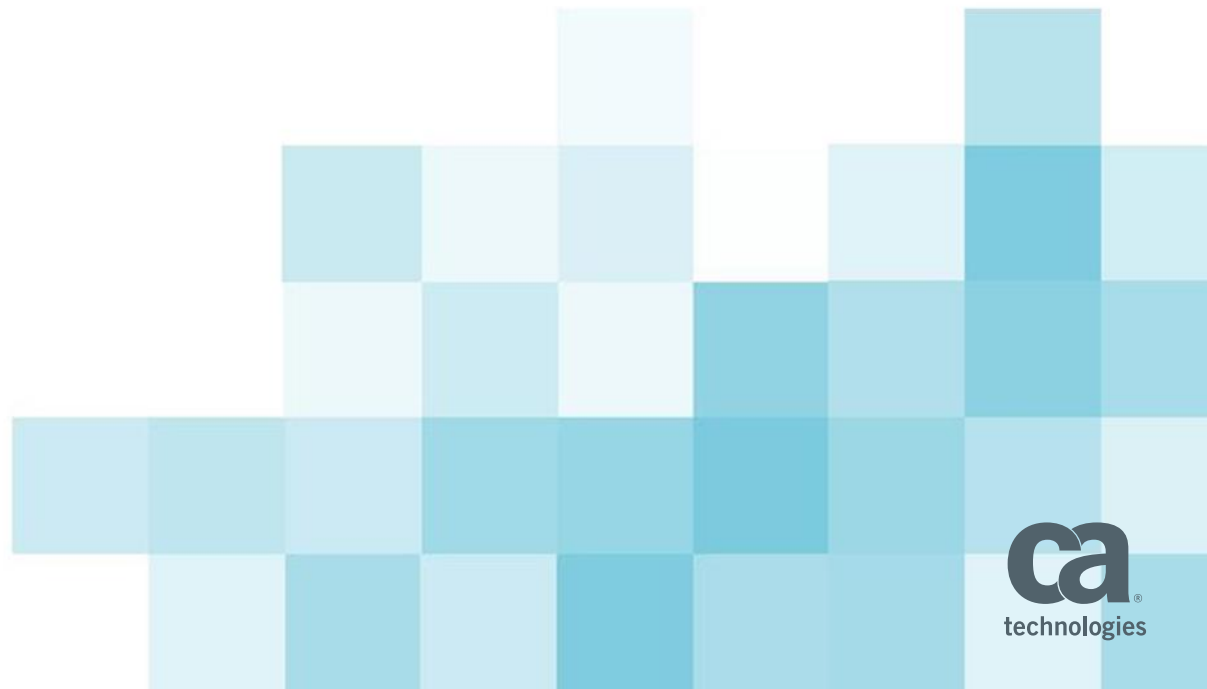


CA Gen Update 2016 – BeNeLux User Group Product Update and Roadmap

John Carter – Product Owner & Architect

February 2016



Agenda

1

APP DEV ORGANIZATION

2

APP DEV PORTFOLIO STRATEGIC DIRECTION

3

AGILE @ CA

4

CA GEN ROADMAP – RECENT AND PLANNED RELEASES

5

Q & A

FOR INFORMATION PURPOSES ONLY

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App Dev Organization

Organizational Changes

- Dan Short left the company
- Marie Godfry has moved to Security
- Aline Gerew now responsible for AppDev

Application Development Portfolio

Product Management

John Carter

CA Gen, Product Owner and Architect

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Application Development Portfolio

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Application Development Portfolio Strategic Direction

Application Development Portfolio Strategy Formulation

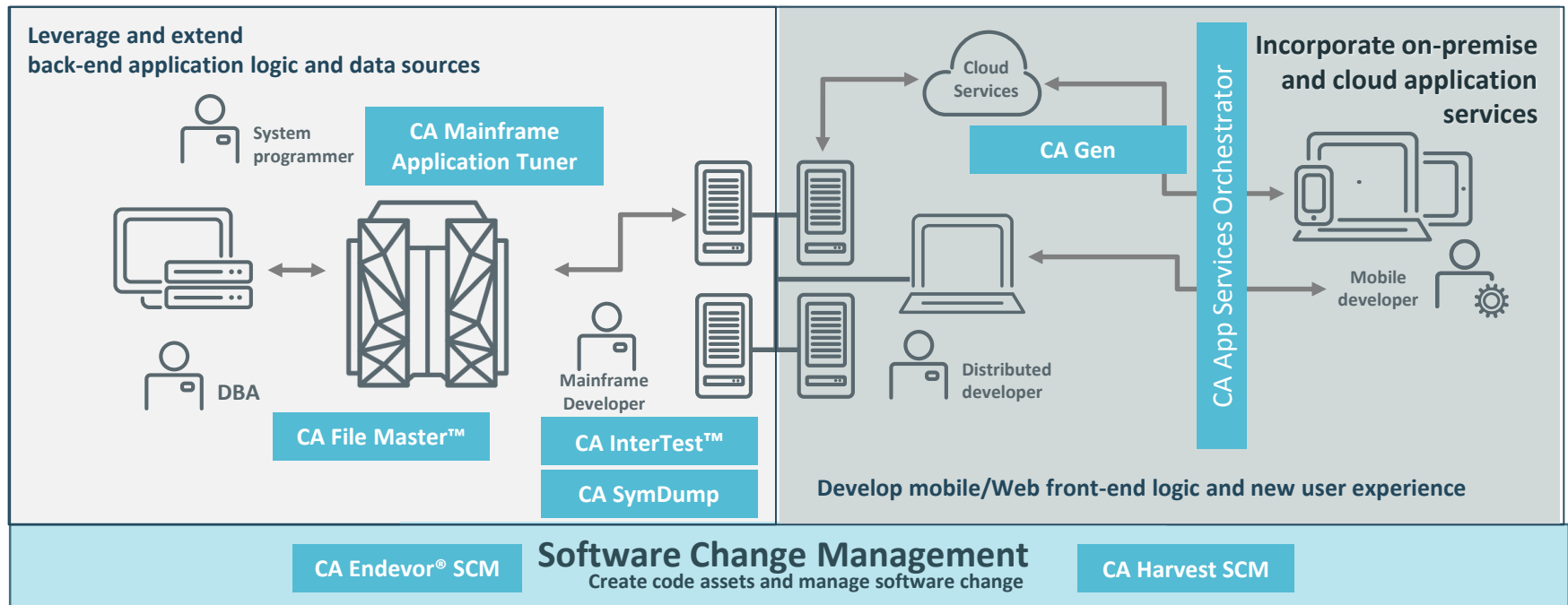
- Listened to Customers, Partners, and CA Management
- Three primary concerns/issues
 - We have too many products
 - They're not integrated
 - They're not building the kinds of applications needed today
- While continuing to sustain our legacy products, undertaken a strategy to simplify, integrate, and enhance a core set of our current products to be building the kind of applications needed today

Application Development

Meeting the Needs of the Application Developer in Today's Mobile World

Planned

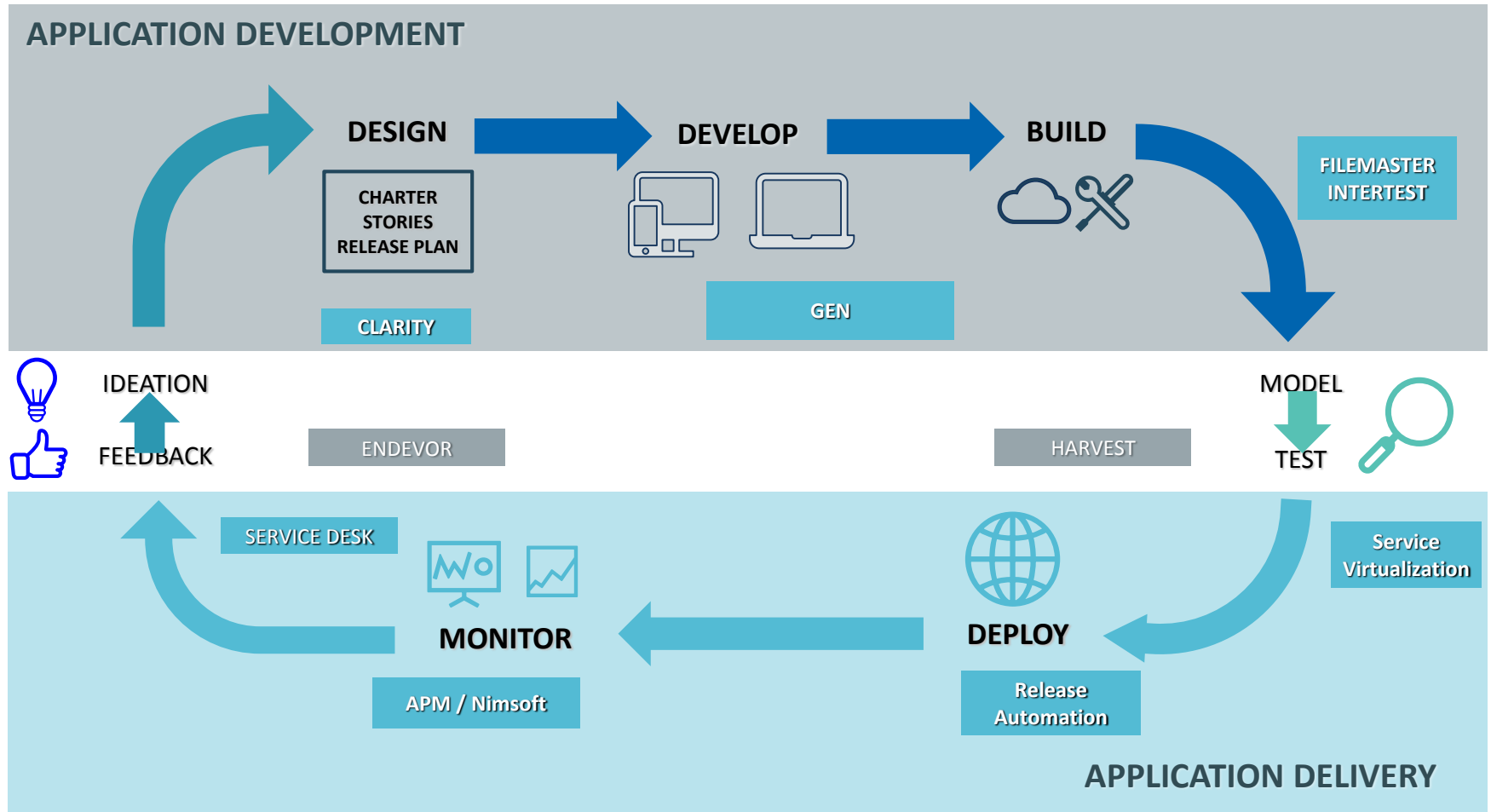
Available



Application Development Portfolio

Provide Portfolio Integration

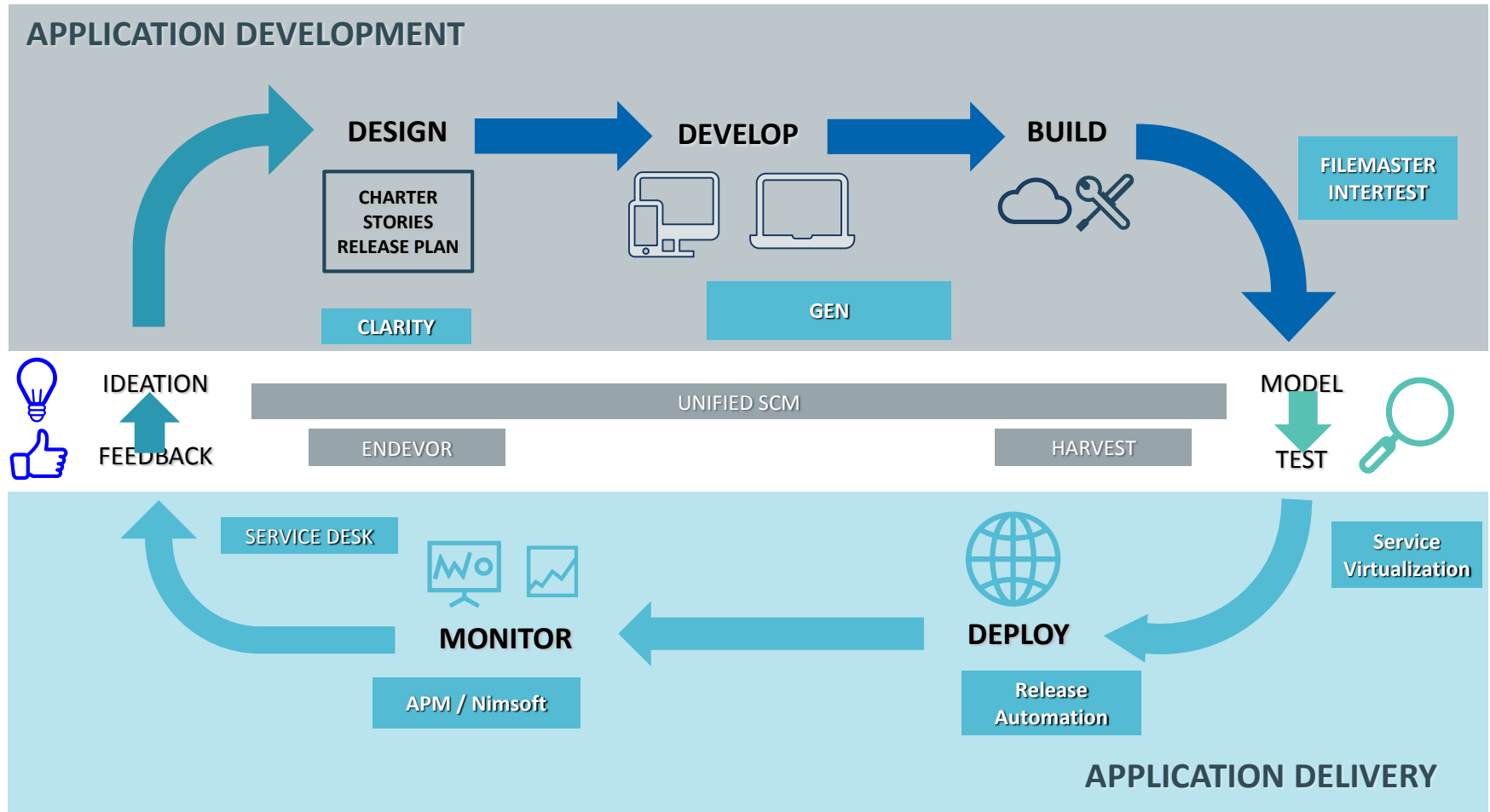
DevOps integration targets feature development, product delivery, quality testing, and maintenance releases in order to improve reliability and security and faster development and deployment cycles.



Application Development Portfolio

Provide Portfolio Integration

DevOps integration targets feature development, product delivery, quality testing, and maintenance releases in order to improve reliability and security and faster development and deployment cycles.

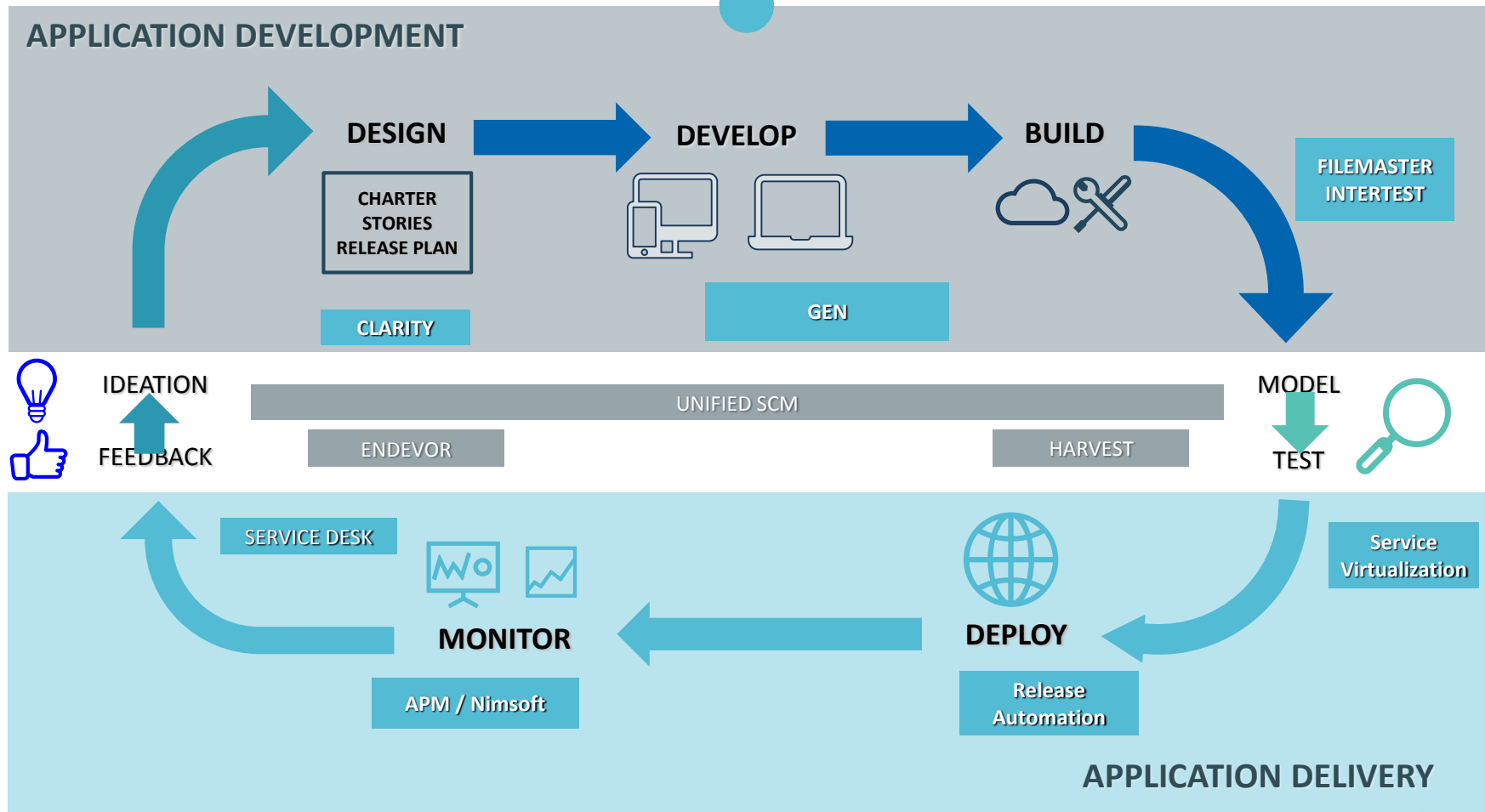


Application Development Portfolio

Provide Portfolio Integration

DevOps integration targets feature development, product delivery, quality testing, and maintenance releases in order to improve reliability and security and faster development and deployment cycles.

APPLICATION LIFE CYCLE CONDUCTOR

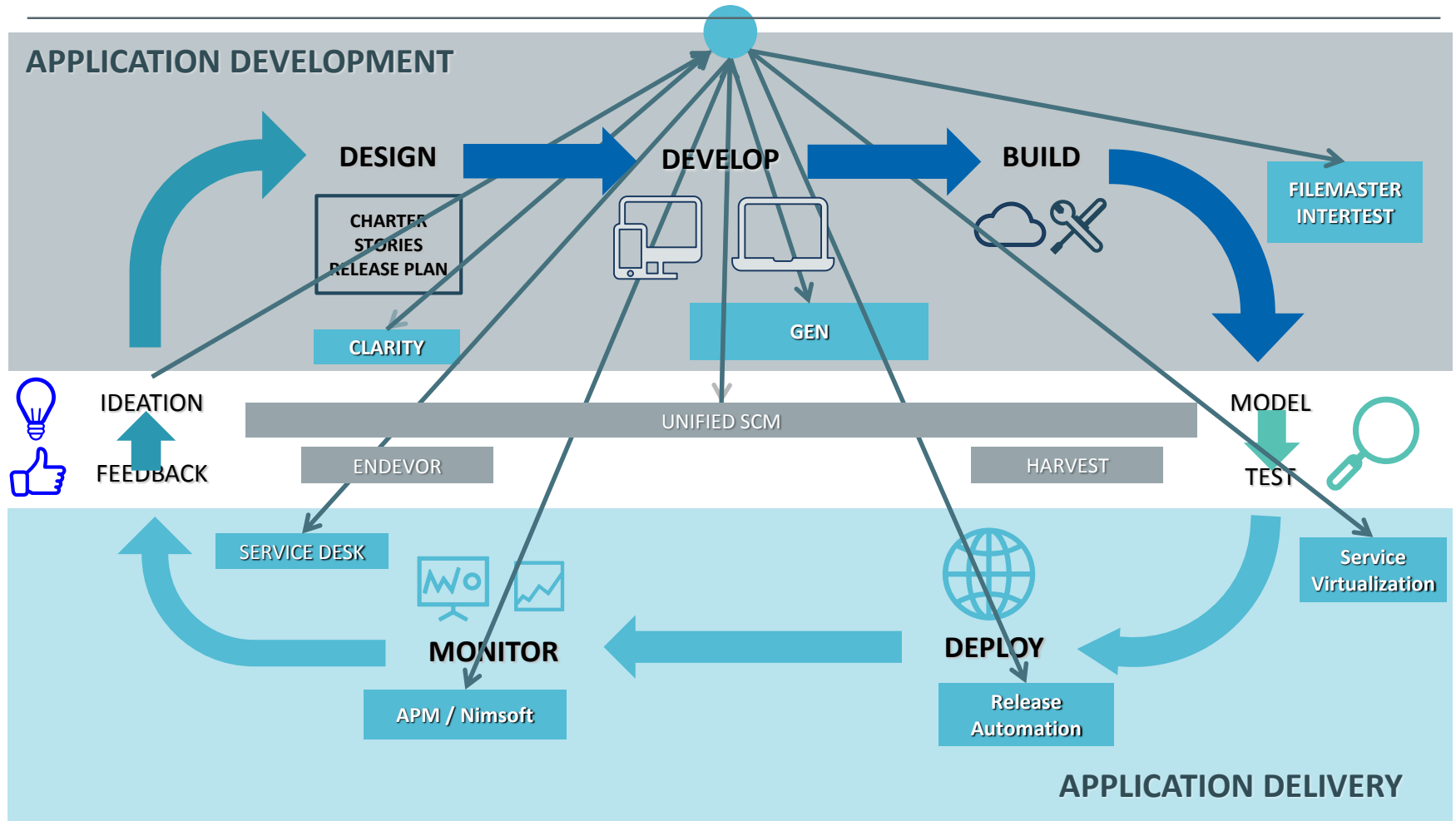


Application Development Portfolio

Provide Portfolio Integration

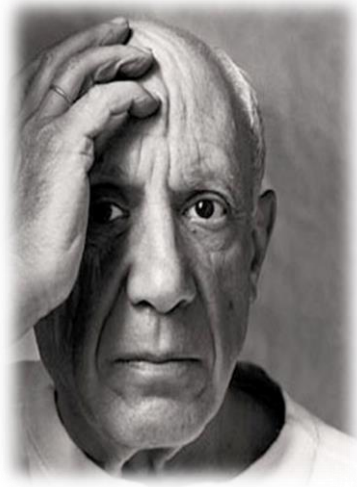
DevOps integration targets feature development, product delivery, quality testing, and maintenance releases in order to improve reliability and security and faster development and deployment cycles.

APPLICATION LIFE CYCLE CONDUCTOR



Application Development Portfolio

Building the Right Kinds of Applications

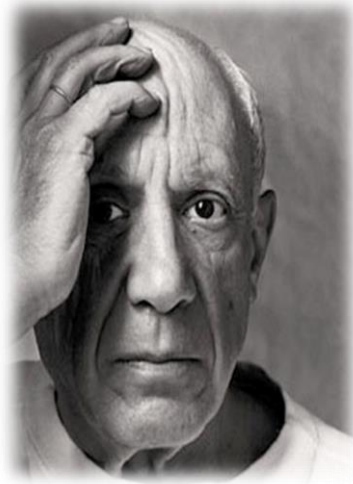


Application Development Portfolio

Building the Right Kinds of Applications

Application
Development *for*
the Mainframe

*Legacy and
Rapidly Declining*

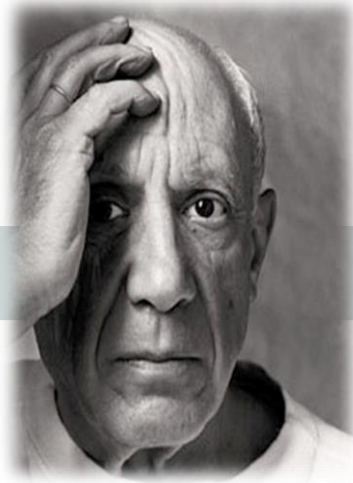


Application Development Portfolio

Building the Right Kinds of Applications

Application
Development *for*
the Mainframe

*Legacy and
Rapidly Declining*



Application
Development
leveraging the
Mainframe

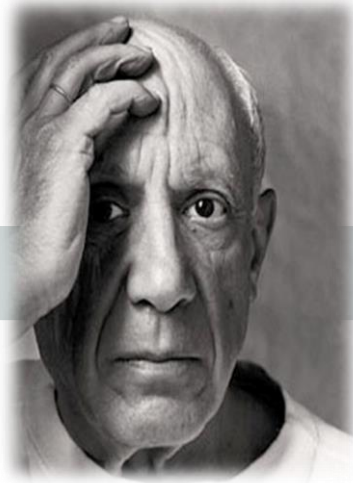
**New and
Growing**

Application Development Portfolio

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Application
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**New and
Growing**

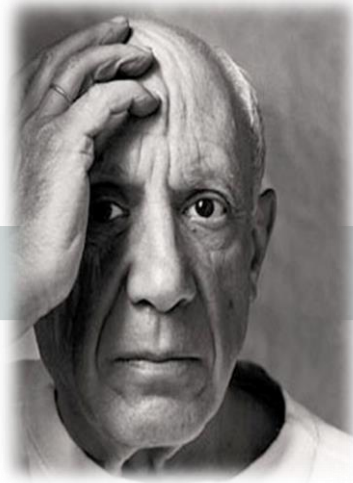
The NEW Market for MF Application Development:

Application Development Portfolio

Building the Right Kinds of Applications

Application
Development *for*
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Application
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**New and
Growing**

The NEW Market for MF Application Development:

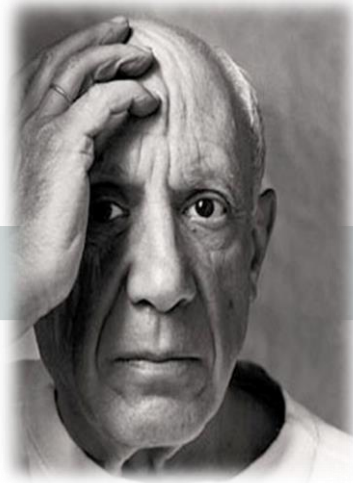
- Enterprises differentiate by providing services closer to the customer via **mobile and web apps**
 - They utilize the **Mainframe** as the “*System of Record*” at the heart of the Dynamic Data Center

Application Development Portfolio

Building the Right Kinds of Applications

Application
Development *for*
the Mainframe

*Legacy and
Declining*



Application
Development
leveraging the
Mainframe

**New and
Growing**

The NEW Market for MF Application Development:

- Enterprises differentiate by providing services closer to the customer via **mobile and web apps**
 - They utilize the **Mainframe** as the “*System of Record*” at the heart of the Dynamic Data Center
- Application developers** are rapidly building **new** mobile and web applications that **access** Mainframe systems, their associated databases and application logic
 - Much of this *access* is being provided through web services

Application Development Portfolio Strategy Implications for CA Gen

- Evolve to better support web services
 - New action diagram statement
 - Support REST
- Integrate with other CA products
 - CA Application Lifecycle Conductor

The background of the slide is a grid of squares in three shades of blue and white. The squares are arranged in a repeating pattern, with some squares being a light blue, some a slightly darker blue, and some being white. The text 'Agile @ CA' is positioned in the upper left area of the slide.

Agile @ CA

Agile Development

Take the opportunity to influence our product development.
Help ensure that we deliver is what you need and want.



Influencing Our Roadmap

CA Communities Ideation

- Submit your ideas on communities.ca.com
- Vote & comment on ideas that are important to you
- CA Product Management reviews ideas and updates status as they move through the lifecycle
- “Currently Planned” idea status indicates inclusion in Agile Backlog or Product Roadmap

Customer Validation

- Register to participate in:
 - Monthly Reviews with Live Demos
 - Private - Members Only - Online Community
 - Pre-Release Onsite Testing and Support (Beta)
- How to register:
<https://validate.ca.com>

Ideas - communities.ca.com

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

https://communities.ca.com/community/ca-gen-edge/content?filterID=contentstatus%5Bpublished%5D~objecttype~showall

Community: CA GEN EDGE | ... x

Share Browser WebEx

ca technologies

Connect 1-800-225-5224

Products Services Support Insights Communities Partners

Home 4 Content People Communities Help Apps

Search

CA GEN EDGE

Following in 1 stream

Overview Content People Subcommunities Reports Calendar Actions About Manage

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

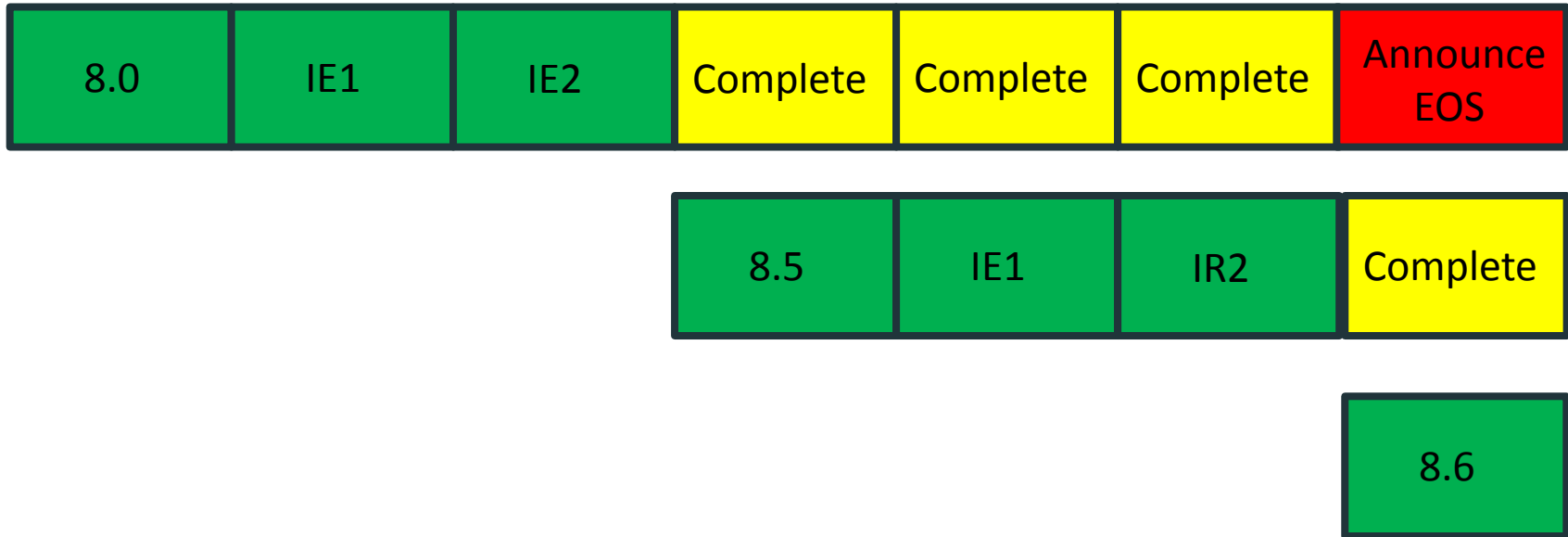
Categories

CA Gen

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

Filter by action: None

Support - Incremental and Complete Releases



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 announced August 31, 2016

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

Features in CA Gen 8.0

slide 2 of 2

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

Recent Releases

CA Gen 8.5

- Releases
 - CA Gen 8.5 May 2013
 - Interim Enhancement – 1 September 2014
 - Incremental Release – 2 December 2014
 - Incremental Release – 3 March 2015
 - Incremental Release – 4 June 2015
- “Incremental Releases” continue to add functionality to this active release
- Over 70 DARs implemented in this release so far
- 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)

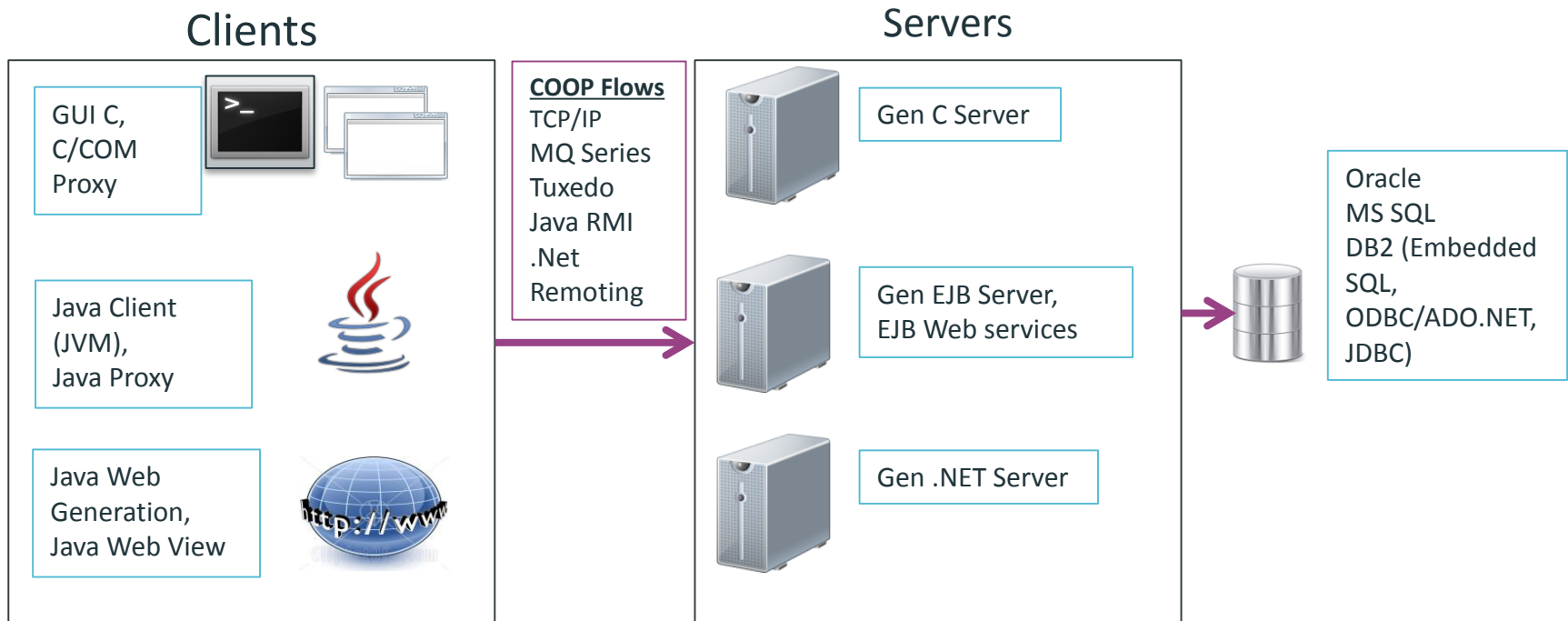


Features in CA Gen 8.5

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 for a BLOB attribute. The "Attribute Name" is "image". The "Category" is "Basic". The "Domain" is "BLOB". The "Length" is "2" MB. The "Decimal Places" is "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." The dialog box has "OK", "Description...", "Cancel", and "Help" buttons at the bottom.

(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

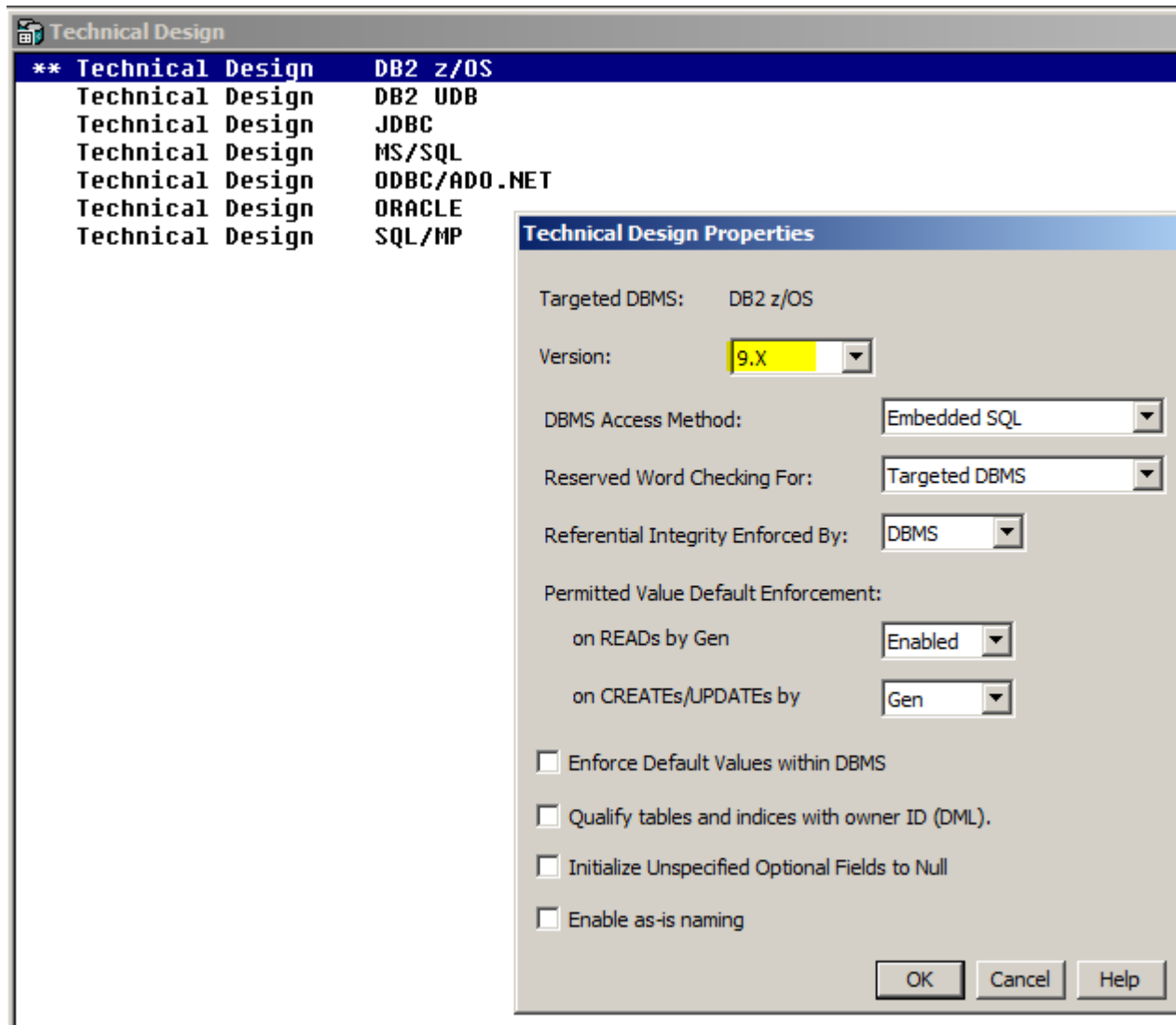
DB2 Table and Table Space Partitioning Plug-ins

- **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.

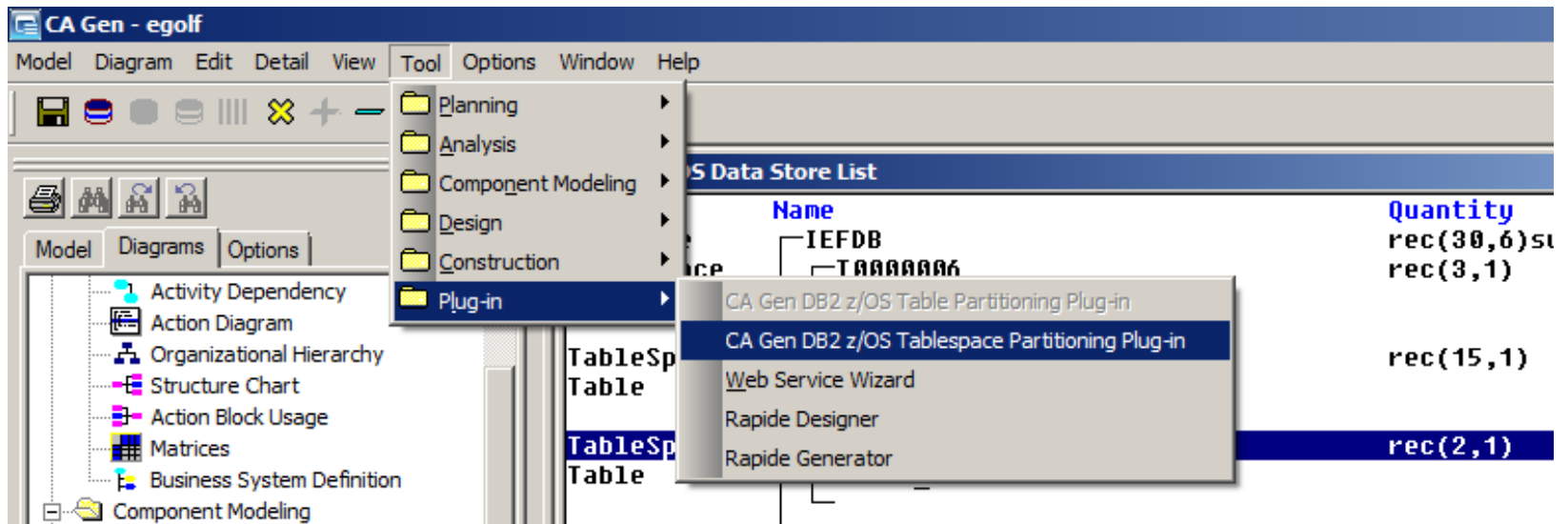
Features in CA Gen 8.5

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: 0

NUMPARTS: 0

☐ Member Cluster

☐ Range

NUMPARTS: 0

☐ Member Cluster

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

DSSIZE: 0

Add Change Delete

OK Cancel

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 Interim Enhancement- 1

1 of 3

➤ 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

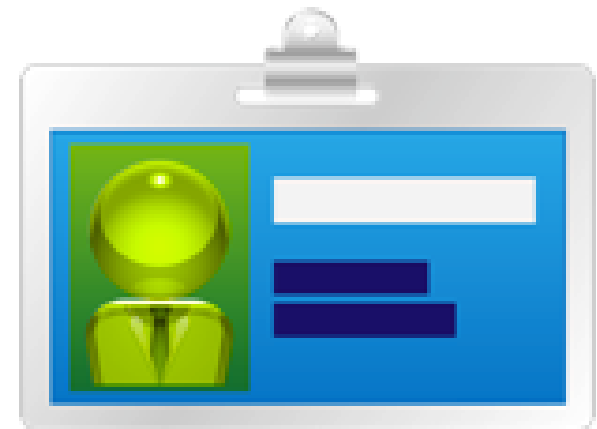
➤ Web Services Consumption

- Via the CA Gen Action Diagram, provide the ability to call any web service
- Support C- language targets for all CA Gen environments (i.e. clients, servers, block-mode, batch)

Features in CA Gen 8.5 Interim Enhancement - 1

2 of 3

- DB2 Features
 - 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 CSEs. Currently, this capability is available on Windows CSE
- Unlock Toolset if Upload to CSE Fails
 - Provide option to unlock the model in the toolset should errors



Features in CA Gen 8.5 Interim Enhancement - 1

3 of 3

■ 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
- Pass selected items on Windows to plug-in applications
- Partitioning indicated for Data Structure and Data Store List Diagrams
- View matching dialogs displayed only when necessary

■ Certifications

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

Features in CA Gen 8.5 IE1

Inline Code Statement - Dialog

20603, 0:0> Inline Code

SQL Declarations

*** HOST VARIABLE DECLARATIONS ***
*** If SQL checkbox checked ***

Global Variable Declarations

*** Global variables, Includes, etc. ***

Code

Insert View Reference

Insert System Variable Reference

Insert Physical Model Element

*** C, COBOL, C#, Java Source Code ***

Code Name (Optional)

☒ Ignore Statement in Different Target

Target Environment

Operating System (Optional)

<NONE>

Language

<NONE>

☒ SQL

Database (Optional)

<NONE>

TP Monitor (Optional)

<NONE>

OK

Cancel

Help

Features in CA Gen 8.5 IE1

Inline Code Statement - Sample

```
RANDOM_NUMBER
IMPORTS: ...
EXPORTS: ...
LOCALS: ...
ENTITY ACTIONS:

NOTE *****
If this call is to seed the random number
*****
IF seed ief_supplied flag IS EQUAL TO "Y"

NOTE *****
Use current timestamp to create a 9 digit seed value
*****
SET seed_value ief_supplied count TO (microsecond(CURRENT_TIMESTAMP) * 1000) + (second(CURRENT_TIME) * 100) + minute(CURRENT_TIME)

NOTE *****
COBOL: Seed the random number generator
*****
INLINE CODE Language: COBOL
    COMPUTE ##SEED_RESULT.IEF_SUPPLIED.COUNT## = FUNCTION RANDOM(##SEED_VALUE.IEF_SUPPLIED.COUNT##)

NOTE *****
C: Seed the random number generator
*****
INLINE CODE Language: C
    srand(##SEED_VALUE.IEF_SUPPLIED.COUNT##);

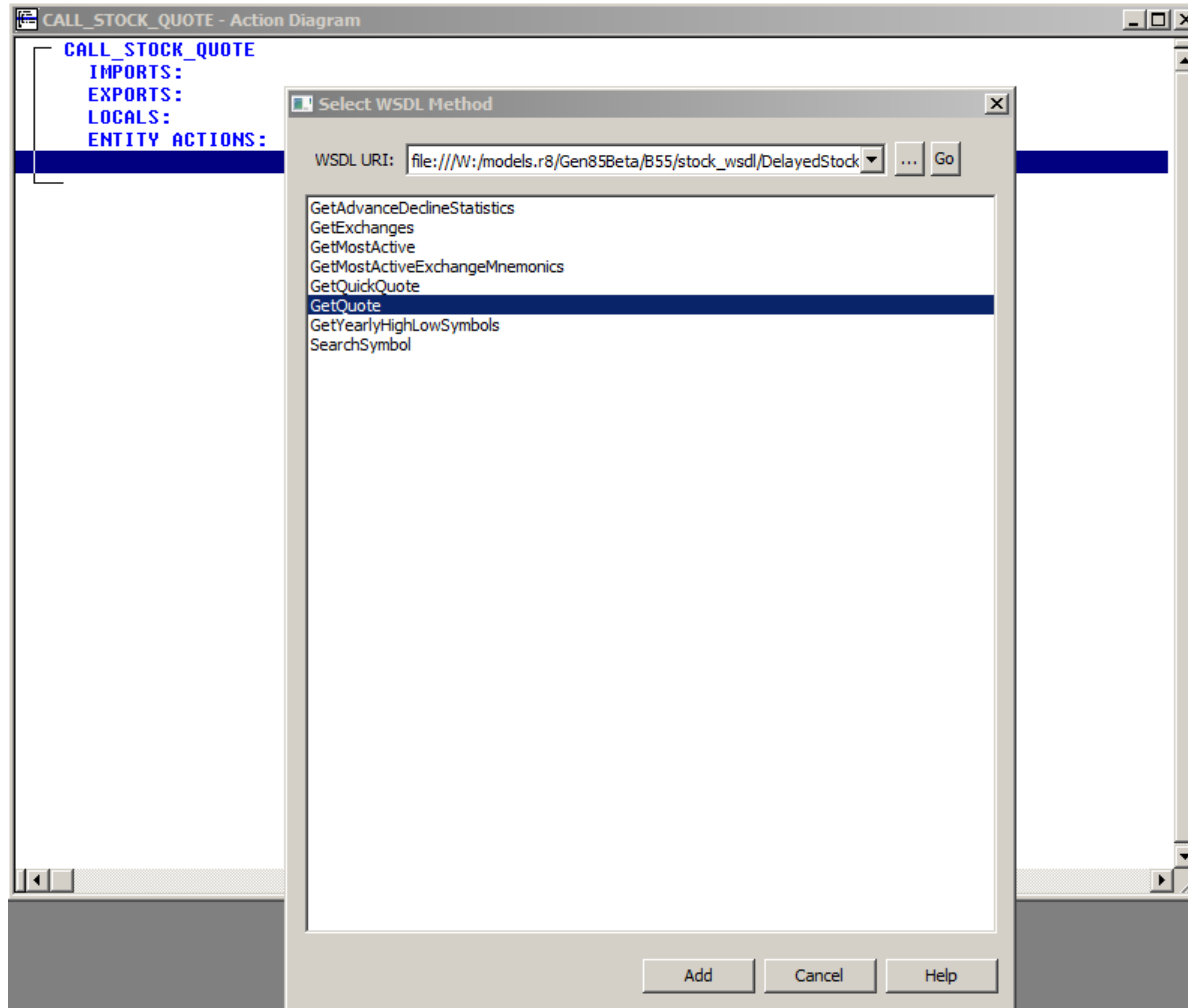
ELSE

NOTE *****
COBOL: Return a random number between the values of MIN and MAX
*****
INLINE CODE Language: COBOL
    COMPUTE ##OUT.IEF_SUPPLIED.COUNT## = (FUNCTION RANDOM * ##MAX.IEF_SUPPLIED.COUNT##) + ##MIN.IEF_SUPPLIED.COUNT##

NOTE *****
C: Return a random number between the values of MIN and MAX
*****
INLINE CODE Language: C
    ##OUT.IEF_SUPPLIED.COUNT## = rand() * ##MAX.IEF_SUPPLIED.COUNT## + ##MIN.IEF_SUPPLIED.COUNT##;
```

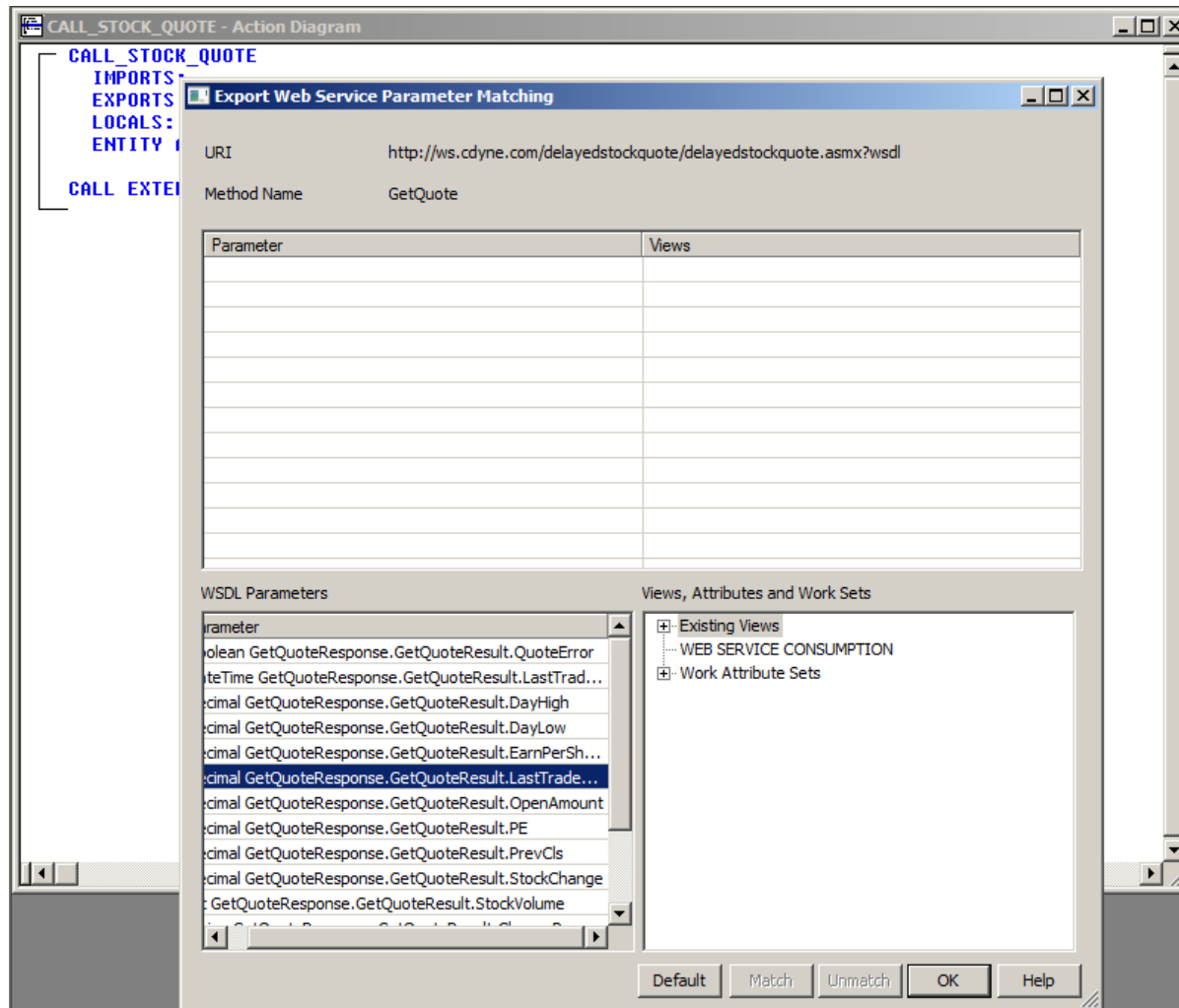
Features in CA Gen 8.5 IE1

Web Service Consumption – Select Method Dialog



Features in CA Gen 8.5 IE1

Web Service Consumption – Parameter Matching Dialog



Features in CA Gen 8.5 IE1

Web Service Consumption - Sample

The screenshot shows the 'CALL_STOCK_QUOTE - Action Diagram' window with the following code:

```
CALL_STOCK_QUOTE
IMPORTS:
  Work View  imp ws_getquote (mandatory,transient,import only)
             stocksymbol (mandatory)
             licensekey (mandatory)
EXPORTS:
  Work View  exp ws_getquoteresult (transient,export only)
             stocksymbol
             lasttradeamount
             lasttradedatetime
             stockchange
             openamount
             dayhigh
             daylow
             stockvolume
             prevcls
             changepercent
             fiftytwoweekrange
             earnpershare
             pe
             companyname
             quoteerror
LOCALS:
ENTITY ACTIONS:
CALL EXTERNAL Web Service "GetQuote"
```

The 'Method Parameter' dialog box is open, showing the following details:

URI: <http://ws.cdyne.com/delayedstockquote/delayedstockquote.asmx?wsdl>

Method Name: GetQuote

Matched input:

Parameter	View
string GetQuote.StockSymbol[optional]	IMP WS_GETQUOTE.STOCKSYMBOL
string GetQuote.LicenseKey[optional]	IMP WS_GETQUOTE.LICENSEKEY

Matched Output:

Parameter	View
string GetQuoteResponse.GetQuoteResult.StockSymbol[optional]	EXP WS_GETQUOTERESULT.STOCKSYMBOL
decimal GetQuoteResponse.GetQuoteResult.LastTradeAmount	EXP WS_GETQUOTERESULT.LASTTRADEAMOUNT
dateTime GetQuoteResponse.GetQuoteResult.LastTradeDateTime	EXP WS_GETQUOTERESULT.LASTTRADEDATETIME
decimal GetQuoteResponse.GetQuoteResult.StockChange	EXP WS_GETQUOTERESULT.STOCKCHANGE
decimal GetQuoteResponse.GetQuoteResult.OpenAmount	EXP WS_GETQUOTERESULT.OPENAMOUNT
decimal GetQuoteResponse.GetQuoteResult.DayHigh	EXP WS_GETQUOTERESULT.DAYHIGH
decimal GetQuoteResponse.GetQuoteResult.DayLow	EXP WS_GETQUOTERESULT.DAYLOW

Features in CA Gen 8.5 Incremental Release - 2

- Web Service Consumption – Java
- Increase toolset support for larger models / subsets
- Add action diagram functions for BLOB
(concat, substr, length, text-to-BLOB conversions)

Features in CA Gen 8.5 Incremental Release - 3

- Web Service Consumption – C#
- Publish Gen web services to CA API Gateway

Features in CA Gen 8.5 Incremental Release - 4

- HP NonStop SQL/MX



CA Gen Roadmap

Futures

Potential Futures

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

- Improve CA Gen Upgrade Process
- Filter Toolset Dialogs
- Web Service Consumption – COBOL, REST and SSL services
- Free version of the Gen Windows tools
- BLOB on the Mainframe
- Enhancements suggested on Gen EDGE Community Ideas
 - Add support for Left and Outer Joins
 - Allow IN and BETWEEN clauses in all relational expression
 - Allow action diagrams to be implemented as stored procedures
 - Display statement numbers in the action diagram
- Migrate Action Diagram, Data Model List Diagram, Window Designer, etc. to Gen Studio

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 has made minor modifications to the Toolset to support Rapide in a more integrated fashion



Questions and Answers



CA Gen

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