



IBM Software Group

# z/OS Application Transformation in SOA environment

*Service Oriented Architecture*

**An IBM Exploration of Technology**



## Case study

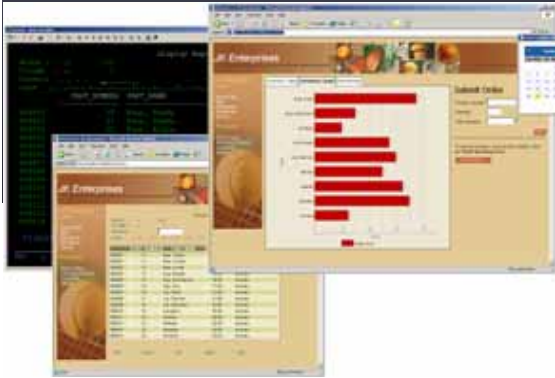
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- Assuming a monolithic COBOL/CICS/green screens application system that needs to be transformed and assuming 5 phases of transformation:
  1. **Keep CICS green screens (BMS)**, but moving the presentation screen to the Web.
  2. **Split the program** in two pieces:
    - Client (no logic) that shows the BMS map and Server (with all Business Logic)
  3. **Eliminate the COBOL Client and the BMS**, create and deploy a Web Service with the COBOL/CICS Server
  4. **Create a Web Interface** with Java Server Faces (JSF) and Java Server Pages (JSP) to invoke the Web Service created above
  5. **Create new Web Services** that aggregates other COBOL/CICS components (terminal applications and programs)

# Three styles of application transformation

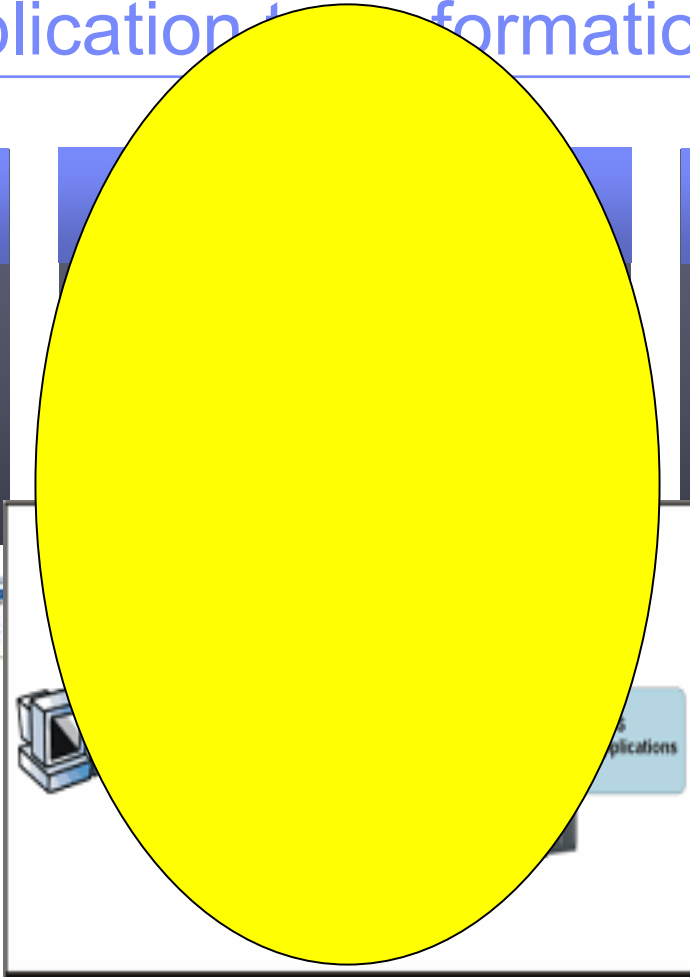
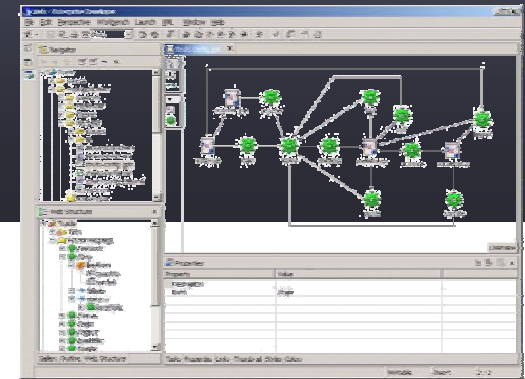
## Transform User Experience

Enhance user interface and workflow for quick return on investment



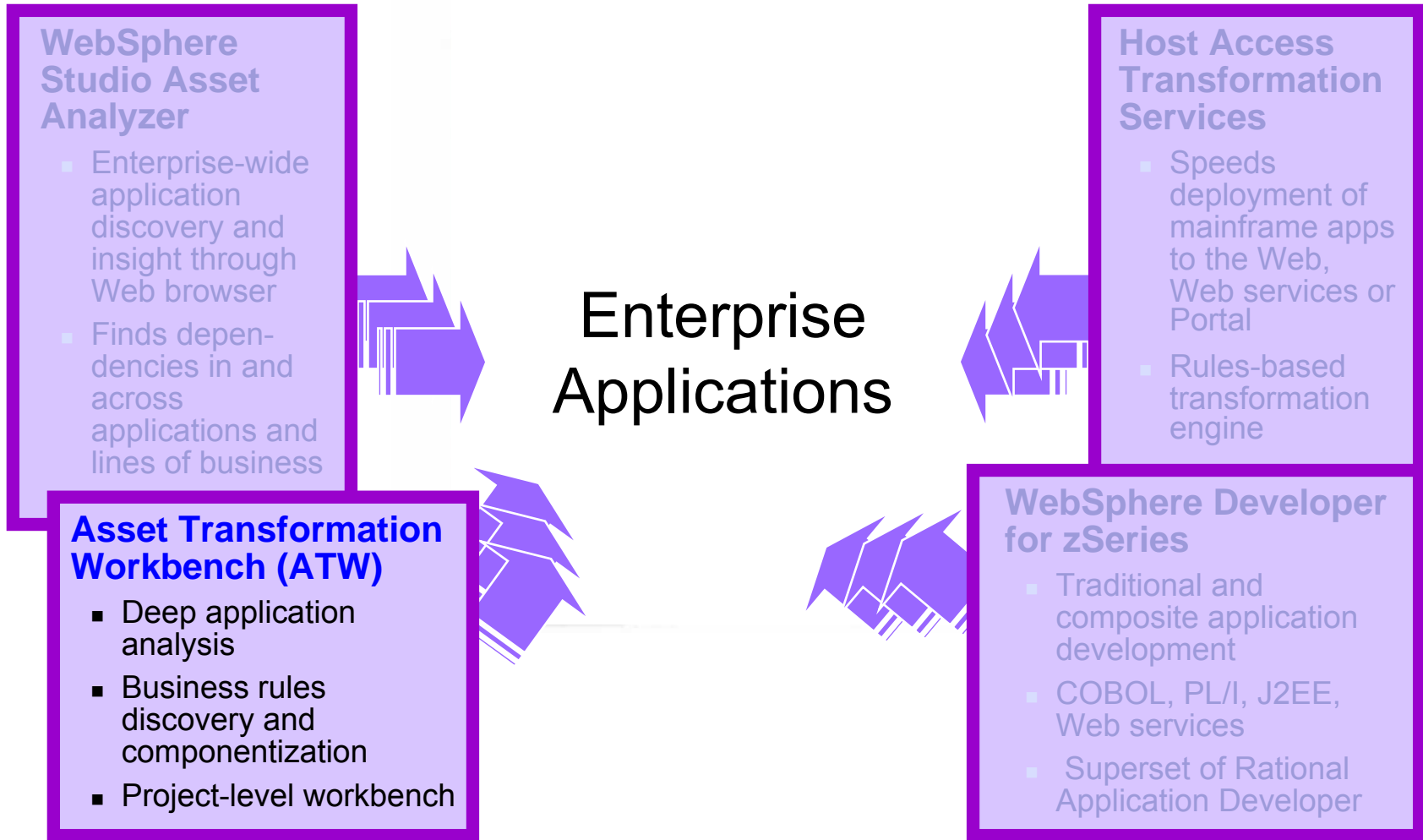
## Transform Application Architecture

Update and extend mission-critical applications as services, leveraging their core value in new ways

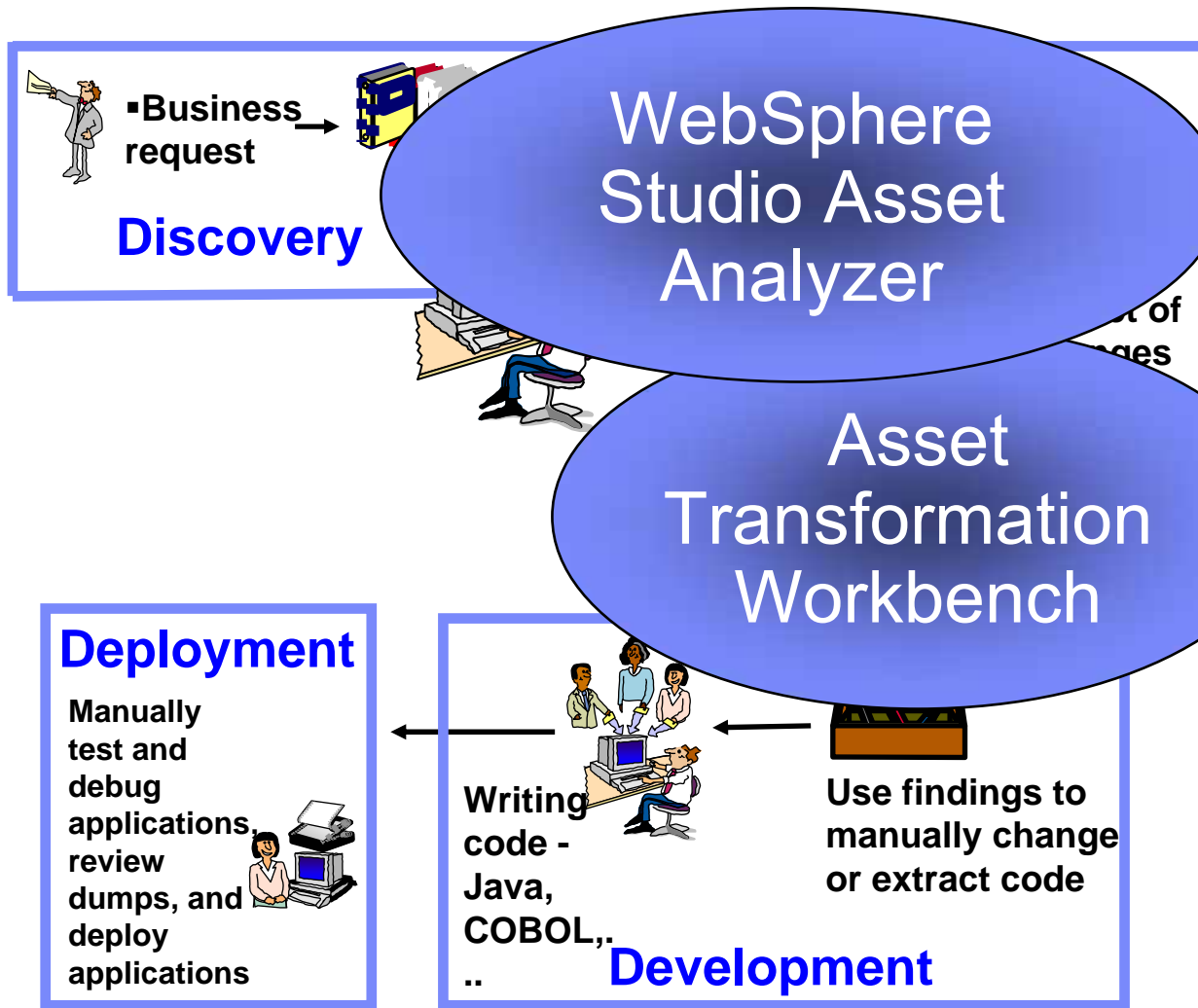


***Single integrated delivery vehicle across application transformation styles***

# Application transformation tools for System z



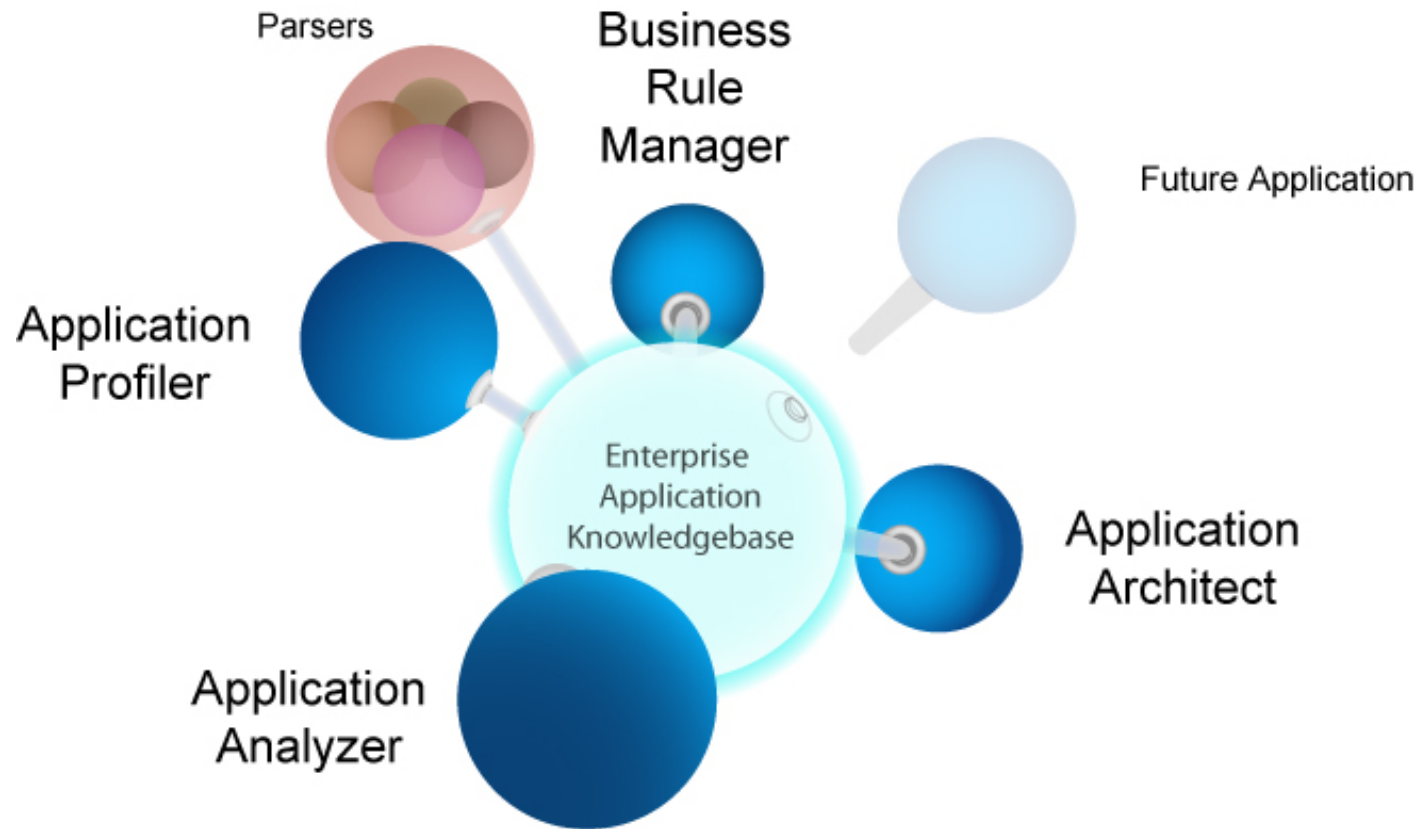
# Existing asset identification and analysis



## Benefits

- f* Documentation based on today's code
- f* More effective code searches
- f* Higher quality work estimates
- f* Better application understanding

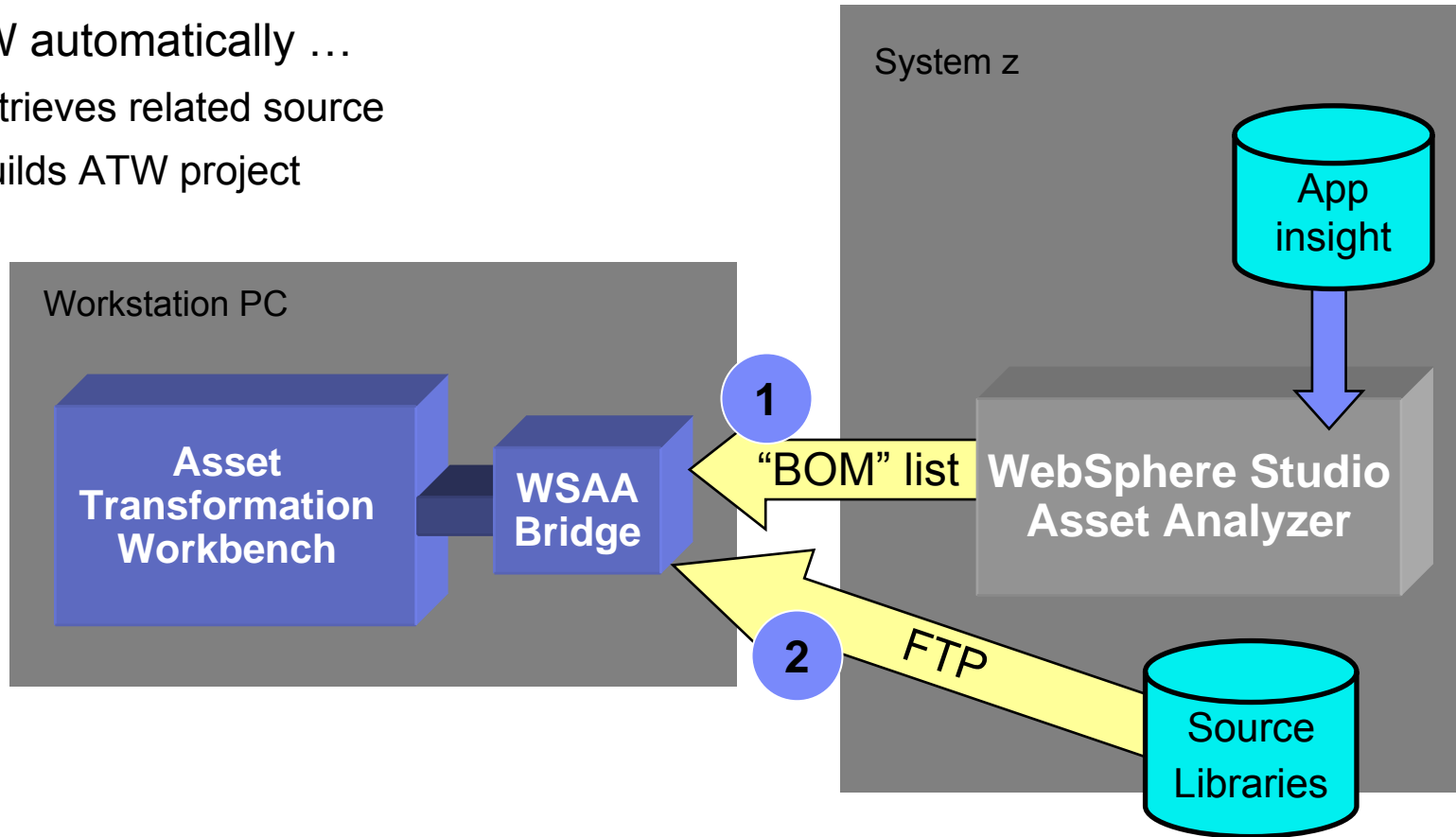
# Asset Transformation Workbench



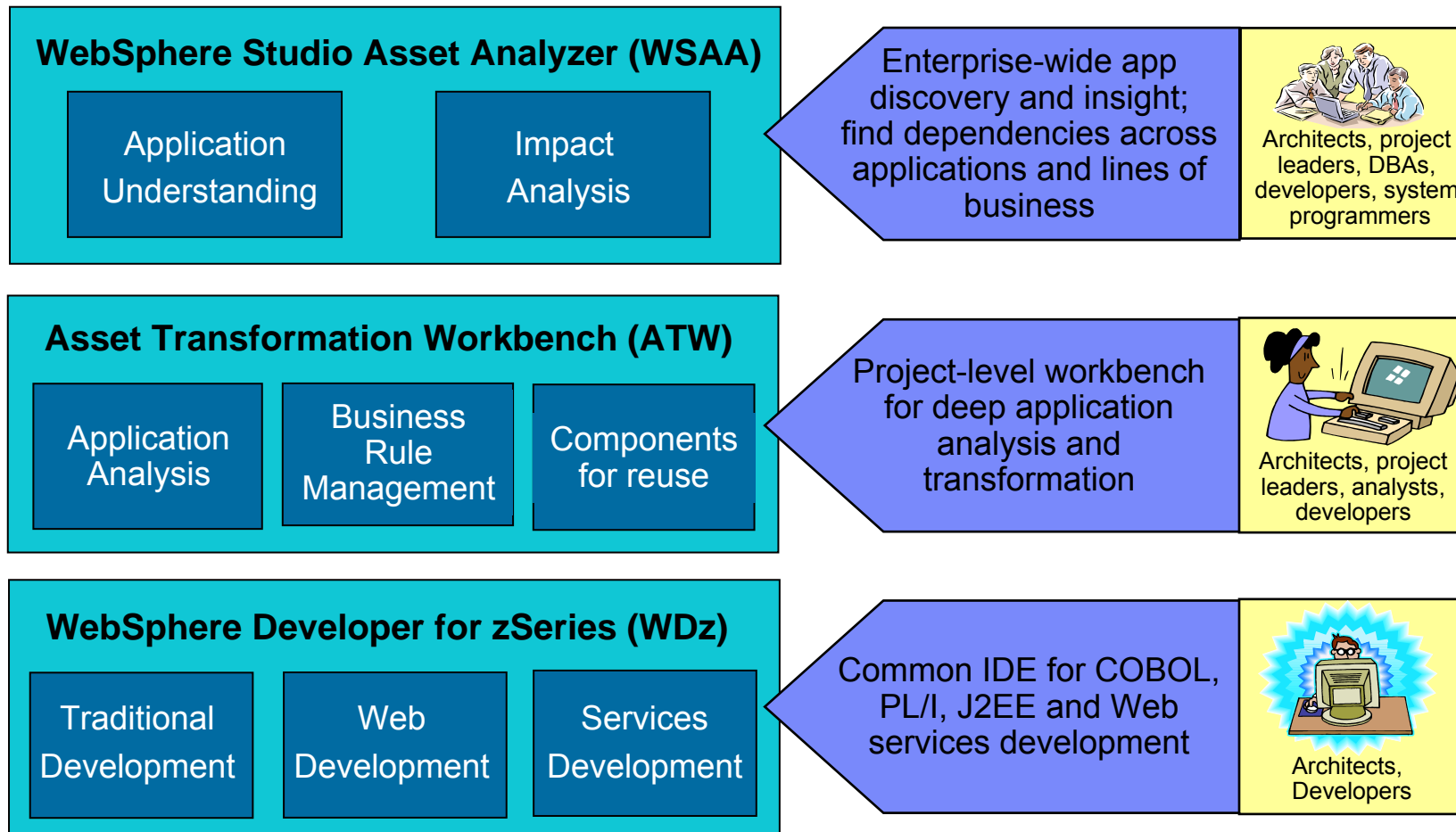
**The Asset Transformation Workbench drives down the cost and accelerates the transformation and maintenance of business-critical enterprise applications**

# WSAA bridge

- Find an interesting set of enterprise assets in WSAA
- Download the results as a “Bill of Materials” (BOM) to ATW
- ATW automatically ...
  - ▶ retrieves related source
  - ▶ builds ATW project



# Product positioning





# For more information

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- Product home pages
  - ▶ [ibm.com/software/awdtools/atw/](http://ibm.com/software/awdtools/atw/)
  - ▶ [ibm.com/software/awdtools/wsaa/](http://ibm.com/software/awdtools/wsaa/)
  
- zAD Portal page
  - ▶ [ibm.com/software/websphere/zadportal](http://ibm.com/software/websphere/zadportal)

# Scenario #2 – Make the program callable

**Task :** Transform the program CUSTEOT1 making it a callable program.

**Solution:** Split the program in Client (no logic) and Server (with all Business Logic).

Using **WSAA Bridge** move it to the desktop and using **ATW** extract the business logic from the server and create client/server components..

## COBOL

```

move 'WBCSCDRV Program started. ... wk' to tmp.
EXEC CICS WRITEQ TD QUEUE('CSMT') FROM(tmp) END-EXEC.
mov 1 TO CustNo .
move 'Linking to WBCSTDT2 ... wk' to tmp.
EXEC CICS WRITEQ TD QUEUE('CSMT') FROM(tmp) END-EXEC.
EXEC CICS LINK PROGRAM( pgm-called ) COMMAREA(
CustInfo )
LENGTH(LENGTH OF CustInfo )
END-EXEC
IF RetCode = -1 THEN
EXEC CICS RETURN
    
```



## COBOL Server

```

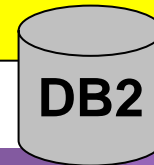
move 'WBCSTDT2 Program started. ... wk' to tmp.
EXEC CICS WRITEQ TD QUEUE("CSMT") FROM(tmp) END-EXEC.
move CustNo to hv-custno.
move 'Searching with Cust #:' to tmp.
EXEC CICS WRITEQ TD QUEUE("CSMT") FROM(tmp) END-EXEC.
EXEC CICS WRITEQ TD QUEUE("CSMT") FROM(CustNo) END-EXEC.
EXEC SQL CONNECT TO AIS END-EXEC.

* EXEC SQL SELECT CUST_LN, CUST_FN, CUST_ADDR, CUST_CITY,
.....
move hv-acctnum to AcctNumList(i).
move AcctNumList(i) to tmp.
EXEC CICS WRITEQ TD QUEUE("CSMT") FROM(tmp) END-EXEC.
add 1 to i.

End-Fetch-Loop. exit.
    
```

```

Client Inquiry - calls WBCSCUST
Customer number: 004
Last name: Silva
First: LULA Da
Address: Palacio Planalto
City: Brasilia
State: DF
Pays :
    
```



13-21 Min