WebSphere software

IBM

e business software

A closer look at: Enterprise Generation Language

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All IBM's plans are subject to change without notice.

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

WSED Release 5

WSED Release 5.1 (Proposed)

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
- If
- 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