at Business System level
  - Compatibility Enhancement must be installed on base CA Gen r7.6 software
- > Reference the "CA Gen r7.6 z/OS Statement of Direction" paper on SupportConnect for additional information



# CA Gen r7.6 CA Datacom® Support

- > Provide data modelling support, generating DDL and applications
  - Online block mode applications running under CICS
  - CICS distributed process servers
- > Schema Import plug-in for CA Datacom to accelerate the use of an existing database in a new CA Gen application





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# z/OS Build Tool Plans for CA Gen r8

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- > ISPF CUA application
- > Not tied to any underlying database
  - Supports Datacom and DB2 target databases equally well.
- > Uses JCL procedures and parameter files
- > Users can customize resulting JCL for their own needs
- > Allows multiple IPs (install packages) to be processed simultaneously
- > Resulting builds execute in batch.



# Mainframe Efficiency Improvements

## > z/OS Dynamic Link of RI Triggers

## > CICS Socket Listener

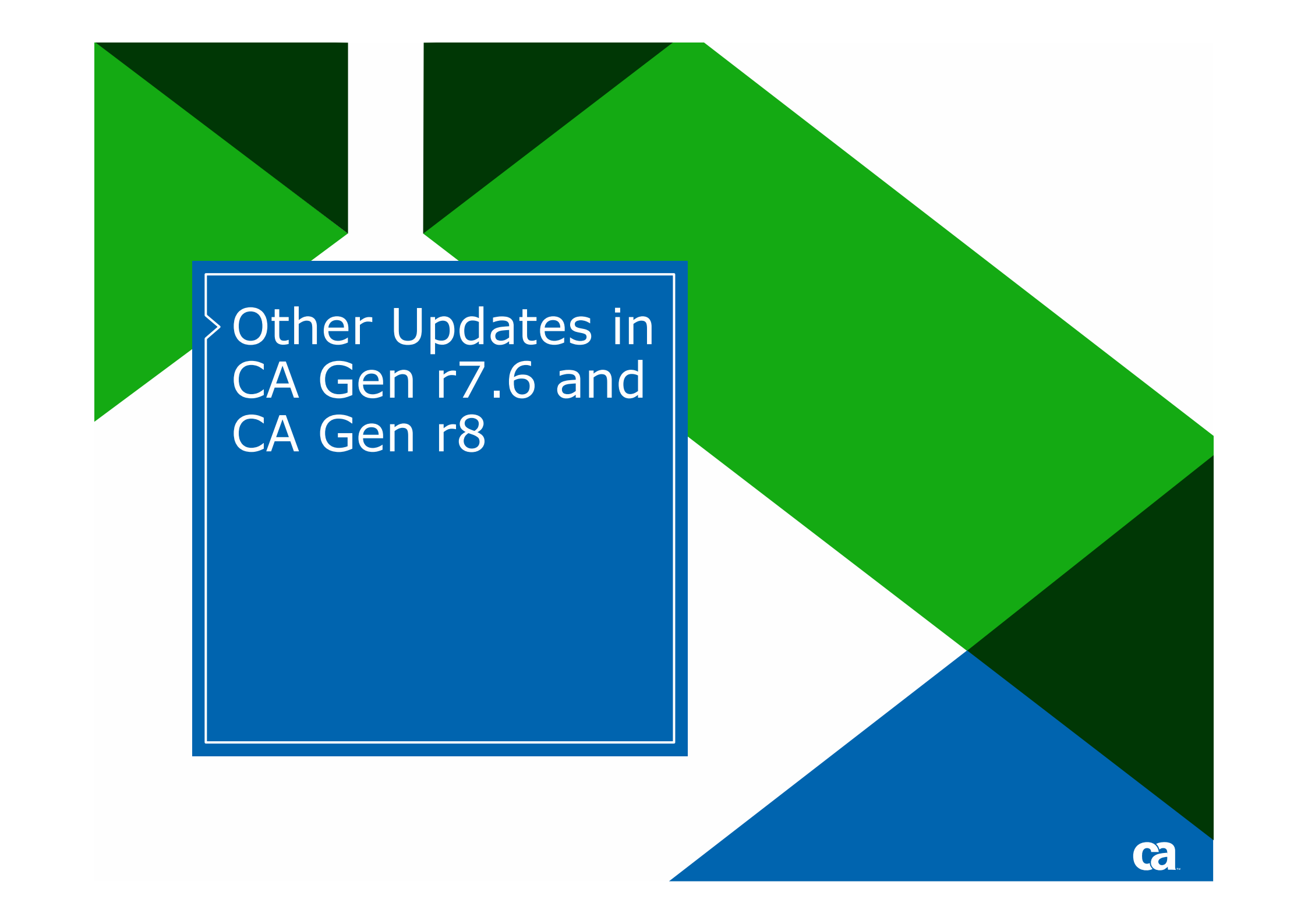
- Designed to reduce the use of mainframe CPU resources
- Minimizes client-side retry processing of TCPIP coop flows that target CICS socket server listener (TISL)
- Will eventually retire the TICONMGR

## > Runtime performance enhancements

- CA Gen r7.x LE Storage Management improvements
- Some string functions were improved in CA Gen r7.6 e.g., substring, concat, textnum







## Other Updates in CA Gen r7.6 and CA Gen r8



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# CA Gen r7.6 Cross-Context Flows Improvements

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- > Provides more efficient deployment of applications to app servers
  - Large deployments may be broken into smaller deployments
  - A single model can be separated into multiple web applications and deployed in separate contexts
- > Used when Web Generation procedure steps are deployed in separate web applications
- > Facilitates models developed using CBD modeling techniques



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# CA Gen r7.x Performance Improvements

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## > Web Generation applications have been:

- Streamlined to use less memory, improved performance
- Allow selection of static or dynamic compression to reduce the amount of data being sent between the browser and the application server

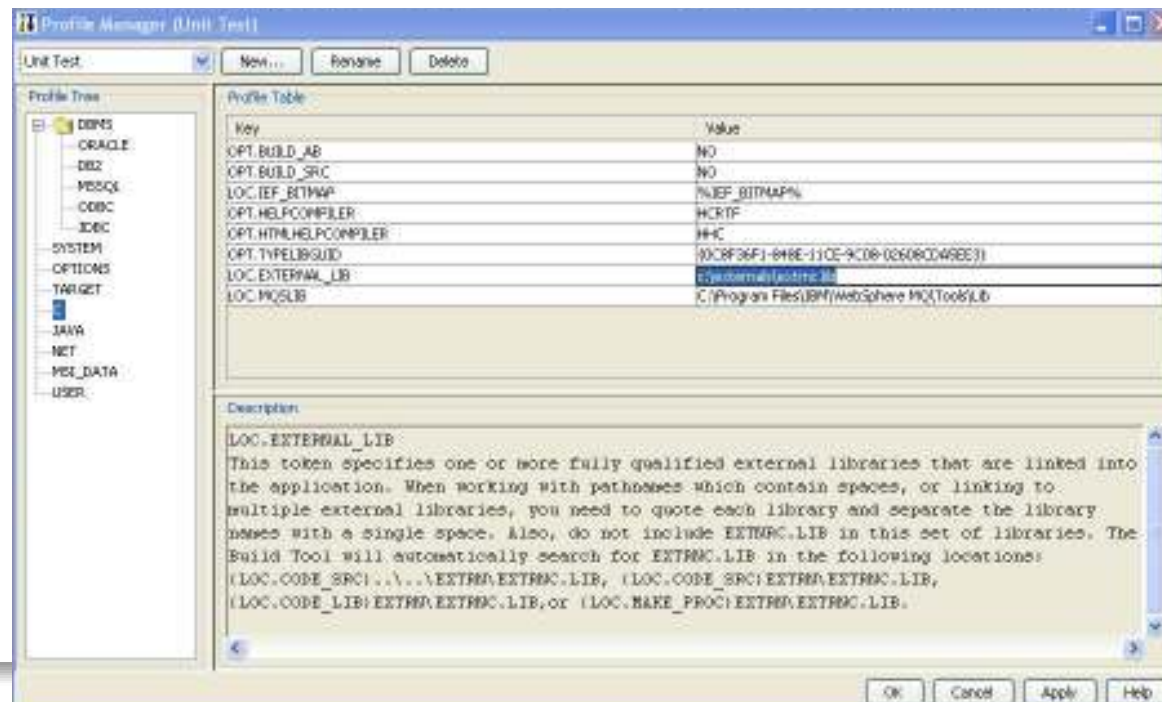
## > Change the decimal precision technology

- Applications will use less CPU resources
- Amount of improvement is application dependant
- Applications with long complex expressions or extensive database access should show the most improvement.



# CA Gen r7.6 Build Tool Usability Features

- > Added buttons to add/remove modules in viewing modes
- > Can now specify session timeout for assembly operations.
- > Support for right mouse button activated pop-up menus





# CA Gen r8 Cross-Platform Efficiency Improvements



## > 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.



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# Support for Vista

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- > CA Gen r7.6 works on Vista with a few PTF's and workarounds
  - Binary compatible however issue with protected directories
  - Requires the user have administrator privileges
- > Anticipate that prior versions of MS operating systems will soon no longer be shipped on new hardware
  - CA Gen r7.6 PTF's address an exposure that potentially impacts the entire customer base
- > In CA Gen r8, above PTF's will be part of base product
  - Will eliminate need for workarounds and allow CA Gen to be used in 'User' mode



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# 3rd Party Technical Currency Integration

## Plans for CA Gen r8

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### > Java

- Targets utilizing new features introduced with Java SE 6
- Use the EJB 3 specification

### > Web Tabs

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

### > Planned use of Visual Studio 2008

### > Certification of operating systems, databases, compilers etc. that are GA before r8 goes to beta test

- Each release of CA Gen requires certification with more than 50 third party products



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# 3rd Party Technical Currency Integration

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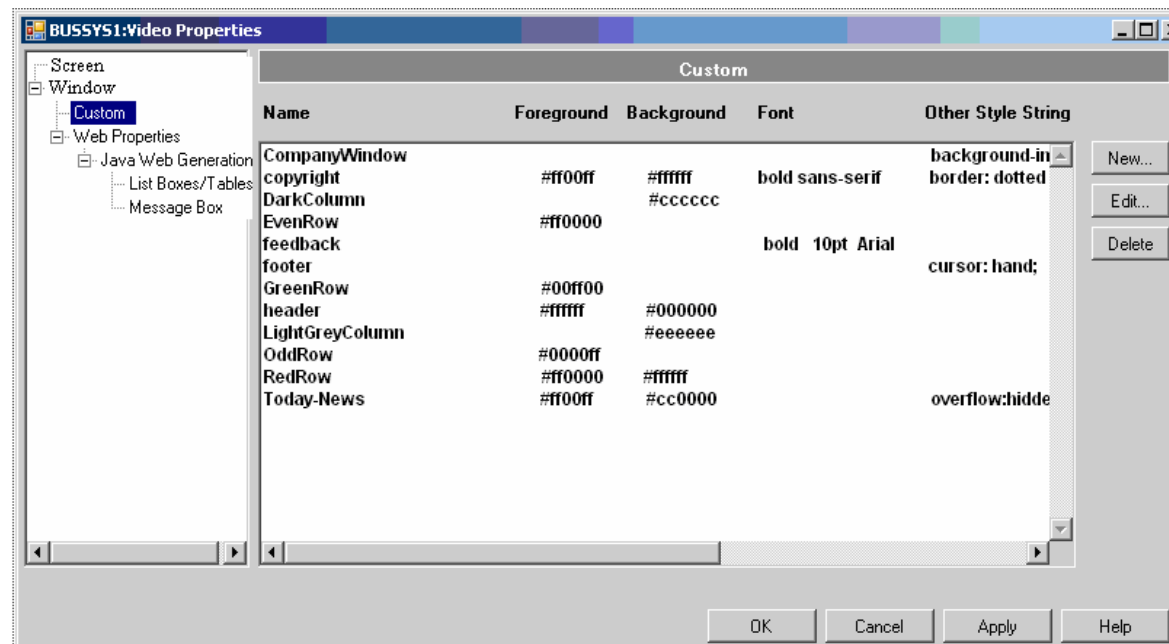
## > ASP.NET Web Clients

- Utilizes new features introduced in .NET Framework 2.0 and 3.0
- Uses AJAX to enhance application performance
- Themes and Skins
- JavaScript Libraries
- Session management enhancements
- DataSource changes
- New Compilation and Deployment Option including pre-compiling prior to deployment
- NGEN
- Data Compression
- Rendering 3rd party ASP.NET Web Controls in the Toolset
- Tabbed Browsing
- Wix



# 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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# Itanium Support Plans

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- > Support for HP-UX 32 bit apps is a post CA Gen r8 port:
- > In 2006 we surveyed the entire base using HP-UX
  - Survey questionnaire was also posted on support connect for 4 months
  - Worked with HP to validate leads they provided
  - Less than 5% of the base expressed any interest in Itanium
  - Less than 2% planned to move to Itanium before PA-RISC end of life
  - Most reported a need for Itanium support in 2009 to allow time for transition
  - Itanium Support Ranked ~ 224<sup>th</sup> by EDGE



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# IBM POWER6™

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- > IBM stated in writing that POWER6 is 100% backward compatible with POWER5 based machines
- > The IBM POWER5 -> POWER6 Transition is identical to any Intel x86 architecture advancement
- > We certify to an architecture and operating system rather than to specific models of processors
- > Given IBM's statement, we consider our certification performed on POWER5 to cover POWER6 based machines
- > Summary: CA Gen r7.6 is certified on IBM Power6



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# Additional Items

Under Evaluation for CA Gen r8.x series (in no particular order)

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- > CICS Web Services
- > Blobs
- > Store Files in Model
- > Action Diagram Editor
- > Conditional Action Blocks
- > Web Services Security
- > Joins, Unions and various SQL improvements
- > Stored Procedures
- > Action Diagram Editor
- > UML
- > User Added Functions
- > Encyclopedia Renovation
- > Comm Bridge Remote Admin
- > Common Edit Modification
- > CA Gen Studio –  
*rest of diagrams plus...*
  - Sorting, Undo/Redo, ..
  - Primary Key, Foreign Key display
  - Unnecessary timestamp update elimination



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# Additional Items

Under Evaluation for CA Gen r8.x series (in no particular order)

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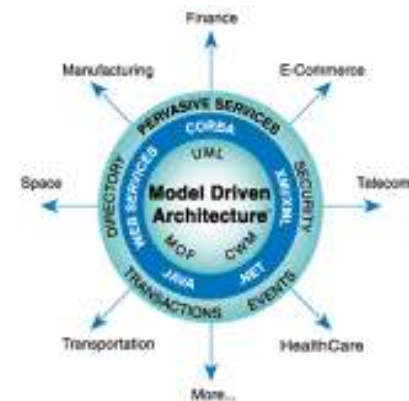
- > COBOL DB2 integrated translator
- > CSE When Changed, Intelligent ReGen Reports
- > Custom Property Support
- > Unicode phase n++
- > .Net and WebSphere MQ
- > Message Box and OCX Web Thread replacement
- > New user interface designer based on Visual Studio
- > Optional Absolute Positioning in Web Page Design
  - Provide developer with option to specify relative rather than absolute positioning when designing Web pages.
- > Re-implement TE/UF with remote management console (Show of hands)



# CA Participation on OMG

## > CA is a member of OMG

- We participate in standards-setting process
- We provide leadership and significant experience related to delivering enterprise systems from modeling diagrams
- Participation also provides useful insight into our development plans
- Providing input to standards in work
  - Knowledge Discovery Metamodel (KDM)
  - Abstract Syntax Tree Metamodel (ASTM)





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# CA Commitment to our CA Gen Customers

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- > CA is committed to on-going investment in CA Gen
  - Customers can rely on this proven solution to deliver mission critical applications for the long term
- > Product development team has collective experience untouched in industry
  - Proven performance, scalability and reliability
  - Enables customers to implement new technologies in response to business needs
  - Leverage existing skill sets and technology investments
- > Listen to John Swainson podcast regarding commitment to CA Gen on [ca.com/podcasts](https://ca.com/podcasts)





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# Final thoughts on Past, Present, Future

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- > CA Gen has a 2 decade heritage of
  - Providing robust, scalable solutions
  - Evolving with technology
  - Delivering fantastic ROI
- > CA Gen r8 series plans to extend that tradition
- > CA looks forward to understanding and to meeting your needs for many years to come



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# CA Gen Web Seminar Series

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## > Upgrading CA Gen (web seminar series available on-demand at [ca.com/events](http://ca.com/events))

- Upgrading CA Gen 101: Where do I Start?
- Upgrading CA Gen 102: z/OS Runtime Environment
- Upgrading CA Gen 103: Best Practices

## > CA Gen and SOA

- Series of web seminars discussing how customers are using CA Gen to help them successfully transition to an SOA environment

## > Increasing CA Gen Developer Productivity

- Series of web seminars covering best practices related to use of patterns, wizards and other tools to optimize your use of CA Gen



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## Questions & Answers

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Strategy Whitepaper*