



CICS Web Services & Service Flow Feature

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Agenda

- Web Services in CICS
- Service Flow in CICS
- Demo
- Summary / Questions



Web Services in CICS

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Web Services at a glance in Version 3

CICS TS V3.1

The runtime support in CTS 3.1 is for

- WSDL 1.1
- SOAP 1.1 and SOAP 1.2
- WS-I Basic Profile 1.1
- XML 1.0
- WS-I Simple SOAP Binding Profile 1.0
- WS-AT 1.0
- WS-Security 1.0
- Provides batch tooling to handle generation of data mappings
 - Schema into (and vice-versa)
 - C
 - PI/I
 - Cobol

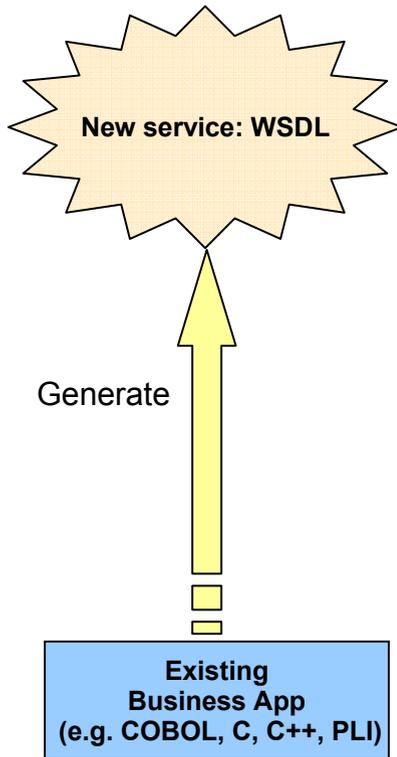
CICS TS V3.2

Support was added for

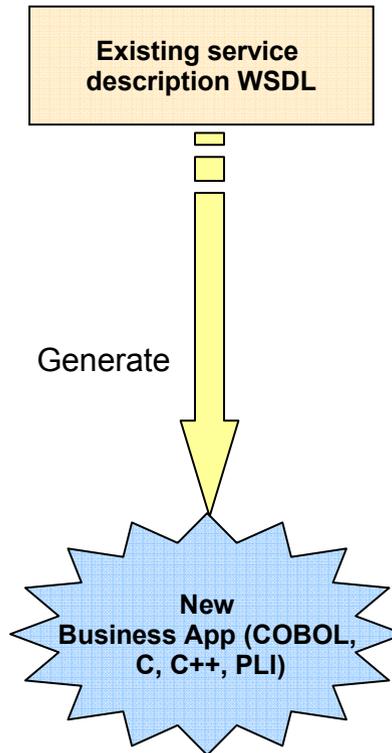
- WSDL 2.0
- MTOM/XOP
- WS-Trust
- Additional schema data mappings

Web Services Enablement Styles

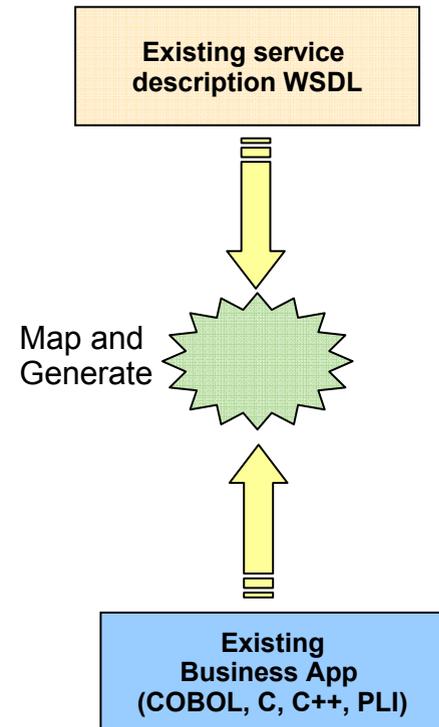
Bottom-up



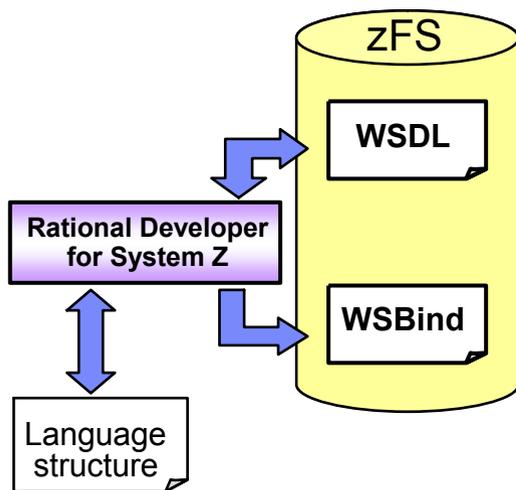
Top-down



Meet in the middle



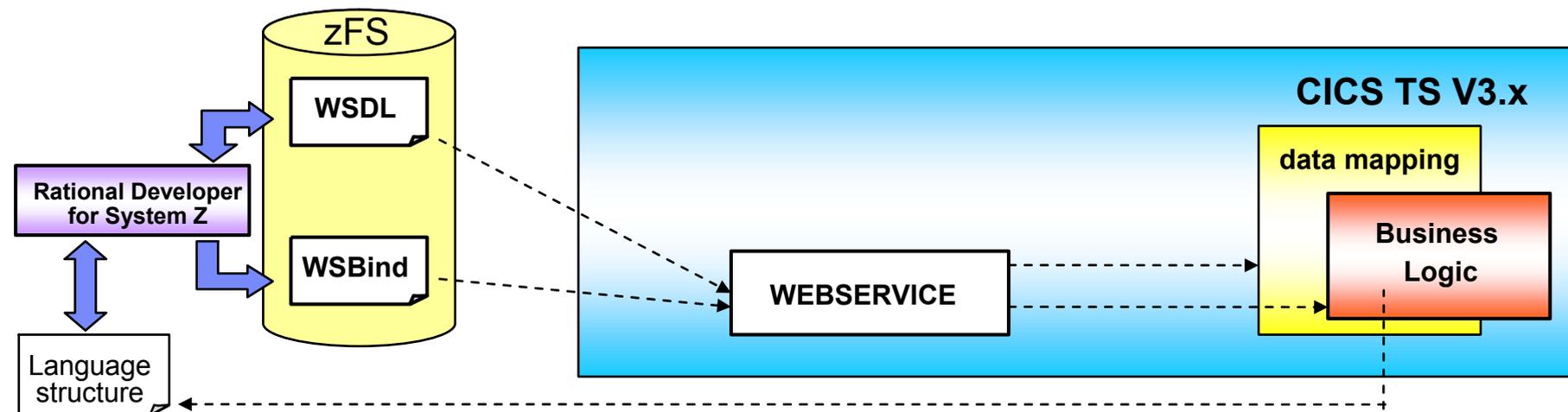
Creating the converters



- Bottom up development assumes you have a commarea app to utilise.
- Tools consume the commarea (source code) and give you...
 - Conversion artifacts
 - Compiled converters
 - Conversion metadata for CICS conversion engine.
 - WSDL
 - DocLit or Wrapped DocLit recommended
 - You must supply the operation
- Runtime artifacts live in HFS
 - WSBind file is associated with a Webservice - a new CICS resource

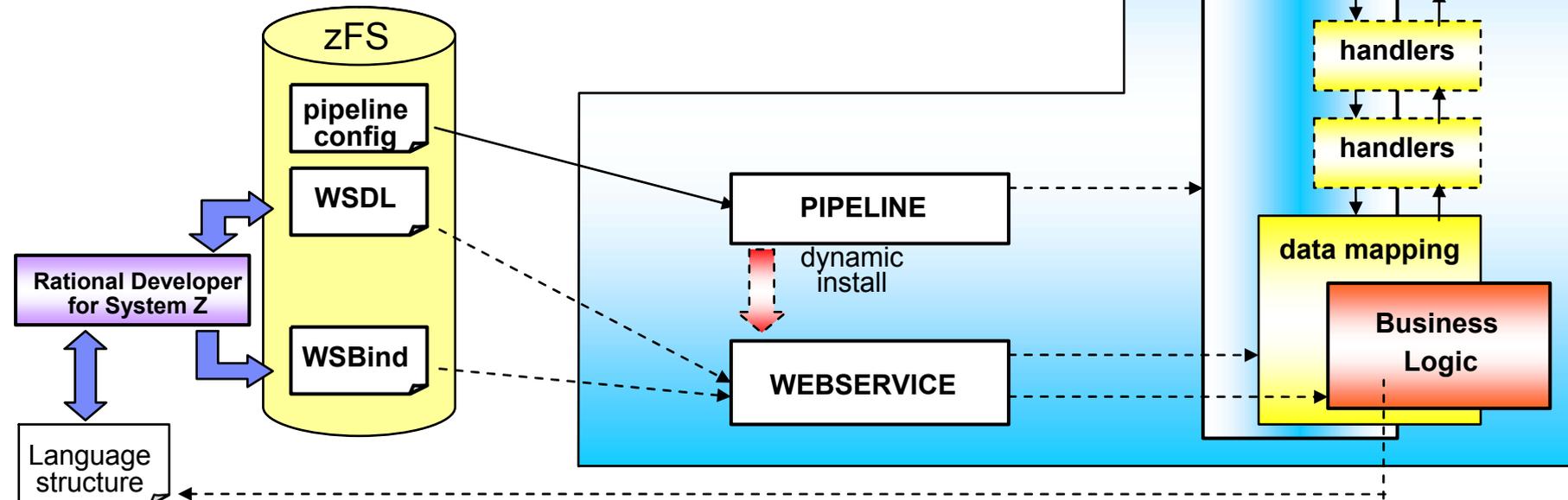
What does the Webservice do?

- The Webservice resource definition defines the location of the WSBind file in zFS.
- One definition per program enabled as a Web service.
- When a Webservice is installed, it reads in the WSBind and builds the mechanism to map the data.
- **At runtime, the CICS uses the information in the control blocks to convert the XML to LS and LS to XML**
 - **Either by invoking compiled converter programs,**
 - **Or using the metadata in the WSBind file**



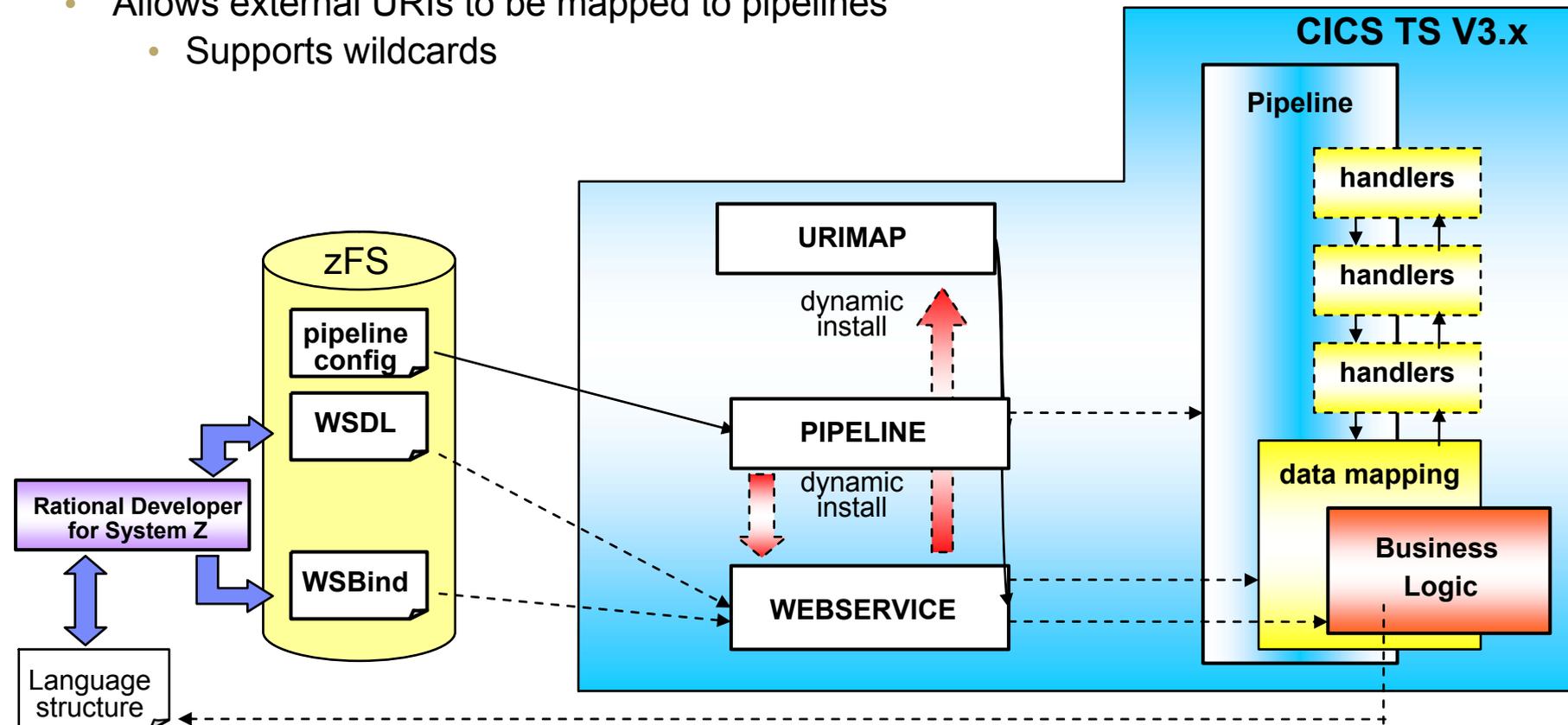
Defining the protocol handling

- Pipeline is another new RDO object
 - Points to a pipeline config file in zFS
 - XML format text file describing the handlers to be used in processing the SOAP protocol
 - Define the message handlers and SOAP header handlers – custom handlers, WS-Sec, WS-AT
 - Typically you might have 6-10 variations
- All handlers uses a Channels/Containers interface to access pipeline state
 - Pipeline and eligible handlers run on OTE TCBs

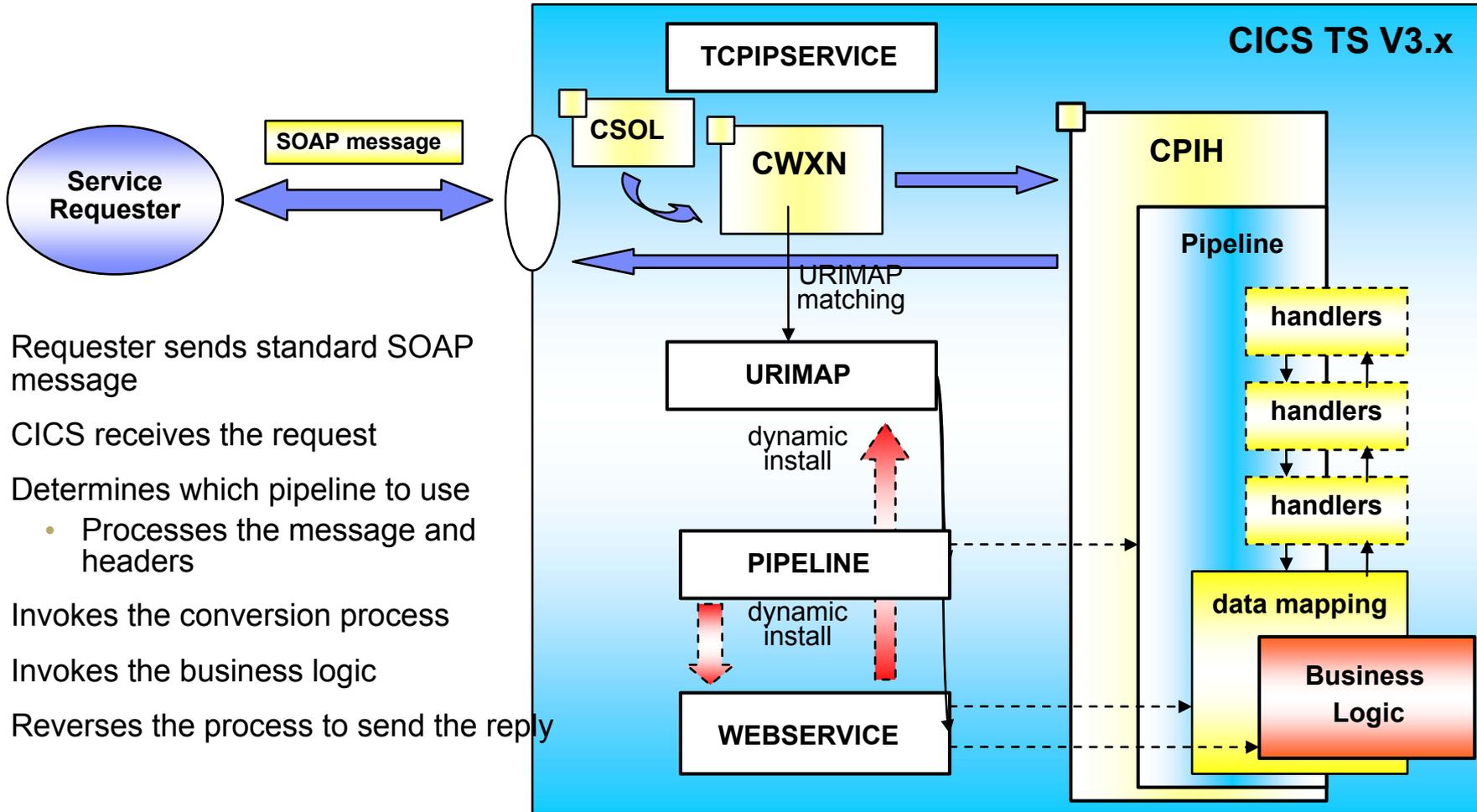


Connecting the pipeline to the outside world

- The third new resource is the URIMAP
 - Used for Web services and 'plain' HTTP
- Allows external URIs to be mapped to pipelines
 - Supports wildcards



Putting it all together at runtime



- Requester sends standard SOAP message
- CICS receives the request
- Determines which pipeline to use
 - Processes the message and headers
- Invokes the conversion process
- Invokes the business logic
- Reverses the process to send the reply



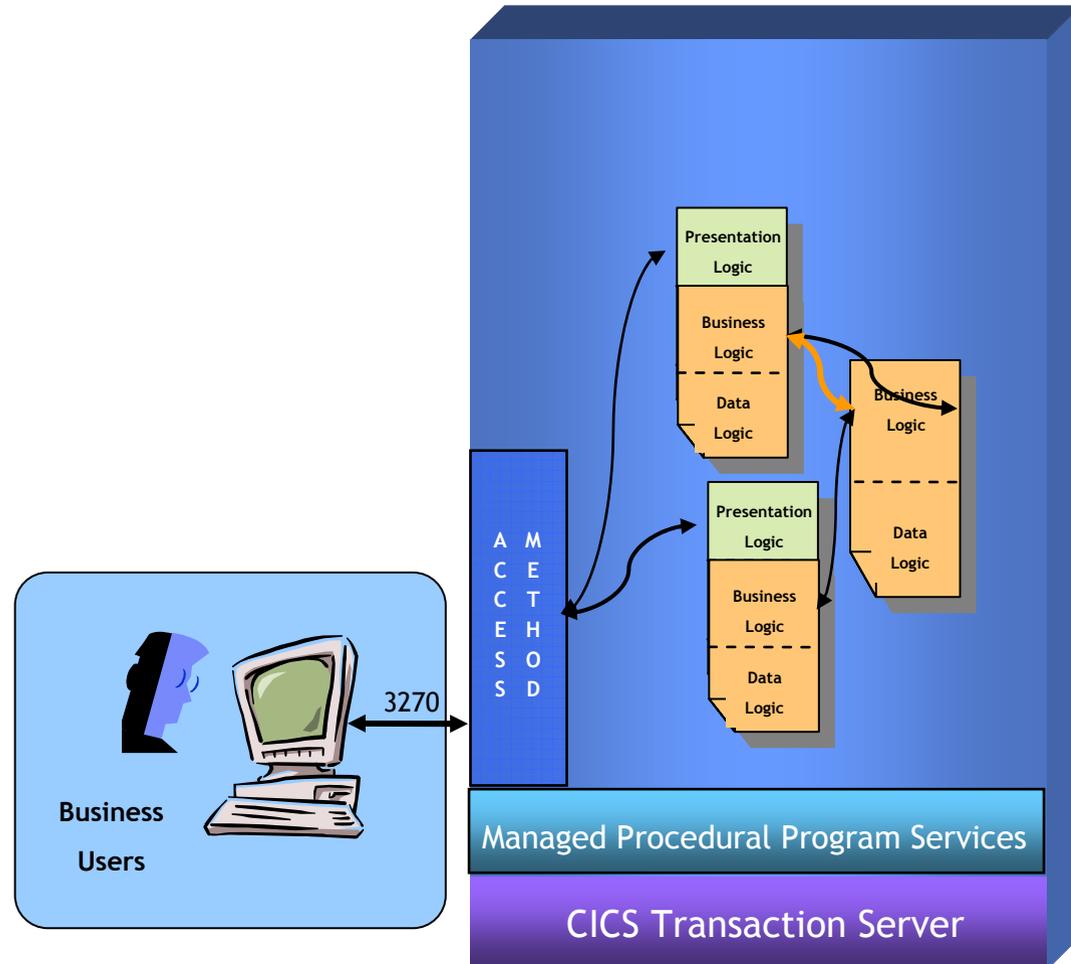
CICS Service Flow Feature

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Why a Service Flow Feature?

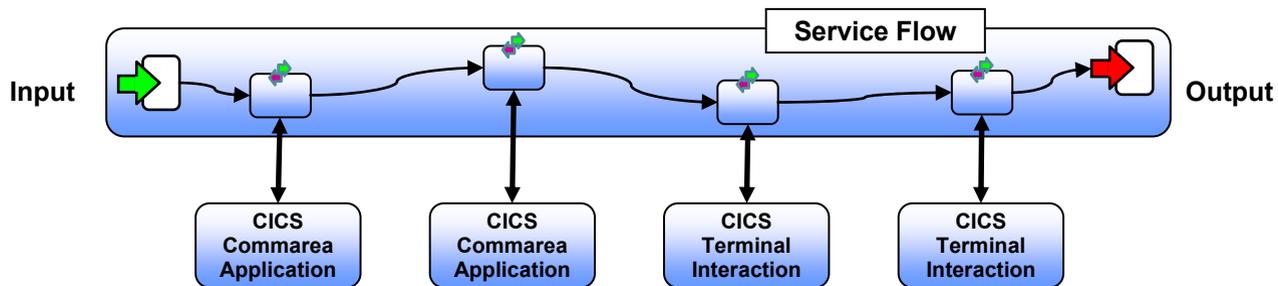
- Transform the Enterprise
 - Unlock critical IT assets and re-purpose them to participate in a service oriented architecture
 - Opening access to existing fine-grained applications as coarse-grained business functions, while maintaining QoS
 - Provide a layer of abstraction between service consumer and application implementation / user interface
 - Foster SOA skills in traditional developers
- Increase Productivity
 - Build libraries of annotated components representing current assets
 - Rapidly assemble new applications from existing components using graphical tools
 - Exploit existing developer skills and literacy

CICS Application Access and Reuse



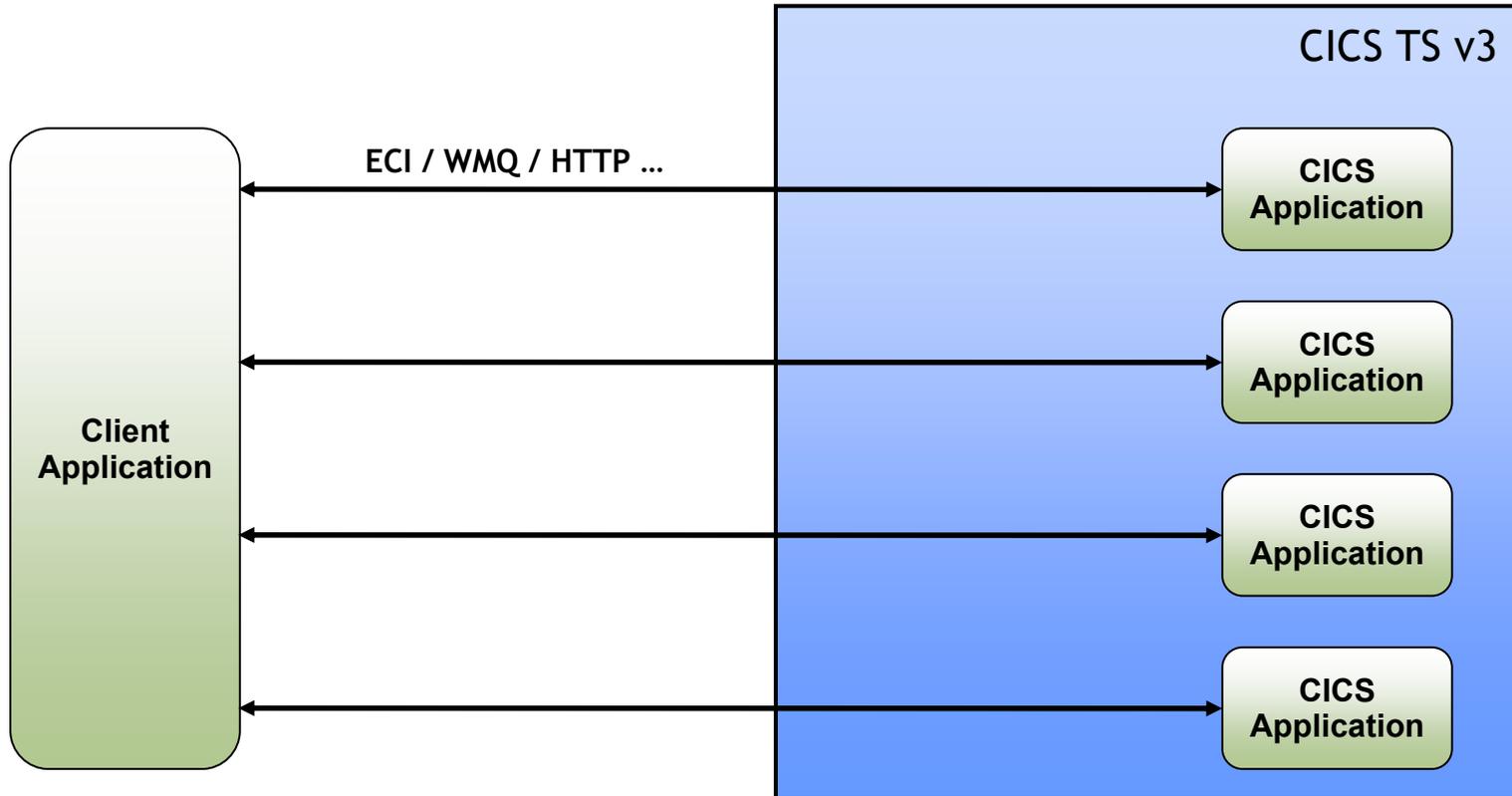
What is the Service Flow Feature?

- CICS Service Flow Feature provides capability to aggregate existing CICS applications into composed business services which may be integrated into an SOA environment
 - Aggregate multiple calls to CICS applications in one business level service call
 - Automate the interaction with 3270 terminal based applications and expose as a business level service



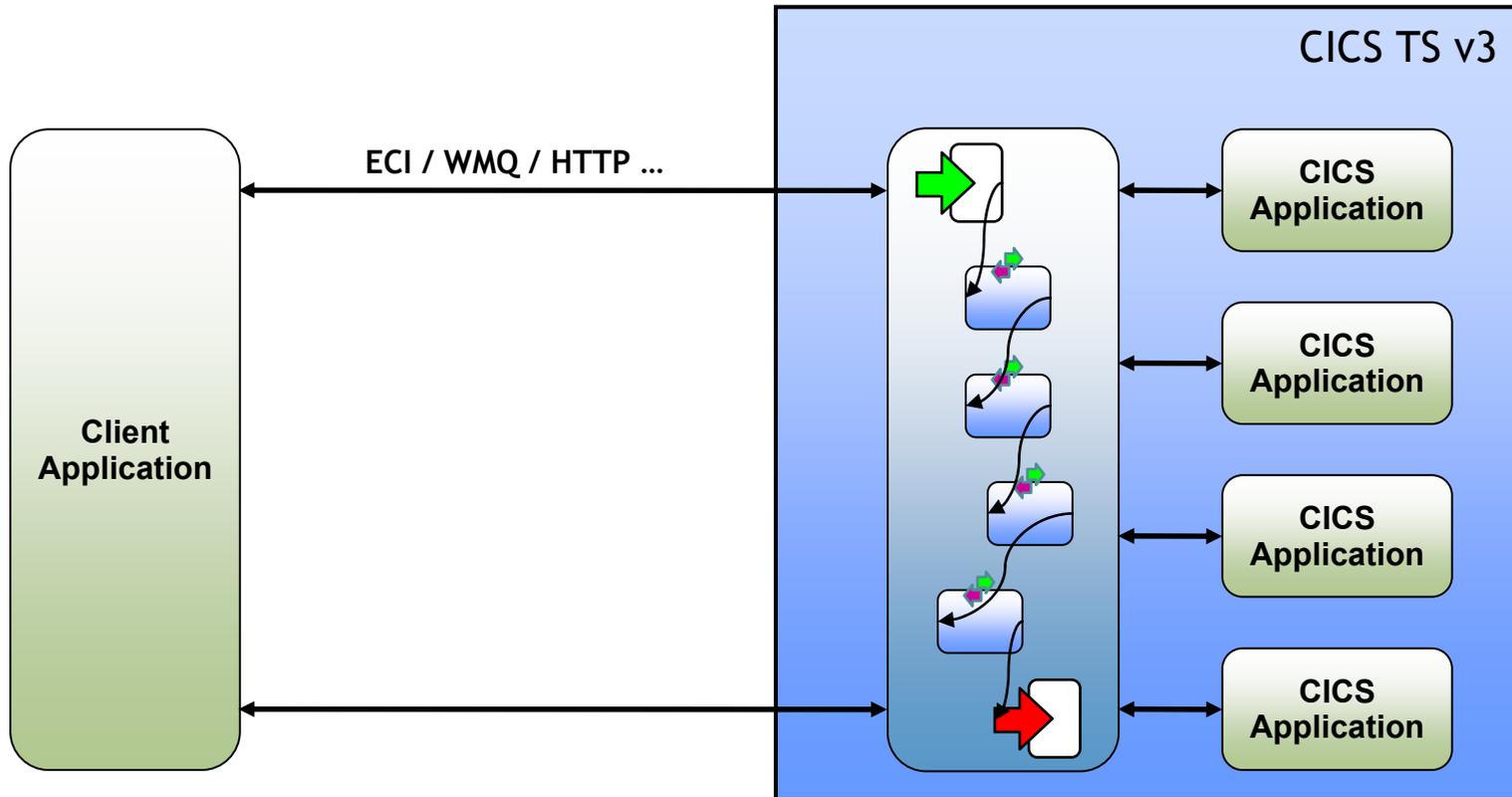
- The CICS Service Flow Feature is a no-charge, orderable feature for CICS TS v3.2

Traditional Access



- Multiple requests from client application
 - Expensive
 - Low potential for reuse

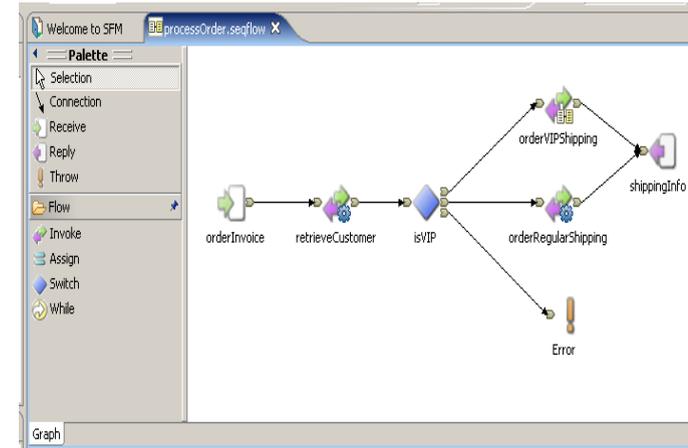
Aggregated Access



- Single request from client
 - Potentially reusable component
 - More efficient

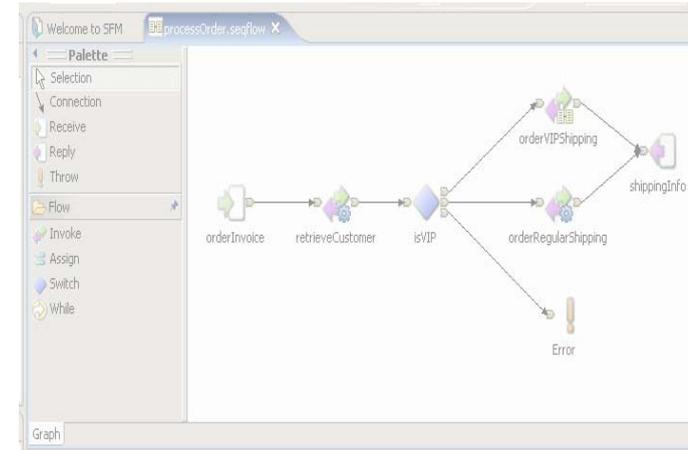
Building and Deploying Service Flows

- Tooling
 - A graphical modeling integrated development environment
 - Rational Developer for System z v7.1
 - Service Flow Modeler
 - XML Services for the Enterprise

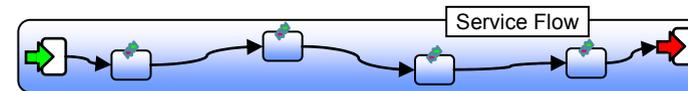


Building and Deploying Service Flows

- Tooling
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 - Rational Developer for System z v7.1
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- Runtime
 - CICS Service Flow Runtime
 - Extends the CICS TS v3.2 environment.
 - Offers adapters to invoke CICS programs and terminal-oriented transactions



Capabilities - SFF and CICS Web Services

Feature	WSA	SFF
Supports bottom up style	●	●
Supports batch bottom up generation	●	
Supports meet in the middle style	●	●
Enables terminal applications		●
Enables commarea applications	●	●
Can drive multiple apps from one operation		●
Targets CICS runtime	●	●

Service Flow Summary

- The CICS Service Flow Feature is a no-charge, orderable feature for CICS TS v3.2
 - CICS TS v3.2 Runtime component
- Flow creation with Rational Developer for System z v7.1
 - Service Flow Modeler
- CICS Service Flow Feature provides the capability to aggregate existing CICS applications into composed business services
 - Aggregate multiple calls to CICS applications into one business level service call
 - Automate the interaction with 3270 terminal based applications and expose as a business level service



Demo

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Summary

- Questions?

Thank you