Options for interoperability between CICS and your network

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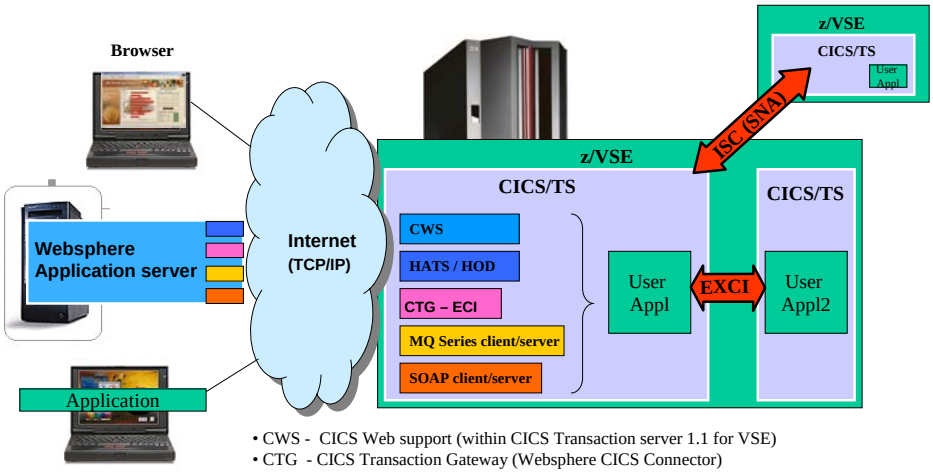
Inter-Communication with VSE Transactions



- CWS - CICS Web support (within CICS Transaction server 1.1 for VSE)
- CTG - CICS Transaction Gateway (Websphere CICS Connector)
- HATS – Host Access Transformation Server (no VSE software component required)
- HOD - Host OnDemand (Websphere Host Integrator)
- SOAP - Simple Object Access Protocol (Web Services based with XML data)

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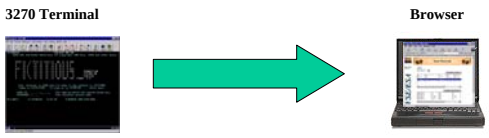
CWS (CICS Web Support)

From 3270 screens to browser interaction



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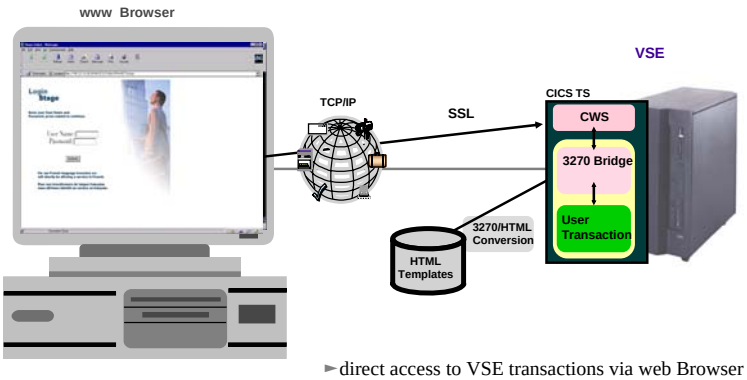
Direct access to VSE/ESA transactions via browser

IBM CICS Web Support - Components



- direct access to VSE transactions via web Browser
- Without the need of a web server on VSE
- Build in Function in CICIS TS

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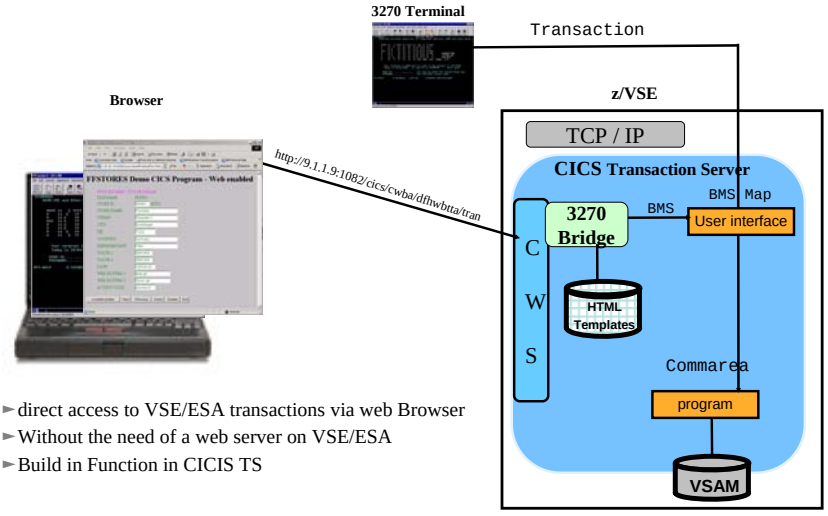
CICS Web Support (CWS)
From 3270 screens to Browser interfaces for CICS transactions



- direct access to VSE/ESA transactions via web Browser
- Without the need of a web server on VSE/ESA
- Build in Function in CICIS TS

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IBM CICS Web Support

- functional characteristics
  - direct access to VSE CICS transactions via a simple web browser
  - transaction security for the called transaction
  - secured connections (SSL)
- requirements
  - VSE CICS Transaction Server

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Enable CWS (CICS Web support) for CICS Transaction server

•Properties

•CICS Web Support is a function of CICS Transaction Server in VSE.
•It is accessible via a TCP/IP Service that has to be defined (in CICS).
•For each separate CICS partition in your system the CICS Web support can be enabled
•CWS is prerequisite for other CICS access methods (like CTG, SOAP) .

•Required System changes to enable CWS:

▪Following parameters in **DFHSITxx** for the corresponding CICS TS partition (i.e. **DBDCCICS**), have to be set to enable CWS.

- ▪Intersystem communication enabled **ISC=YES**
- ▪TCP/IP protocol enabled **TCPIP=YES**

▪Build of a Conversion table **DFHCNV (skeleton in ICCF Lib 59)**

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Enable CWS (CICS Web support) for CICS Transaction server

•Required System changes to enable CWS (continued):

- The BMS maps for the transaction have to be compiled with option
  SYSPARM='TEMPLATE'
  // OPTION NOLIST,ALIGN,DECK, *SYSPARM='TEMPLATE'*

- Update of the **LIBDEF** statement in *CICS startup job* with **PRD2.DFHDOC** for the HTML Templates used

- Define a **TCPIP Service** (i.e. CWSxx, and a **port** for CWS))
  CEDA DEF TCPIPS(CWSxx)

- Access the transaction via web browser:
  http://a.b.c.d:port/cics/cwba/dfhwbtta/tran

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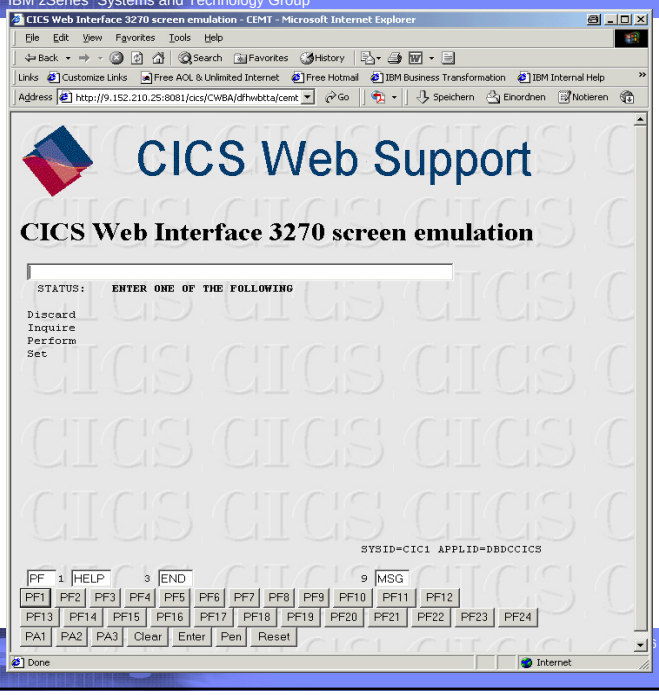

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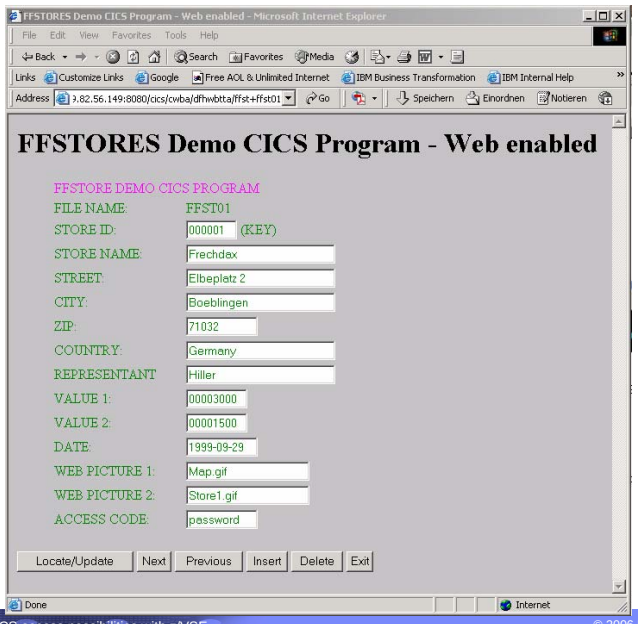

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CTG (CICS Transaction Gateway)

Access to VSE transactions from remote

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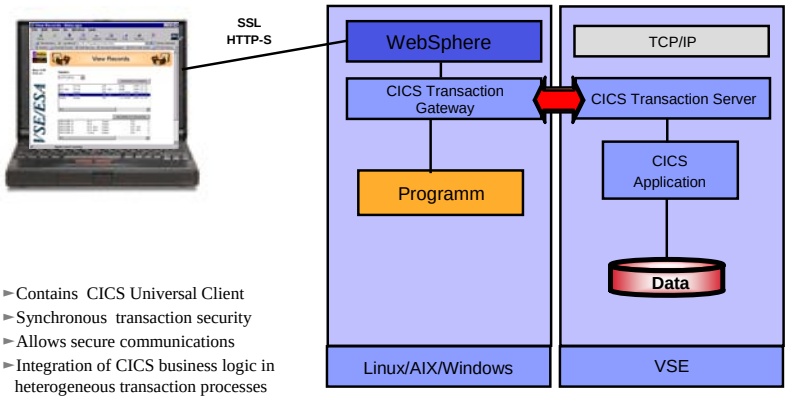
Integration of VSE/ESA transaction processes

CICS Transaction Gateway - Implementation



- Contains CICS Universal Client
- Synchronous transaction security
- Allows secure communications
- Integration of CICS business logic in heterogeneous transaction processes

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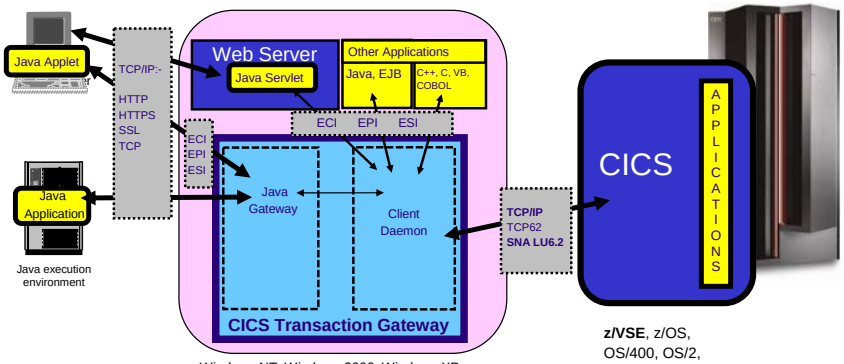
Integration of VSE transactions in distributed processes

CICS Transaction Gateway (CTG) - Components



Windows NT, Windows 2000, Windows XP, AIX, Solaris, HP-UX, z/OS, OS/390, Linux for zSeries

z/VSE, z/OS, OS/400, OS/2, AIX, Solaris, HP-UX, Windows NT, Windows /2000

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CICS Transaction Gateway

- functional characteristics
  - access to VSE transactions from a remote platform (program communication)
  - transaction security for the called transaction
    therefore, good integration in e-business Processes and WebSphere Application Server.
  - secured connections (SSL) to CICS Transaction Gateway
- requirements
  - VSE/ESA and the Product: CICS Transaction Gateway (CTG)
    - for External CICS Interface (ECI) with TCP/IP, VSE/ESA 2.6 and later is required with CICS Transaction Gateway Version 4 or later

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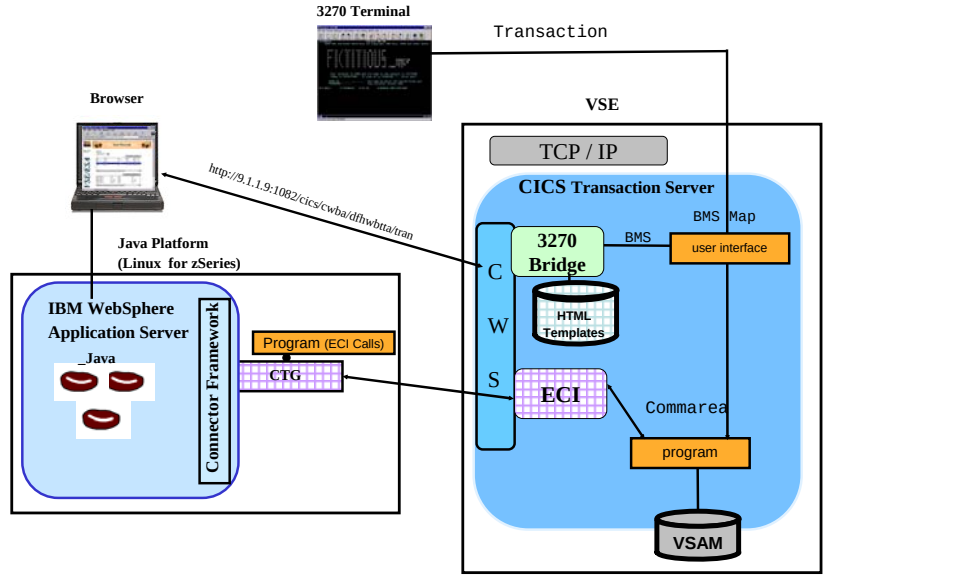
From 3270 screens to Browser interfaces for CICS transactions



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MQ Series

Synchronous/Asynchronous data transfer and distribution

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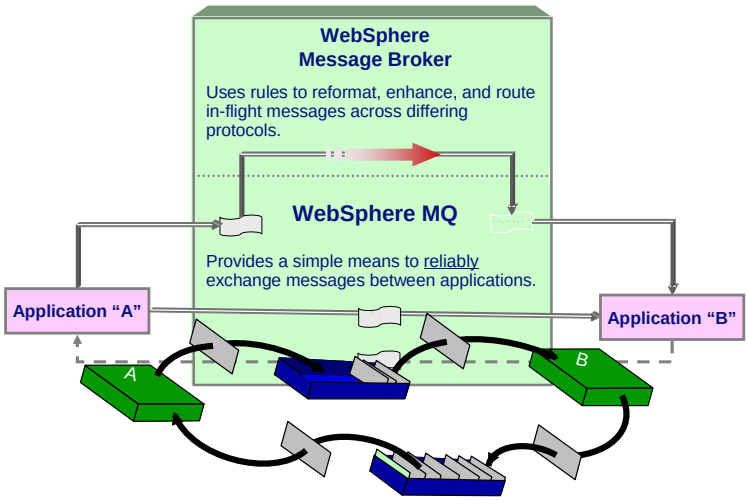
Messaging Overview

Event Notification (1 way communication), Request / Response (2 way communication)



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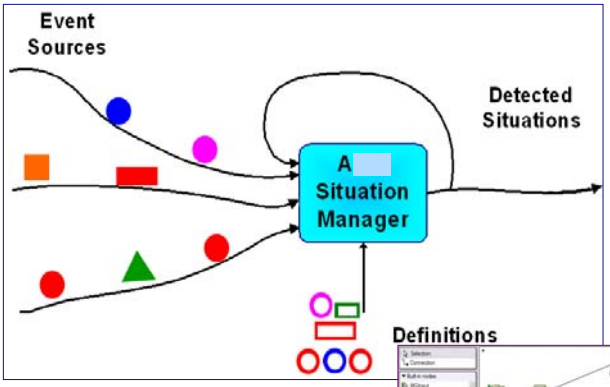
What is WebSphere Message Broker?



1. **A framework for processing MQ messages**
2. **A robust hosting environment for:**
   - ✓ Transforming data
   - ✓ Enriching data
   - ✓ Interacting with databases
   - ✓ Routing messages based on content
   - ✓ Detecting complex combinations of messages
   - ✓ Interacting existing applications with Web Services

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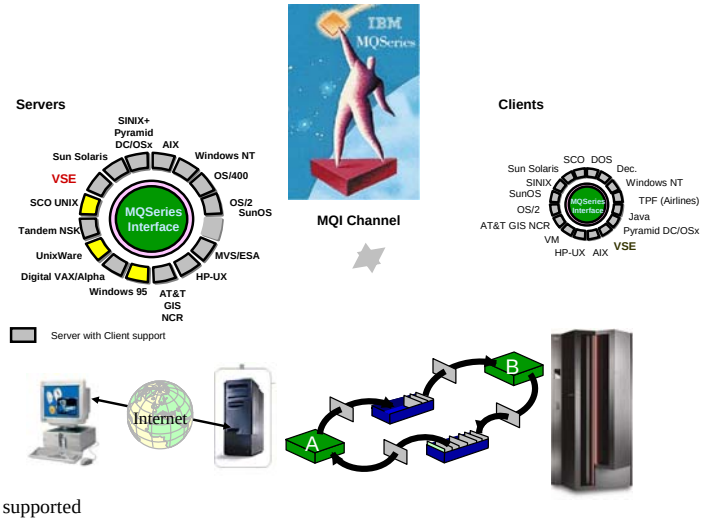
MQ Series servers and MQSeries Clients



- Various platforms supported
- integration into Web Application servers (WebSphere)

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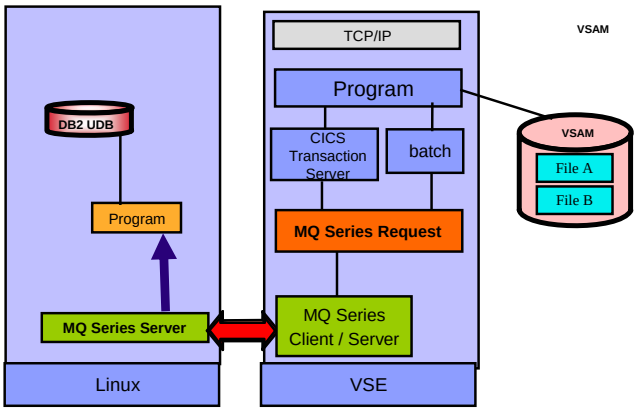
Integration of VSE Programs with MQ Series



- Data distribution via MQ Series technology
- VSE programs have to write MQ messages – requires changes to existing applications
- NEW: WebSphere MQ Series Client for VSE – free of charge – enablement for MQ environments and modern solutions

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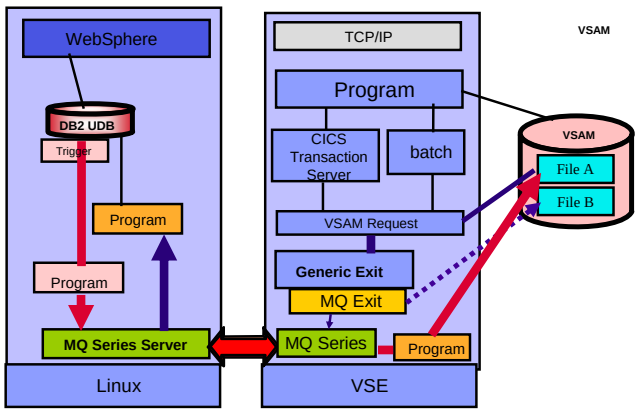
Integration of unchanged VSE Programs with MQ Series



- Data distribution via MQ Series technology
- NO changes to VSE programs – using MQ Exit and VSE VSAM Redirector
- NEW: WebSphere MQ Series Client for VSE – free of charge – enablement for MQ environments and modern solutions

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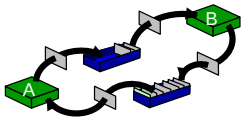
MQ Series - asynchronous transactions

- functional characteristics
  - guaranteed, secured asynchronous data access for remote systems
  - same API for all supported MQ Series platforms
  - transaction security, therefore appropriate for e-business processes
  - integration with WebSphere Application Server
  - works well for Business-to-Business (B2B) environments

- software requirements
  - For VSE/ESA :
    - VSE/ESA 2.6/2.7
    - MQ Series Server
    - Program that interfaces with MQ on VSE or VSAM Redirector
  - On the remote system:
    - MQ Series Client / Server
    - Program that interface with MQ Series



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HOD, HATS
(Host OnDemand, Host Access Transformation Server)

Create graphical interfaces for existing Applications

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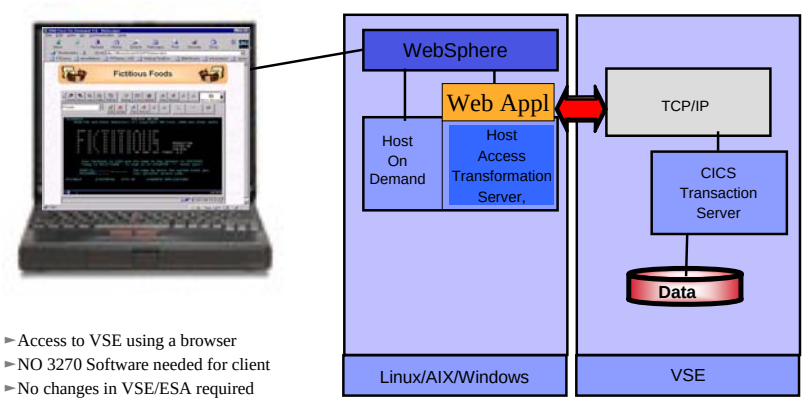
General access to VSE/ESA via browser

Websphere host Integrator - Implementation



- Access to VSE using a browser
- NO 3270 Software needed for client
- No changes in VSE/ESA required

NEW: IBM Communication Server (TN3270, APPN) and IBM Communication Controller (374x replacement) -> available for Linux for zSeries

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Host Access Transformation Server

- functional characteristics
  - access to VSE/ESA via browser
  - the access is similar with a local access via 3270 emulator
  - can be used in Intranet or Internet and /or
  - integrated with WebSphere Application Server
  - support for secured connections (SSL) to the HostOnDemand Server and a redirector to mask the real IP addresses
    - Host Access Transformation Server – for 3270 screen scraping
    - Host Publisher - a bean generator to create the Java Beans (Integration Objects), to provide legacy access for new Web applications.
- Requirements
  - WebSphere Host Integration products on middle tier
  - NO additional software on VSE/ESA required

Benefit: Easily extend existing applications to the web

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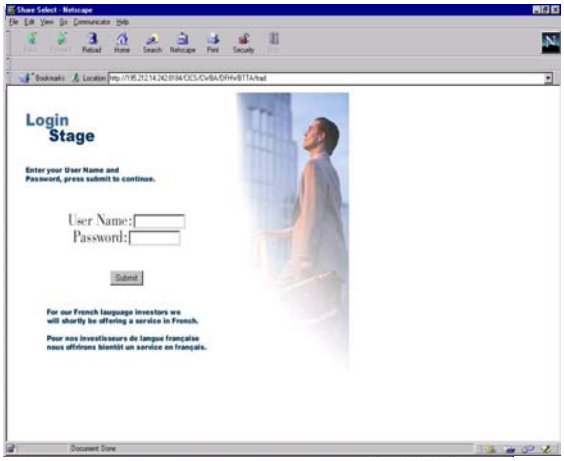
Interaction with VSE via HOD and browser



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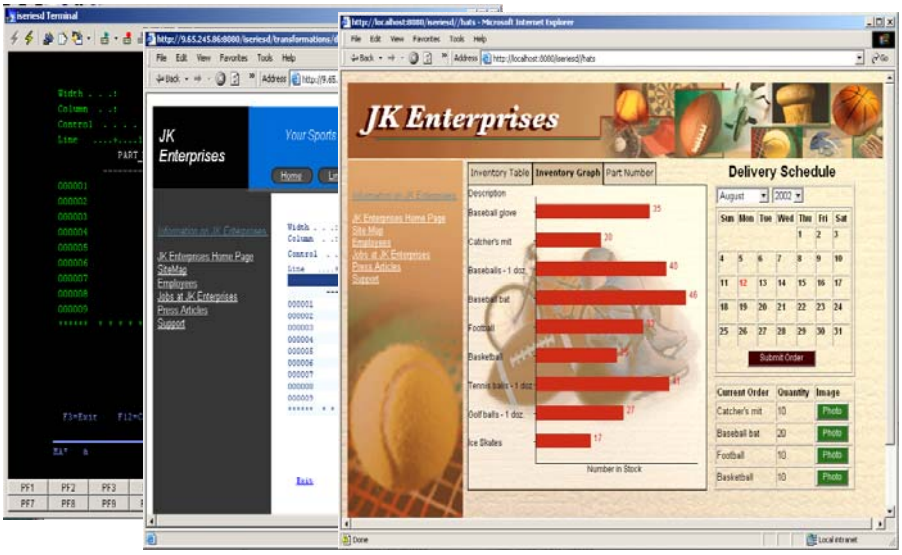
Interaction with VSE via HATS application and browser



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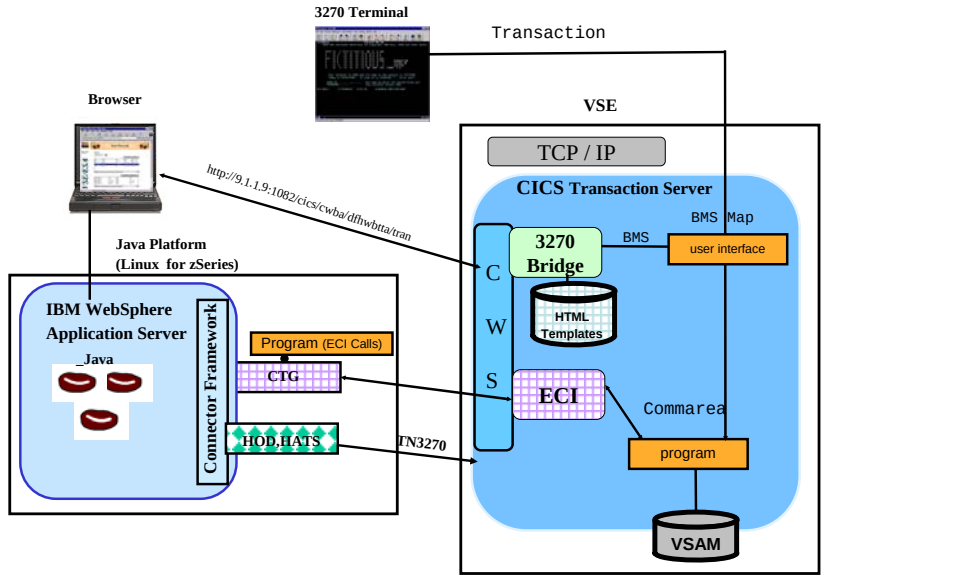
From 3270 screens to Browser interfaces for CICS transactions



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Web Services

Modern architecture of program communication using XML data and the SOAP protocol

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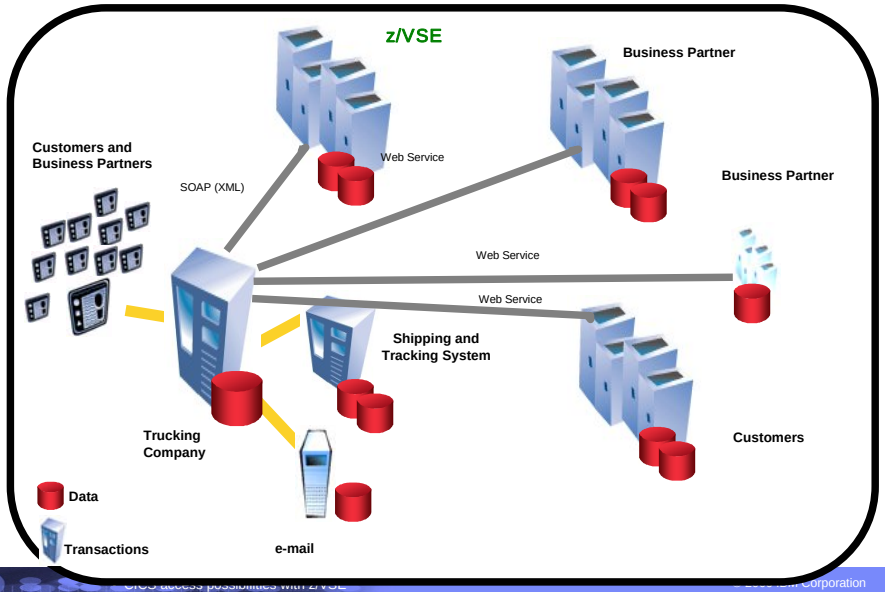
Service Oriented Architecture – Web Services



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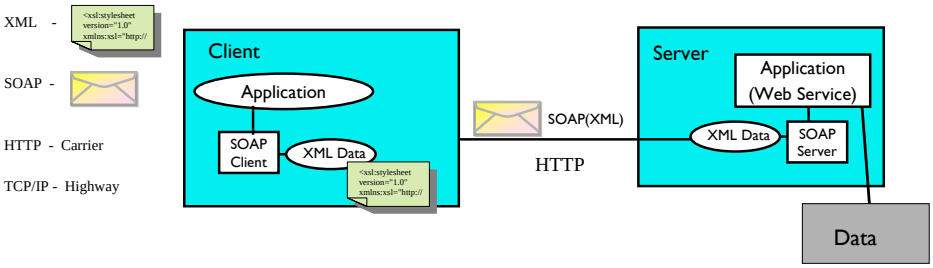
Web Services

XML Document + SOAP Protocol = Web Services



A ***web service***

- implements a business, application or system functionality
- is intended for application communication
- is useable in internet, intranet, extranet
- is useable for browser-based solutions up to the B2B
- 8business-to-business) integration between companies
- uses only standard internet technologies

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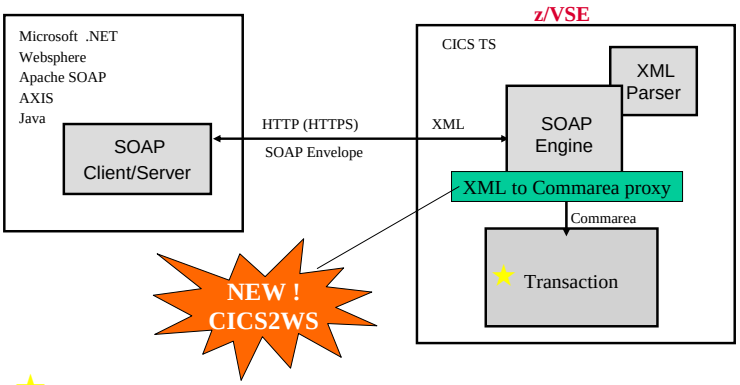
Web Services with z/VSE

XML data interchange with CICS transactions



★ VSE Transactions as Web Service – generated with the tool CICS2WS

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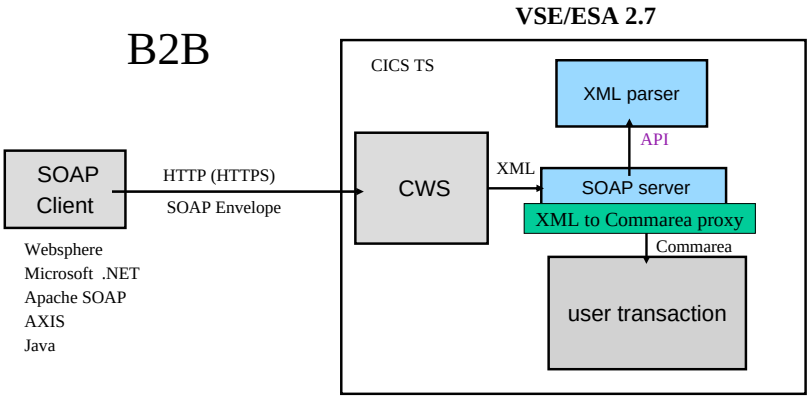
VSE as SOAP server

Web Services (SOAP)

SOAP - Simple Object Access Protocol
(platform independent remote procedure call)

B2B



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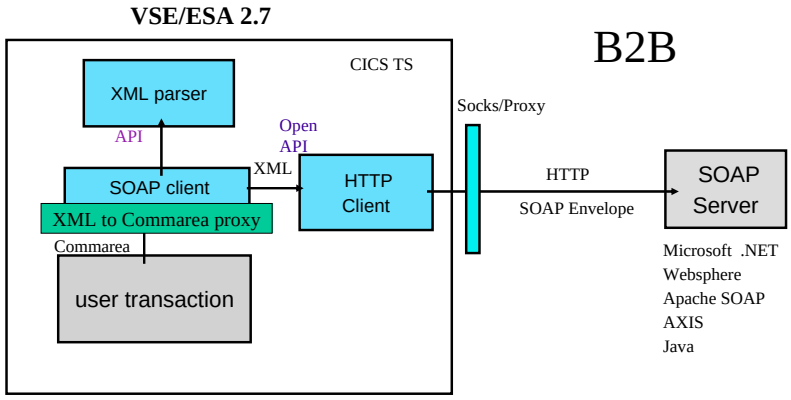
VSE as SOAP client

Web Services (SOAP)

SOAP - Simple Object Access Protocol
(platform independent remote procedure call)



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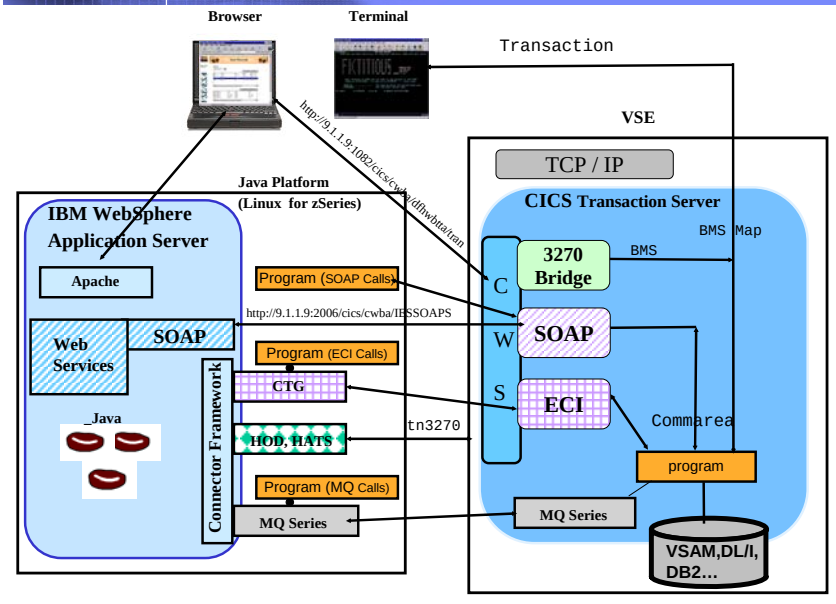

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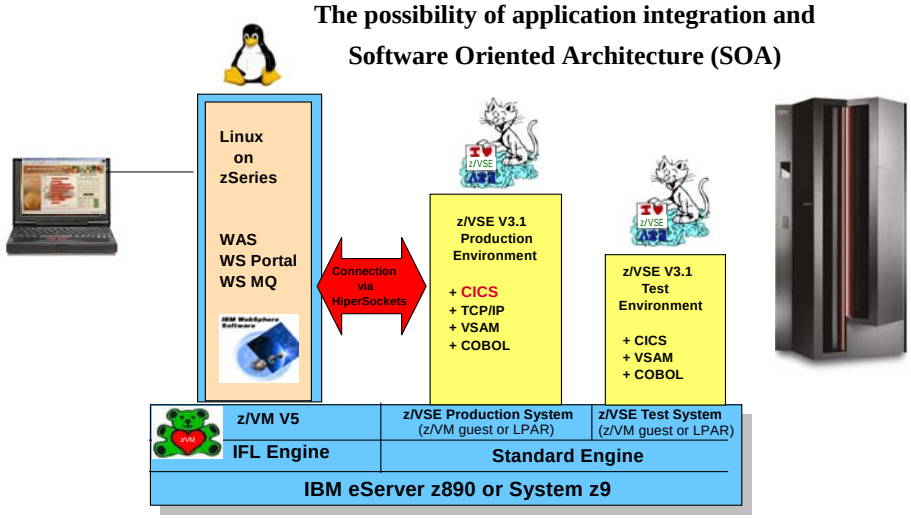
WebSphere Application Server for VSE Customers

The possibility of application integration and Software Oriented Architecture (SOA)



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Transactional processing with CICS TS

Solution	Connector to use
Webify	▪CWS – CICS Web Support ▪HATS – Host Access Transformation server ▪HOD – Host on Demand server
CICS application access from remote	▪CTG – CICS Transaction Gateway ▪HATS – Host Access Transformation Server ▪MQ Series (Client or Server)
Flexible, platform independent, CICS application integration, the most advance Application-to-application communication Method	▪Web Services – using XML data and SOAP protocol

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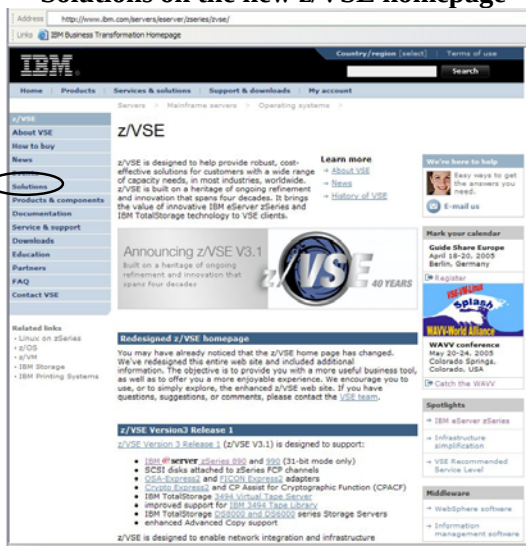
Solutions on the new z/VSE homepage



http://www.ibm.com/servers/eserver/zseries/zvse/

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Additional Information

- **z/VSE Home Page**
  http://www.ibm.com/servers/eserver/zseries/zvse/
- **Solutions for VSE**
  http://www.ibm.com/servers/eserver/zseries/zvse/solutions/

Redbooks

e-business Connectivity for VSE/ESA	**SG24-5950**
e-business Solutions for VSE/ESA	**SG24-5662**
Servlet and JSP Programming	**SG24-5755**
Linux Web Hosting with WebSphere, DB2, and Domino	**SG24-6007**

- ***NEW: Websphere Handbook (Connectors to z/OS and VSE) SG24-7042***

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