

#### business software

## A closer look at: Enterprise Generation Language

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#### **Enterprise Generation Language**

- Enterprise Targeted at firms with:
  - ► Traditional system assets and skills
  - ► Requirements to deliver applications on the Web
  - ► High volume transaction processing
- Generation of:
  - ➤ Runtime assets from system independent specification
  - ► Same application to different environments
- Language Specification of :
  - ► Data
  - ► Logic
  - ► User Interface





#### **EGL History**

- Descended from and migration target for
  - ►IBM Cross System Product
  - ► IBM VisualAge Generator
- Completely new implementation
  - ► Built on Eclipse workbench
  - ► Integration with J2EE tools





## **EGL** Delivery

- Release 5.0
  - ► Initial Release
  - ► Early Availability now
  - ► General Availability January
- Release 5.1
  - ► Migration Release



#### Release 5.1 Disclaimer

- Description of Release 5.1 function is description of current direction and should not be considered a commitment to deliver
- Priorities may change based on discussion with customers like yourselves
- This conference is a good place to express your immediate reactions





#### **EGL Development Paradigm**

- Procedural logic specification
- Structural data
- WYSIWYG user interface specification
- Program sees user interface as a structure
- Statements for i/o (methods, actually...)
- Automatic generation of data base calls
- User modification of data base calls
- Source debugging in the development environment
- Generation of code for the runtime environment

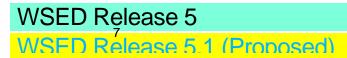




## Platform & Language Support

Platform:	Language:
z/OS - CICS	COBOL
z/OS - IMS	COBOL
z/OS - Batch	COBOL
zOS - USS	Java
iSeries (OS/400)	COBOL
iSeries (OS/400)	Java
Windows	Java
Linux	Java
AIX	Java
Solaris	Java







# **Transaction Manager Support**

	Service/Action	Web UI	Text UI
WAS	Yes	Yes	Yes
CICS	Yes	Yes	Yes
IMS	Yes	Yes	Yes



#### **Persistent Data Access**

- Relational Data Base
  - ►DB2
  - ► JDBC (Java Programs)
- DL/I Data Base
- Indexed files
- Relative files
- Serial Files
- CICS queues





#### Message Queue Access Paradigms

- Reusable parts for calling MQ APIs
- Access queue as serial file
  - ➤ Connection to queue manager
  - ► Opening of queues
  - ► Closing and disconnection
  - ► Data format conversion
  - ► Optional access to MQ control blocks
  - ► Transaction control using EZECOMIT and EZEROLLB
  - ► Support for variable length messages





### I/O Statements For Data Stores and Messages

	RDB	DLI	Index	Relative	Serial	MQ
Add	Yes	Yes	Yes	Yes	Yes	Yes
Scan	Yes	Yes	Yes	Yes	Yes	Yes
Inquiry	Yes	Yes	Yes	Yes		
Update	Yes	Yes	Yes	Yes		
Replace	Yes	Yes	Yes	Yes		
Delete	Yes	Yes	Yes	Yes		
Setinq	Yes					
Setupd	Yes					
Sqlexec	Yes					



#### **Programming Models: Release 5**

- Client/Server
  - ► non-EGL client calls EGL services
- Model-View-Controller (Struts)
  - ► JSPs for View
  - ► EGL actions for Model



#### **EGL Service Interfaces**

- Web Services
- Session EJBs
- Java Wrappers
- Local Language Call
- Proprietary (generated client & server)



### **Programming Models: Release 5.1**

- Pseudo-Conversational
  - ► Web
  - ►TUI
- UI Message Processor (Transfer with User Interaction)
  - ► Web
  - ► TUI
- MQ Message Processor
- Batch





#### I/O Statements For User Interactions

	Web	TUI
Converse	Yes	Yes
Display		Yes
First UIR, Map*	Yes	Yes
Forward	Yes	

\*Attribute, not statement





#### **EGL File Extensions**

- EGLPGM program & other parts unique to the program
- EGLTBL table
- EGLMAP text user interfaces
- EGLFORM web user interfaces
- EGLDEF- parts shared by multiple programs
- EGLBLD parts describing how program is to be generated and deployed





### **EGL Program Definition Parts**

- Logic
  - ► Programs
  - **►** Functions
- Data
  - ► Data Items
  - ► Structures
  - ► Records
  - ► Tables
  - ► PSBs (DL/I data base hierarchy)
- User Interface
  - **►** Forms
  - ► Maps





### **EGL Program Deployment Parts**

- Build Descriptor
- Linkage Options
- Resource Association Options
- Bind Options
- Link Edit Options





# **EGL Scripting Statements**

- Assignment
- Move Array
- Move Corresponding
- Set
- Call
- Transfer
- Forward
- Flow
- |f
- While
- Select, Case





## **Testing EGL Programs**

- EGL source debugging without generation
- Seamless transition from Java servlet to EGL server
- Remote calls to CICS and Java server programs
- Dynamic update to EGL code
- Remote file and DL/I database access
- Seamless debugging for web transactions





## **Building EGL Programs**

- Generation of runtime artifacts
  - ➤ Occurs in development system
  - ▶ Driven by build descriptor
- Preparation of runtime artificacts
  - ► Occurs in:
    - Workbench (Java)
    - Runtime System (COBOL)
  - ▶ Driven by generated build plan





## **EGL** Advantages

- Objects under the covers
- Transaction system independent specification for data and user interface
- Test and debug without deployment
- Generates "natural" language for transaction manager
- Host programmers can write Web transactions
- New hires can write CICS and IMS programs
- Programmer focus on solving business problem



