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Summit
*Informations valorisées et SOA,
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Avec les transactions CICS sous forme de services Web, donnez un nouvel élan à vos applications mainframe

TA41

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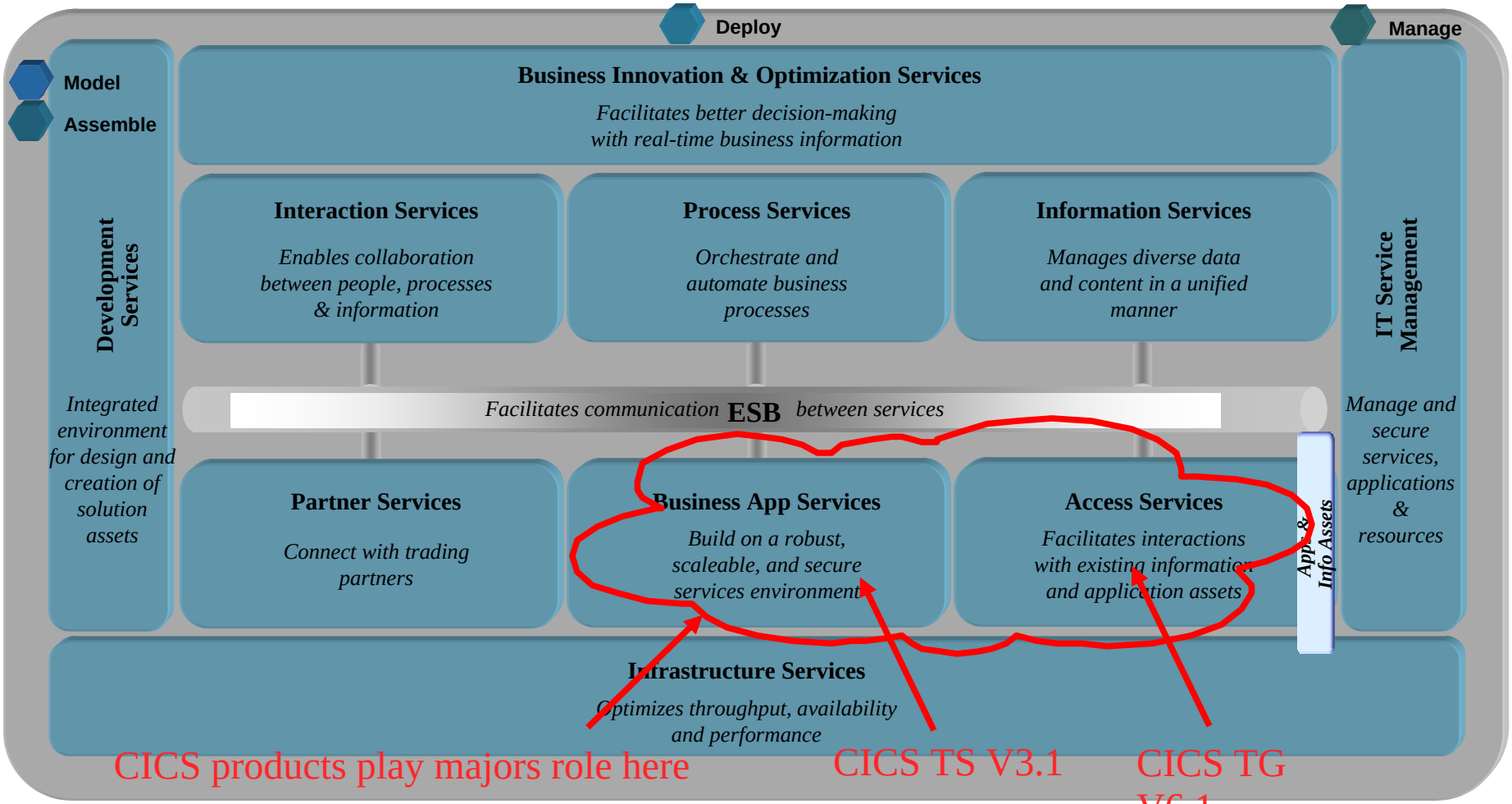
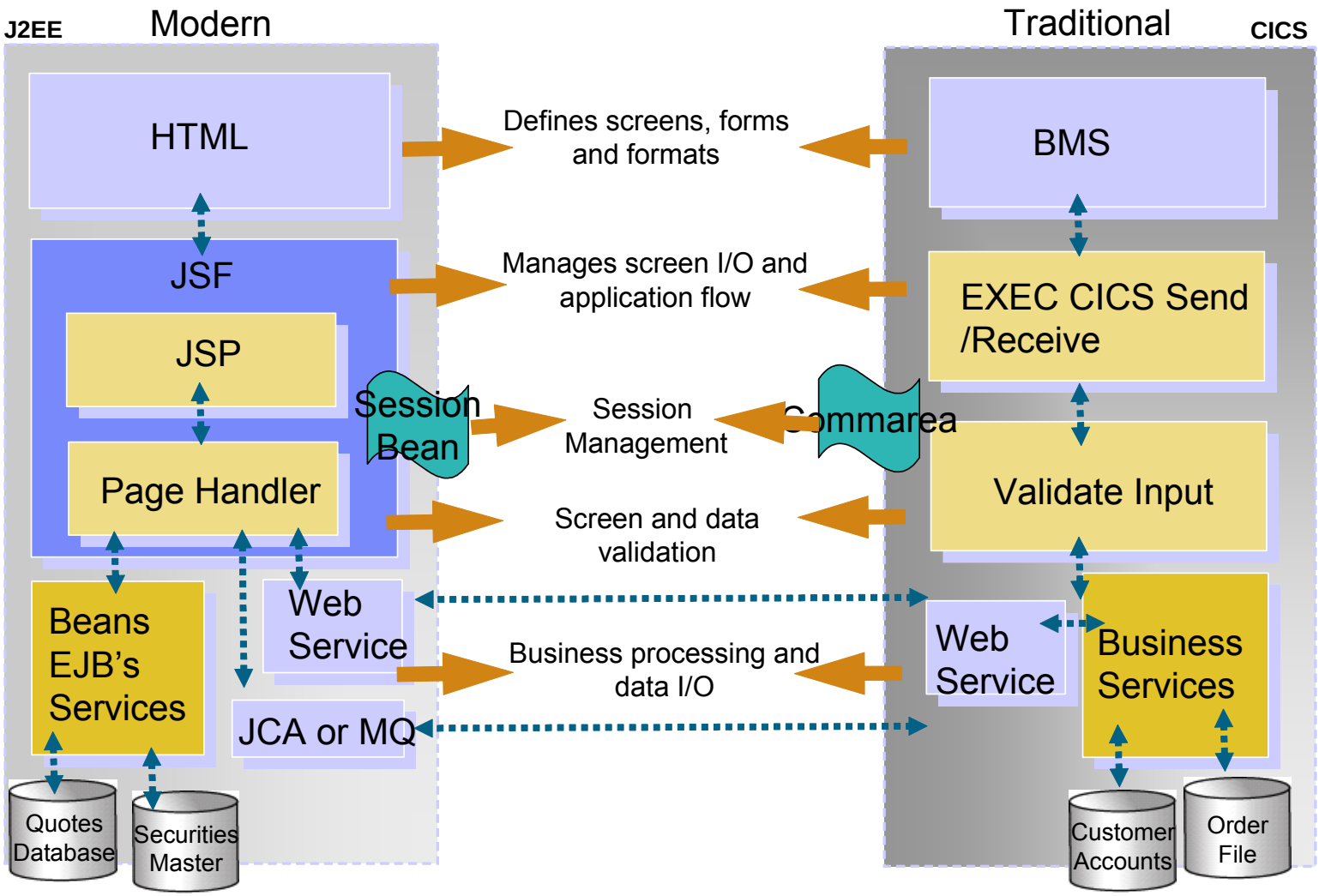
SWG System z Tech. Sales

SOA Reference Architecture

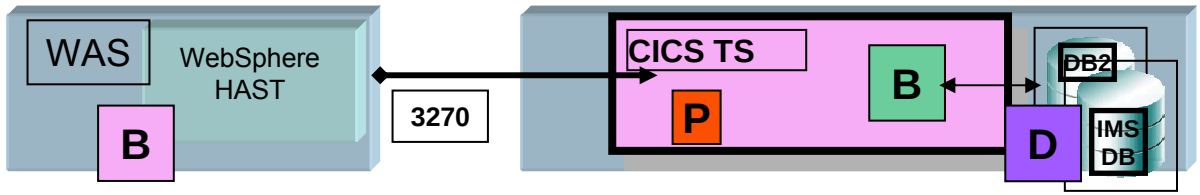


CICS : Applications dites « Modernes » et

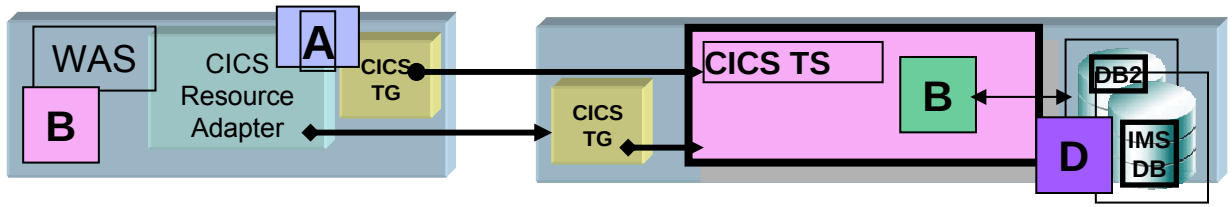


CICS Transactions - Connectivity Solutions

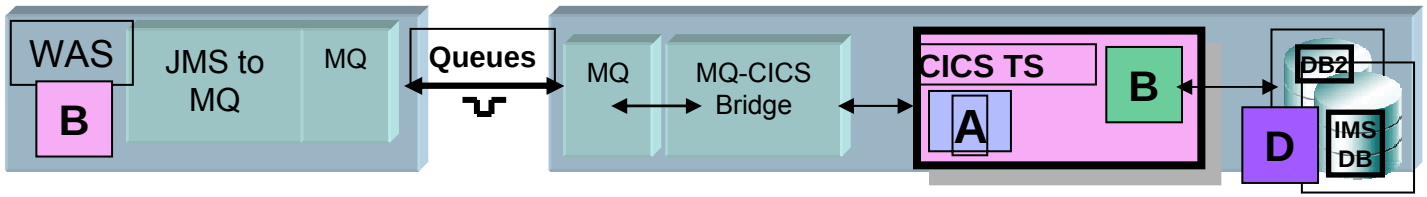
WebSphere Host Access Transformation Services (HATS)



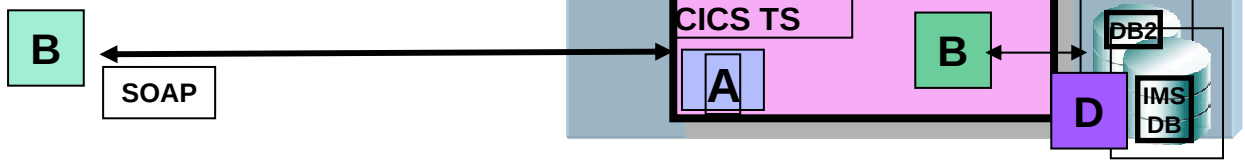
JCA Connector: CICS Transaction Gateway



JMS Connector: MQ to CICS Bridge



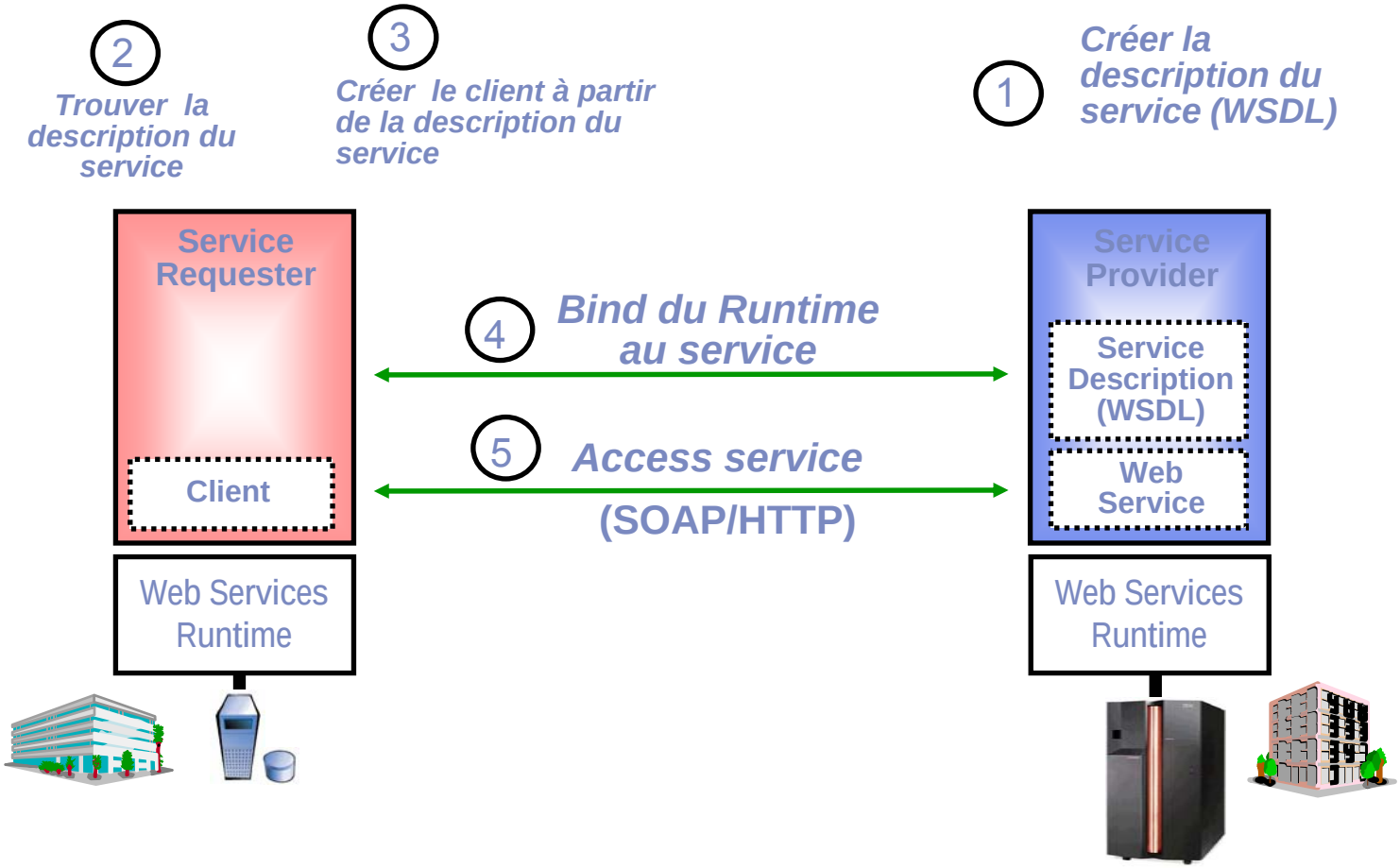
SOAP Access: CICS Web services Support



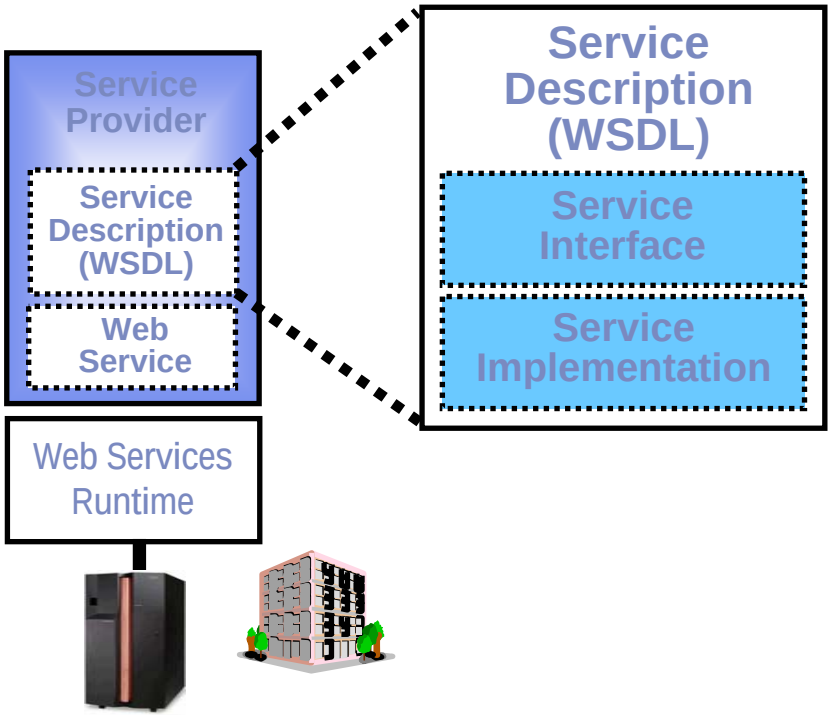
WAS can be on z/OS, on zLinux or on any distributed platform. Qualities of Services will vary.

Les Web Services dans CICS

Web Services : Quelques rappels



Description du Service par WSDL



- **Web Services Description Language (WSDL) écrit en XML**
  - Abstraction sur la définition des opérations
  - Paramètres Input / output et types de données
  - Implementation en language neutre
- **Description Complete “Network services or component”**
  - fonctionnalités
    - Service Interface
  - Comment ils communiquent
  - Ou ils résident
    - Service Implementation
- **Outils de Developpement**
  - Les “Provider” l’utilisent pour documenter les services
  - Les “Consumer” l’utilisent pour générer le code du client accédant au service

Exposer les applications CICS comme Web Services

Web Services offre la réutilisation et l'interopérabilité.

Mais comment transformer mes applications CICS pour communiquer avec les Web Services?

On Demand Insurance
CIO

CICS TS Version 3.1 offre la capacité d'exposer les programmes existants comme des web services

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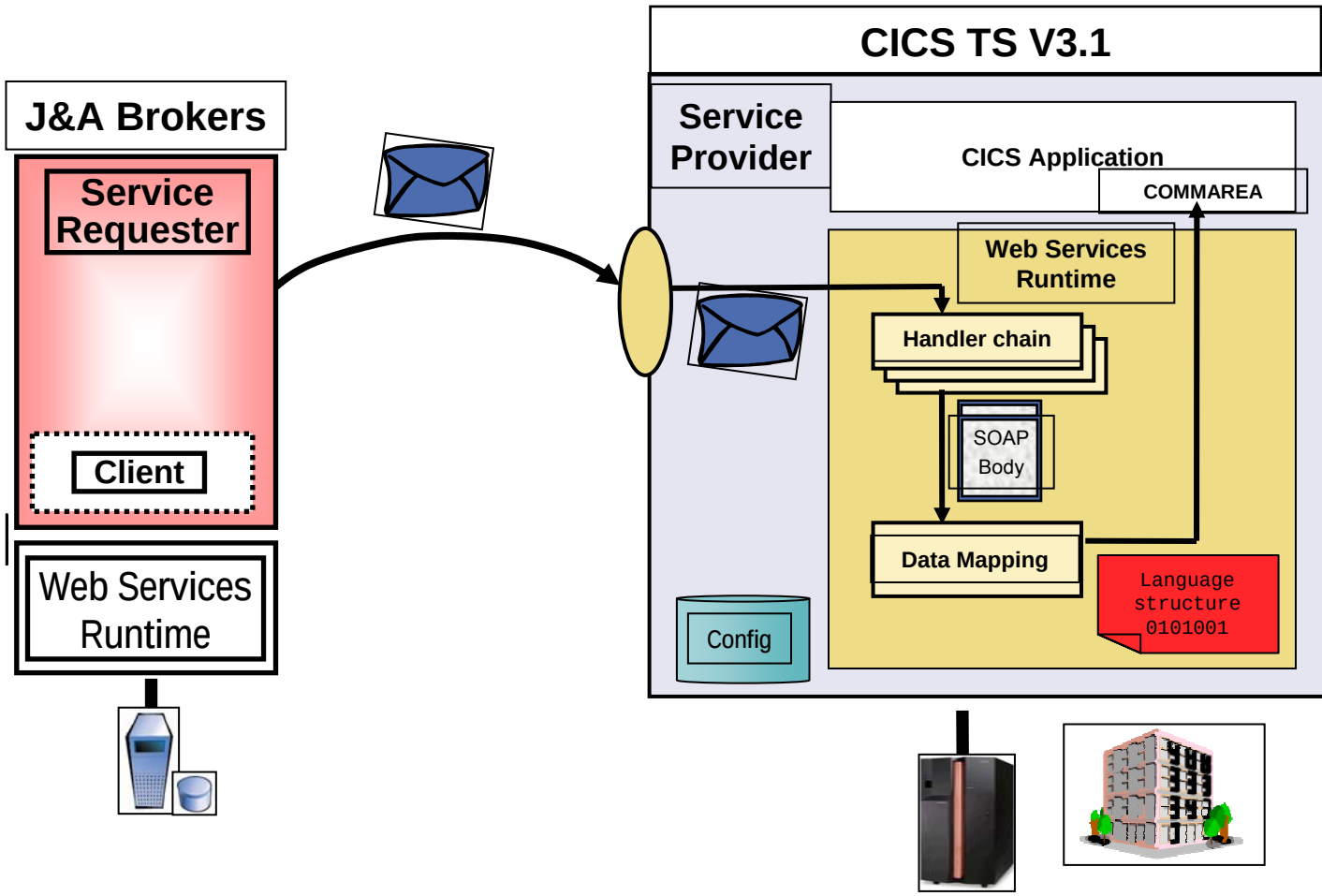
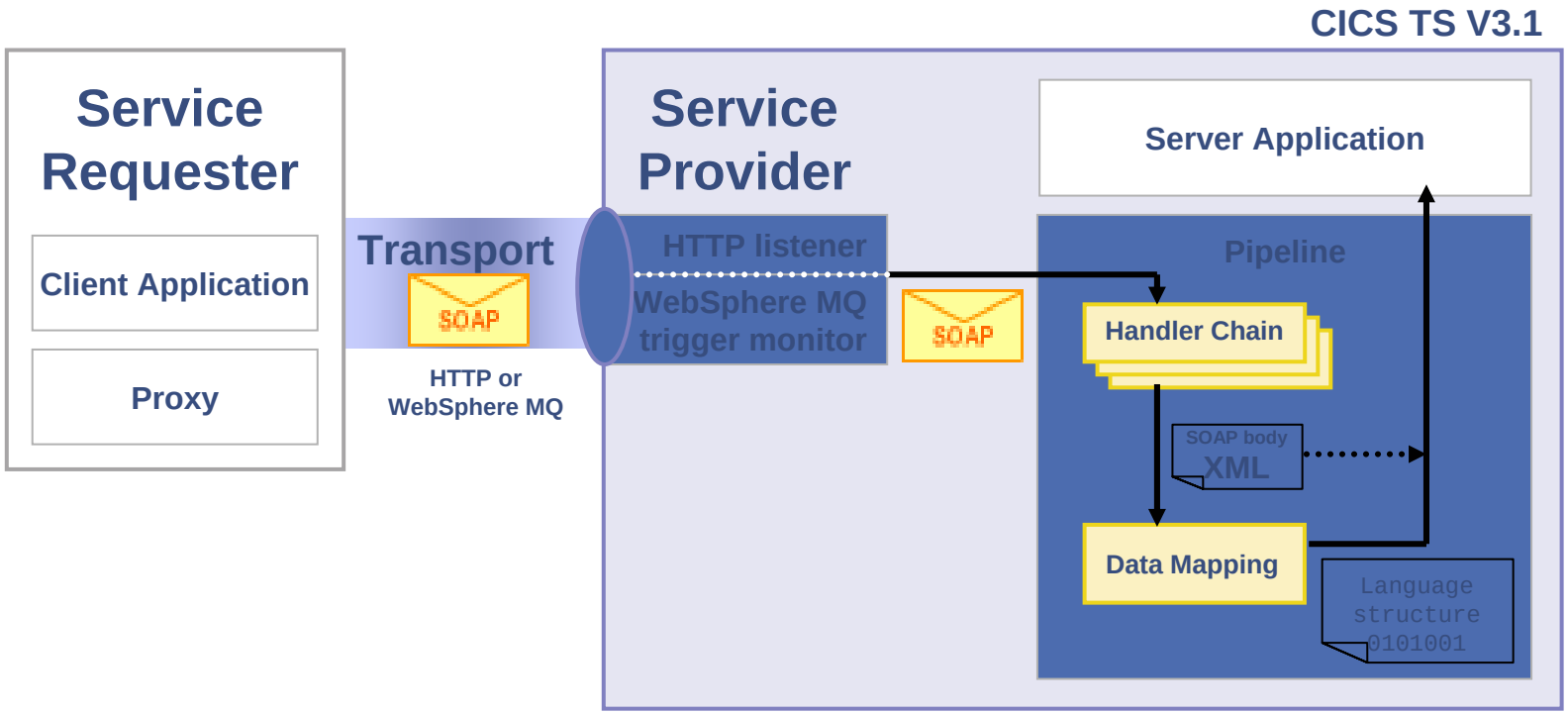
Comment CICS Web Service marche ?

1. **Réception de la requête SOAP**
2. **CICS Web Services runtime recupère le message**
3. **Handler chain traite le message SOAP**
4. **Data Mapping transforme l'XML en bytes, appel l'application serveur**



CICS as a Web service provider

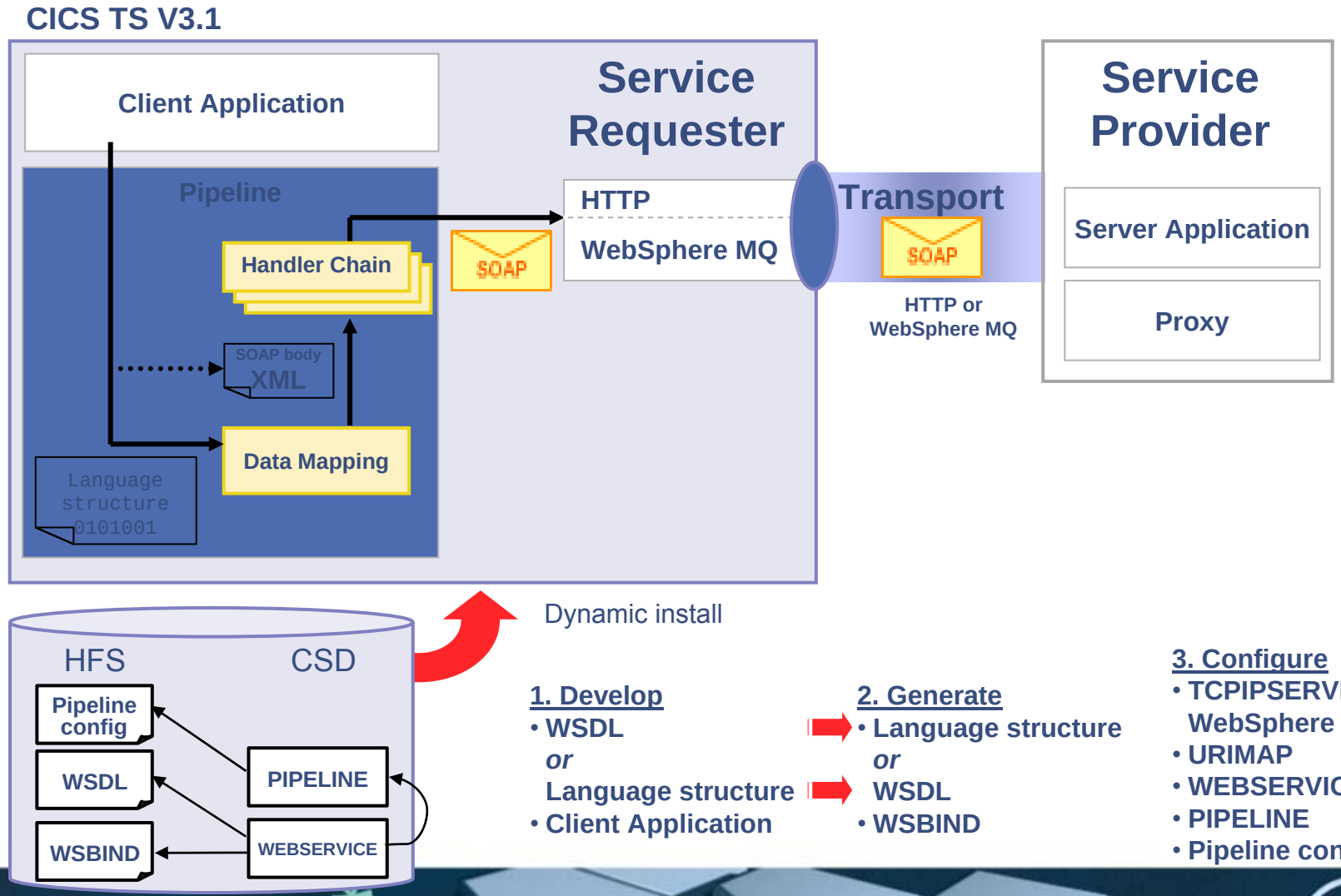


1. Develop
- WSDL
  or
  Language structure
- Server Application

2. Generate
- Language structure
  or
  WSDL
- WSBIND

3. Configure
- TCPIPSERVICE *or* WebSphere MQ
- URIMAP
- WEBSERVICE
- PIPELINE
- Pipeline configuration

CICS as a Web service requester



Fonctionnalités offertes par CICS TS V31 pour les Web Services

Nouveautés : Evolution de SOAP pour CICS

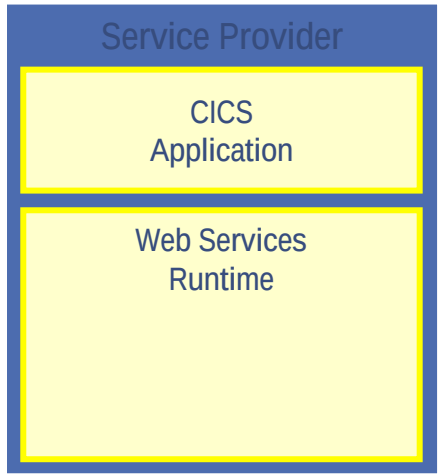
- Nouvelle infrastructure agissant comme un vrai Web Service.
  - Support de SOAP 1.1 & 1.2, WS-AtomicTransaction, WS-Security
- integration totale dans CICS
  - RDO, system management, problem determination, monitoring & statistics, etc.
- Nouvel outil de support au développement ➔ WDZ

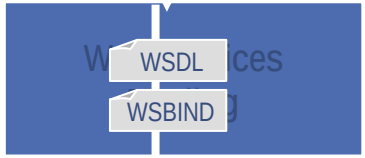
Nouvelles fonctionnalités

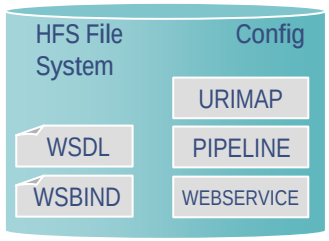
- Resource definitions
  - URIMAP, PIPELINE, WEBSERVICE
- configuration du pipeline très flexible
- *Utilitaires pour*:
  - génération de language structure à partir de WSDL
  - génération de WSDL à partir du language structuré
- Support du “Data mapping” dans le runtime
  - entre le message SOAP et le language structuré
- Nouveaux API “EXEC CICS” pour les requêtes “outbound”

Comment exposer les applications CICS comme “Web Service Provider” ?

1. **Récupération de la commarea**
2. **Génération du WSDL à partir de la commarea + WSBIND**
3. **Copie des fichiers sur le system host(WSBIND).**
    1. PIPELINE definition
4. **CICS installe automatiquement tous les artifacts**
5. **L’application CICS est alors disponible comme web service**



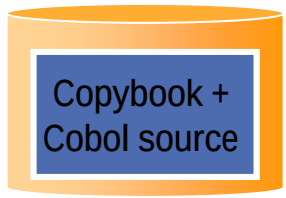


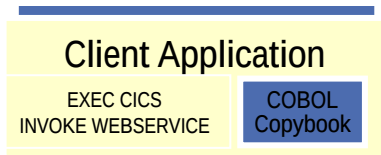


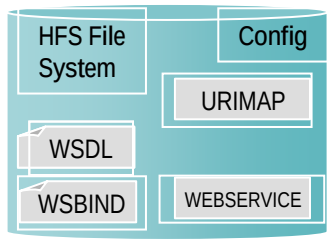
Comment une application CICS peut appeller des “Web Services” en tant que Requester ?

1. **Partir du WSDL**
2. **Generer les fichiers “WSBIND” + “copybook” + “Template source Cobol” à partir du WSDL**
3. **CICS installe automatiquement les définitions nécessaires**
4. **L’application Cliente utilise le “copybook” généré**
5. **Appel du web service par la commande**

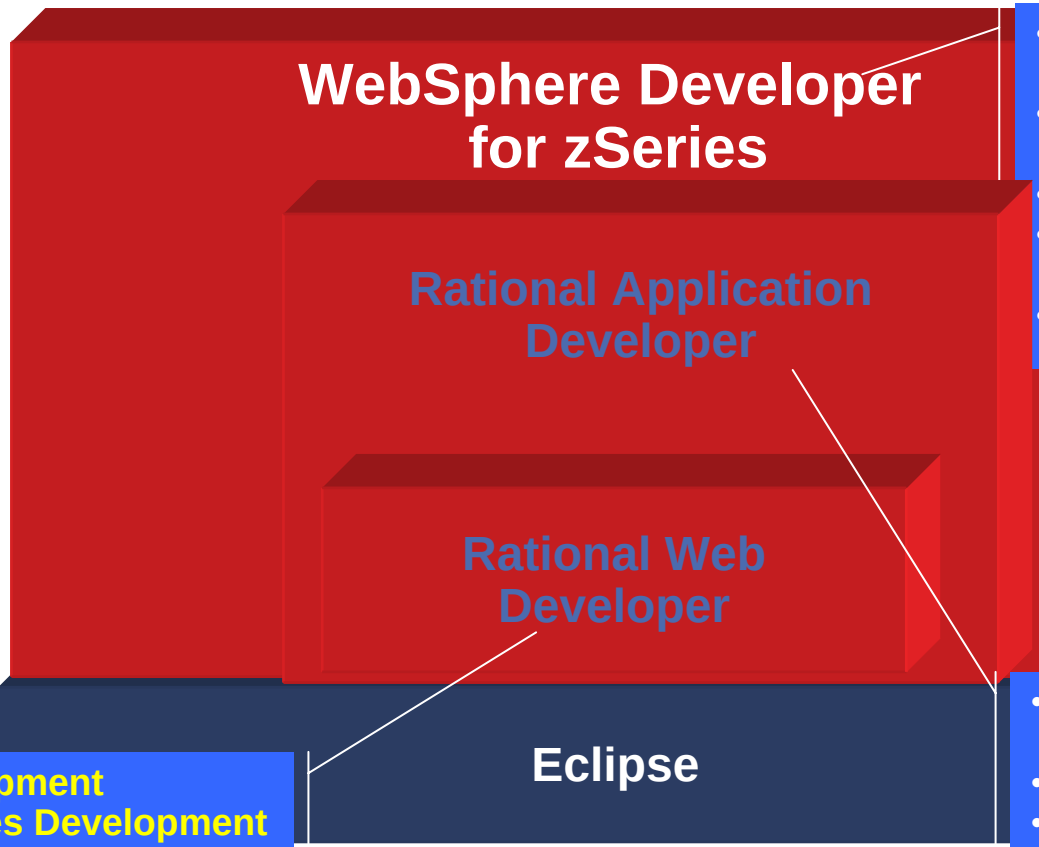
   “EXEC CICS INVOKE WEBSERVICE “







Outils de developpement → WebSphere Developer for



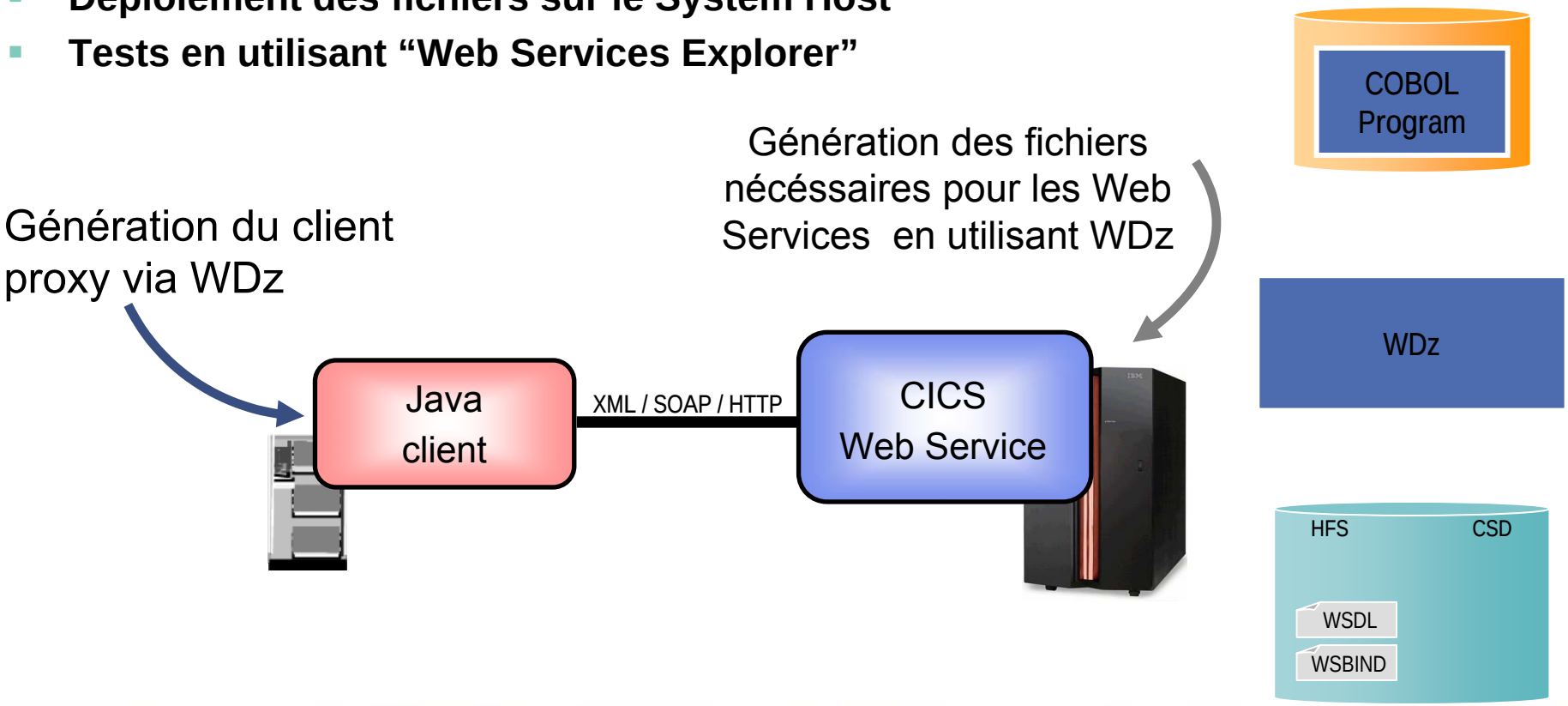
- z/OS Application Development
- XML Services for the Enterprise
- BMS Map Editor
- COBOL and PL/I DB2 Stored Procedure
- EGL COBOL Generation

- J2EE/EJB & Portal Development
- Component Testing
- Code Review & Runtime Analysis
- UML Visual Editors
- Configuration Management

- Web Development
- Web Services Development
- Rich Client Development
- XML & Database Tools
- 4GL Development

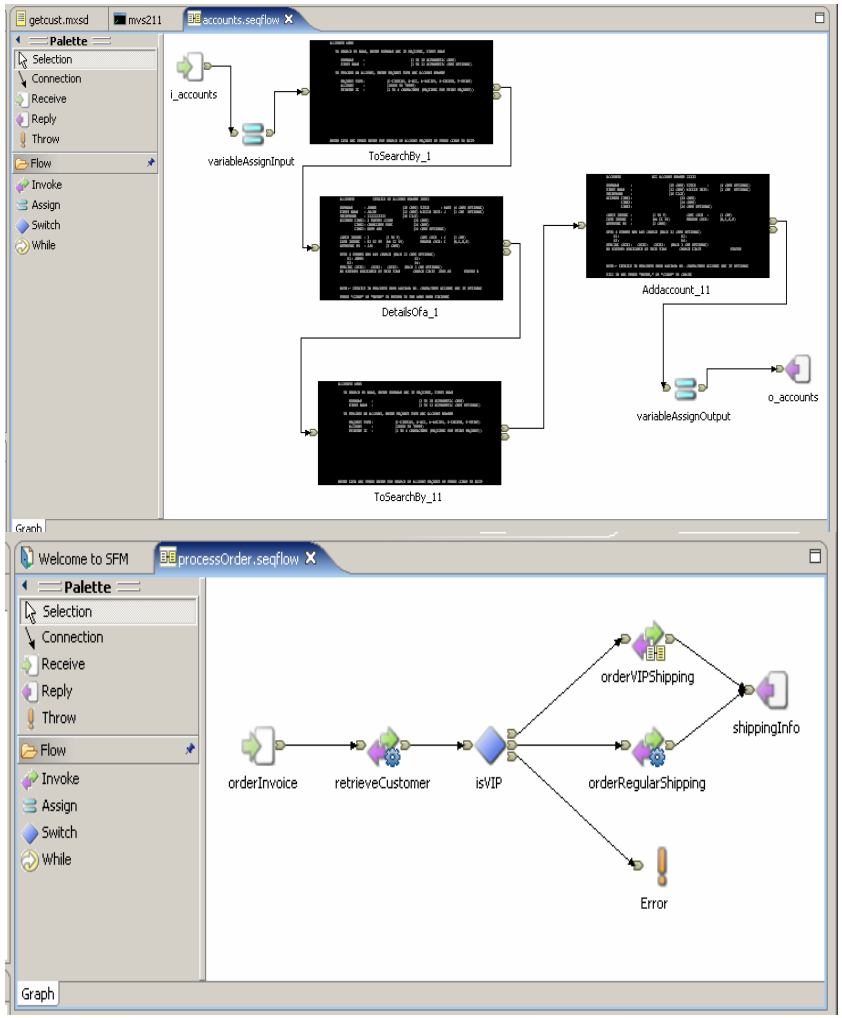
Comment utiliser “WDz” pour exposer les applications CICS comme Web Service ?

- **Generation des fichiers WSDL et WSBIND**
- **Deploiement des fichiers sur le System Host**
- **Tests en utilisant “Web Services Explorer”**

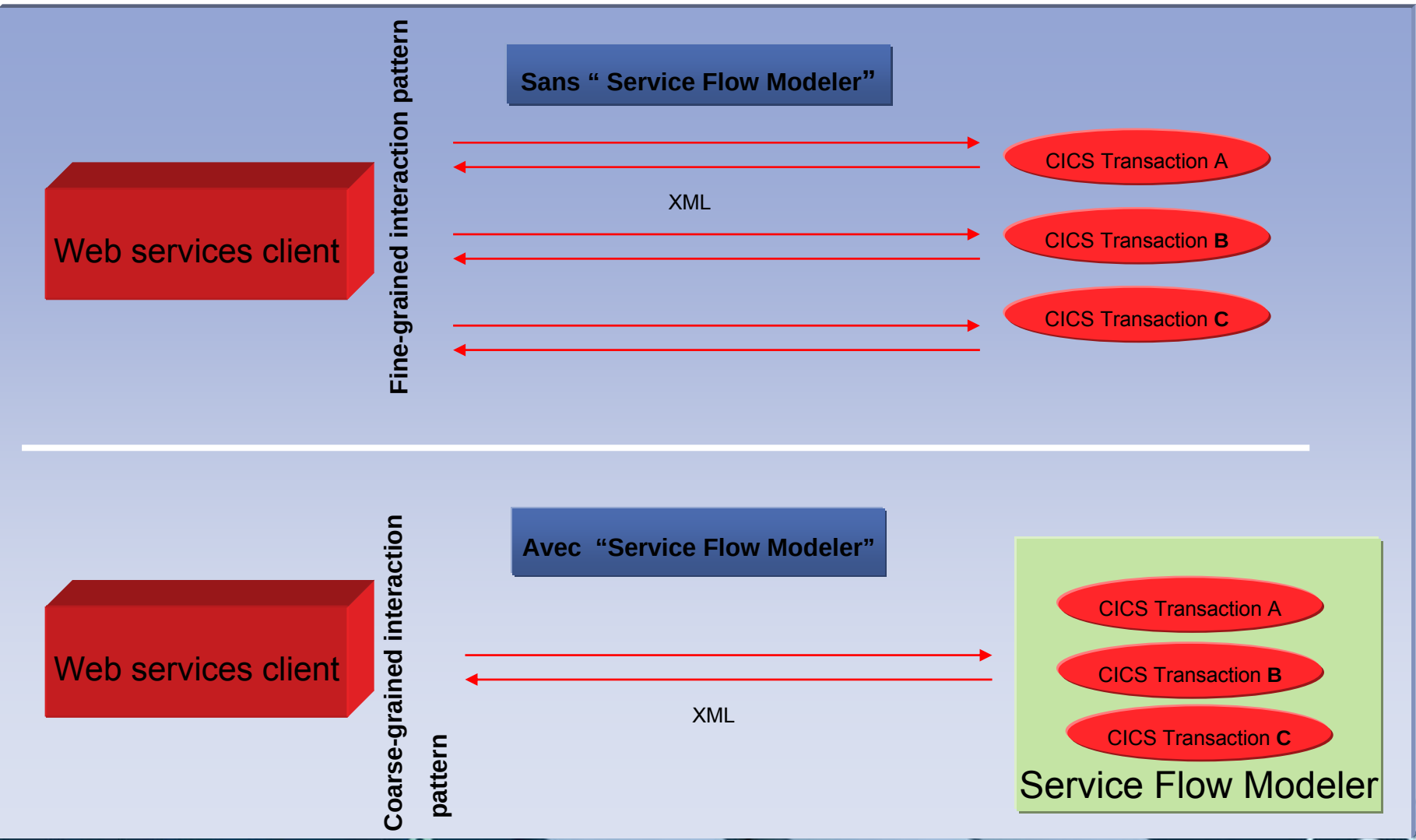


"Service Flow Modeler" (SFM)

- **Service Flow Modeler est l'outil permettant de construire un flow de services en se basant sur des Commarea et applications Terminal CICS.**
- **Permet de gerer :**
  - - Model business process
  - - Implementation de business process par aggregation de multiple transactions d' invocations, interactions terminal, et sub-flows
  - - Déploiement de ces aggregations dans le runtime inclut dans CICS Transaction Server V3.1 ou WebSphere Application Server
  - - Optionnellement le deploiment du business process comme web services.
- **Ce Concept de développement est compatible avec d'autres tâches de développement SOA**

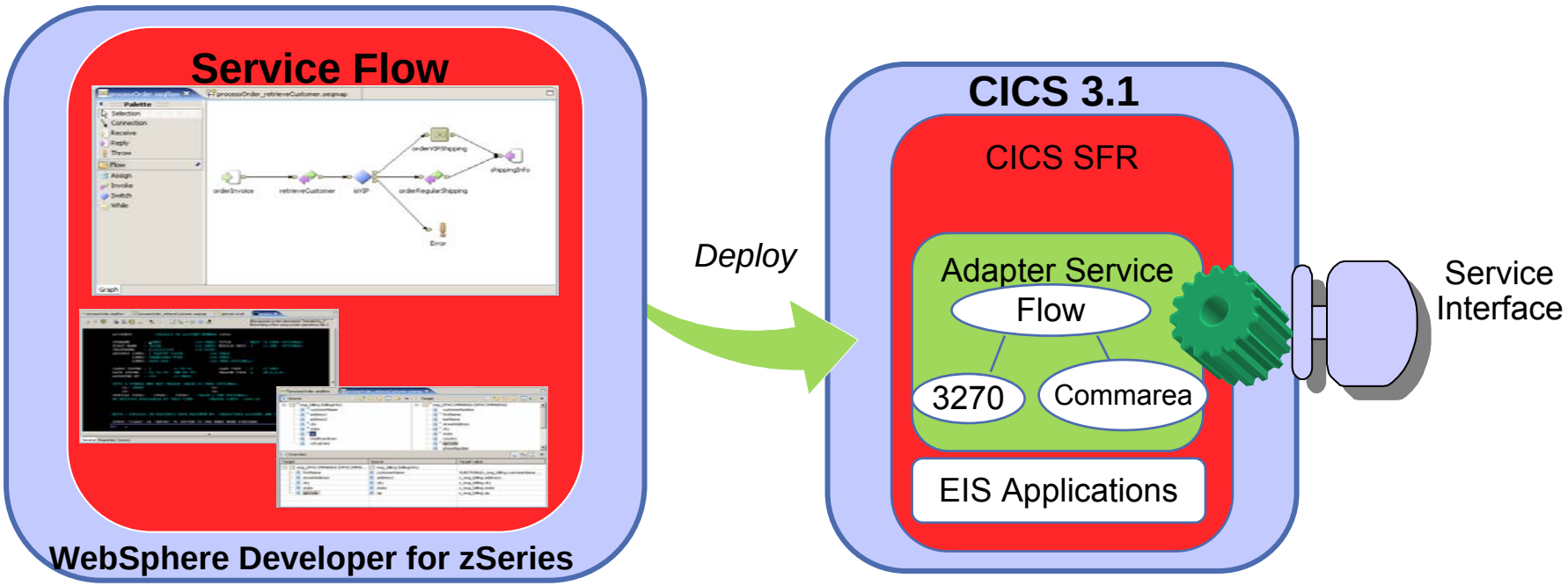


Service Flow Modeler dans WDz 6.0.1

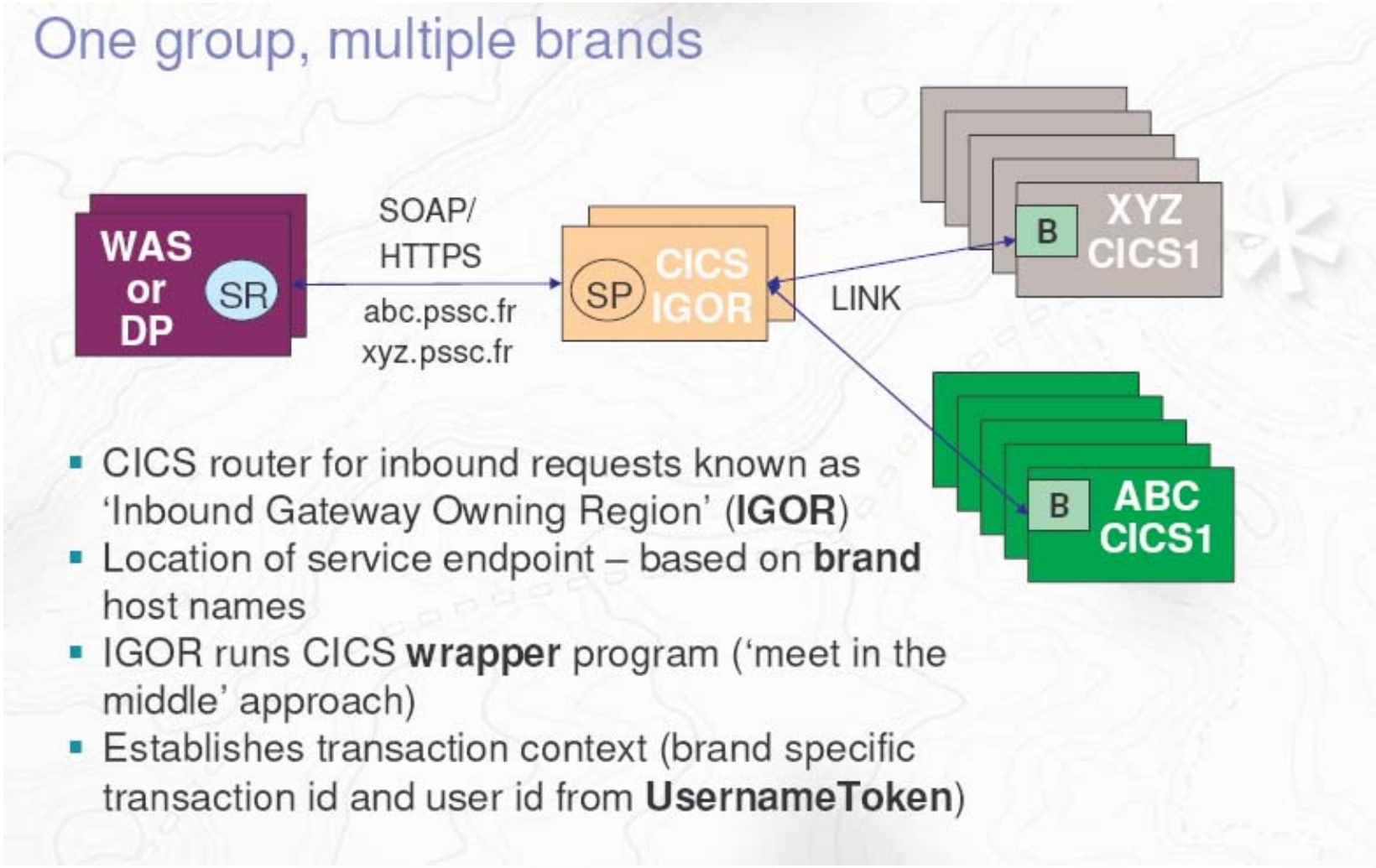


Service Flow Modeler

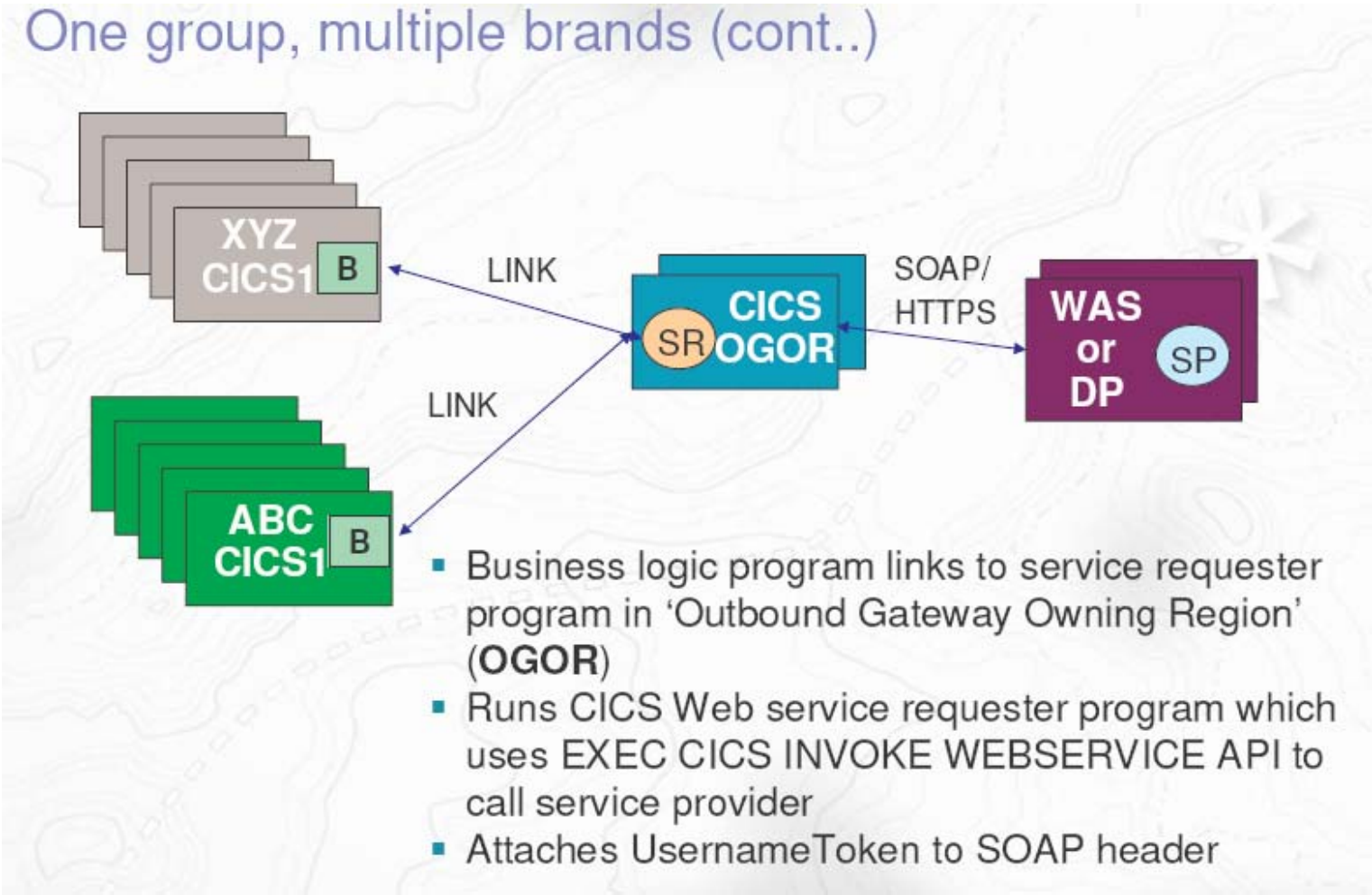
- **Visual Designer in WDz**
  - Wire CICS applications together into a reusable flow
  - Wire sequence of BMS screens into a reusable flow
- **Expose flow as web service**
  - Can be called from other larger business process flows
- **CICS deployment**
  - Deploy to Service Flow Runtime in CICS TS 3.1



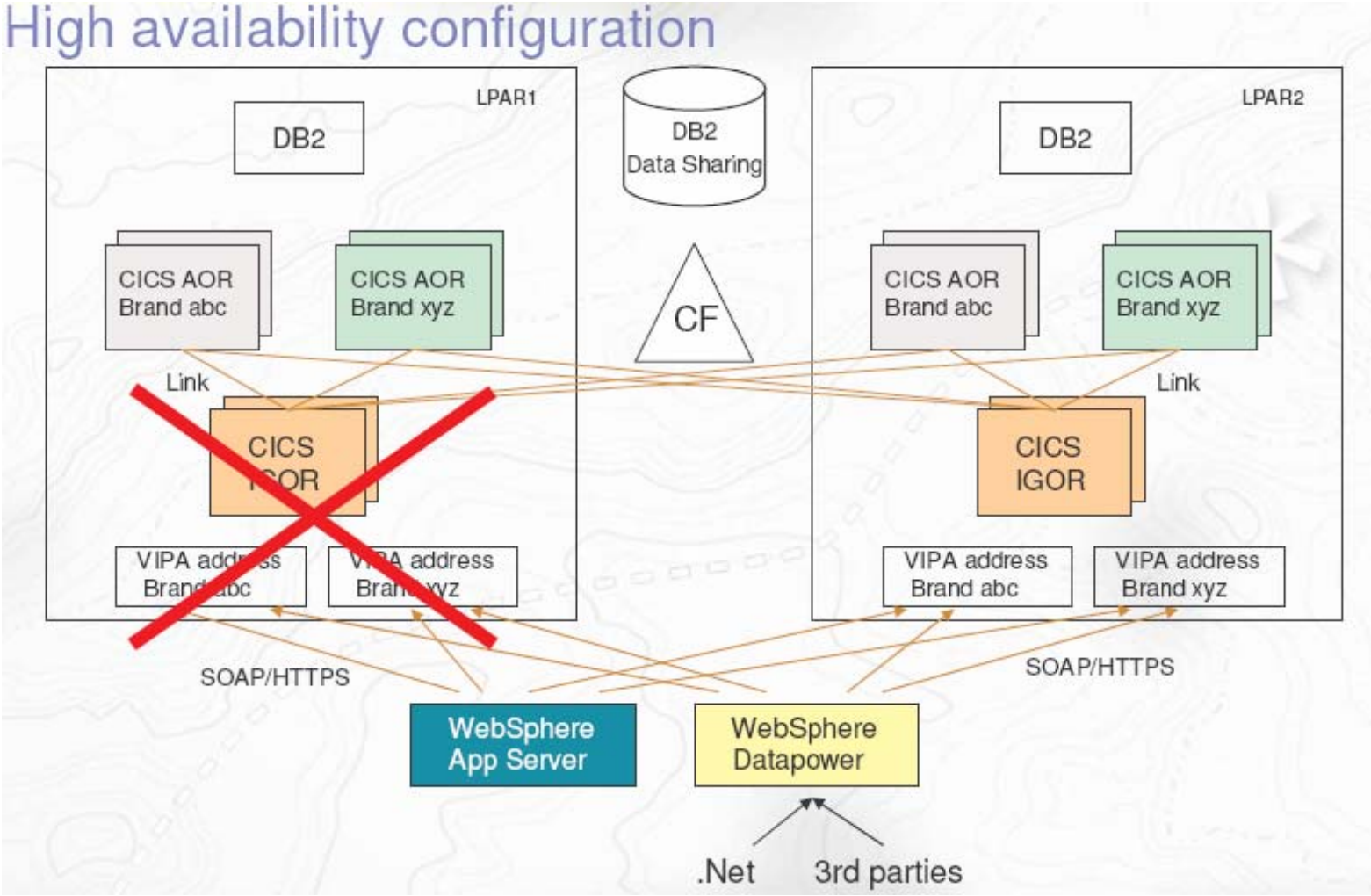
High Availability ➔ CICS WS as Provider



High Availability ➔ CICS WS as Requester



High Availability ➔ Fail Over



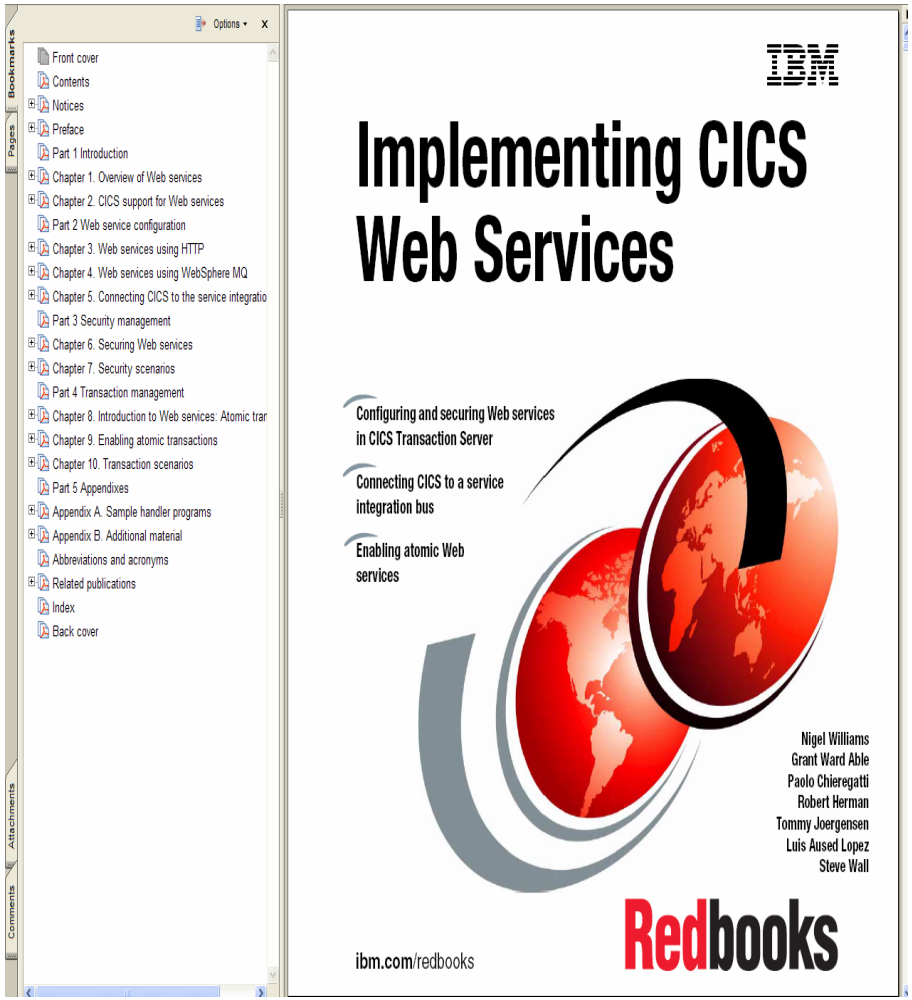
CICS TS 3.2 Support of External Standards…

- **SOAP**
  - SOAP 1.1 and 1.2
  - SOAP 1.1 Binding for MTOM 1.0
  - SOAP Message Transmission Optimization Mechanism (MTOM)
  - Web Services Security: SOAP Message Security
- **Web Services Atomic Transaction Version 1.0**
- **Web Services Coordination Version 1.0**
- **Web Services Description Language Version 1.1**
- **Web Services Description Language Version 2.0**
- **WSDL 1.1 Binding Extension for SOAP 1.2**

Nos « Proof Of Technology (POT) » pour aller plus loin

Dates : 27-28 Septembre 2007
&
16-17 octobre 2007

Lieu : Marne La Vallée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Implementing CICS Web Services
Configuring and securing Web services in CICS Transaction Server
Connecting CICS to a service integration bus
Enabling atomic Web services
Nigel Williams
Grant Ward Able
Paolo Chieregatti
Robert Herman
Tommy Joergensen
Luis Aused Lopez
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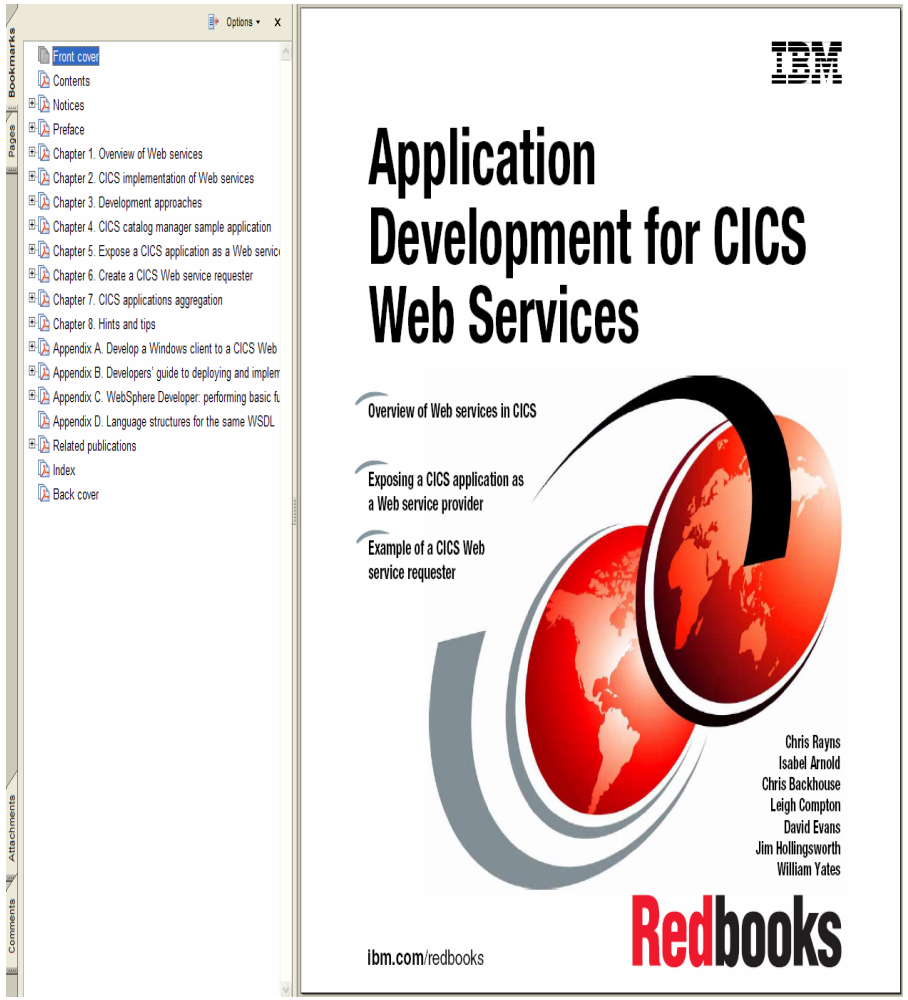
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Exposing a CICS application as a Web service provider
Example of a CICS Web service requester
Chris Rayns
Isabel Arnold
Chris Backhouse
Leigh Compton
David Evans
Jim Hollingsworth
William Yates
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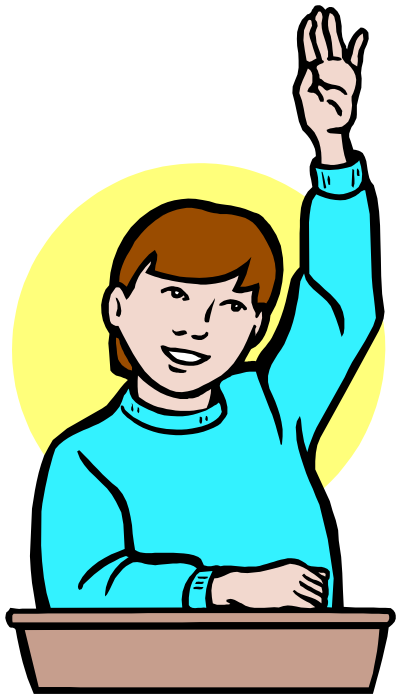

Questions?

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Thai

Спасибо
Russian

Gracias
Spanish

Thank You
English

Obrigado
Brazilian Portuguese

شكراً
Arabic

Merci
Français

Danke
German

多谢
Simplified Chinese

Grazie
Italian

நன்றி
Tamil

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Japanese

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