



How to Implement Business Oriented Programming With EGL

A decorative horizontal bar at the top of the slide features a series of colored squares (cyan, green, yellow, red, purple) followed by a collage of icons including a crane, a person, a globe, a network diagram, and a square with four arrows.

Rational. software

EGL

- Targets Business Developers
- Multi-platform
 - ▶ COBOL / JAVA
 - ▶ System i / System z / Unix / Windows
- Integrates emerging technologies
 - ▶ JSF / RCP
 - ▶ SOA
 - ▶ UML



Easy

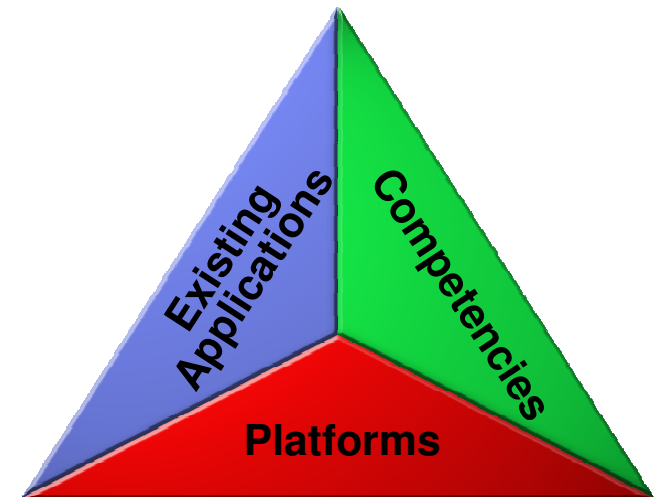
Flexible

Industrial



EGL - Value Proposition

- Easy to learn and to use
 - ▶ High level of abstraction
 - ▶ Improves productivity
 - ▶ Improves quality
- EGL handles technology complexity
 - ▶ Cross platform
 - ▶ Based on industry standards
- Services “native” support



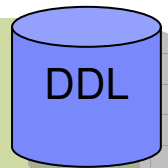
EGL is a Programming Language

Data Access:

- ▶ Get, Add, Replace, Delete
- ▶ SQL, Indexed, Relative, Serial, DL/I, MQ, Services

```
function allLoans()
  loans LoanRec[];
  get loans;
end

function loansInFlorida()
  loans LoanRec[];
  get loans with #sql{
    select *
    from LOANREC
    where state = "FL"};
end
```



Data Items

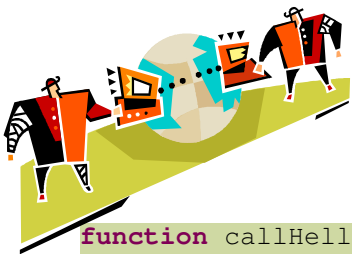
- ▶ Formatting & validation rules
- ▶ Reuse data items for Records, Screens, Reports

```
DataItem Password char(10) {
  validatorFunction = "passwordValidation",
  displayUse = secret,
  displayName = "Enter your Password",
  inputRequired = yes}
end
```



Remote Invocation

- ▶ COBOL
- ▶ RPG
- ▶ Java



```
function callHelloWorldOniSeries()
  salutation char(30);
  call helloworld salutation;
end
```

Transaction Control:

- ▶ JDBC
- ▶ CICS
- ▶ IMS



```
function loansInFlorida()
  startTransaction(myLoanTransaction);
  ...
  commit();
  ...
  rollback();
end
```



EGL - Example

Copy/++Include

“Identification
Division”

“Data
Division”

“Procedure
Division”

Local Variables

Assignments

Perform Until
Subroutine call

Conditionals

```

package pagehandlers;
import data.*;
import programs.*;

PageHandler creditCardBill (view="creditCardBill.jsp", onPageLoad=onPageLoad)

billPayRec          billPayType;    //single record of type billPayType
billPayArrayFixed   billPayType[12]; //Fixed length array of 12 billPayType records
billPayArrayVarying billPayType[];  //Dynamic array of billPayType records
initialAmount       Decimal(9,2)   {currency=yes};
paymentAmount       Decimal(9,2)   {currency=yes};
billPayTemp         Decimal(9,2);
finalPayTemp        Decimal(9,2);

    Function onPageLoad()
    End

    Function showPaymentsFixed()
        i int; //Local variable for looping
        paymentAmountTemp Decimal(9,2);
        paymentAmountTemp = paymentAmount;
        i=1; //Initialize to 1 each time through function
        finalPayTemp = initialAmount; //Initialize final temporary amount
        while (i <= 12 && finalPayTemp > 0) //Max of 12 array elements
            call calcpayments i, finalPayTemp, paymentAmountTemp, billPayTemp, billPayRec;
            move billPayRec to billPayArrayFixed[i] byName;
            i = i+1;
            if (finalPayTemp < paymentAmountTemp)
                paymentAmountTemp = finalPayTemp;
            end
        end
    end

```

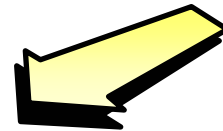


EGL - How to write code to access MQ ?

```

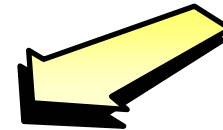
/* Connect to message queue manager
MQCONN(MQSAMPLE_STATE, MQUIR.MQMANAGER) ;
MQWEB_MQCHECK();
/* Put messages to queue ;
IF MQSAMPLE_STATE.COMPCODE LE MQCC_WARNING;
/* Open message queue
MQOD_INIT(MQOD);
MOVE MQUIR.MQQUEUE TO MQOD.OBJECTNAME;
MOVE MQUIR.MQMANAGER TO MQOD.OBJECTQMGRNAME;
MQSAMPLE_STATE.OPTIONS = MQOO_OUTPUT;
MQOPEN(MQSAMPLE_STATE, MQOD);
MQWEB_MQCHECK();
/* Put messages to queue
IF MQSAMPLE_STATE.COMPCODE LE MQCC_WARNING;
MQPMO_INIT(MQPMO);
MQMD_INIT(MQMD);
MQSAMPLE_STATE.BUFFERLENGTH =
EZEBYTES(MQUIR.PUT_MESSAGE) ;
MQPUT(MQSAMPLE_STATE, MQMD, MQPMO,
MQUIR.PUT_MESSAGE) ;
MQWEB_MQCHECK();
IF MQSAMPLE_STATE.COMPCODE EQ 0;
MOVE "Message written to queue" TO
MQUIR.ERROR_MESSAGE;
END;
/* Close queue
MQSAMPLE_STATE.OPTIONS = MQCO_NONE;
MQCLOSE(MQSAMPLE_STATE);
MQWEB_MQCHECK();
END;
END;
/* Disconnect from message queue manager
MQDISC(MQSAMPLE_STATE);
MQWEB_MQCHECK();
END

```



This?

Or this?



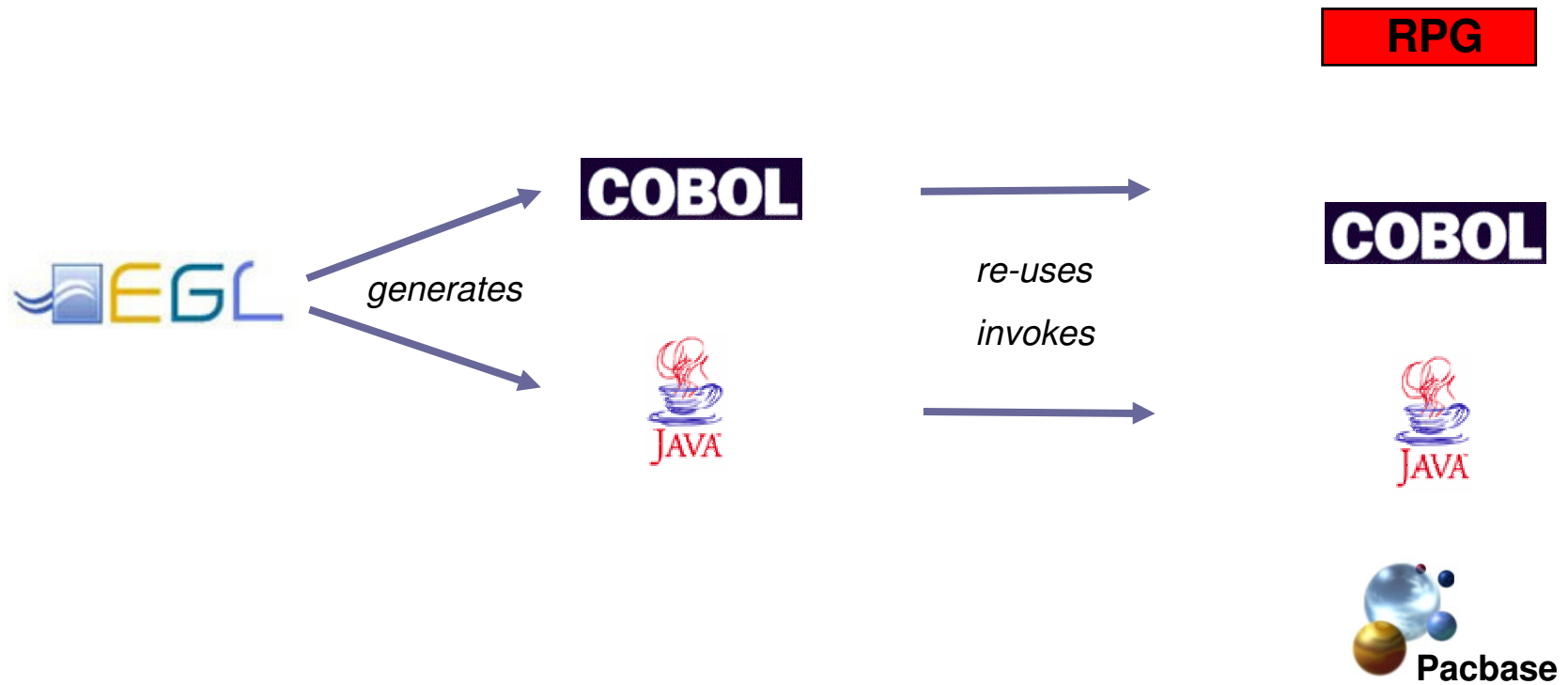
```

/* write to the Queue
ADD MQREC;
IF MQREC NOT ERR;
MESSAGE = "Message written to
queue";

```

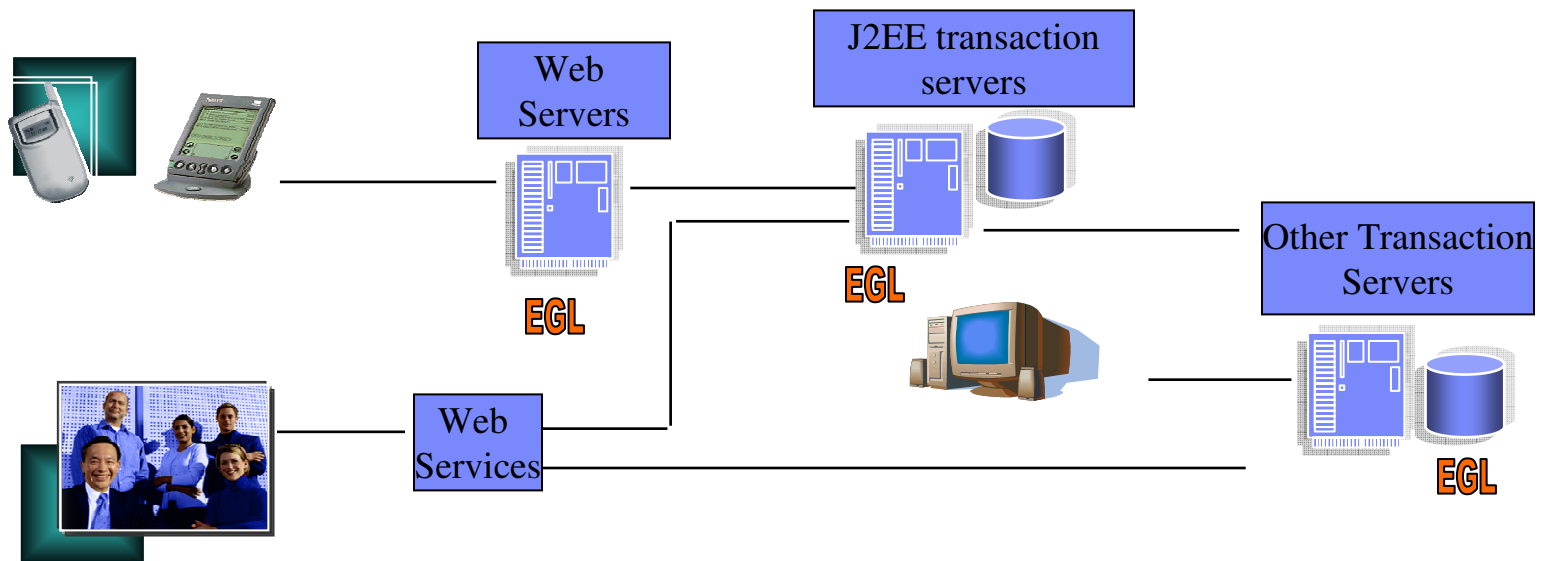


10000-Foot Architecture

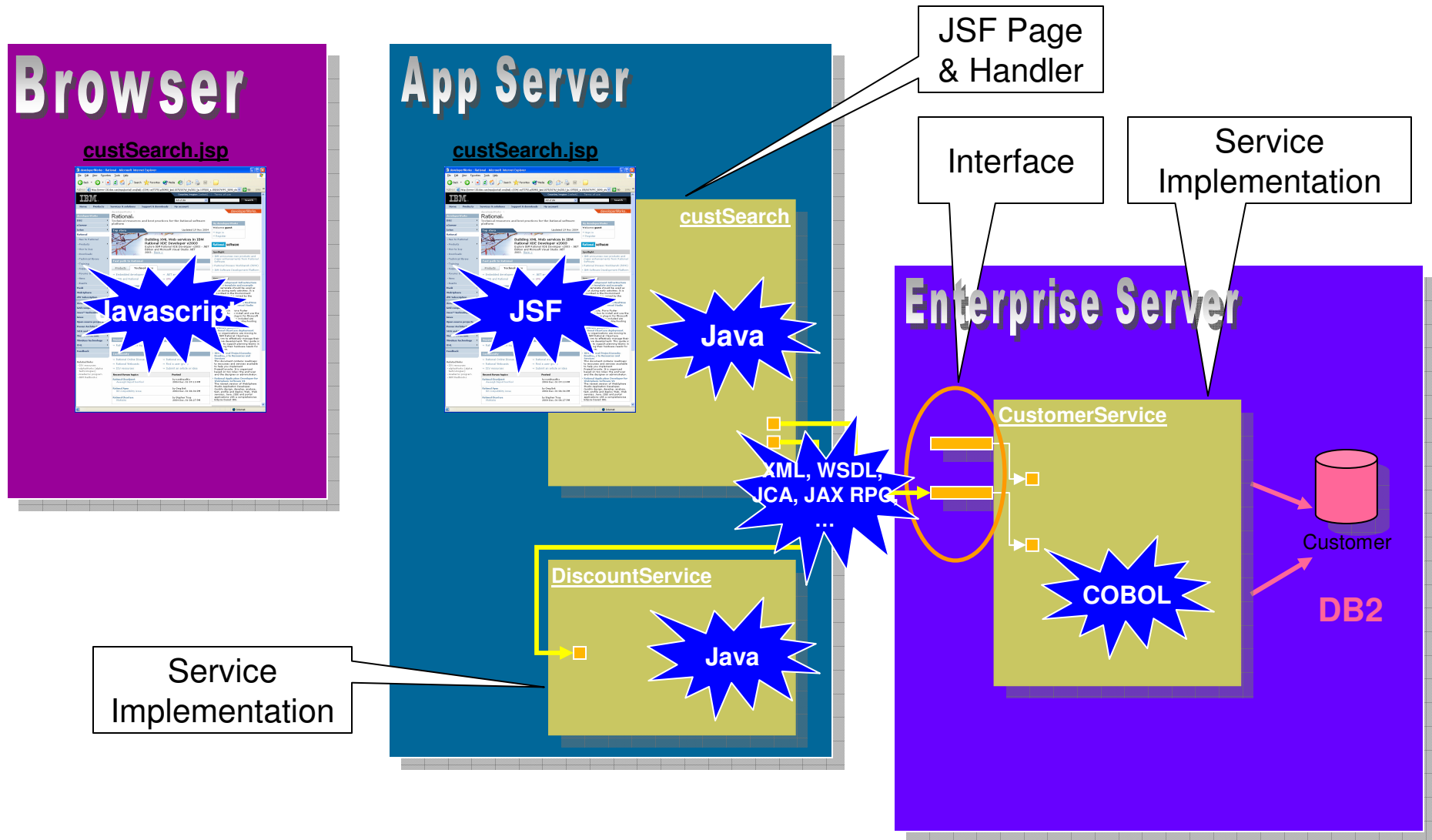


What Kind Of Applications Can Be Developed In EGL?

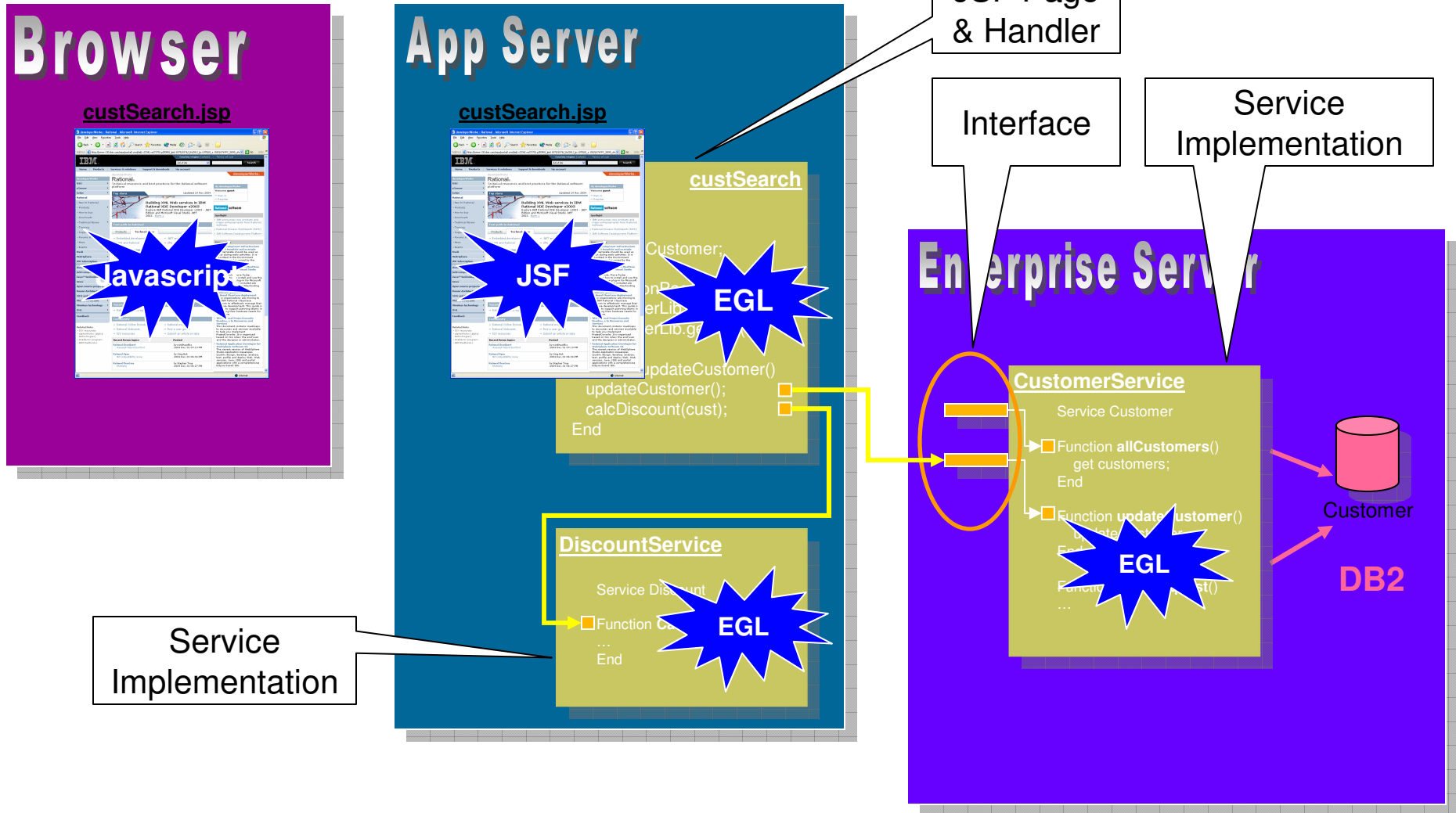
- Web applications (JSF-based)
- Callable Web Services
- Messaging Oriented applications
- Batch applications
- Green-Screen applications
- Reporting applications



Standard multi-tier web application – without EGL



Standard multi-tier web application – with EGL



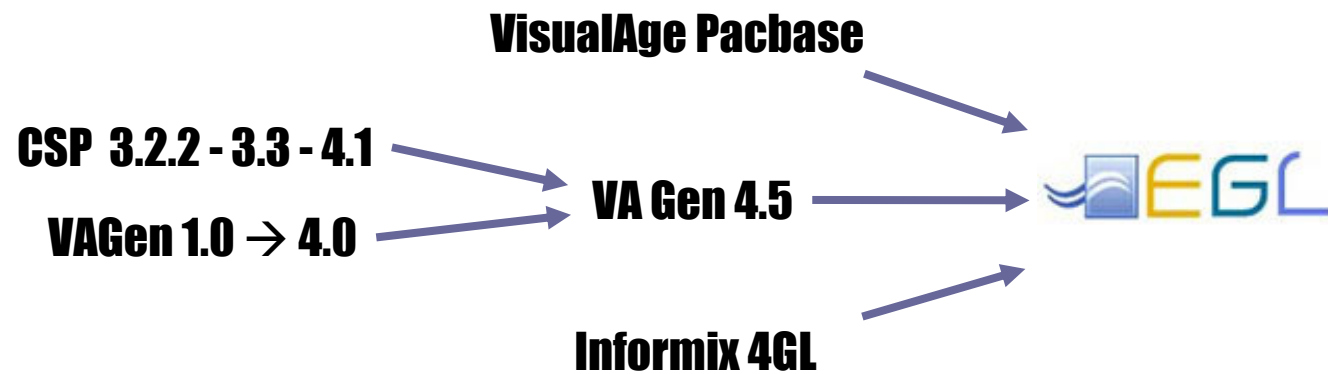
EGL - Where Does It Come From ?

- Leverages *Legacy* Languages experience
 - ▶ *VisualAge Generator, Informix 4GL, Pacbase*
 - ▶ Used by 25,000 + enterprises worldwide
 - ▶ 20-year experience

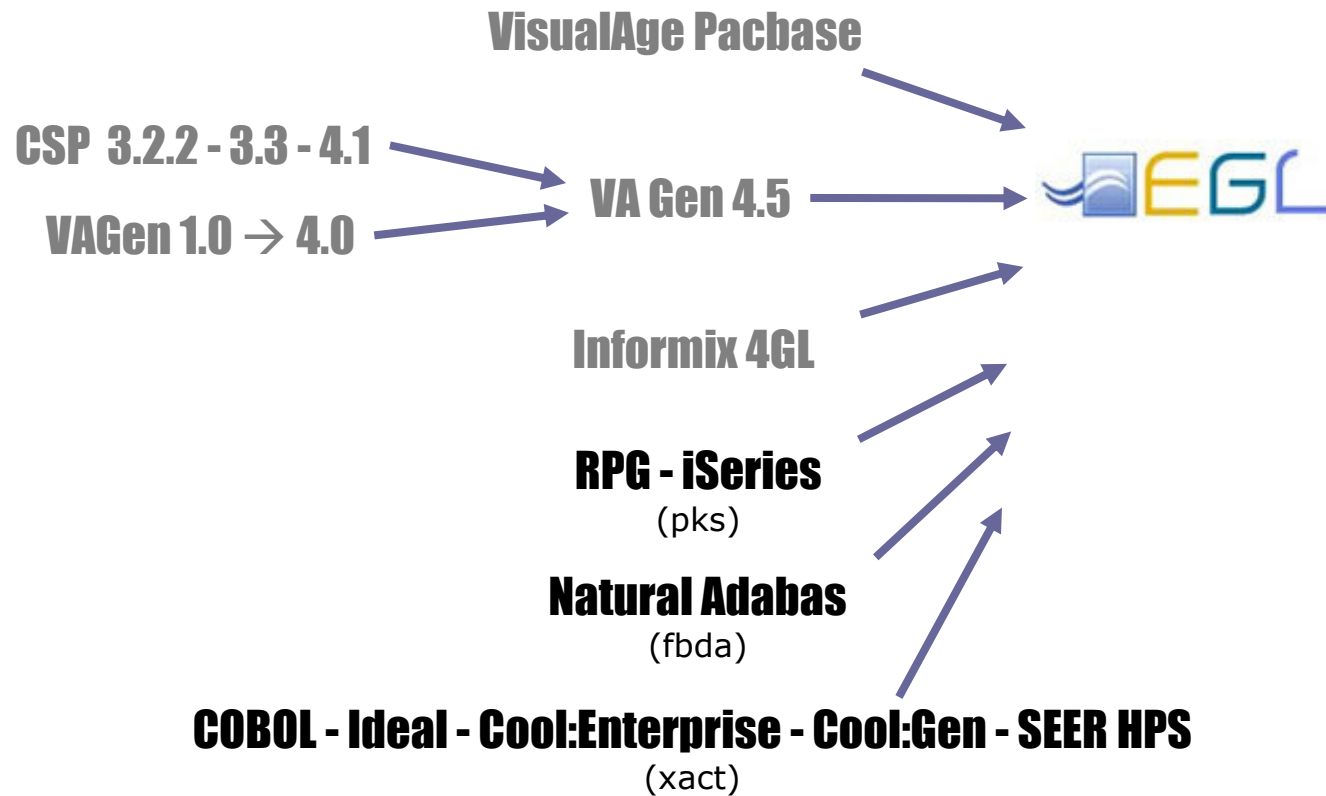
- EGL is the IBM language for Business Developers
 - ▶ Eclipse-based tooling
 - ▶ Integrates into the Rational portfolio
 - ▶ Modeling, configuration management, requirements ...



IBM Recommended Migration Paths



Additional Migration Paths



(supported by IBM Business Partners)



What's Next ?

- Web Training / Education Materials

<http://www-128.ibm.com/developerworks/rational/products/egl/>

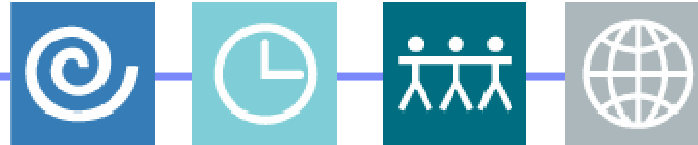
- EGL Business Developer Kit

http://www-128.ibm.com/developerworks/rational/kits/egl/?S_TACT=105AGX64&S_CMP=EGLCONF

- EGL Viewlet Demos

- EGL Proof of Technology (1 day)
Available for Partners and Customers





Thank You

