CodeX

CodeX

PortalConf 2002

Välkommna!

De svenska universiteten och högskolorna inbjuds att delta i ett nätverk för utbyte av erfarenheter, kod, design med mera. Det som just nu står högt i fokus är arbetet kring portaler.
En intressant artikel finns på:
Syllabusmagazin.

Medlemmar i styrgruppen:

Joakim Björklund, Linköpings universitet
Magnus Lindqvist, Lunds universitet
Per Wising, Stockholms universitet
Magnus Andersson, Umeå universitet
Dario Lopez-Kästen, Chalmers

Det finns en publik maillista: CodeX@listserv.liu.se
Styrgruppen har en maillista: codex-styrgrp@unit.liu.se

Agenda

Attendees

Portal Conference 2002

Portals and Web Services
The Swedish Universities IT-Directors Forum with Linköping University and Chalmers University of Technology invites all Swedish Higher Education institutes to a two day conference about the new development in portals, Web Services, Java, Soap, uPortal, Authorisation systems and more.
The conference is held June 27 - 28 at Chalmers in Gothenburg.
The conference is held at Chalmers in Gothenburg, Sweden. This is how you find your way to Chalmers.
The room we will be in is located in Chalmers conference center in Kårhuset. Entrance at Chalmers mainentrance at Chalmersplatsen. The room is called "Lilla Salen" and is located at the second floor. This is the map to guide you to the conference center (look at the top left corner).

Sponsors

The dinner the 28:th is sponsored by SUN.
The conferece place is sponsored by Inserve.

Hotel recommendation

Panorama hotell is the recommended conference hotel. It is close to both Chalmers and the city. The booking telephonenumber is +46 (0)31 7677000, Fax: +46 (0)31 7677070. To get the discounted price please state that you are attending the "Portal2002 conference held at Chalmers".

Wednesday 26 June 2002

18.30 - Late Pre conference dinner and discussion

Gather in the lobby of Panorama hotell and then we will walk to a resturant. This event is not sponsored, ie you need to pay for the dinner yourself.

Thursday 27 June 2002

08.00 - 09.30 Registrering, Coffee
09.30 - 09.45 Welcome! Joakim och JML
09.45 - 10.30 Linköping University
10.30 - 11.15 Oslo universitet
11.15 - 12.00 BEA

12.00 - 13.30 Lunch and Exhibition
13.30 - 14.15 IBM - Mikkel Hessner Bendtsen
14.15 - 15.00 Lund University
15.00 - 15.30 Coffee and Exhibition
15.30 - 16.15 Lecando
16.15 - 17.00 Umeå University
17.15 - 18.00 SUN
18.00 - 19.30 Formation of a Swedish High Education Code Exchange and a Swedish uPortal User Group

19.30 - 21.00 Dinner sponsored by SUN

Friday 28 June 2002

08.30 - 09.15 NyA / Ladok på webb
09.15 - 09.45 Coffee and Exhibition
09.45 - 10.30 Chalmers
10.30 - 11.15 Campus Pipeline - Joshua Horner and Kimberly Woods
11.15 - 12.00 Göteborgs universitet
12.00 - 13.30 Lunch and exhibition
13.30 - 14.15 Köpenhamns Universitet
14.15 - 15.00 Closure, Panel, free discussion

Food

All lunches, the dinner and coffee will be eating close to Lilla Salen.
The dinner is sponsored by SUN Microsystem.
Questions can be sent to Joakim Björklund joakim@unit.liu.se, Director of IT Services Division (UNIT) at Linköpings universitet.

Portal Conference 2002

The conference was held June 27 - 28 at Chalmers in Gothenburg.

Presentations

Torbjörn Wiberg, Middleware for Web Services
Magnus Lindqvist, Lund University
Tommy Hägvall, IBM

Attendees

1. Joakim Björklund, Linköpings universitet
2. Patrick Moreau-Raquin, Linköpings universitet
3. Erik Melkersson, Linköpings universitet
4. Jens Carlberg, Linköpings universitet
5. Johannes Hassmund, Linköpings universitet
6. Håkan Rask, Linköpings universitet
7. Jan-Martin Löwendahl, Chalmers
8. Dario Lopez-Kästen, Chalmers
9. Gun Wallius, Chalmers
10. Kjell Johansson, Chalmers
11. Magnus Holmström, Chalmers
12. Stellan Englén, Chalmers
13. Fredrik Öhrn, Chalmers
14. Einar Blåberg, Chalmers
15. Erik Arvidson, Chalmers
16. Niclas Stoldt, Chalmers/Sigma nBiT
17. Daniel Almgren, KTH
18. Joakim Petersson, KTH
19. Ragnar Andersson, KTH
20. Anders Herlitz, KTH
21. Reijo Soréus, KTH
22. Malin Källström , Stockholms universitet
23. Per Wising, Stockholms universitet
24. Max Quetel, Stockholms universitet
25. Lars Thelin, Stockholms universitet
26. Sven Arvidson, Uppsala universitet
27. Margareta Forslund , Luleå Tekniska universitet
28. Anders Nilsson, Luleå Tekniska universitet
29. Kerstin Malmborg, Luleå Tekniska universitet
30. Karin Lindholm, Luleå Tekniska universitet
31. Bengt-Olov Jansson, Luleå Tekniska universitet
32. Margareta Forslund, Luleå Tekniska universitet
33. Mia Fredriksson, Luleå Tekniska universitet
34. Torbjörn Wiberg, Umeå universitet
35. Magnus Andersson, Umeå universitet
36. Karoline Westerlund, Umeå universitet
37. Cleas Asker, Karlstads universitet
38. Mats Möller, Karlstads universitet
39. Leif Lagebrand, Blekinge tekniska högskola
40. Per Nyström, Karolinska Institutet
41. Carl Jarnling, Karolinska Institutet
42. Alex Gatica, Karolinska Institutet
43. Johan Bergström, Ladok
44. Sören Berglund, Ladok
45. Arne Sundström, Lunds universitet
46. Magnus Lindström, Lunds universitet
47. Lennart Jareteg, Göteborgs universitet
48. Marta Petrides, Göteborgs universitet
49. Maxi Lubian, Göteborgs universitet
50. Mikael Stoltz, Göteborgs universitet
51. Jonas Öberg, Göteborgs universitet
52. Linda Kulleberg, IT-universitetet i Göteborg
53. Eva Berg, Handelshögskolan Göteborg
54. Petter Karlström, Nationella forskarskolan i språkteknologi, Göteborgs universitet
55. Robert Andersson, Nationella forskarskolan i språkteknologi, Göteborgs universitet
56. Erik Jandersson, Växjö Universitet

57. Annette Johansson, Högskolan i Trollhättan/Uddevalla
58. Tobias Ekenstam, Högskolan i Trollhättan/Uddevalla
59. Fredrik Westermarck, Mälardalens högskola
60. Magnus Bergroth, Mälardalens högskola
61. Ingvar Jaxell, Malmö högskola
62. Jesper Wokander, Malmö högskola
63. John Baarli, Universitetet i Oslo
64. Tore Vatnan, Universitetet i Oslo
65. Jan Erik Frantsvåg, Universitetet i Tromsø
66. Claus Damgaard, Köpenhamns universitet, Danmark
67. Mads Freek Petersen, Roskilde University, Danmark
68. Ulla Mortensen, Roskilde University, Danmark
69. Stig-Göran Lindqvist, Åbo Akademi, Finland
70. Kuno Öhrman, Svenska handelshögskolan, Finland
71. Jef Matthe, SUN
72. Kent Åberg, SUN
73. Inge Persson, SUN
74. Peter Åkesson, SUN
75. Mikael Rykatkin, SUN
76. Ulf Frisk, Inserve Technology AB
77. Richard Hallin, Inserve Technology AB
78. Matts Iwarson, Inserve Technology AB
79. Niklas Paulsson, Inserve Technology AB
80. Mikkel Hessner Bendtsen, IBM Nordic
81. Peter Lindborg, IBM Sweden
82. Torgny Söderqvist, IBM Sweden
83. Peter Bielik, BEA systems
84. Carl-Axel Eriksson, Lecando
85. Kimberly Woods, Campus Pipeline
86. Joshua Horner, Campus Pipeline

SPOCP –
A Middleware for Web Services

See http://www.umu.se/it/personal/tvw/pub/
for newer versions of this content

(Middleware = Network Based Infrastructural Services)

Torbjörn Wiberg
CIO, UmU

Content

- Web Services
- Middleware for Authentication and Authorisation
- SPOCP – An Authorisation Service

- Presented at the Portal Conference in Göteborg, 2002-06-27—28 and revised 020917

Web Service Characteristics

- I hadn't really reflected over the term 6 months ago and I don't really know the exact definition. Perhaps:
  - Services using http as a transport protocol between client and application server?
  - Often XML over http
  - Browser based clients (applets) or other http-clients
- It has grown out of the need to build applications for loosely coupled virtual communities
- Based on "standards"
  - WSDL - Web Services Definition Language – w3c, XML based
  - SOAP - Simple Object Access Protocol – w3c

Web Services?

- The service provided may be
  - Computing resources or data storage as in Grid Services
  - Content provisioning from libraries or publishers
  - Teaching content from university departments
  - Business information from our business systems
  - Student information provided in student portals
  - Communication such as instant messaging and web mail
  - See for ex http://news.com.com/2009-1017-275442.html?legacy=cnet

Why Web Services?

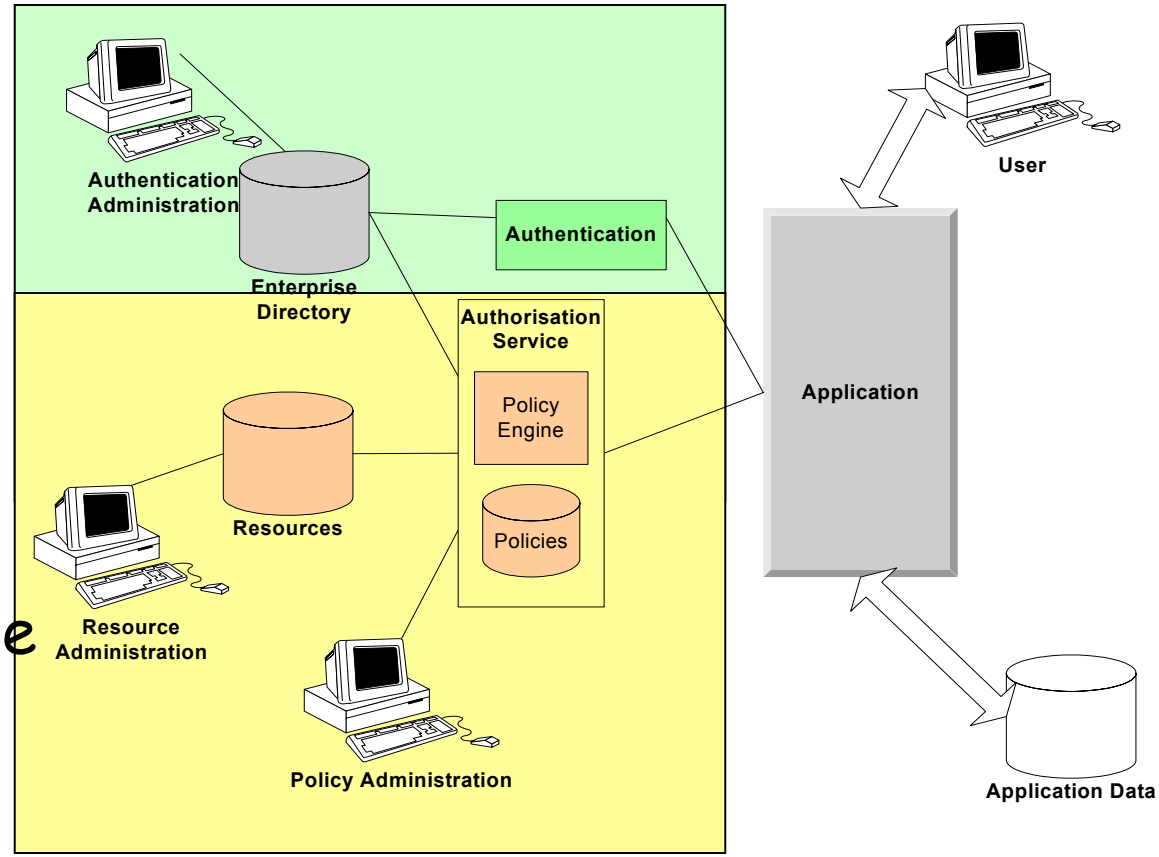
- Virtual communities have become more important
  - Local community → VPN → Virtual community
- Client/Server → Web Services
  - A practical solution!! No client support.
  - But browser dependencies. (Many clients.)
  - And perhaps other http-clients to improve (for instance) the user interface
- I am though suspicious again – I have a feeling that this may be a new way of pushing problems in front of you instead of deailing with them
  - We are busy setting up the services and do not concentrate on what problems there will be

Web Service Requirements

- We will all be members of several virtual communities and will increasing expect to be able to use the same authentication credentials in all of them. AA model:
  - Commonly accepted, federated authentication services
    - Federated - the authentication is done where the user belongs and the result is communicated in a uniform format
  - Authorisation attribute servers – enterprise directories
    - Web Services will require "standardised" external attributes – eduPerson – as a base
    - I believe Authorisation will use attribute servers
      - Question: What attributes shall on what grounds be made available to what application (privacy issue, and organisational security issue)
  - Policy based, trusted authorisation service
    - controlled/accepted by the individual web service and vice versa
    - using attribute servers

Authentication and Authorisation Service?

- By that we mean →
- The green part is the Authentication Service
- The yellow part is the Authorisation Service
- They shall be separate services
- The application may or may not be a Web Service
- These are Middleware Services



SPOCP

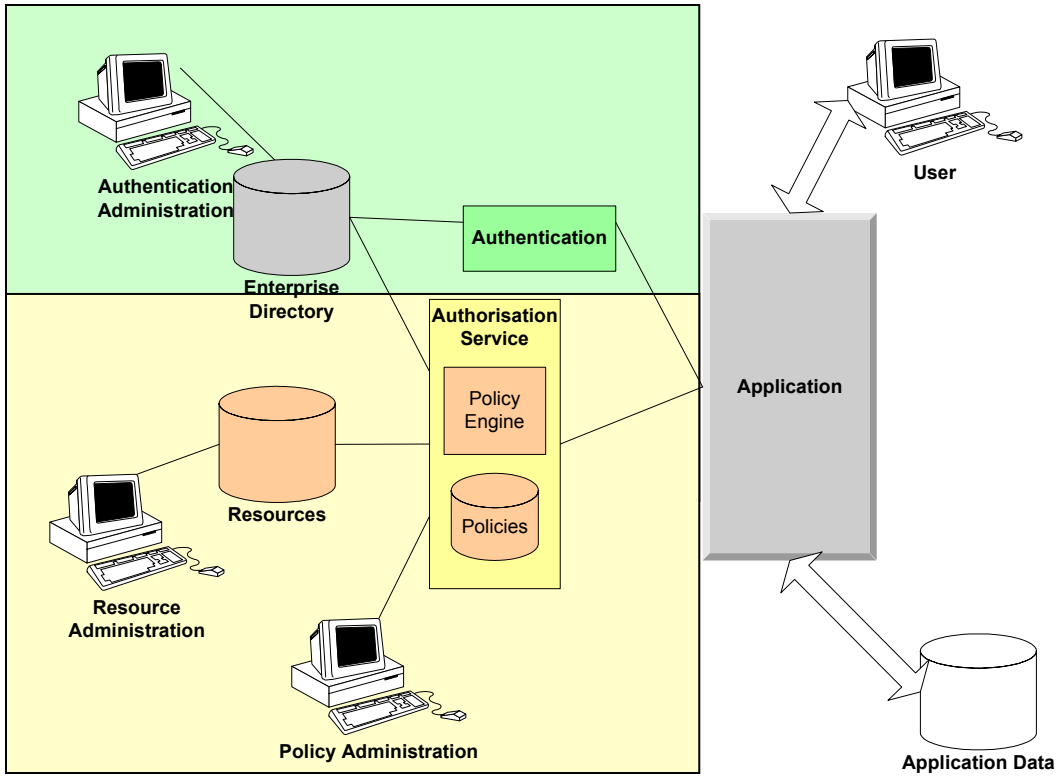
- (SPOCP – Simple Policy Control Project)
- A project to develop/provide a network based infrastructural service for authentication and policy based authorisation.
- Partners?
  - KI, LU, SU, Umu, Uninett, UU
- Financing - national funds and member fees
  - Sunet and NyA
- Licensing
  - My ambition is some form of open source
  - Not only GPL – Doesn't work for NyA

Why are we running the project?

- Our IT-systems are becoming more and more integrated through for instance web services, and the concept of a user is widening to, in many cases, include all our students and/or personnel.
- It is becoming more and more unrealistic to manage users, accounts and access control within each application.
- What can be viewed as authentication from one system's point of view is authorisation in an enterprise view.
- We need this middleware service

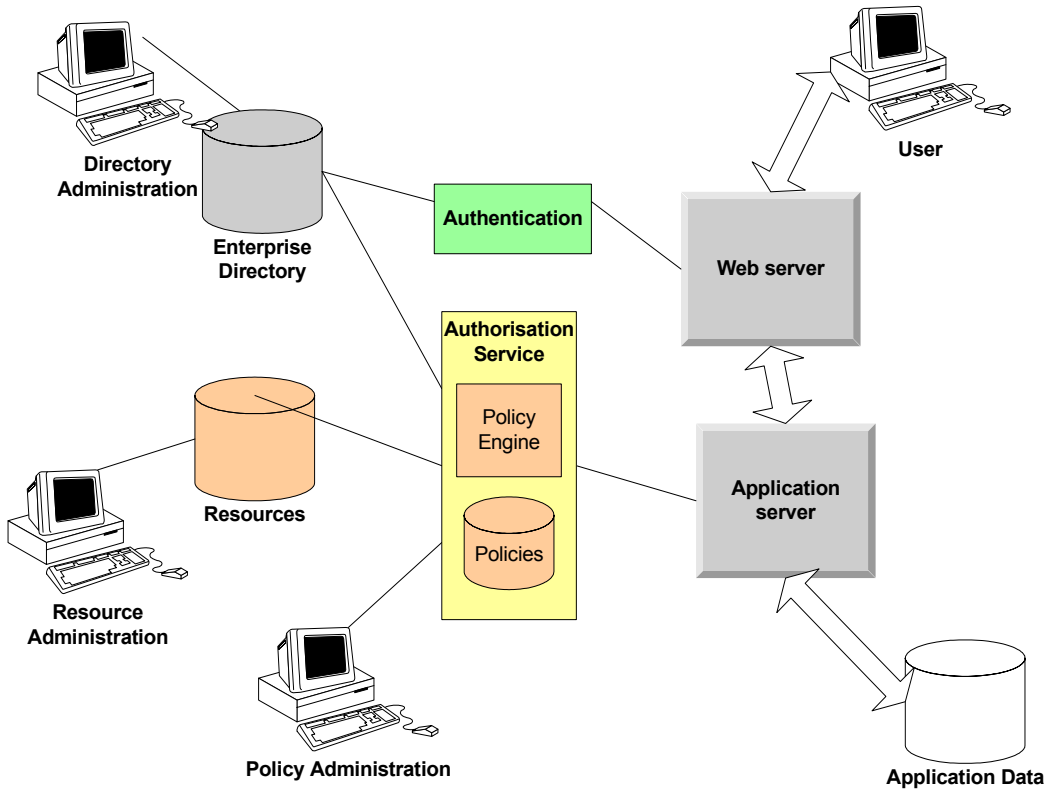
(Web) Service Model

- The web server authenticates the user to a certain strength
- When the user wants to do something in the application (have access to a resource), the application server asks the authorisation server for advice
- The authorisation server receives the request and, using the policies for the application and information about the resource and the user, does (not) recommend access
- The application does (not) grant access to the resource



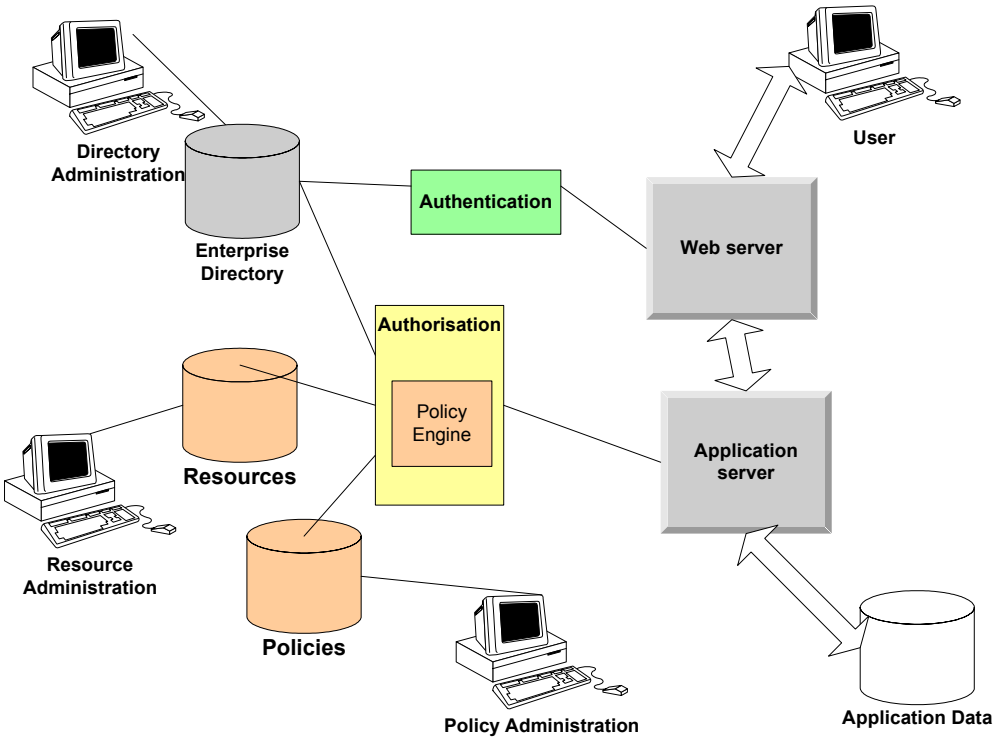
Deployment Models

- serve one particular application at a particular university
- serve a common application that is deployed independently at several universities
- use a general role data base for a university and serve several smaller web applications at that university
- provide authorisation advice to ONE application that has users in different universities



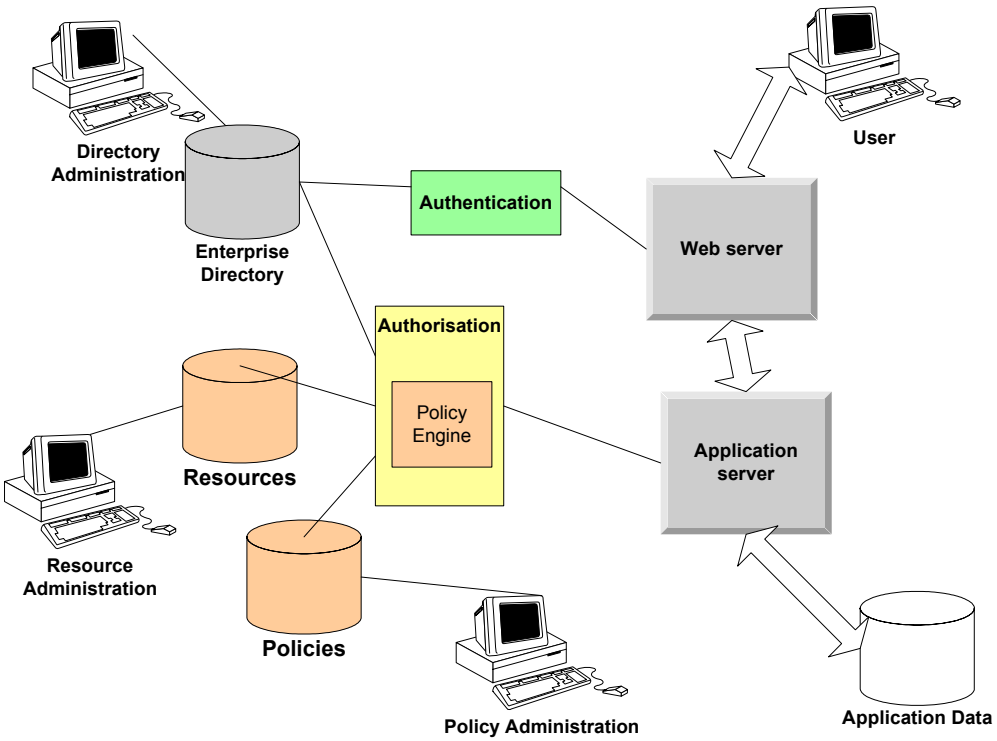
The First Model

- Serve one particular application at a particular university
  - An instance of the Authorisation Service is integrated with an application
  - The communication with the application may be on a secured local network or integrated with the serviced system
  - For instance as the authorisation system of NyA – the new admission system.



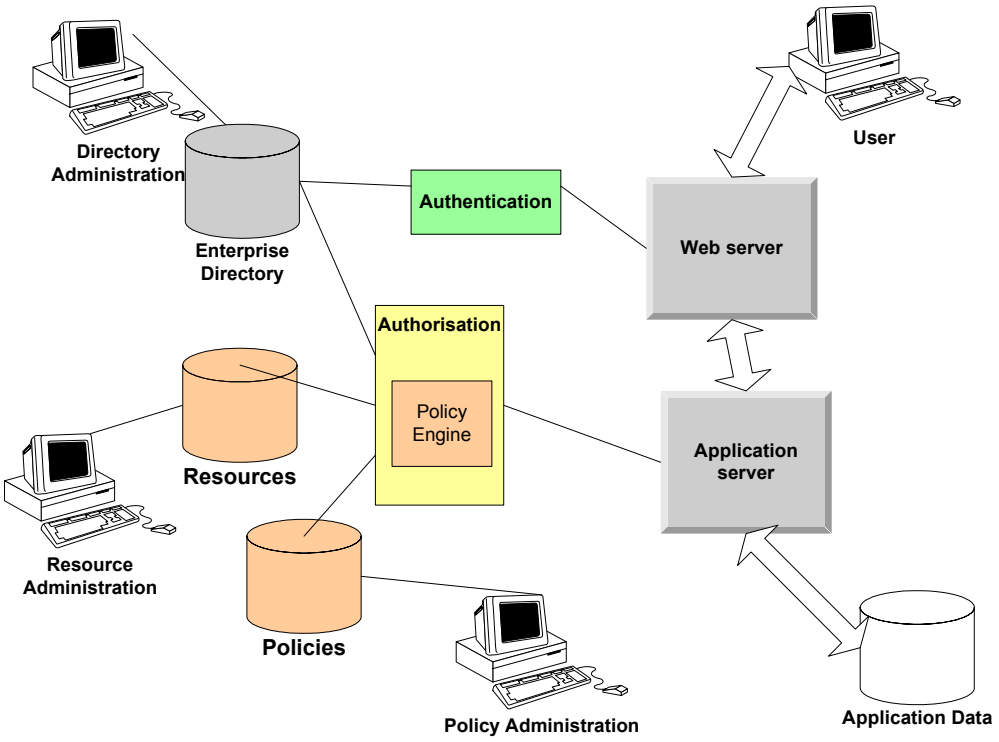
The Second Model

- Serve a common application that is deployed independently at several universities
  - Bundled with the application
  - For instance serving "Ladok på web"



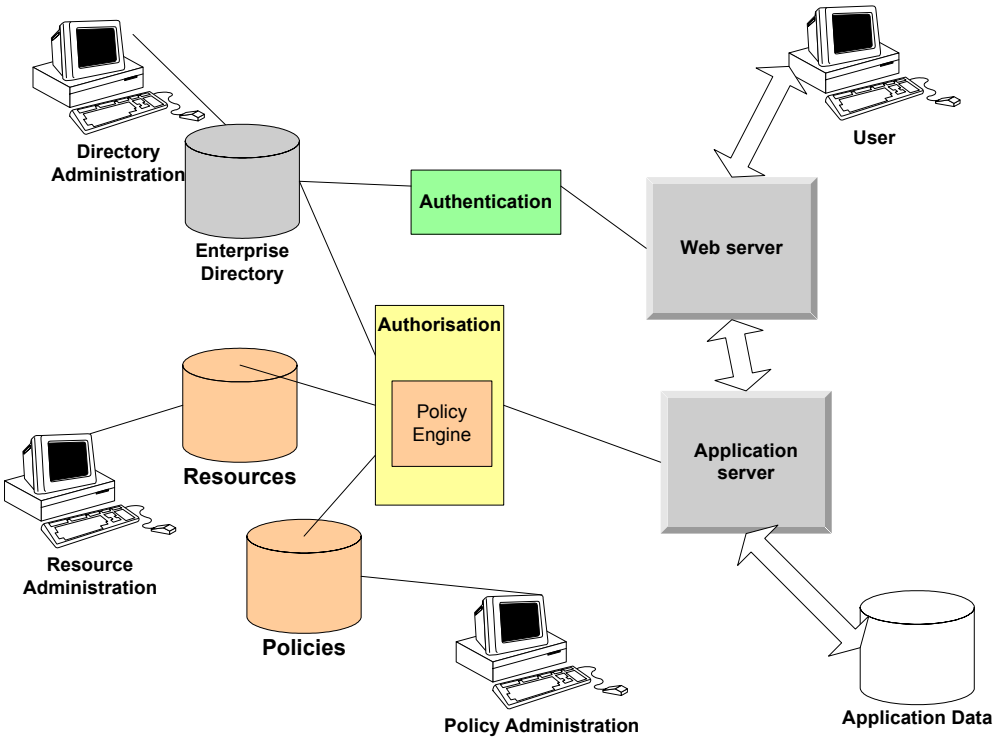
The Third Model

- Use a general role database for a university and serve several smaller web applications at that university
  - Personal portals
  - The smaller applications are calendar, file access, mail, bookmark stores, course material stores etc.



The Fourth Model

- Provide authorisation advice to ONE application that has users in different universities
  - One coordinated network logon for students, irrespectable of from which university they come
  - Library or other content access
  - Network University



Local Requirements

- You need a carefully designed and maintained enterprise directory
  - Rules for who belongs to the community
  - Authority for assigning and rules for having roles
  - Rules for assignment of identífiers
    - Who may assign an identifier
    - What identifiers shall we have
    - Is it allowed to reuse an identifier
- Policies for authorisation to use systems. Policies?
  - Based on roles and identity
  - Definition of authority
  - Rules for delegation of authority
  - Conditions on authority relative the environment, for ex rules about office hours or cryptographic protection of the communic.

Michigan Technological University – Identifiers for Persons/Groups

- MTU: Userid/login
  - Generic: account login
- MTU: Unix UID
- MTU: E-mail Address
  - Generic: email address
- MTU: MichNet Modem login
  - Generic: netid
- MTU: Tech ID
  - Generic: publicly visible id (PVI)
- MTU: Card Chip ID
- MTU: TechExpress Id
- MTU: PIDM
  - Generic: Unique Identifier
  - admin. syst. Id
  - person registry id
- MTU: Oracle id
  - Generic: admin. sys. id
- MTU: SS#
  - Generic: SS#
- MTU: Group id
- MTU: GID
- MTU: Library id
  - Generic: library/departmental ID
- MTU: Library Courtesy Card
  - Generic: library/departmental ID
- MTU: Subscriber ID
  - Generic: library/departmental ID
- MTU: Summer Youth id
  - Generic: library/departmental ID
- MTU: Summer Athletics id(s)
  - Generic: library/departmental ID

SPOCP - Specification Discussions

- We assume that the Authentication Service developed in Feide can be used
  - User Name/Password
  - X.509 Certificates
  - Federated Approach
  - We can use Swupki certificates –
    - UU tests a model to automatically issue certificates to persons registered in their AD
- We are focused on the Authorisation Server
  - Policy based authorisation
  - Policies expressed as restricted S-expressions
  - Authorisation query: Given these Conditions - May this Actor do this Operation on that Target
  - Delegation of authority shall be policy controlled

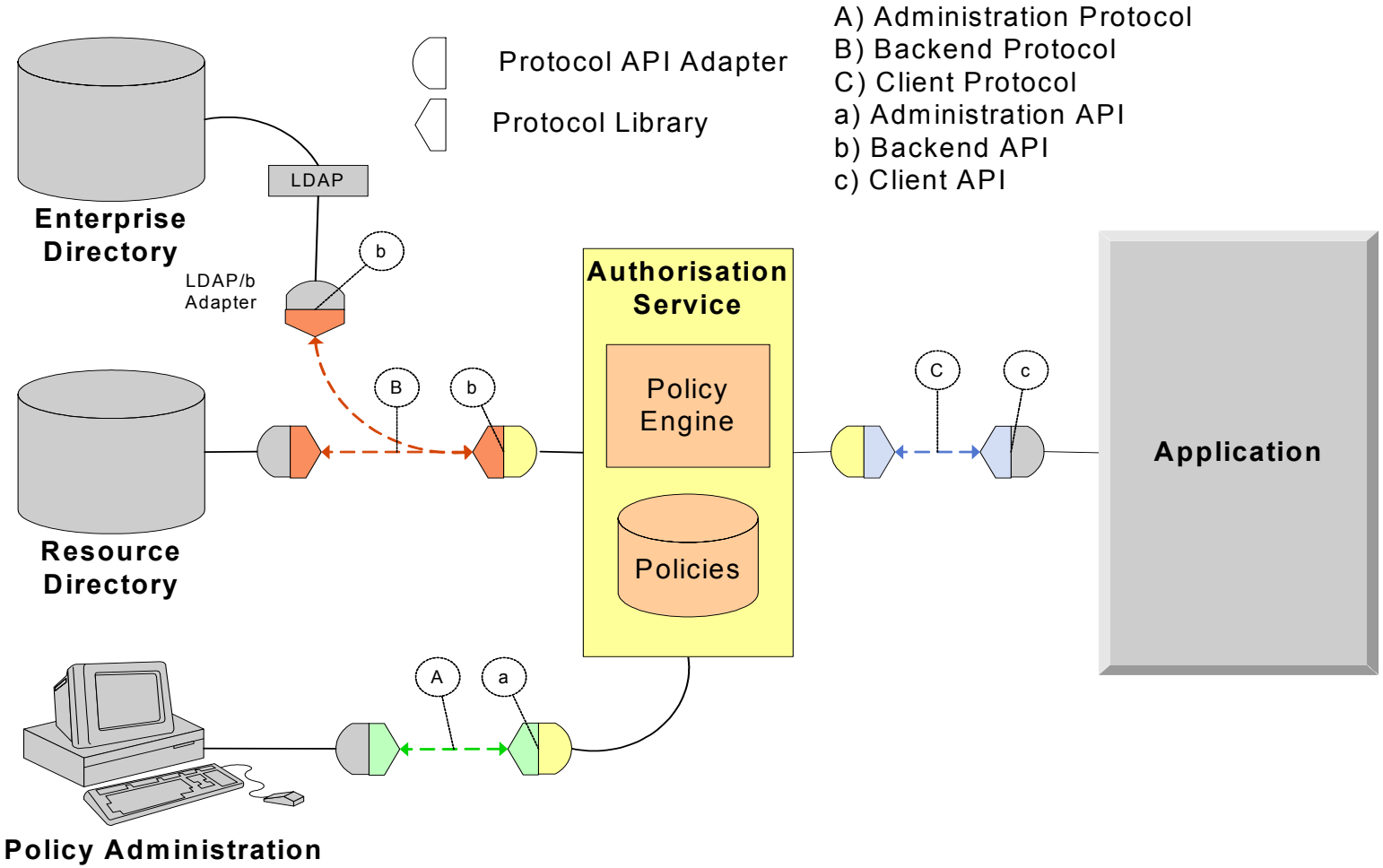
The Enterprise Directory

- We need a new directory with
  - A policy based authorisation system (bootstrap!!)
    - Policy for updates of attributes
    - Policy for attribute release
    - eduPerson attributes as edge attributes
  - Based on a meta directory
    - Metamerge – system for converting between data sources

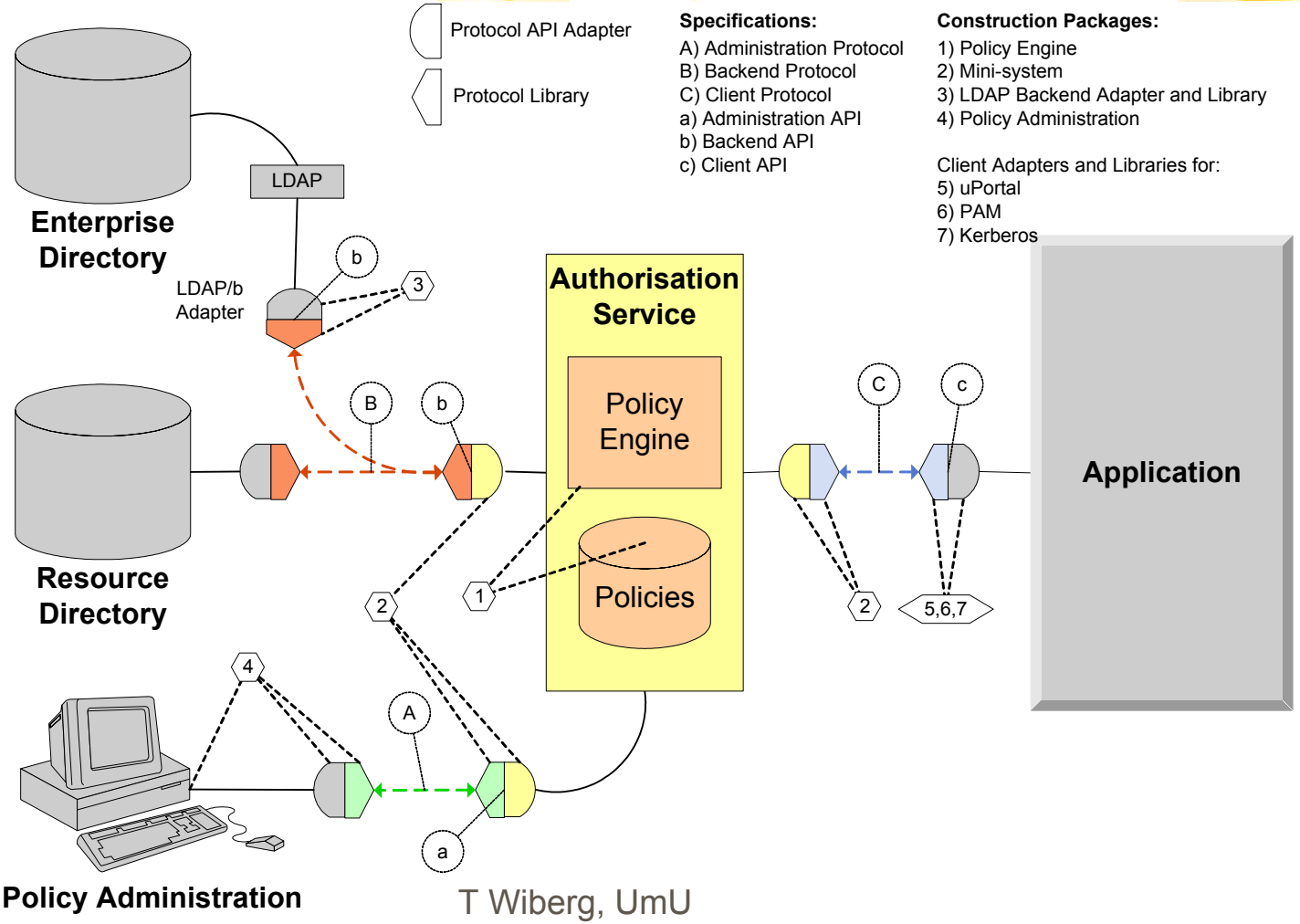
FEIDE - Authentication

- Two models for authentication
  - The user seeks access to a network resource that is trusted enough to be allowed to know your identity.
    - Examples are: Ladok, Human Resource systems
  - The user seeks group-based access – the network resource has to trust that the authentication server has properly authenticated the user to belong to some group.
    - Examples of such services are: BIBSYS database search, student.no, digital libraries
- www.uninett.no\prosjekt\feide\arkitektur.html
  - FEIDE is more than the authentication!

SPOCP - Design



SPOCP - Deliverables

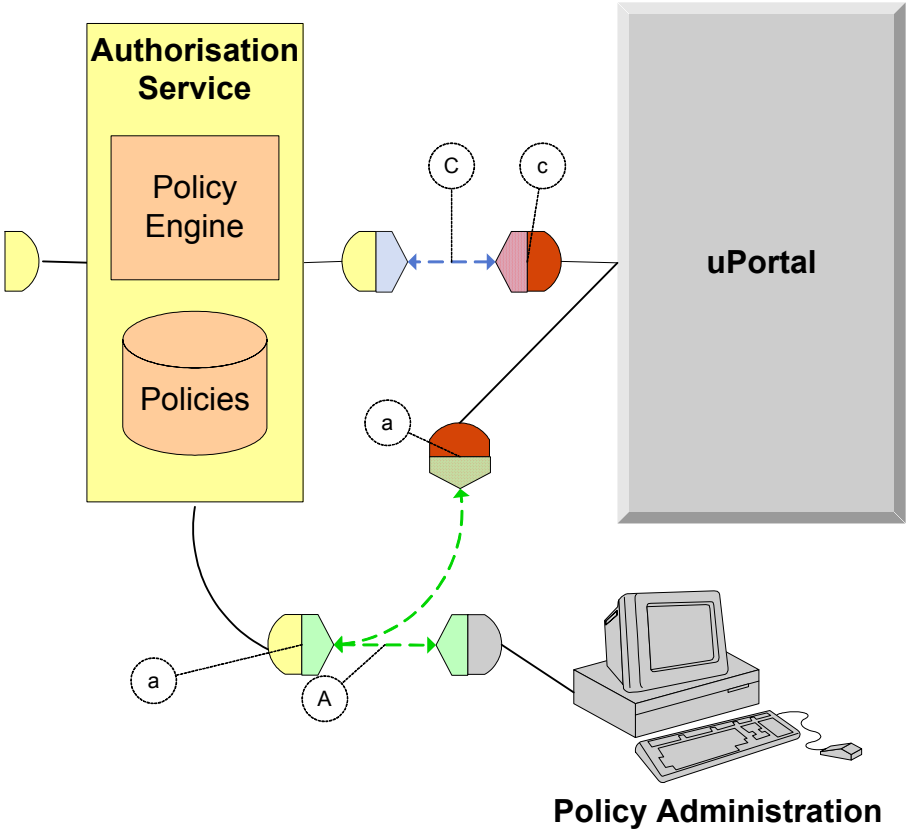


uPortal adapter

- What has to be done before SPOCP can be used in for instance uPortal?
  - uPortal's proposed authorisation is based on two classes
    - PermissionManager – is owned by and manages permissions to the owners resources
    - Permission – Principal (Actor), Activity, Target, Validity period
    - This can be accomodated within the SPOCP framework
  - Two adapters with the API of these classes has to be developed
    - The Permission adapter uses the C protocol to communicate with the SPOCP server
    - The Permission Manager adapter uses the A protocol
      - The Policy management shall perhaps be done in the SPOCP Policy Administrator instead.
      - Most of the policies should be role based

uPortal adapter

- The red parts have to be constructed
- The dotted red parts may or may not be available
  - Constructed as a part of another adaption



SPOCPC – S-expression Query

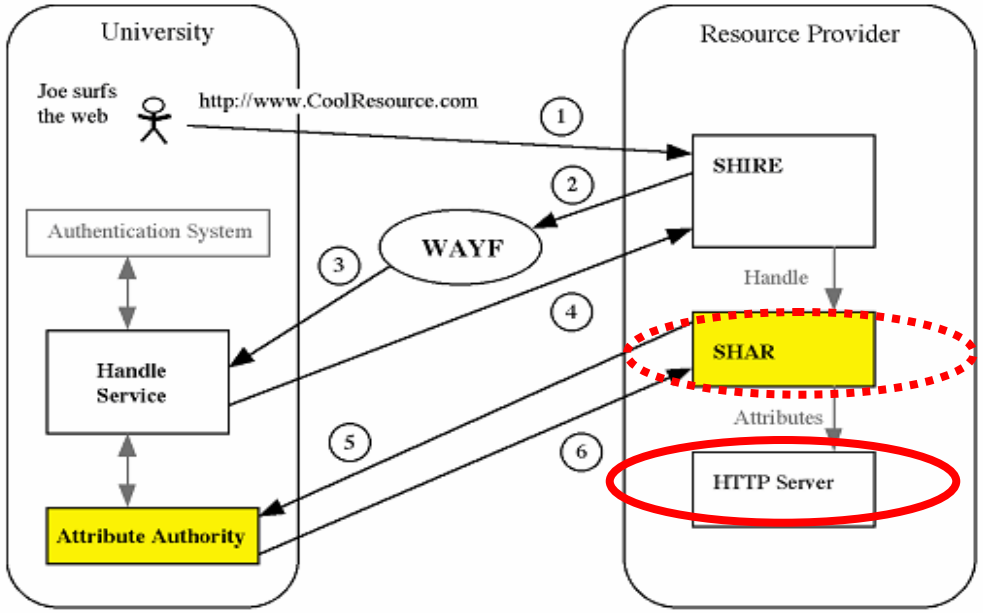
- Tentative S-expression authorisation query for access to a file
  - (rule
    (subject
      (nameid (uid frodo))
      (subjectConfirmationMethod password)
)
    (right
      (action
        (rwedc read)
        (rwedc write))
      (resource
        ("/home/frodo/personal/)
)
    ))

SPOCPC-query in SAML form

- The same query in a tentative SAML format
- <samlp:AuthorizationDecisionQuery>
  <saml:Subject Namespace="urn:spocp" SubjectType="ExecutingPrincipal">
  <saml:NameIdentifier NameQualifier="uid"> ”frodo" </NameIdentifier>
  <saml:SubjectConfirmation>
  <saml:SubjectConfirmationMetod>
  "urn:oasis:names:tc:SAML:1,0:am:password"
  </SubjectConfirmationMetod>
  </SubjectConfirmation>
  </Subject>
  <saml:Action Namespace="urn:oasis:names:tc:SAML:1.0:action:rwedc">
  "Read"
  </Action>
  <saml:Action Namespace="urn:oasis:names:tc:SAML:1.0:action:rwedc">
  "Write"
  </Action>
  <saml:Resource Namespace="urn:spocp"> "/home/rolfrodohed/personal/*" </Resource>
  </AuthorizationDecisionQuery>

Relation to Shibboleth?

- Shibboleth is an Internet2 web access control project – http://middleware.internet2.edu/shibboleth/
- The diagram to the right is often used to describe the service process in the Shibboleth architecture
- If we place a SPOCP-server in that diagram it can be viewed as a resource provider (solid oval) or perhaps as a SHAR (Shibboleth Attribute Requester)



SPOCP – Middleware for Web Services

www.umu.se/it/personal/tvw/pub/MiddlewareForWebServices020627.pdf

Torbjörn Wiberg
CIO, UmU

LUNDS
UNIVERSITET

Portalprojektet

- Historik
- Gruppering
- Målgruppernas behov
- Perspektiv och generaliseringar
- Lösningar
- Teknik
- Tidsplan
- Frågor

Magnus Lindqvist

- **Studentdatorlärare Internet** **95**
- **Studentdatorrådgivare** **95-97**
- **Teknikansvarig CITU** **97-99**
- **Projektledare Portalprojektet** **2000-**

Portalprojektes utveckling

- Start 2000
- Utvidgning av portalen
- Målgruppsundersökningar
- Genomgång av olika lösningar

Vad är en portal?

- **Typer av portaler:**
  - **Horisontell**
  - **Vertikal**
  - **Enterprise**
  - **Användarcentrerad**

Gruppering

- Målgrupper
  - Blivande studenter
  - Studenter
  - Alumni
  - Doktorander
  - Anställda
  - Allmänhet
  - Media
  - Myndighet
  - Näringsliv
- Roller
- Behörighet
- Kurser
- Projekt
- Avdelningar

Målgruppernas behov

- Tillgång till ”Rätt” information
- Kommunikation
- Planeringshjälp
- Användarvänlighet
- Tillgång till vad de behöver när de behöver det.

Studenternas behov

- Studierelaterad information
- Kommunikation
- Nätverk mellan personer
- Lämna/hämta information

Alumnis behov

- **Nätverket**
- **Kommunikation**
- **Uppgradera sina kunskaper**
- **Kontakten till LU**

Många gemensamma behov

- Filer som skall lagras, distribueras och hämtas.
- Kommunikation med andra i liknande situation.
- Mötestider för kurser och projekt
- Kursinformation

Flöden

- Kursers livscykel
- Studentens flöde genom universitetet
- Anställdas flöde
- Doktorandens flöde

Perspektiv och generaliseringar

- **Moduler**
  - Adressbok
  - Kalender
  - Diskussionsforum
  - Dokumenthantering
  - Utvärdering

Informationsstruktur

- **Kursinformation**
- **Intressegrupp**
- **Roll**
- **Projekt**

Nya tjänster

- **Automatisering**
  - **Möjlighet att be portalen hantera vissa återkommande uppgifter**
    - **Semester**
    - **Sjukanmälan**
    - **Start av nytt projekt**
- **Kursinformation**
- **Internationella mötesplatser**

Lösning på vårt behov

- Vi har undersökt över 30 produkter
- Vi har ett 40-tal system som vi behöver kommunicera med
- Urvalskriterier
  - Flexibel/utvecklingsbar
  - Billig i drift och utveckling
  - Stabil och skalbar
  - Framtidssäker

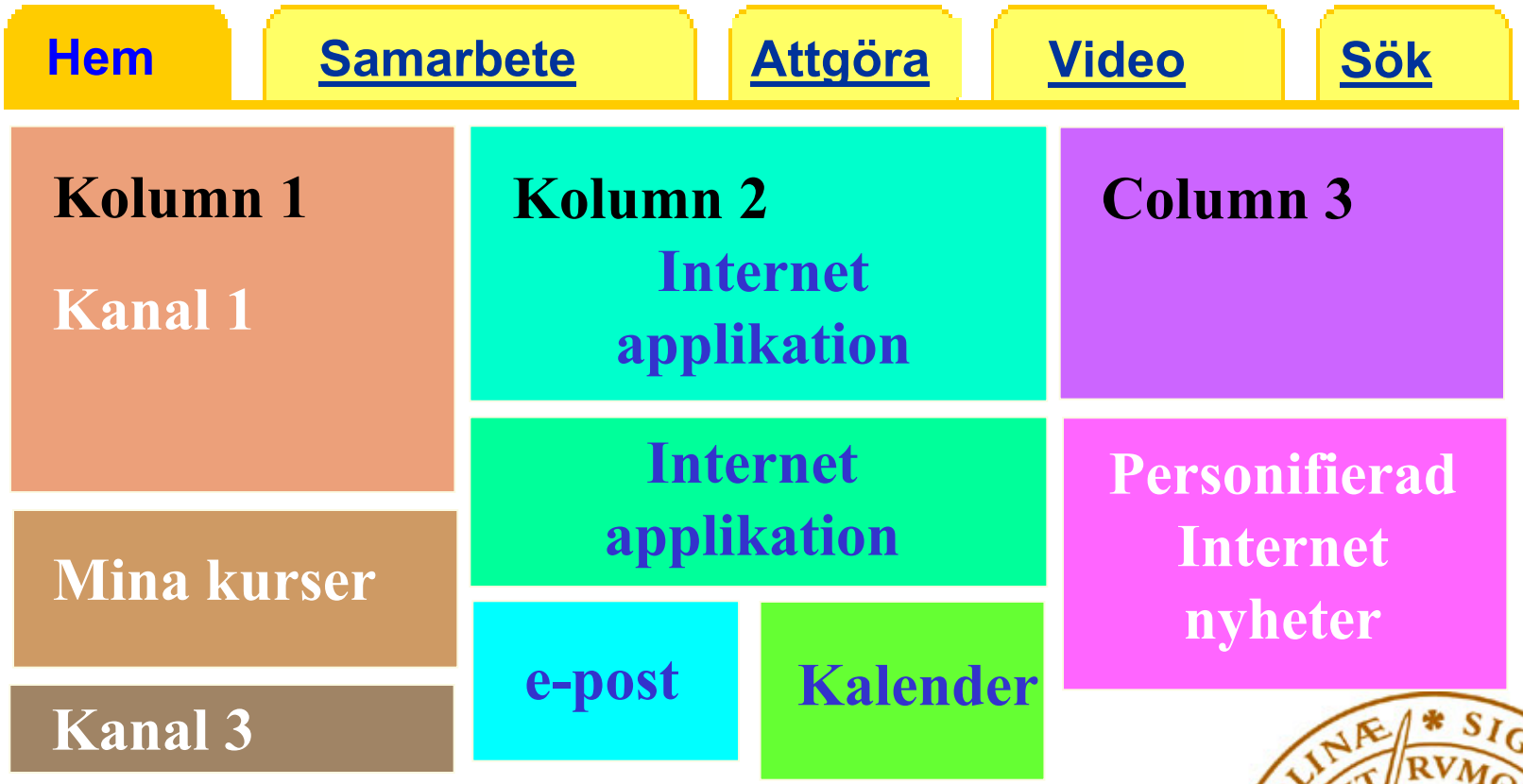
uPortal2

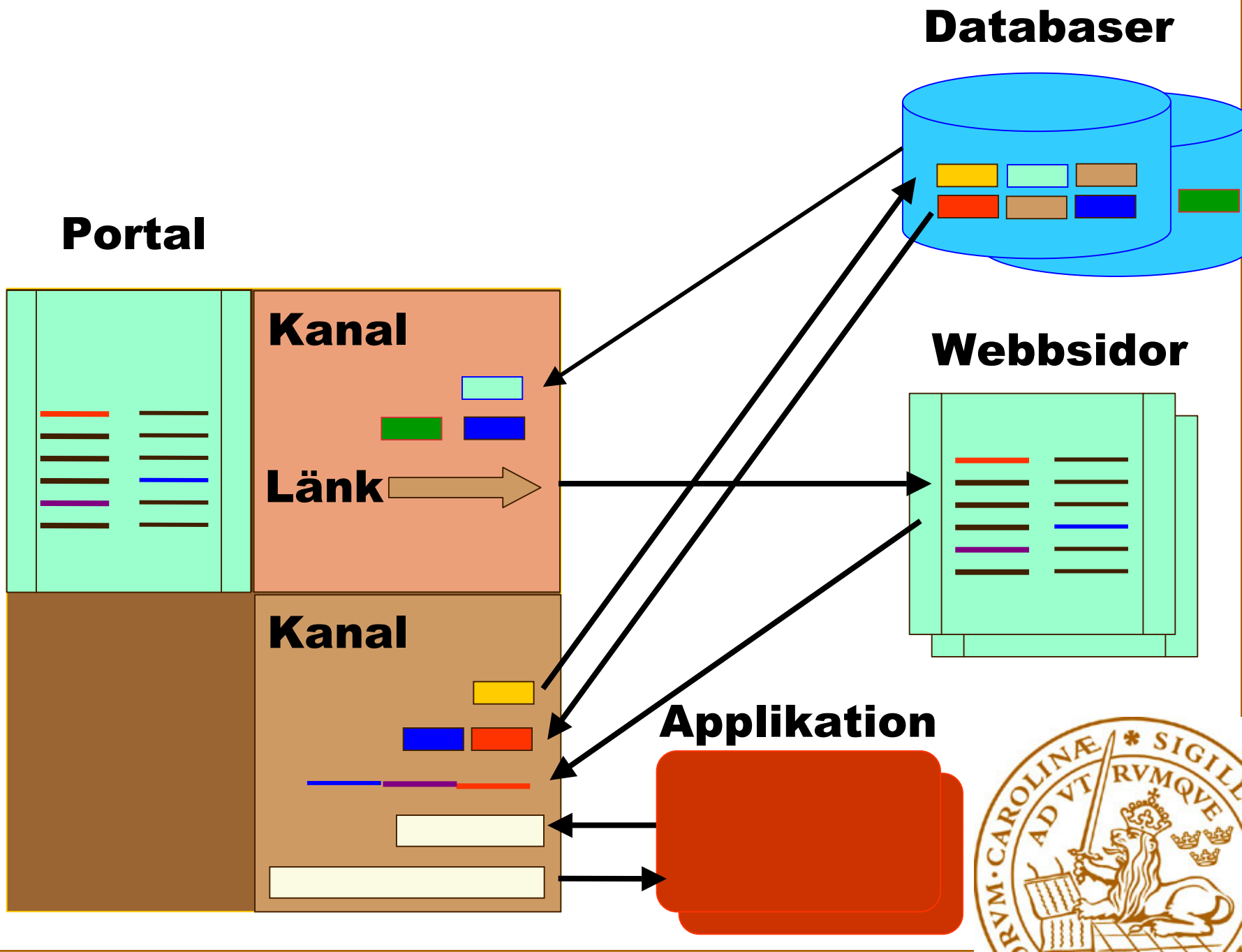
- uPortal
  - Utvecklad av flera Universitet tillsammans för universitetens behov
  - Open source
  - Flexibel, standardiserad, generell
  - Gratis
- Se www.ja-sig.org

Vad består en portal av

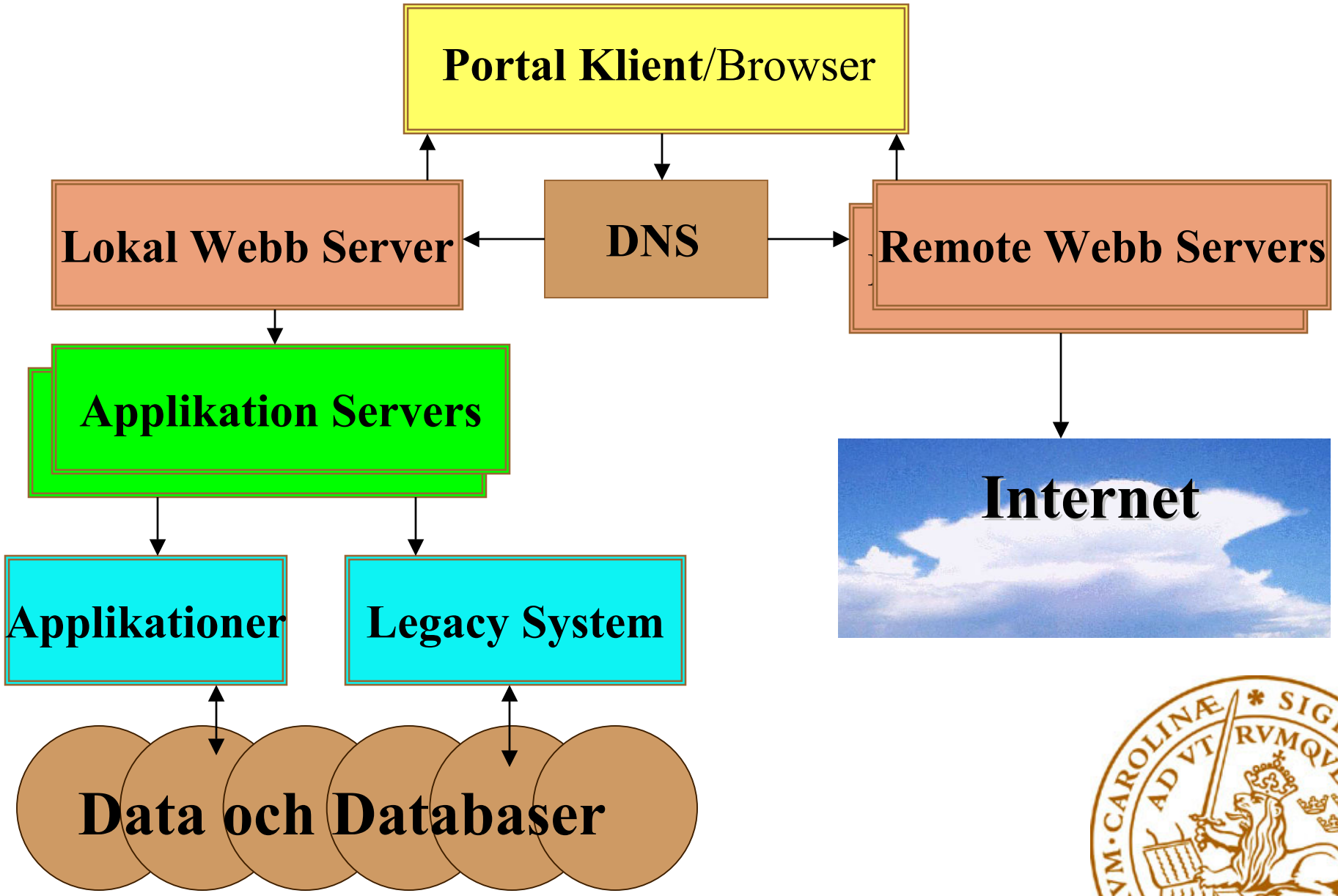
- behörighet
- Kanaler
- Kanalprenumeration
- Vyer
- Alarm
- Personifiering
- Sökfunktion
- Navigation – Tabbar, Ikoner, Länkar, etc.
- Grafik
- kataloger
- Administrativa funktioner
- Hjälp

Portalöversikt




Databaser
Portal
Kanal
Webbsidor
Länk
Kanal
Applikation

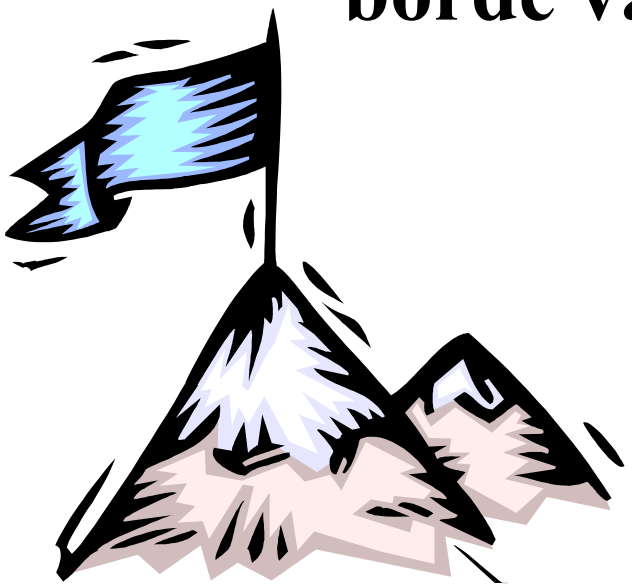
N-Tier Arkitektur



Varför skapa *EN* portal?

En **Portal med** Single Sign-on

borde vara vårt mål



Varför skapa *EN* portal?

- Användarcentrerad
- Effektivt
- Självservice
- En plats för ändringar
- Effektivt för universitetet
- Målgrupper och Communitys

Portalen

Vem?

Var är *mitt* möte?

När är *mitt* möte?

Var finns info om *mina* kurser?

Var ändrar jag *min* hemadress?

Hur ändrar *jag min* epostinställning?

Vad har *jag* kvar i *min* budget?

Var är *mitt* sökprogram?

Var?

Vad?

Tänkbara kanaler

- Kalender, attgöra lista, bokmärke
- Diskussionsgrupper, e-post, chat
- Arbetserbjudande, karriär,
- Rapporter, dokument, schema
- förmåner, lönebesked, semester
- Kartor, bilder
- Work flow
- Collaboration
- Kursschema, betyg
- Telefonsvarare, fax
- Nyheter universitetet, institutionerna mm.
- Campus händelser
- Länkar, sökmotor
- Referensmaterial

Hemsida vs portal (EP)

- **Institutioncentrerad**
- **Samma info till alla**
- **Ingen personifiering**
- **En startplats för att sedan gå vidare till det du söker via några musklick, om du kan finna det**
- **Vi kan ändra den när vi vill.**

- **Användarcentrerad**
- **Anpassad för varje individs behov**
- **Personifierad**
- **Den viktigaste info. och app. finns direkt.**
- **Du kan ändra den när du vill**

Behövs hemsidor fortfarande?

- Ja – personer utifrån behöver den fortfarande.
- Ja – den har generell info som användare fortfarande behöver.
- Ja – tills portalen är färdig

- Nej – Ge personer utifrån en sida där de kan välja sin roll och länka in dem i portalen (www.umich.edu)
- Nej – lägg generell information i portalen för de behövande

Prioritering

- Infrastrukturen
- Vad är viktigast för målgrupperna?
- Vad är enklast att utveckla
- Vad är billigast att utveckla
- Var stöter vi inte på problem

Var bör utvecklingen ske?

- Institution/fakultet/universitet
- Sverige/världen?
- I de nuvarande systemen?
  - I samarbete med portalprojektet?
  - Under egen budget eller gemensam?
- Egen utveckling/inhyrd/entreprenad

Teknikval

- Framtidssäkert
- Plattformsoberoende
- Flexibelt
- Driftsäkert
- Användarvänligt

Upplägg

- Två servrar:
  - En skarp
  - En test/utveckling
- Generellt områdesövergripande system

Tidsplan

- Förslag
- Viktigt med interna delleveranser
- De olika faserna

Vad väntar vi på?

- Finansiering
- Andra system
- Utvecklare/programmerare

Track Records

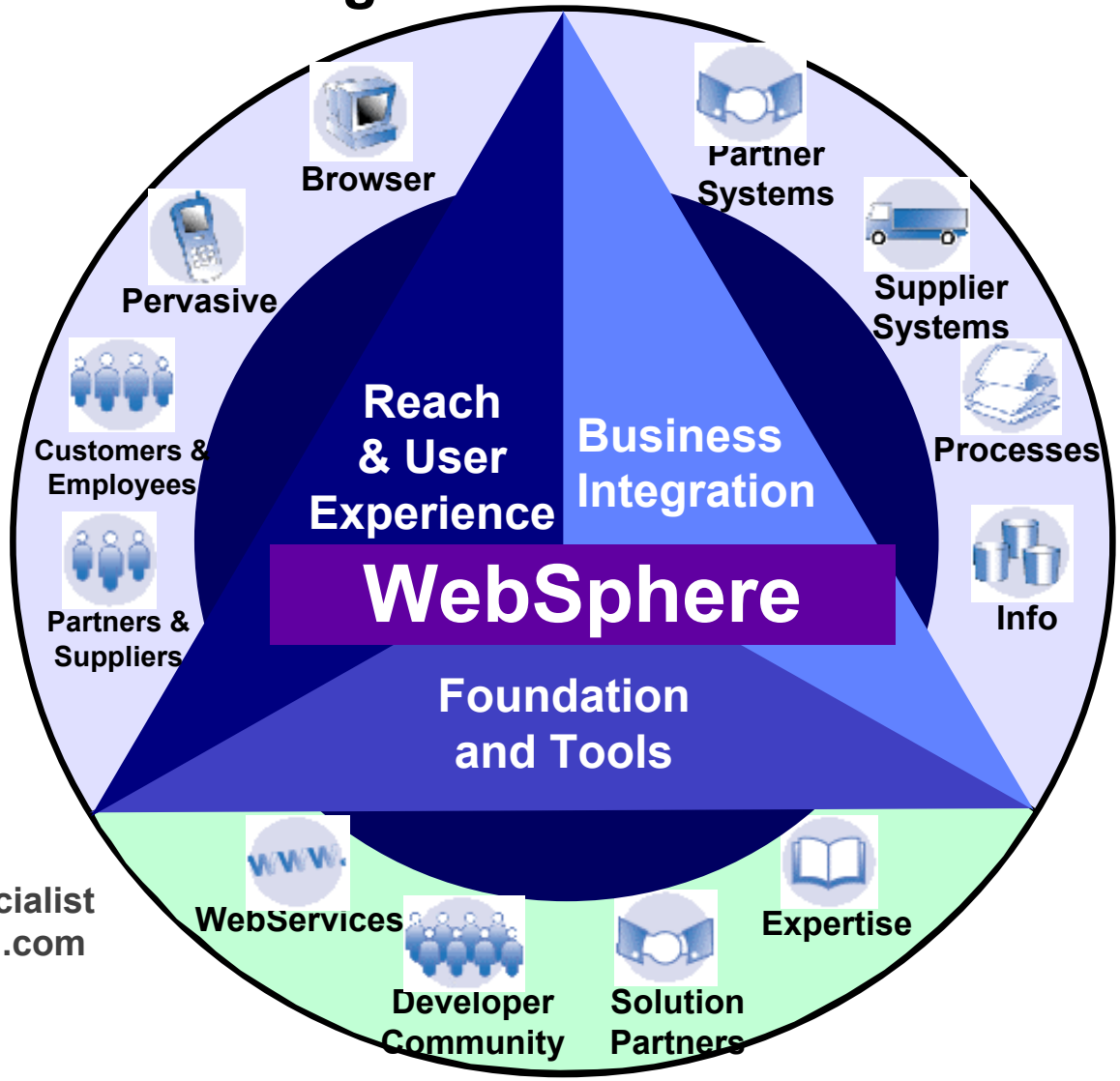
- StiL
  - Kostnadsbesparande
  - Kopierad av över 10 st univ/högsk.
  - Utvecklad med hjälp av studenter
  - Används av nästan alla institutioner (undantag bland annat Juridiska och vissa inst. LTH)

Frågor

?

Web Services NOW !

why NOW is the time to get started with Web Services

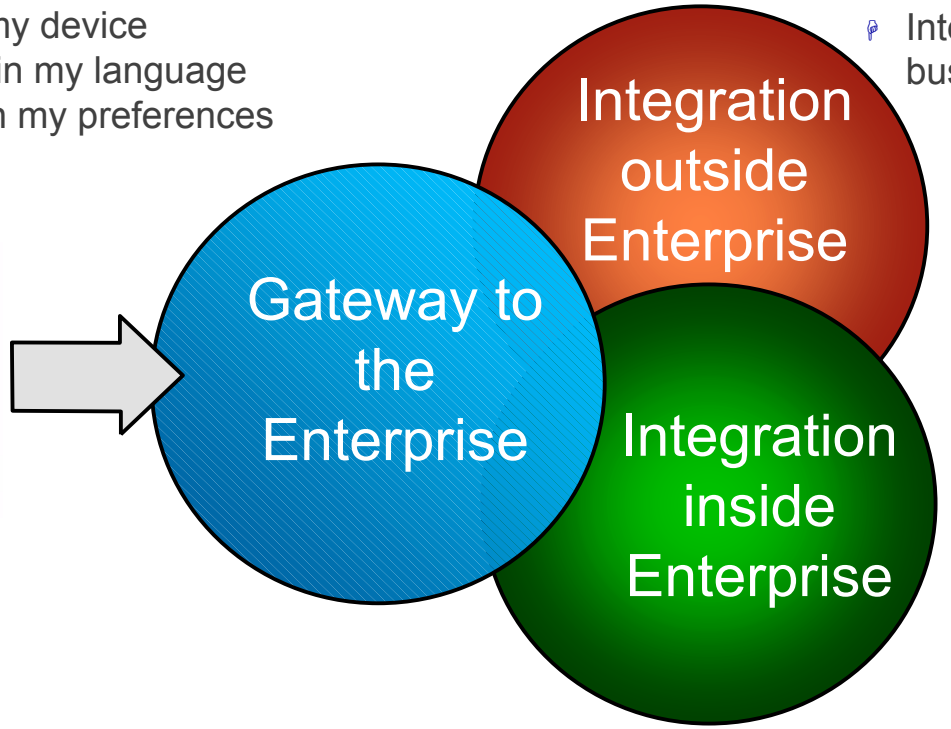


Tommy Hägvall
Advisory Software Specialist
tommy.hagvall@se.ibm.com
Mobile: +46707931021

WebSphere. software

An Infrastructure Should Provide....

- Connect with my device
- Communicate in my language
- Customize with my preferences



- Integrate any other business

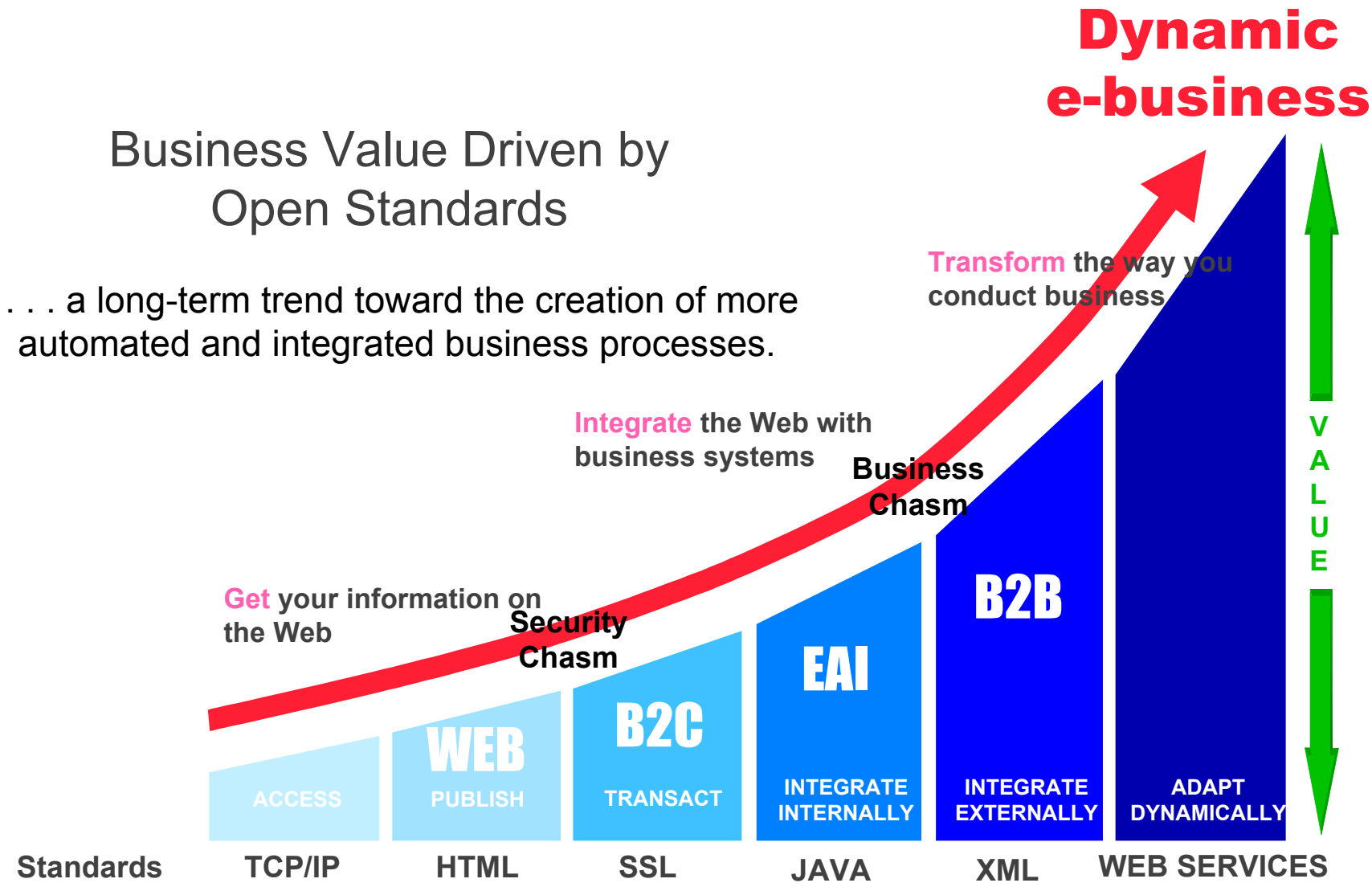
- Connect any number of users
- Identify the user
- Customize options based on user identity
- Add additional options based on user actions - cross sell

- Provide access to applications
- Provide access to data
- Provide access to people

Evolution of e-Business

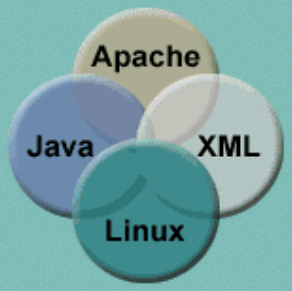
Business Value Driven by Open Standards

. . . a long-term trend toward the creation of more automated and integrated business processes.



IBM Software Infrastructure Blueprint

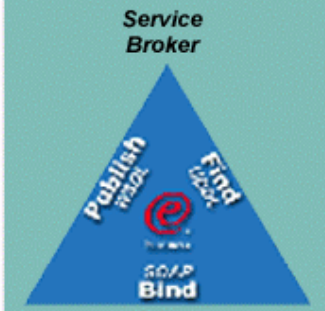
Principles



Standards Base

Open interfaces

Open programming model

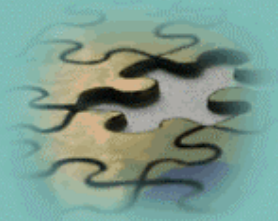


Practices

IBM Patterns for e business

High Volume Web Sites

Best Practices



Web Business Components

Products

WebSphere

Lotus

Tivoli

DB2

e server

Partners

Flexible - Innovative - Proven

Web Services: A Simple View

- "Web services" is how
  - businesses describe functionality (services) they want to externalize
  - businesses publish that information
  - businesses discover services
  - businesses connect to each other and invoke services with appropriate security, reliability, and confidentiality
- If XML defines a platform-independent way of **representing** data,
  - making data integration easy and standard
- ...then Web services defines a platform-independent way of **exchanging** that data.
  - process-level integration becomes easy

"Online programming over the web" or
"exposure of methods and/or data"

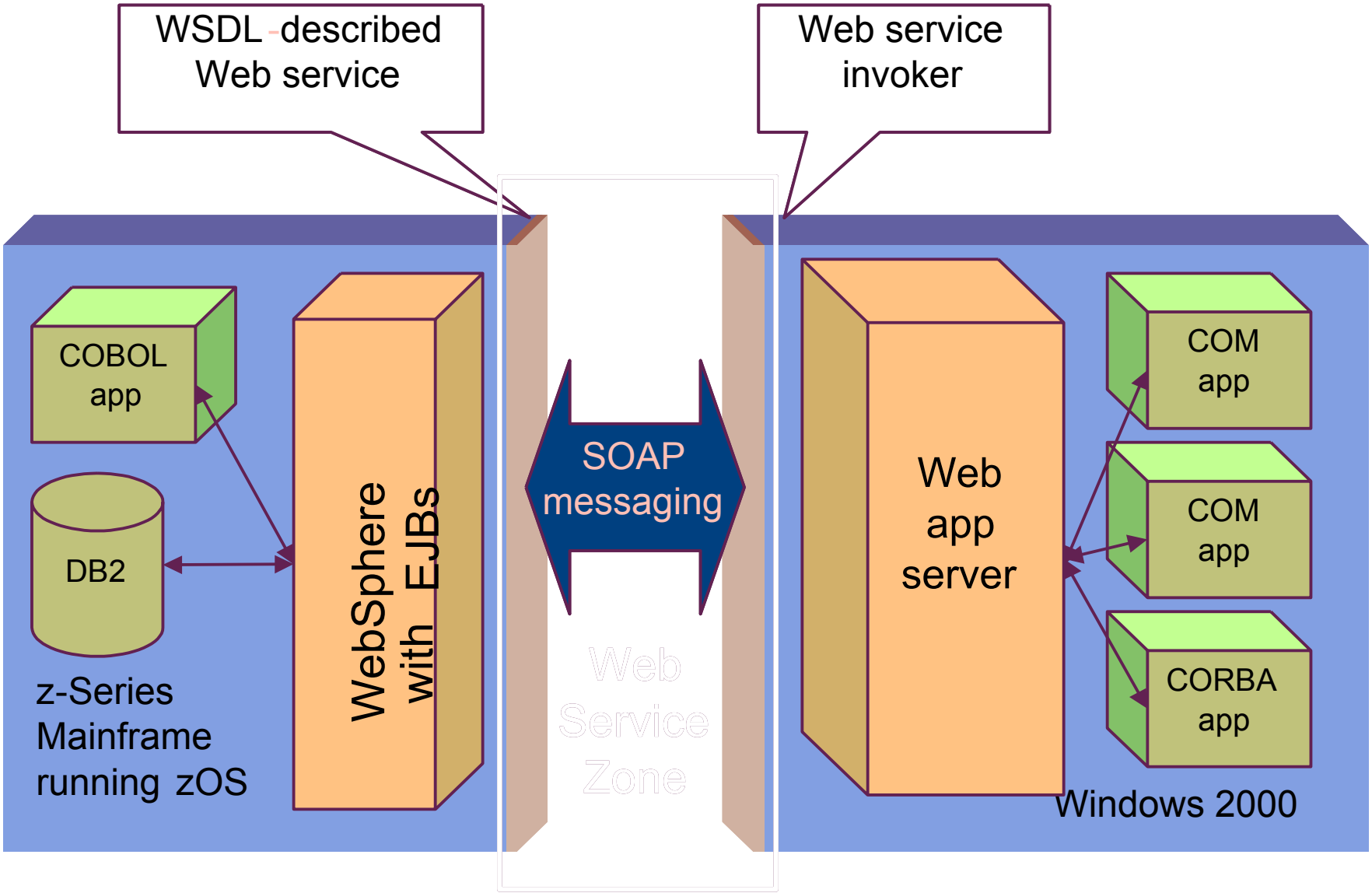
Why Web services?

- We want and need:
  - to integrate systems regardless of their implementation
  - to move from monolithic, custom-coded apps to choreographed, scripted components.
  - agility and flexibility to reconfigure business functions to try new process models.
  - to move from tightly coupled systems to loosely coupled ones to deal with inevitable change.
  - a well-understood programming model for connecting businesses via the Internet.

A Universal Internet Programming Model

- Share functionality and information on the Web, regardless of
  - Operating system
  - Hardware or delivery device
  - Programming language
  - Distributed object system
  - Database or other back-end system
- Direct program-to-program integration for
  - Business-to-business applications
  - Enterprise Application Integration
  - Reusable components for interactive applications
  - Mobile applications
  - Grid computing
  - ...and it's general enough to handle anything else that requires integration across a network

Web Services and Platform Independence



How Can Web Services Be Used?

- Between businesses - B2B
  - Providing service to your customers

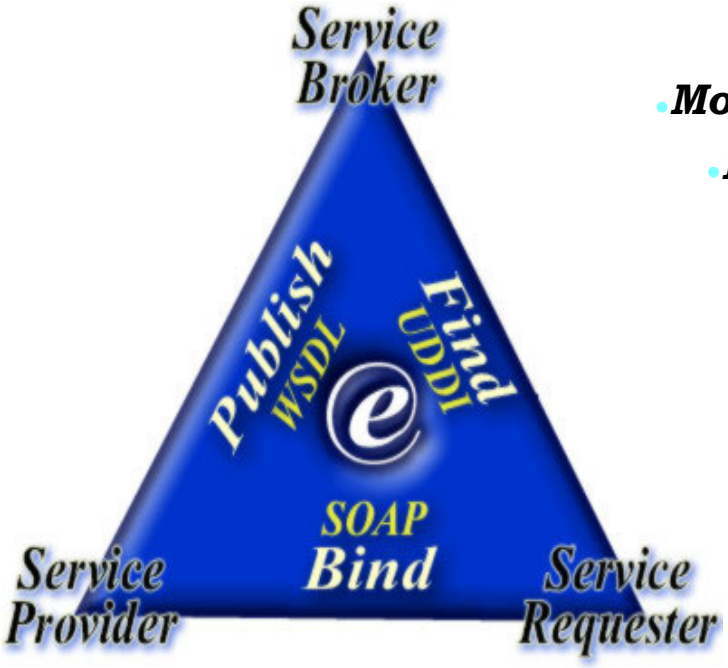
  Accessing services from your partners and suppliers
  - Standards and common infrastructure reduce the barriers
  - Simplicity accelerates deployment
  - Dynamics opens new business opportunities

- Within a business - EAI
  - Accelerate and reduce the cost of integration
  - Save on infrastructure deployment and management costs
  - Reduce skill requirements
  - Improve reuse

- Between a business and end-users
  - Deliver a better user experience
  - Integrate diverse content
  - Reduce the cost of content delivery

The Web Service Model

- Service Broker
- A searchable repository/registry of service descriptions
- Service Providers publish their services
- Service Requesters find services



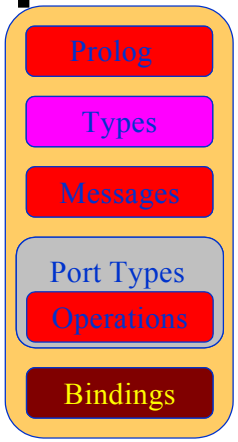
- *Modular*
- *Described*
- *Published*
- *Found*
- *Bound*
- *Invoked*
- *Composed*

Service Provider

- Provide applications as Web Service
- Publish their services

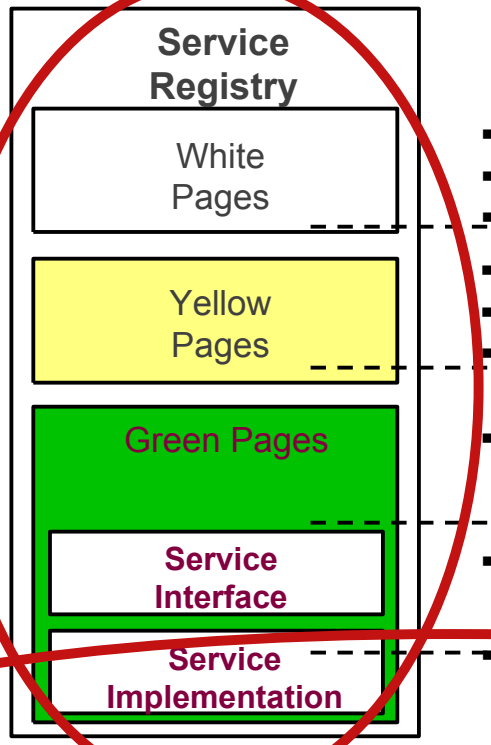
- Service Requester
- A client that needs a service
- Uses the Service Broker to find the service
- Binds to and invokes the Service Provider's service

Service Registry & Service Description



Web Services "Phone Book"

Defined by the Universal Description, Discovery, and Integration (UDDI) specification



- ***Business name***
- ***Text description***
- ***Contact information***
- ***Industry (US Government Codes)***
- ***Product/Services (UN/SPSC, ECMA)***
- ***Location***
- ***Description of the service being provided***
- ***Information needed to create a client for this service (operations, messages,...)***
- ***Information needed to connect a client to the service provider (URL,...)***

Web Services Description

Defined by the Web Services Definition Language (WSDL)

WebSphere & Web Services

Web Services

WebSphere is Built for Web Services

The Conceptual Web Services Stack

Message Flow
- WSFL
- Web service composed from other Web Services

Directory
- UDDI
- "Yellow pages" that enable users to locate the services

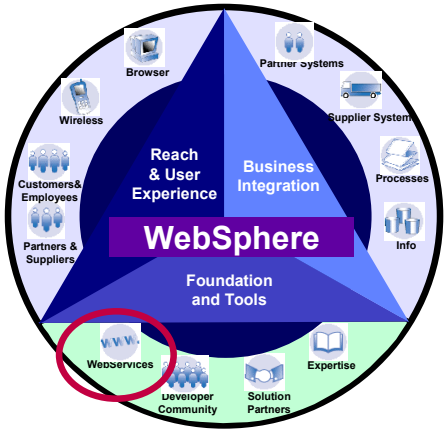
Interface
- WSDL
- Defines how to use the service

Transport
- SOAP
- Mechanism for connecting with applications and data

WSFL	Service Flow	
Static	Service Discovery	
Direct	Service Publication	
WSDL	Service Description	
SOAP	XML-Based Messaging	
HTTP, FTP, email, MQ, etc.	Network	

Security/Trust/Privacy | Management | Quality of Service

Set of industry-standard approaches to enable simplified connection of applications



IBM - Leadership in standards and technology

- WebServices
  - SOAP 1.1 coauthor
  - SOAP-SEC coauthor
  - WSDL 1.0 + 1.1 coauthor
  - WSIL coauthor
  - W3C XML Protocol working group leader
  - UDDI specification coauthor
  - Cofounder of UDDI.org

- J2EE and Java
  - Seats on both executive committees
  - Contributed to 80% of J2EE
    - Specifications & Implementations
  - Leaders of JSRs 109 + 110
    - 55% of JSR expert groups include IBM
  - IBM's contribution is second only to Sun
    - order of magnitude greater than others

- First to implement :
  - SOAP - SOAP4J, SOAPSEC
  - WSDL - generators and consumers
  - UDDI - UDDI4J & private UDDI
  - XML - LotusXSL & XML4J

IBM is the industry leader in W3C, participating in over 20 working groups.

Cooperation and Competition

- We cooperate with our competitors to create the standards that are essential to seemless connection of products created by different vendors, no matter
  - how difficult the intra-industry politics become, and
  - how skeptical some observers are of the attempt to cooperate
- IBM will compete aggressively to produce and sell the best possible middleware across our entire product line to build, invoke, and manage Web services.

"Cooperate on Standards...
Compete on Implementations"

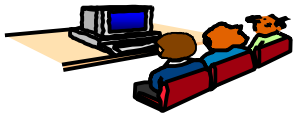
Each Development Role Requires Specialized Tools, Resulting in Islands of Application Development and Inhibiting Skills Reuse

Application Modeling

Web Site Construction

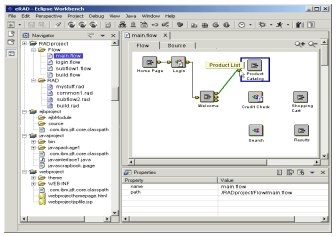
Java Development

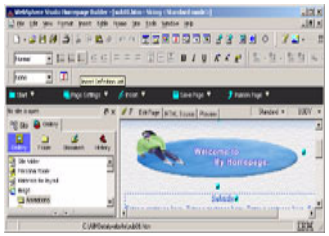
4GL Development

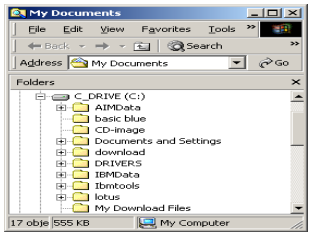


COBOL Development

- Different programming tool for each role
- Multiple tools from different vendors for the same role
- No integration between roles, tools or vendors





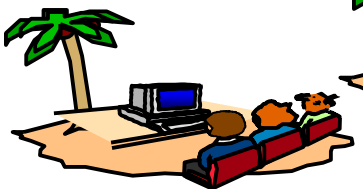


Application Modeling Tools

Web Site Construction Tools

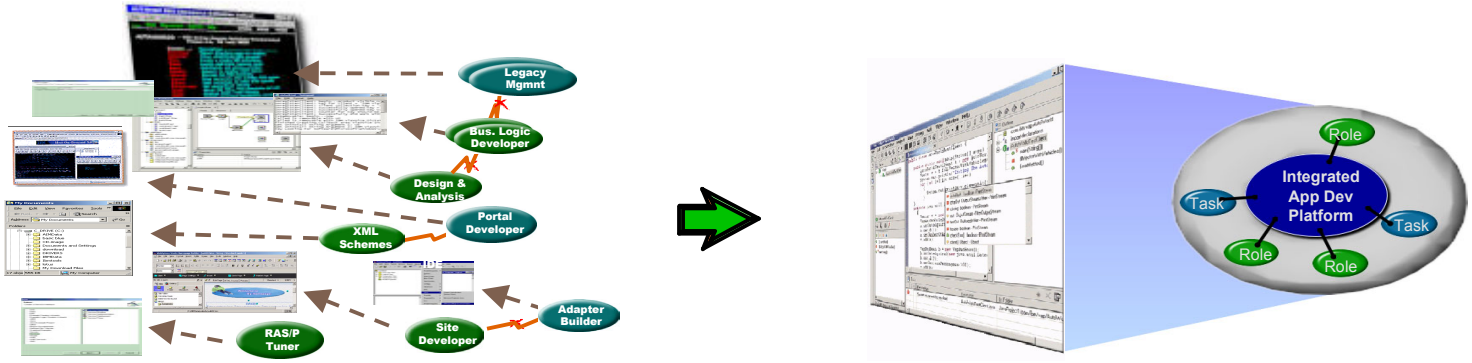
Java Development Tools

4GL Development Tools



COBOL Development Tools

Keys to Significant Productivity Gains

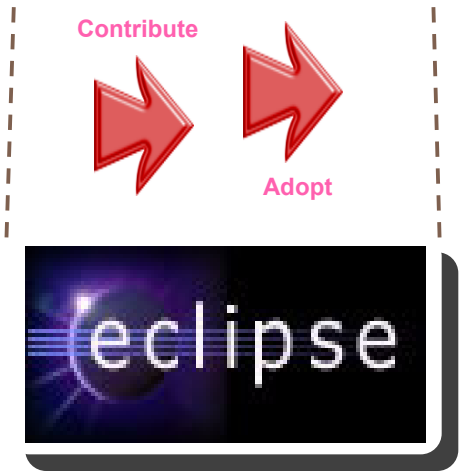


Productivity Challenge	Solution
Most AD environments involve more than one tool from multiple suppliers	**Best-of-breed tools working together as an integrated environment**
Multiple incompatible tools for different runtimes	Single AD platform for all middleware & servers
Iterative runtime-based deploy, test & debug	Integrated runtime -> rapid develop-test iteration
Poor integration of life cycle & specialized tools	Seamless integration & customization of all tools - organized by tasks & roles
Slow integration of emerging technologies	Rapid deployment via dynamic plug-ins
No common way to view & leverage assets	

WebSphere Studio Workbench

An Open, Extensible WebSphere Tool Platform

- Workbench is IBM's commercially supported implementation of Eclipse
  - Foundation for the *new* WebSphere Studio family of tools
  - First AD integration platform to fully embrace open technologies, adopting the open approach that has been so successful for Apache, J2EE and Linux



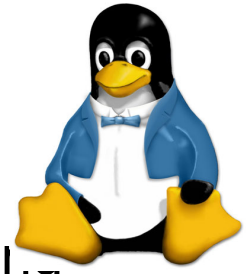
www.Eclipse.org

- $40M software/R&D contributed as initial Eclipse technology
  - Licensed via Common Public License
  - Enables partners and customers to develop, customize and integrate tools and repositories via open standards
  - Based on Java, with initial support for Linux and Windows
  - IBM will continue participation in Eclipse development, and adopt enhancements

IBM and Open Source

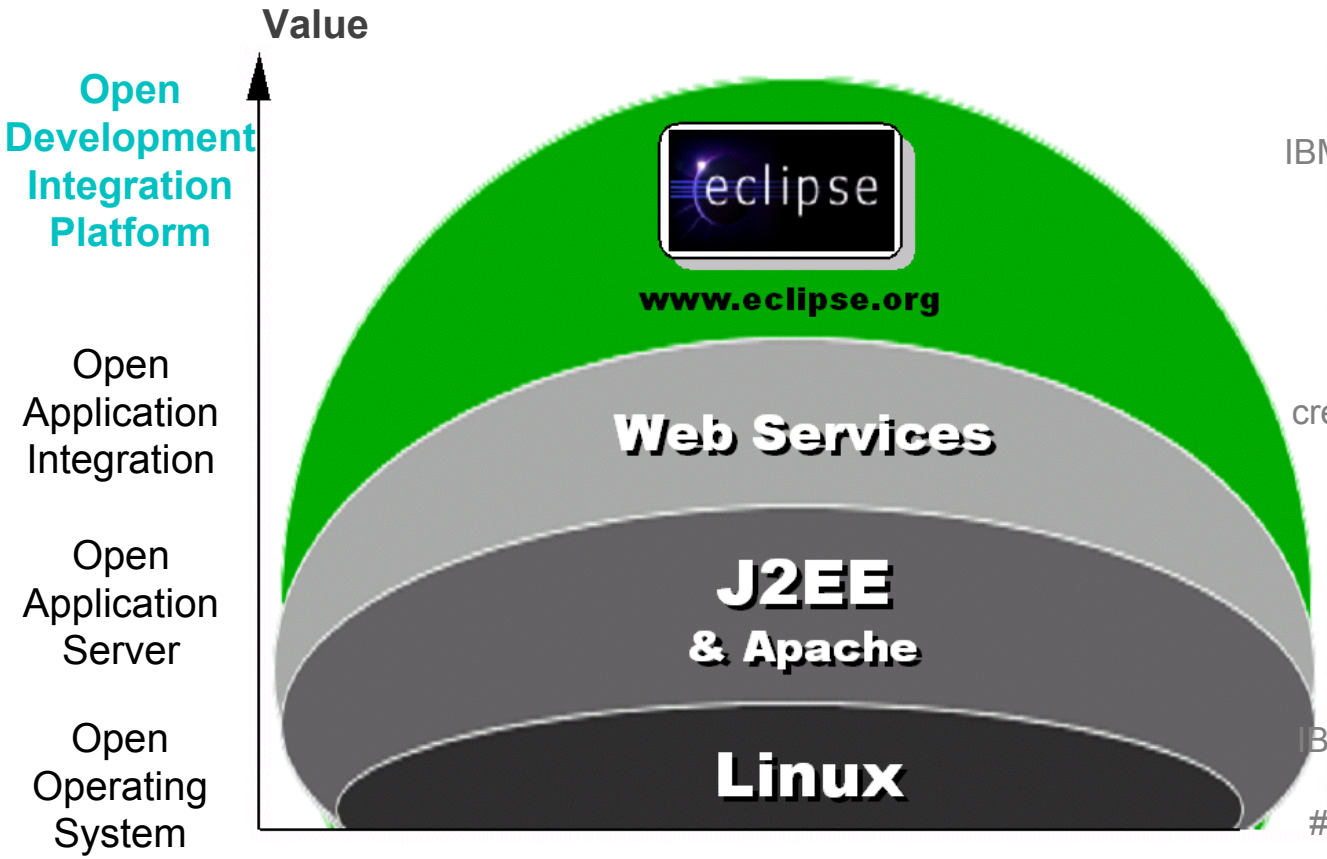
- Apache Open Source Foundation (Since 1998)
  - Xalan & Xerces - based on IBM's XML4J and LotusXSL
  - Apache SOAP - based on IBM's SOAP4J
  - AXIS - contributing to next generation WS stack
- Linux - $1 billion committed
  - ALL eServer platforms can run Linux
  - Major products ported to Linux
    - All SWG brands (WebSphere, DB2, Lotus & Tivoli)
  - Contributor to various Linux projects
- Eclipse - $40 million donation in 2001
  - Open Source IDE framework
  - Not just Java (currently C/C++ available)
  - Already over 150 ISVs committed to extending

The Apache Software Foundation
http://www.apache.org/



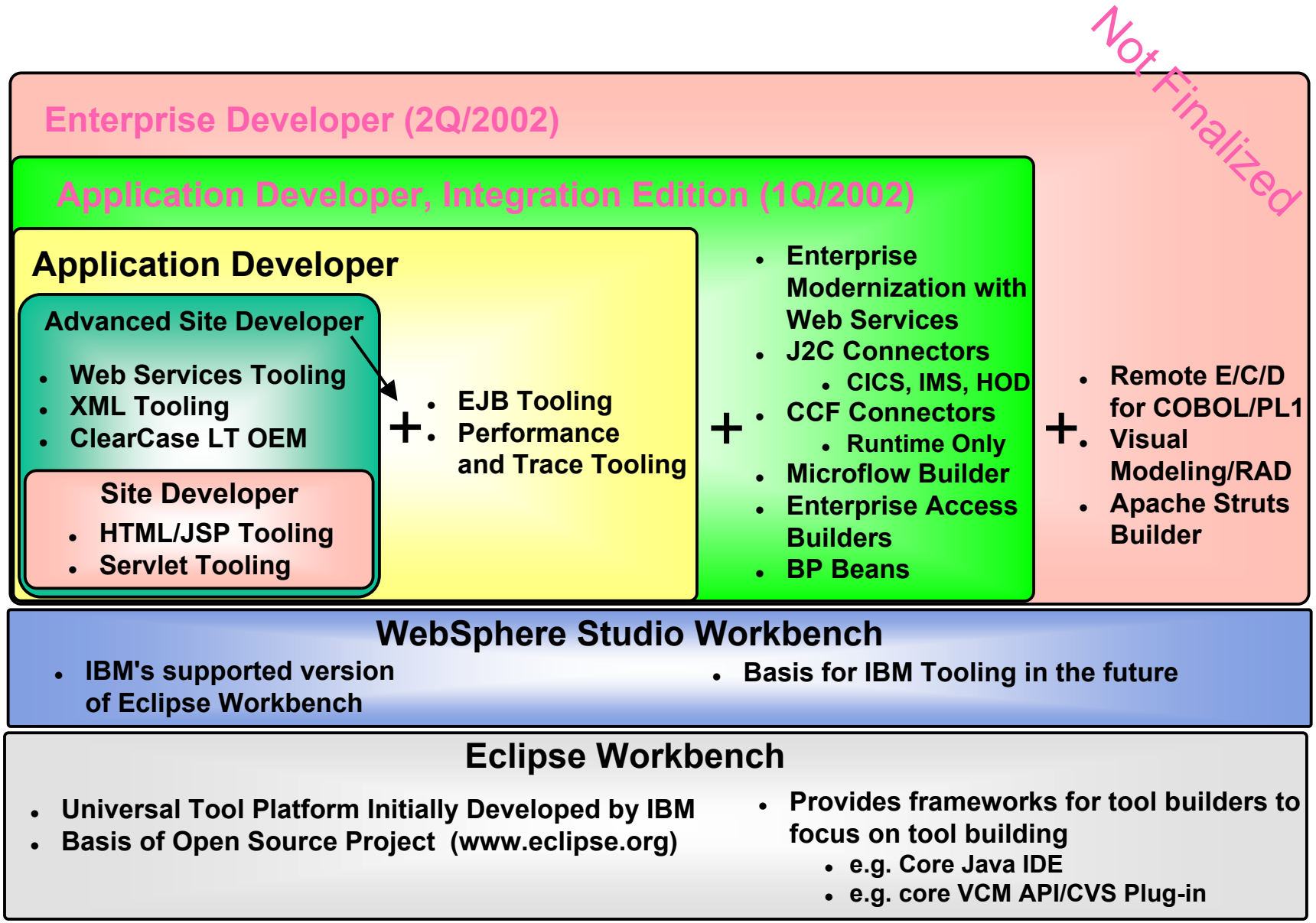
eclipse

The Open Platform approach

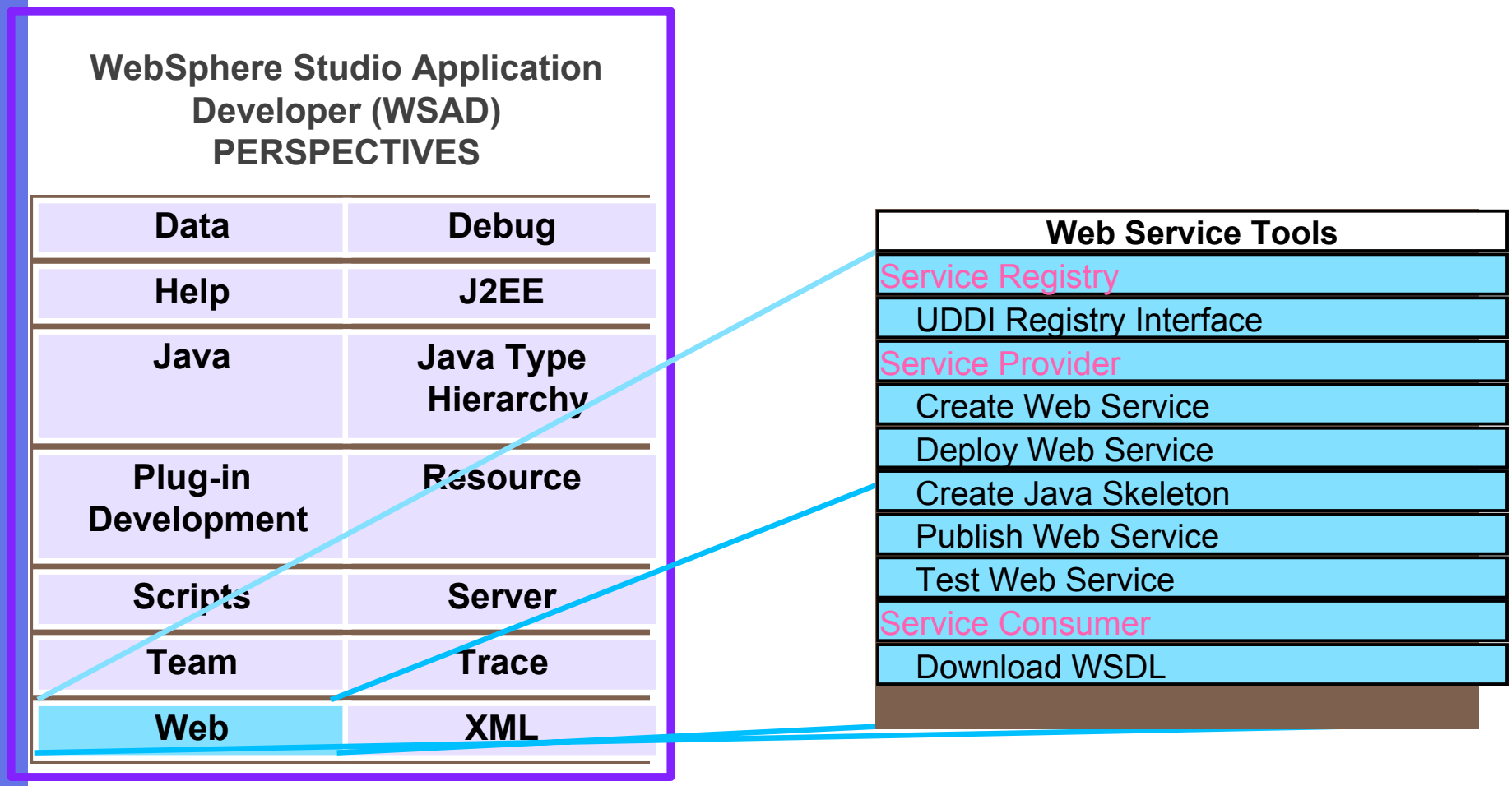


Over 1200 developers from 150 companies are participating in the Eclipse universal tool platform open source project

WebSphere Studio Family

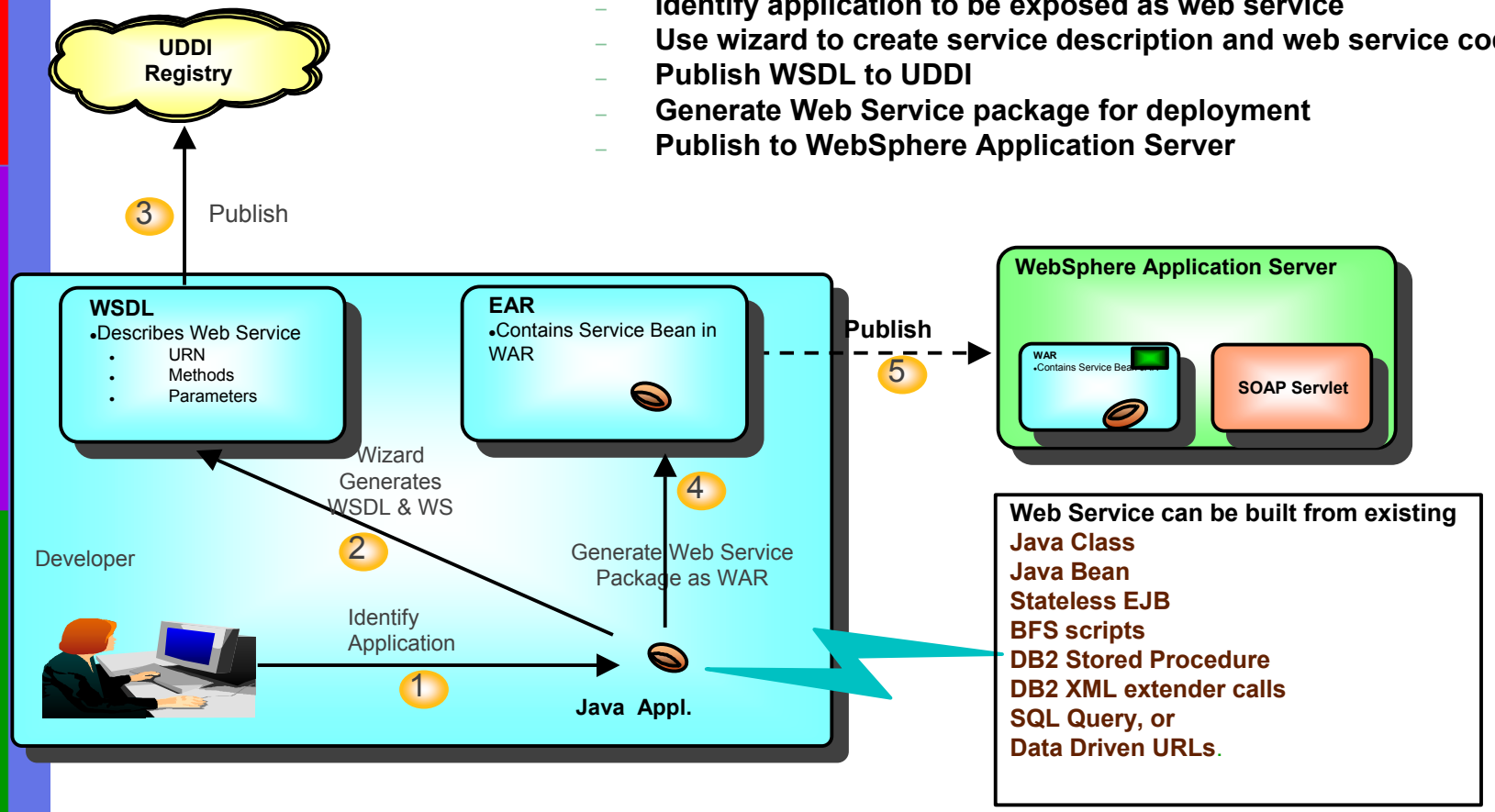


WebSphere Studio Application Developer Has a Complete Set of Integrated Web Service Tools



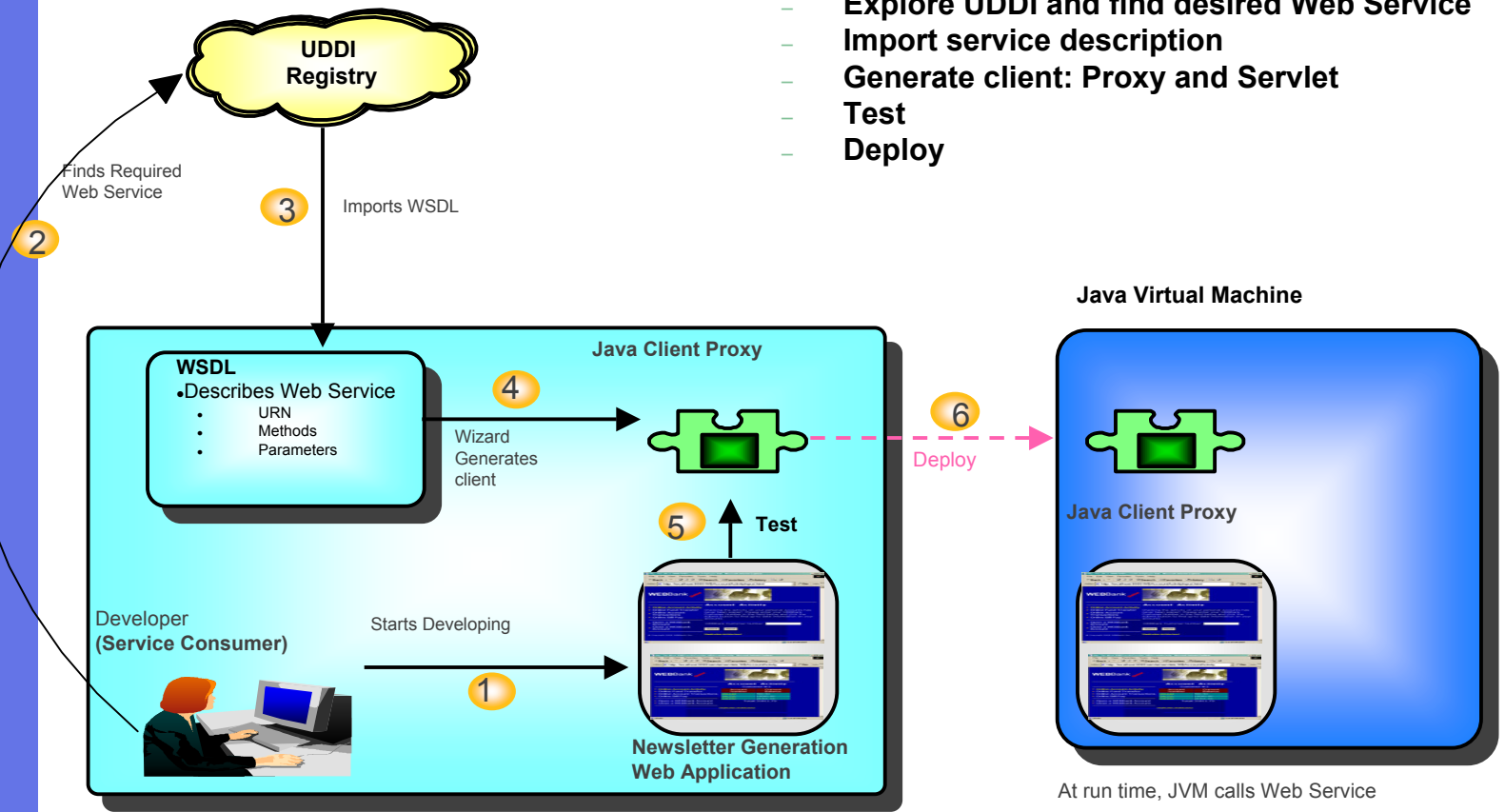
Expose a Web Service

- **Buildtime: Architecture, IDE & Tool**
  - **Input: An Existing Java Class Application**
  - **Process:**
    - **Identify application to be exposed as web service**
    - **Use wizard to create service description and web service code**
    - **Publish WSDL to UDDI**
    - **Generate Web Service package for deployment**
    - **Publish to WebSphere Application Server**



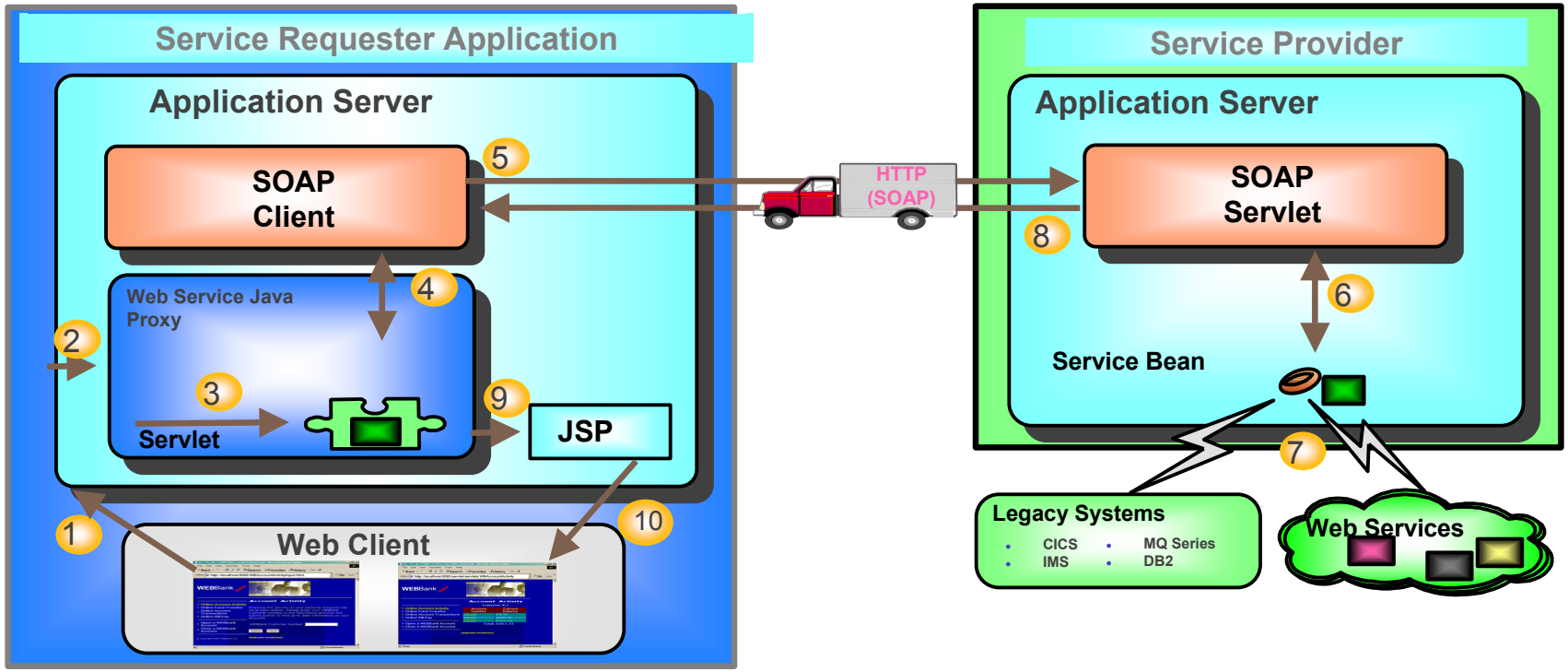
Consume a SMS Web Service

- **Buildtime: Architecture, IDE & Tool**
  - **Input: Need to use a Web Service**
  - **Process**
    - **Start development of the SMS generating application**
    - **Explore UDDI and find desired Web Service**
    - **Import service description**
    - **Generate client: Proxy and Servlet**
    - **Test**
    - **Deploy**

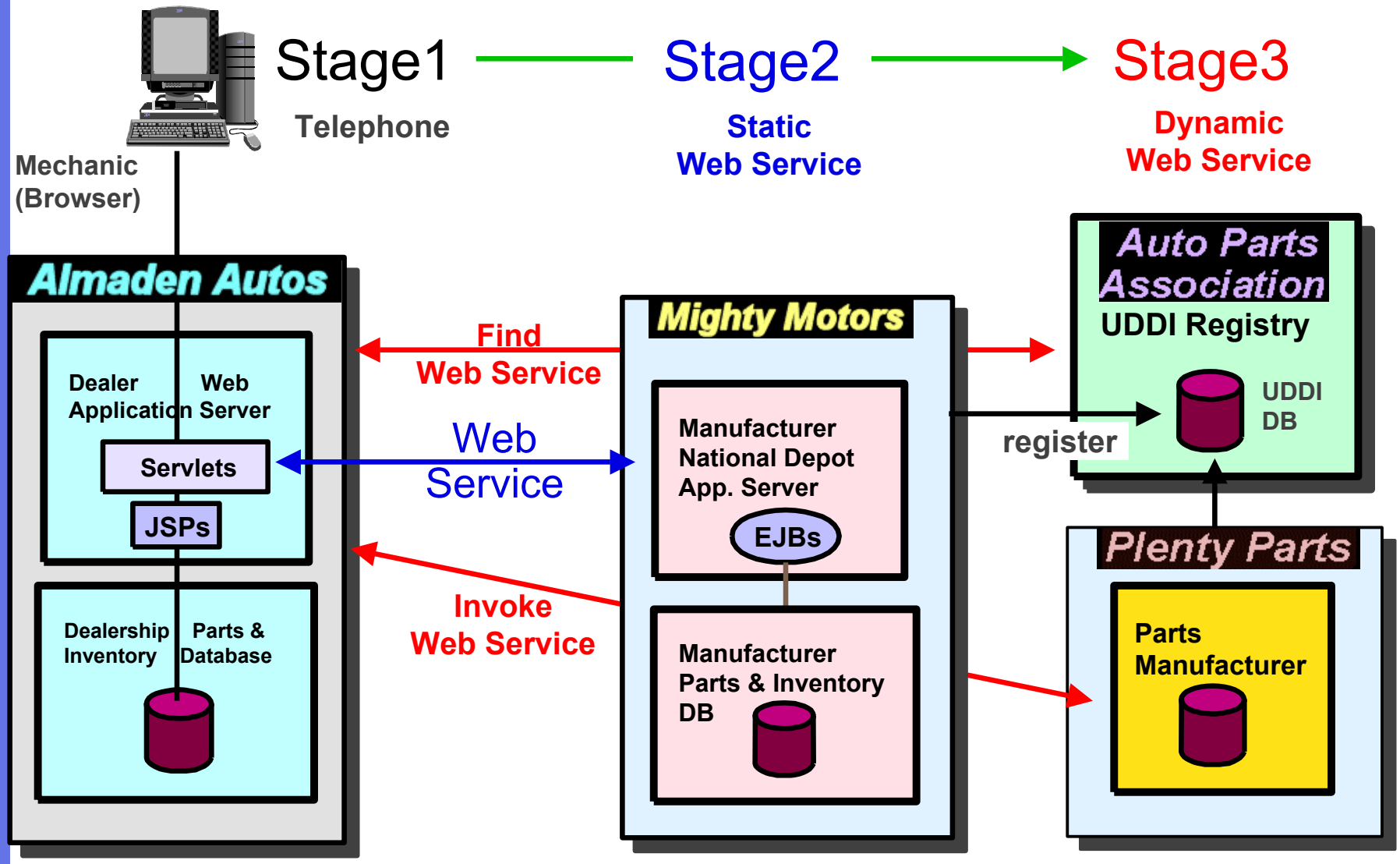


Web Service Runtime

- **Runtime: Architecture & Components**
  - Apache SOAP 2.1 engine (donated by IBM SOAP4J)
  - Current best and standard runtime engine



Redbook step-by-step example

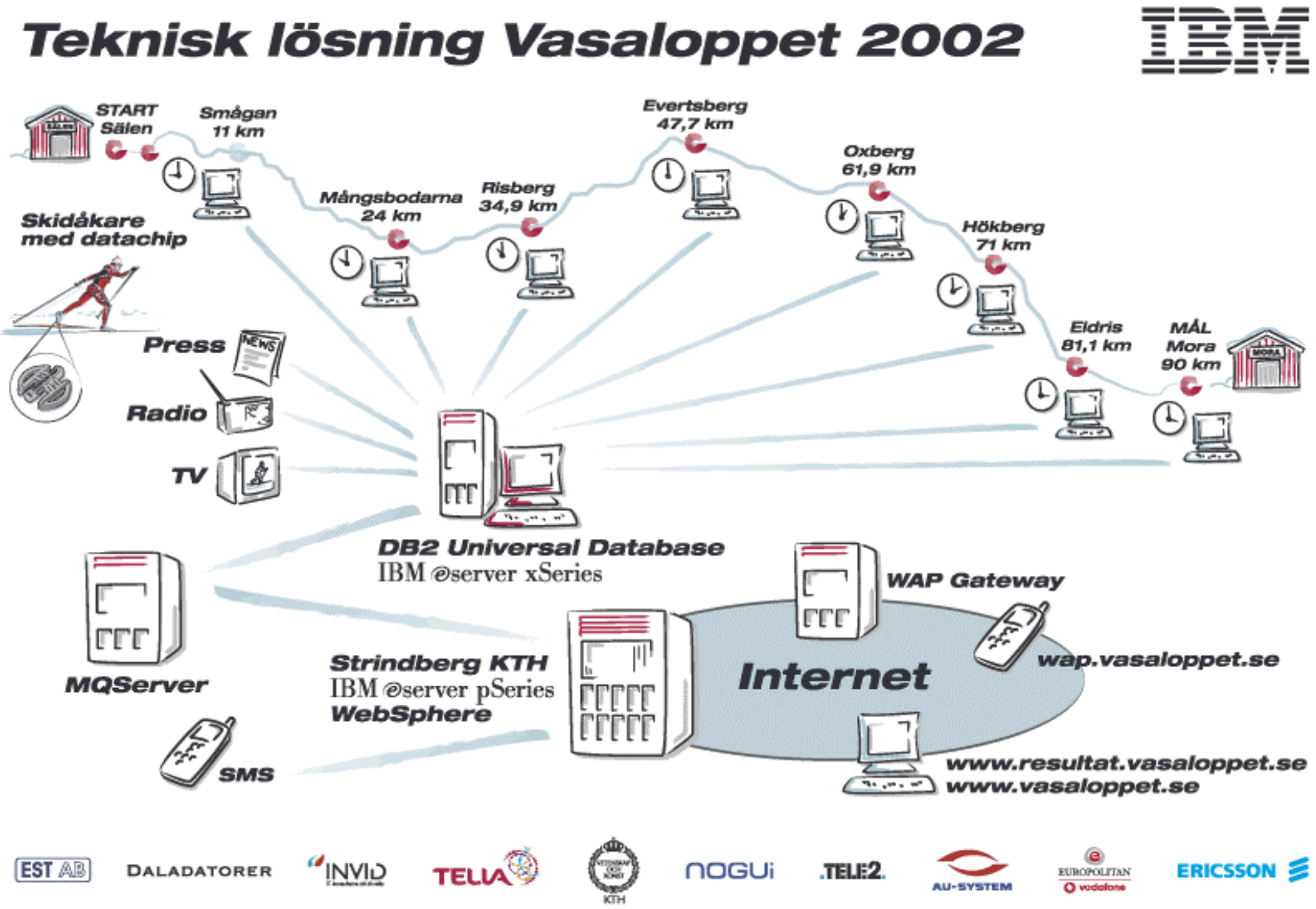


IBM's jStart Team - WebServices references

- Adobe Systems Incorporate - reduced costs & time
- AgentWare, Inc. - Syndication of data and services
- Altio - Powering New Generation Web Applications
- Asera, Inc. - Providing a new generation of technology
- ASU Solutions, Inc. - Enabling customers to meet their goals
- Avinon, Inc. - The next wave of e-business
- B-Bop Associates, Inc. - Scalable data management for WS
- Baltimore Technologies - Digitally signing paper documents
- Cacheon, Inc. - accelerate app. development & deployment
- CapeClear, Inc. - peer-to-peer affinities between businesses
- CareTouch Inc. - Building an online community for caregivers
- DecisionSoft Limited - Keeping XML under control with X-Meta
- Department of Trade and Industry, Oil & Gas Directorate
- Digital Evolution, Inc. - Providing innovation to Web services
- digitalESP, Inc. - Enabling agility and flexibility
- ebyz - Accelerating Web services based integration
- Entrust - Secure dynamic e-business
- Epicentric, Inc. - Pioneers of portal markets
- Extend Technologies Limited - Bring people together
- Flamenco Networks - Reducing time and costs
- Galileo International - World leading global distribution services
- German Association of Towns and Municipalities
- Grand Central Networks, Inc. - The Web Services Network
- Hewitt Associates LLC - Take a global view
- Hitachi Software Engineering Co., Ltd. - Integration
- IBM Business Transformation & CIO Organization
- IBM Global Services IT Group - The Web services paradigm
- Industri-Matematik International Corp. - dynamic capabilities
- interKeel, Inc. - Smart apps from “Simple” WS components
- InterPro Global Partners LLC - Transcend the barriers
- iSOCO - Aggregating financial services on the Web
- iTenol, Inc. - Moving forward with Web services
- Killdara Corporation - Embracing emerging technologies
- Linkedwith GmbH - Connects companies with m-business
- MedBiquitous Consortium - A Leader in its field
- MicroDoc GmbH - Innovators of Web services solutions
- Mincom - Providing the vision in business and technologies
- National Industrial Information Infrastructure Protocols - U.S.
- ORIX - A global financial services company
- Peregrine Systems, Inc. - business data exchange
- Primordial, Inc. - Business strategy for Internet projects
- Prolifics - A strong foundation to enterprise computing
- PushToTest - Software test automation solutions
- Royal Dutch / Shell Group - Powering the Future
- Storebrand ASA - Synchronize your data
- Thor Technologies, Inc. - Service Management platform
- TIAN Software Company, Inc. -Enterprise level Web services
- Timogen Systems - Promoting and fostering collaboration
- TransactTools, Inc. - Web services helps ease pain
- Tripcentric Technologies Ltd. - Internet for travel
- Usermagnet, Inc. - Turning to IBM for Web services solution
- VelociGen, Inc. - The Web services revolution
- Versata, Inc. - WS enablement of Versata Logic Server
- Visualize, Inc. - Create new revenue channels
- WAND, Inc. - Super-charge cataloging
- XML Global Technologies, Inc. - Complex integration made

http://www-3.ibm.com/software/ebusiness/jstart/casestudies/webservices.html

Largest cross-country skiing event in the world
Largest site in EMEA



Scenario

1 – Create a Web Service

A.WS-enable ex. sms function direct (via. APIs)

B. Alt WS-enable filetransfer to SMS

C. Alt WS-enable inbound email to SMS

2 – Expose an internal SMS program externally as a Web Service

3 – Offer specific customers/partners programmable access to metdhos via SOAP

4 – Alt. Expose and publish service in a UDDI registry

A – register Telia XXX = White pages

B – registrer service/bransch = Yellow pages

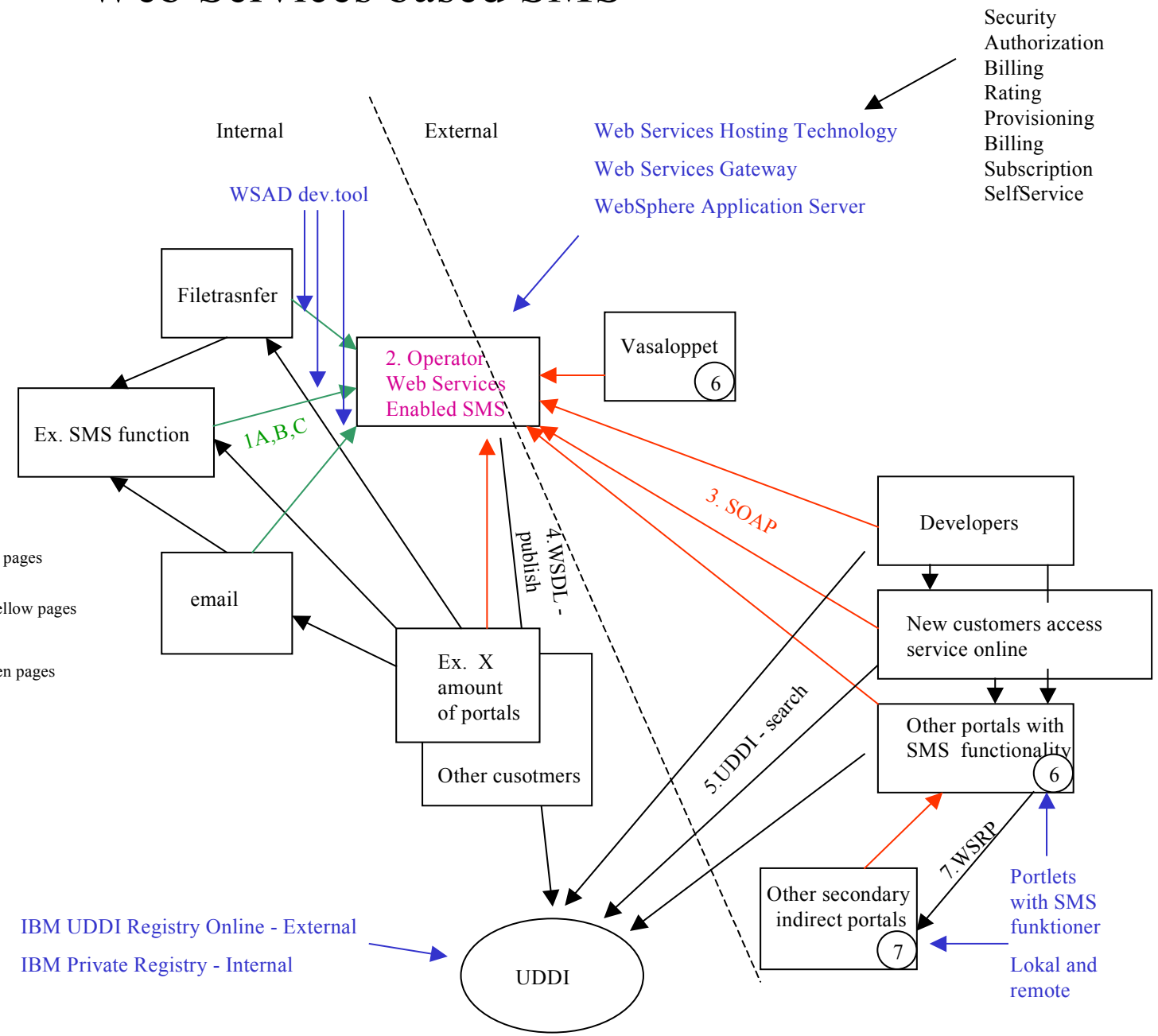
C – registrera SMS Components/offerings = Green pages

5 – Offer new customers and partners to search/find service and download and take WSDL to taka advantage of the service.

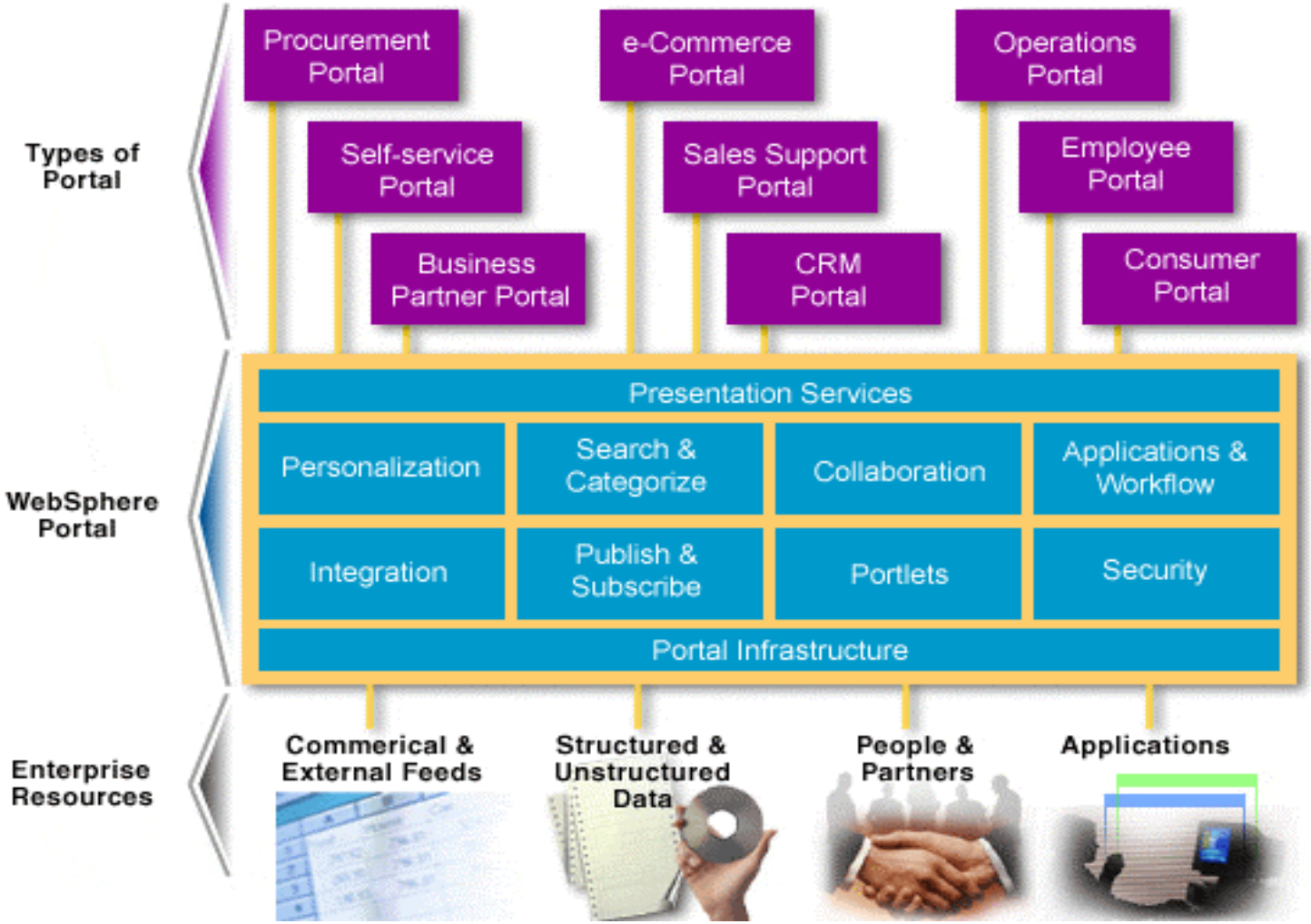
6 – Build/deploy SMS aware portlets

7- Build/deploy SMS aware remote portlets – using new standard WSRP - Web Services for Remote Portlets

Web Services based SMS



General Portal Function



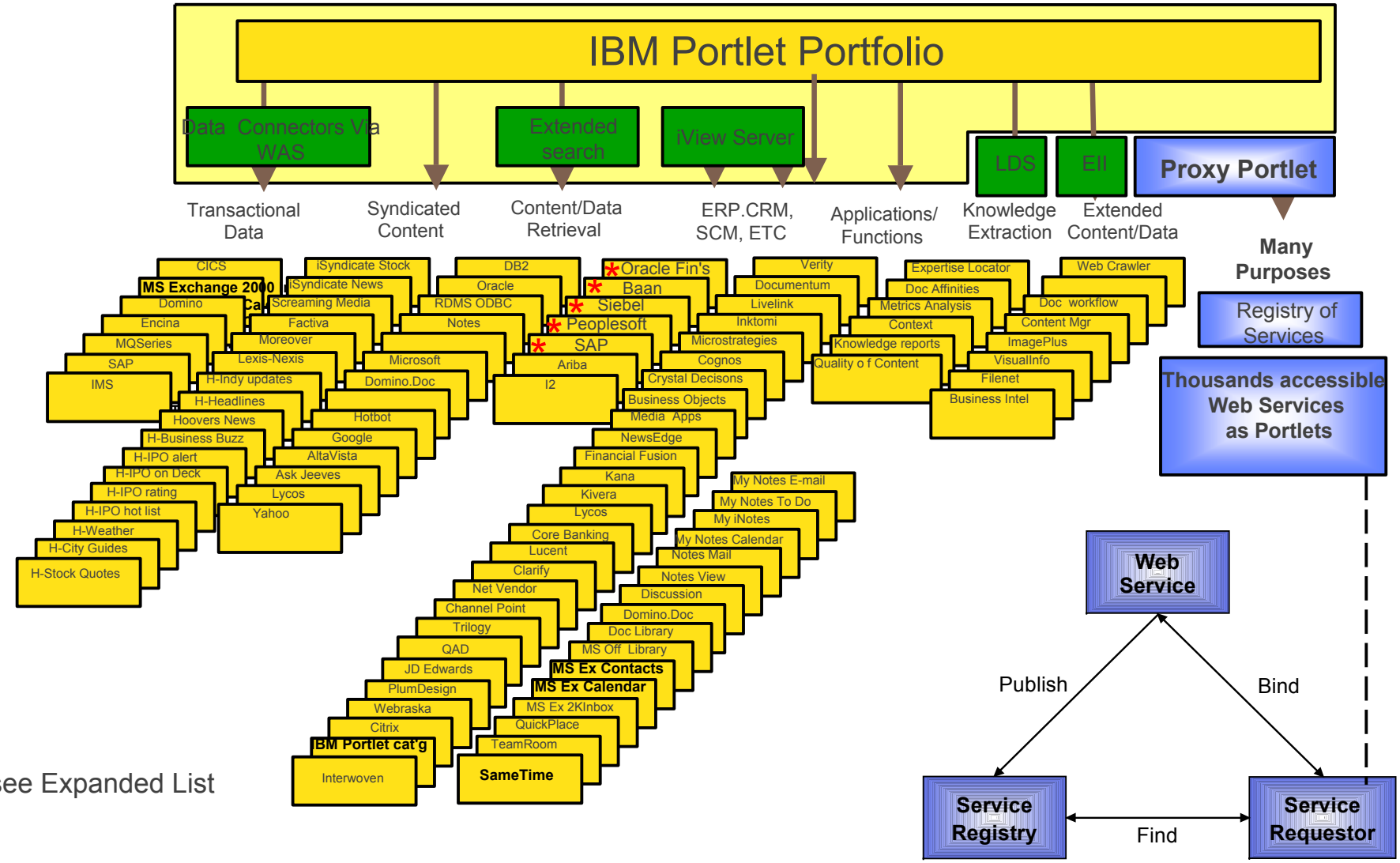
IBM Differentiators

- Cross Portal Types, B2C, B2E, B2B
- Pervasive device and network support
- Open: multi-platform, plugable components
- Collaboration integration, Knowledge Management
- Advanced Personalization
- Legacy Application Integration, Web Services
- Availability and Scalability, WAS exploitation
- Internationalization

Goals of Remote Portlet Web Services (RPWS)

- Allow visual, interactive, user-facing web services to be easily plugged into all standards-compliant portals
- Let anybody create and publish their content and applications as user-facing web services
- Portal administrators can browse public or private UDDI directories for user-facing web services to plug into their portals as new portlets, without any programming effort
- Let portals interact and publish portlets so that the can be consumed by other portals
- Make the internet a pool of visual web services, waiting to be integrated

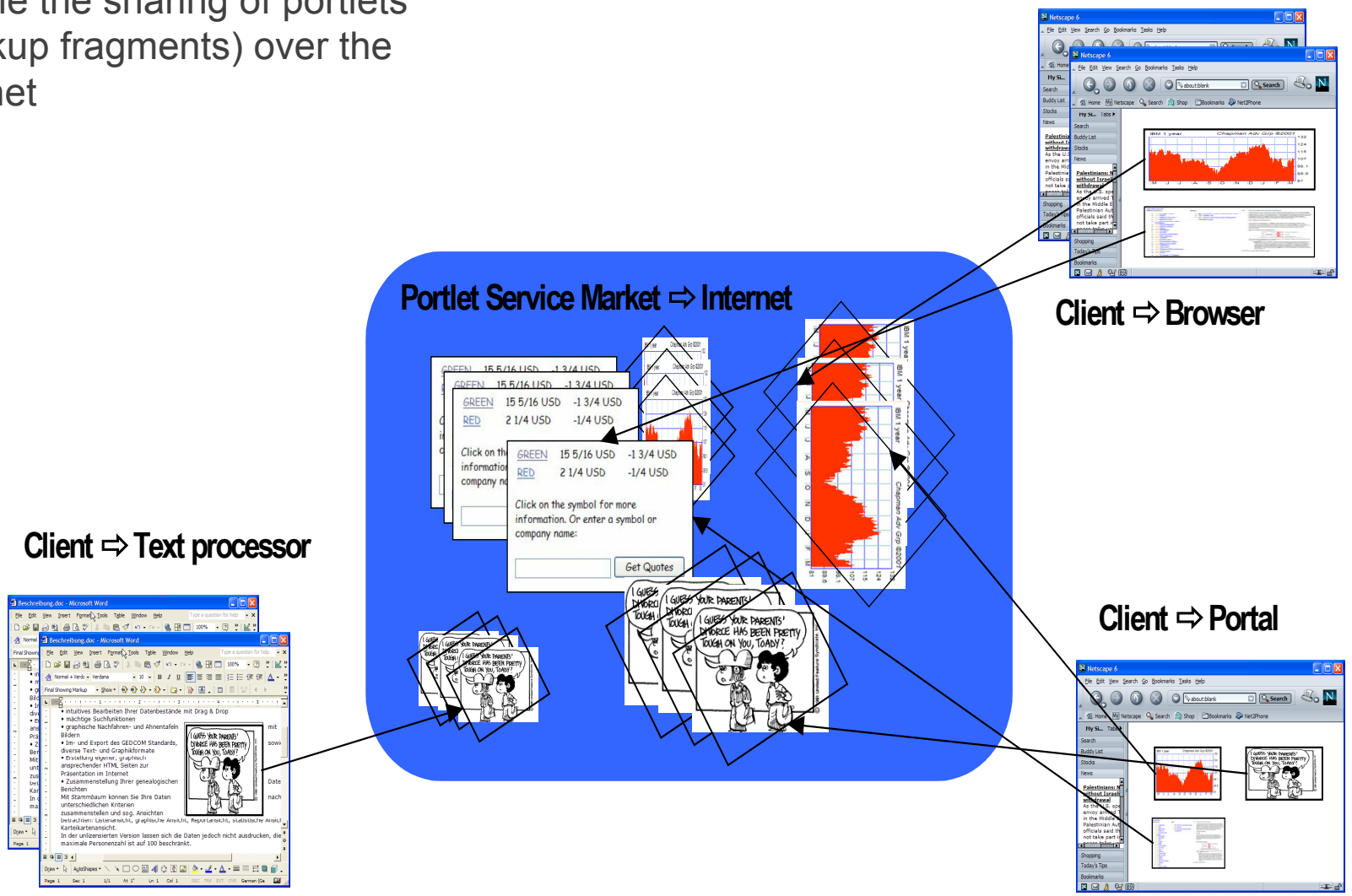
Portlet Partners and Web Services



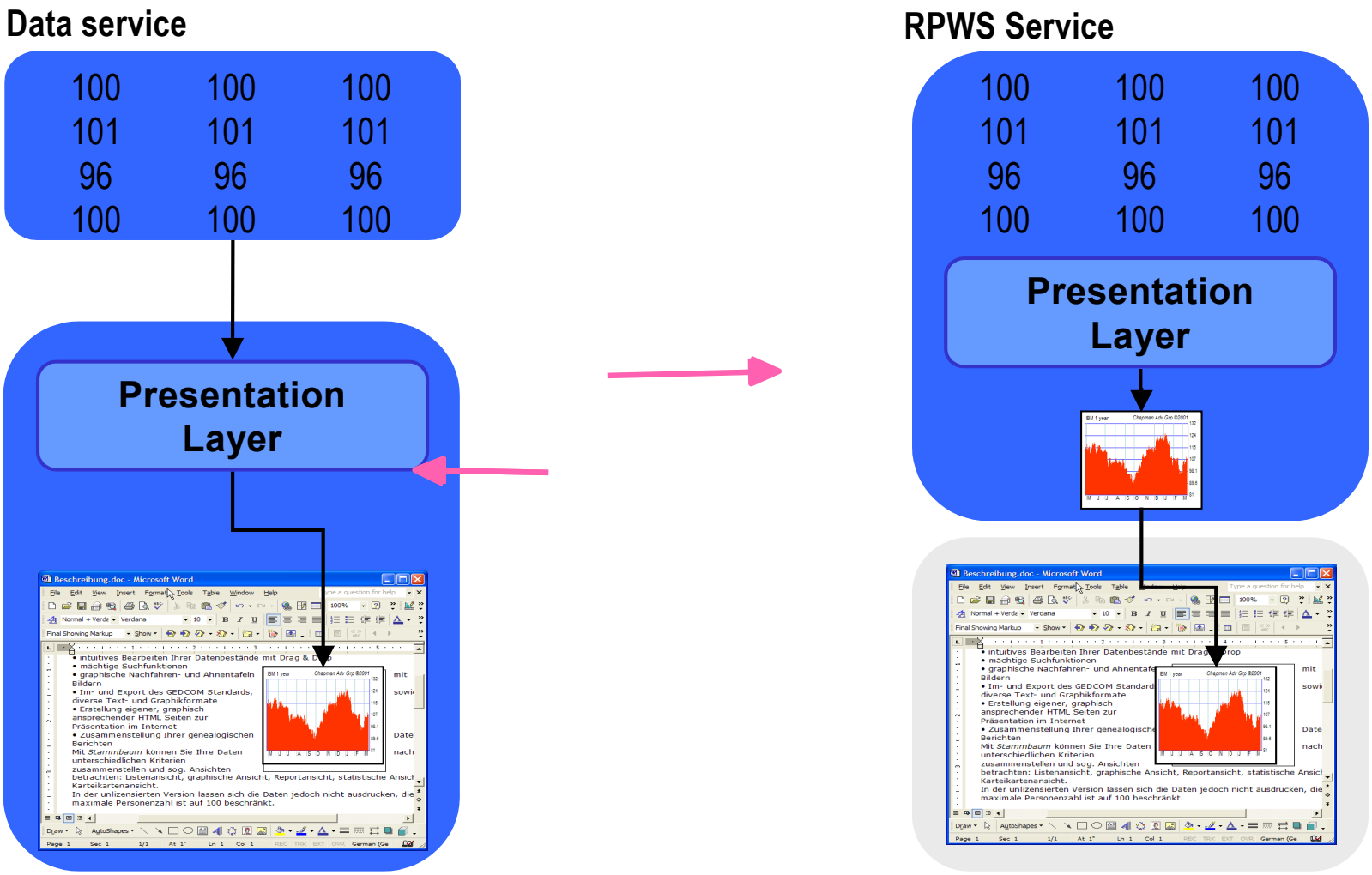
* see Expanded List

Motivation

Enable the sharing of portlets (markup fragments) over the internet

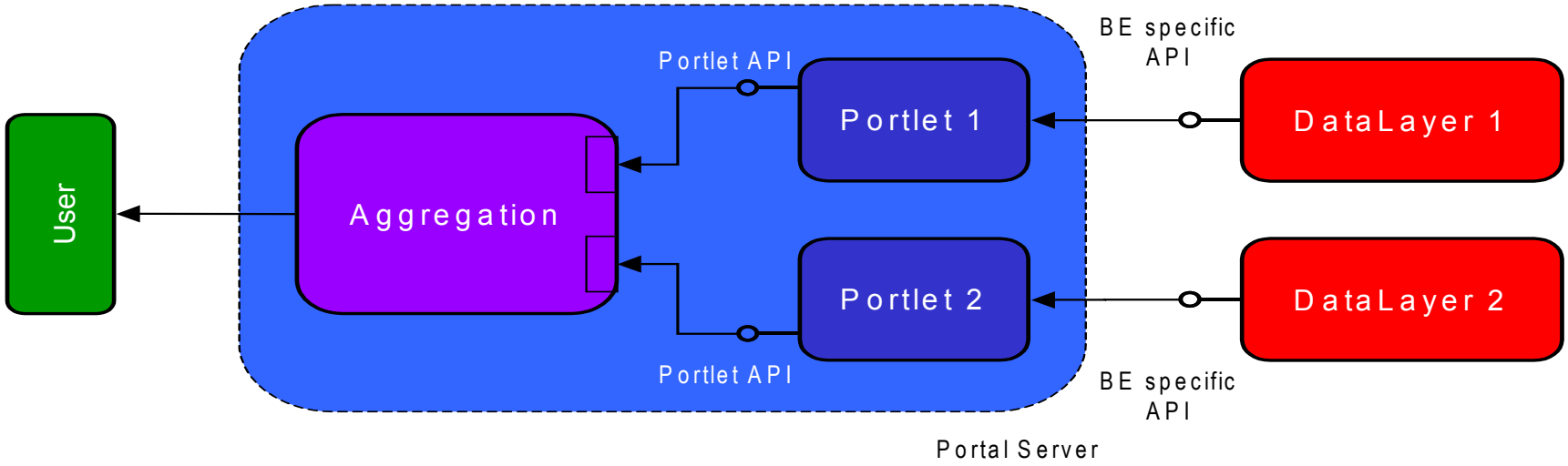


Remote Portlets vs. data oriented WS



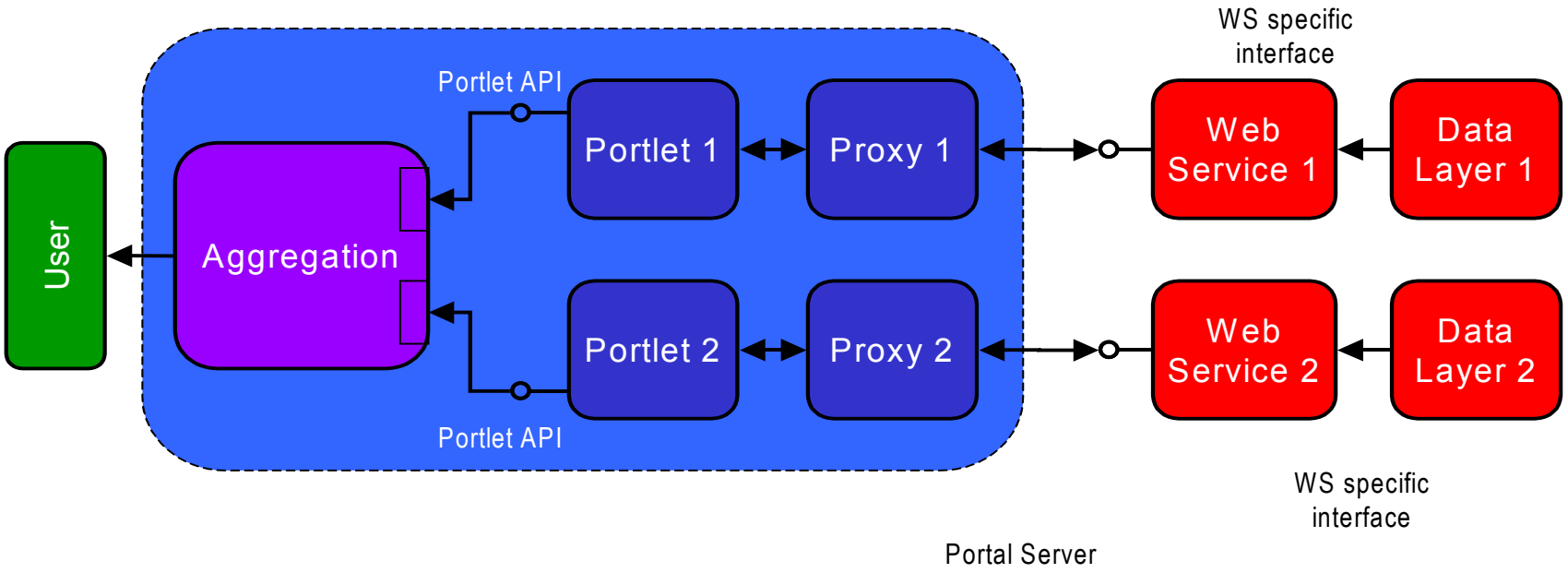
Traditional Backend Usage Scenario

- Local Portlets
  - Efficient
  - Local deployment of code
  - Specific UI for each deployed portlet
  - Business layer and presentation layer both located on the portal server
  - Portlets cannot be shared among portals



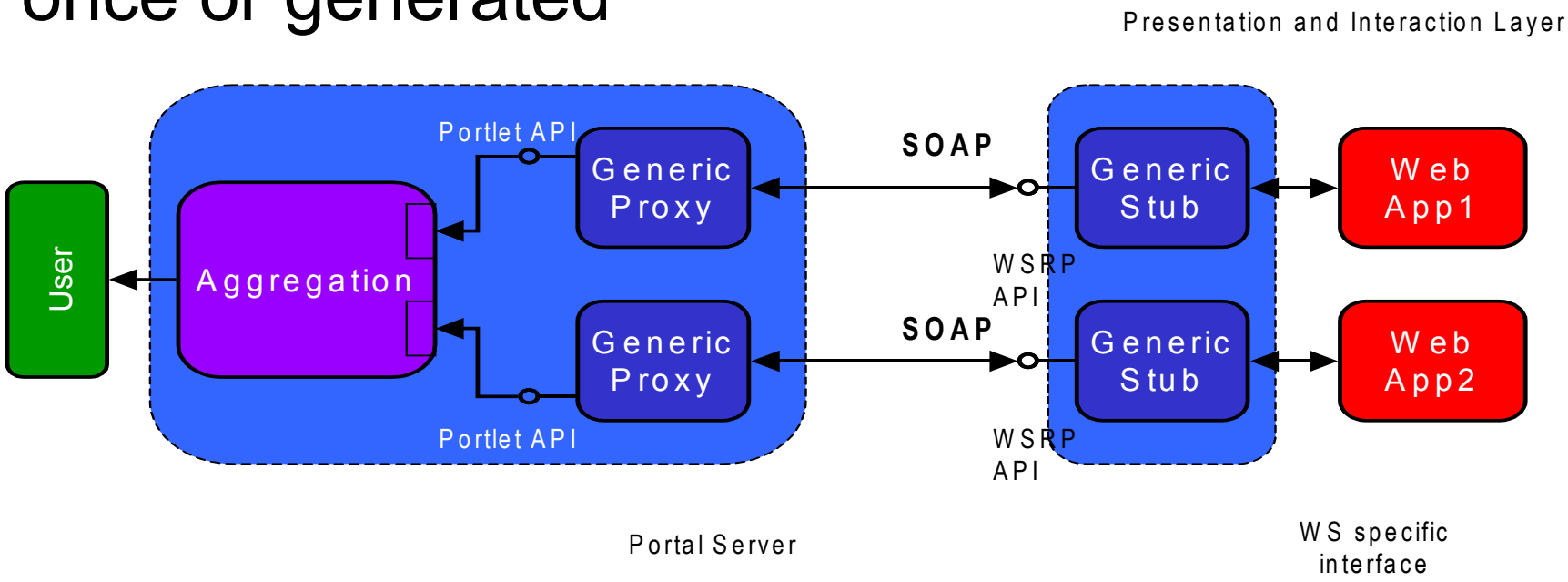
"Traditional" Web Service Usage Scenario

- Portlets using WebServices
  - Different data-oriented Web Services expose different interfaces
  - Specialized UI and proxy code required in specific portlet for each WS
  - Local deployment of code is still necessary
  - Data layer is separated from the presentation layer

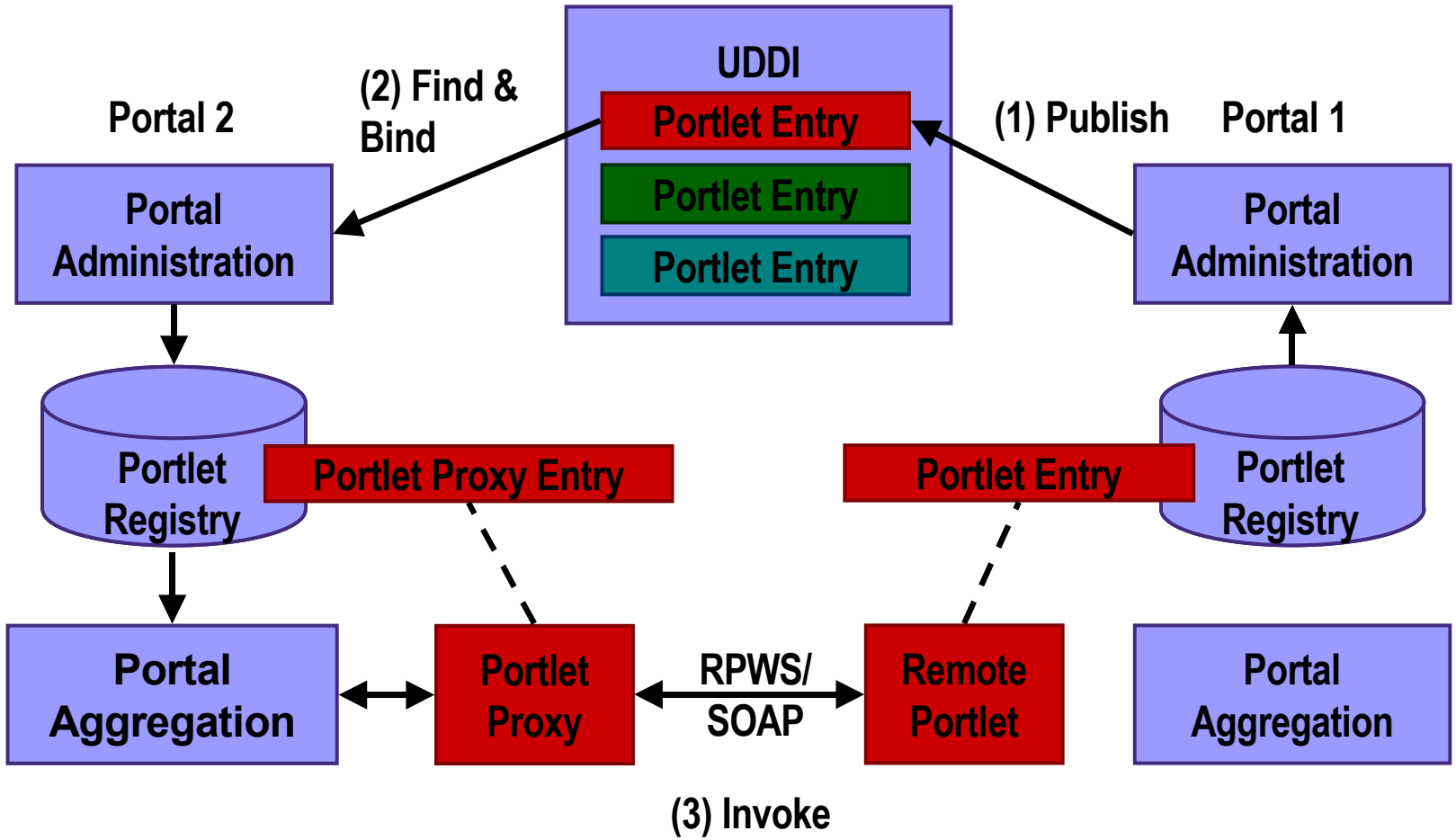


Remote Portlets Web Services

- Visual and User-facing interactive web services that plug & play with portals
- All remote connections share a common API
- No coding required, proxy and stub are coded once or generated

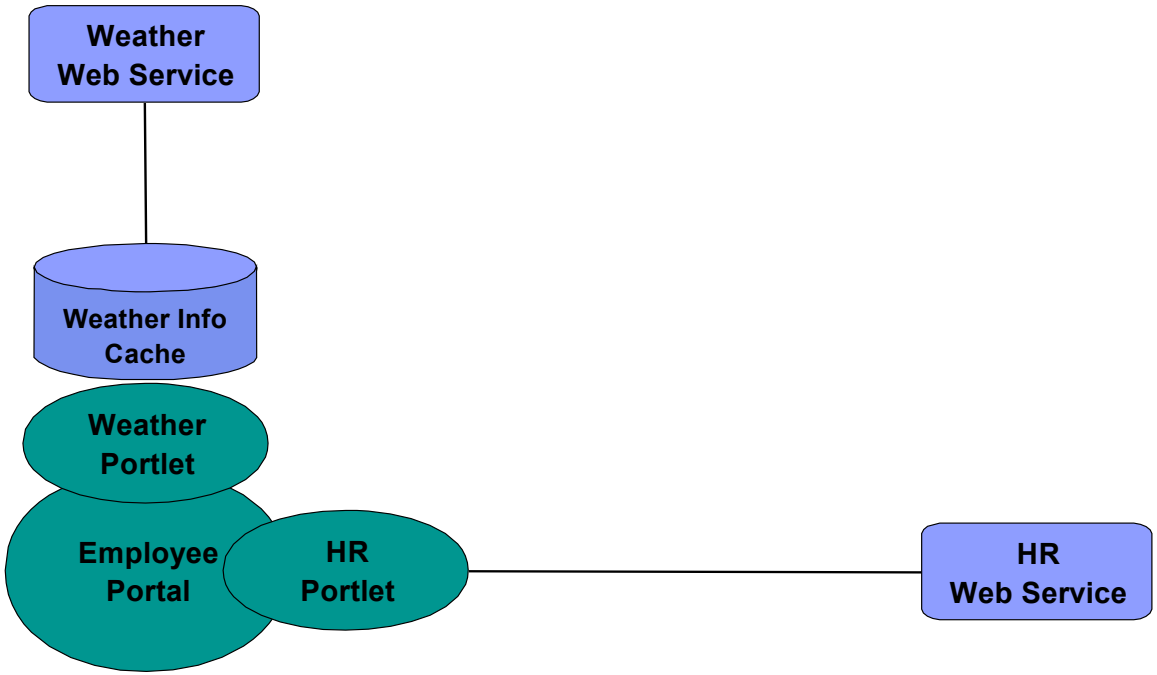


Publish, Find, Bind of Portlets as WSRP Services

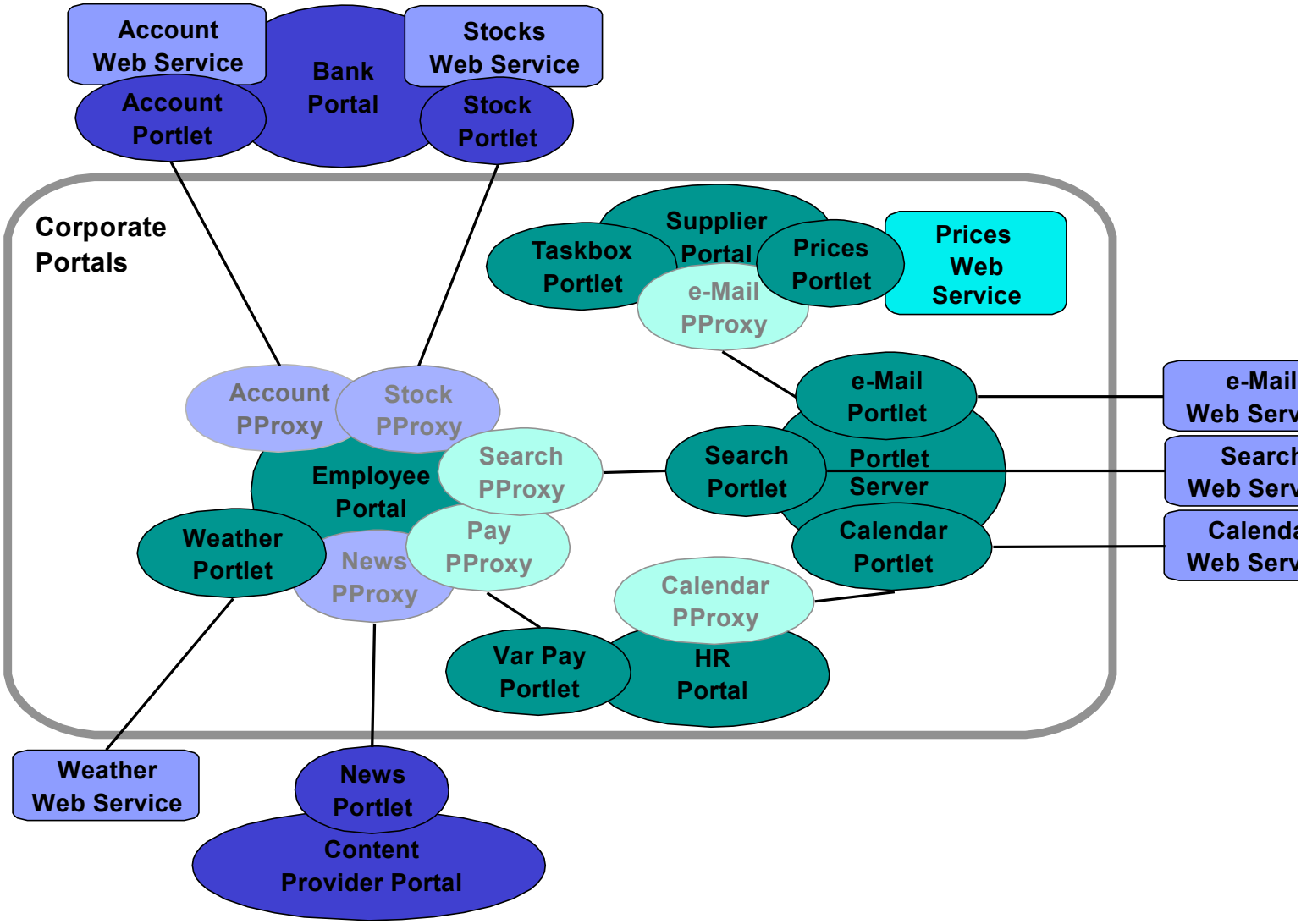


Local Portlets Using Web Services

Here's where we were!



Distributed Portal Solution



Standardization: Web Services for Remote Portals

- Standardization taking place in OASIS
- WSRP services are user-facing, interactive web services that may be aware of portal-side user profile information, devices, locales
- RPWS will standardize:
  - How to publish, find, and bind to RPWS services
  - Metainformation for RPWS services (Name, supported languages and markups, Titles and Descriptions in supported languages, ...)
  - Protocol for interaction between portals and RPWS services
- WSRP Home Page: http://oasis-open.org/committees/wsrp/
  - Goal:
  - First Draft of RPWS Spec in Summer 2002
  - WSRP 1.0 Spec and Implementation year end 2002

WSRP and Java Portlet API (JSR 168)

- Portlet API defines local portlets implemented in Java
- RPWS defines user-facing, interactive web services that plug & play with portals
- Goals:
  - Allow Java portlets to be wrapped and published to UDDI as RPWS services
  - Allow RPWS services to be integrated in portals by using generic portlet proxies

Companies who support/participate in WSRP

- IBM
- Bowstreet
- Divine
- Documentum
- Epicentric
- Factiva
- Fujitsu
- HP
- I2
- Interwoven
- IONA
- Intel
- Lexis-Nexis
- Netegrity
- Oracle
- Peoplesoft
- Plumtree
- Silverstream
- Sybase
- Tibco
- Zolera Systems
- Sun
- SAP Portals
- BEA

What is the Value of Web Services?

- Web Services technology will enable businesses to:
  - deliver new IT solutions **faster** and at **lower cost**
    - development can focus on the code related to core business, and
    - use Web Services application for non-core business programming
  - **protect their investment in IT legacy systems**
    - use Web Services to wrap legacy software systems for integration with modern IT systems
  - **externalize** their business processes and **integrate** them with business processes of their customers and partners at a much lower cost
    - Web Services make this integration feasible by allowing to share business processes without sharing technology
      - with lowered entry costs even small business will be able to participate in B2B integration
  - enter **new markets** and **widen customer base**
    - Web Services listed in UDDI Registries can be "discovered" and thus are "visible" to the entire web community

Resources

- ibm.com/developerWorks
  - Many great tutorials and in-depth technical articles
- ibm.com/alphaworks
  - download early technologies for free
- Whitepapers (introductory and architectural):
  - ibm.com/webservices
  - click Documentation link
- ibm.com/developerworks/speakers/colan
  - Web Services NOW! (this talk)
  - Technical Overview of Web Services
  - All About UDDI (including Private UDDI uses)
  - SOAP: Security and Reliability, Issues and Solutions
- email: tommy.hagvall@se.ibm.com

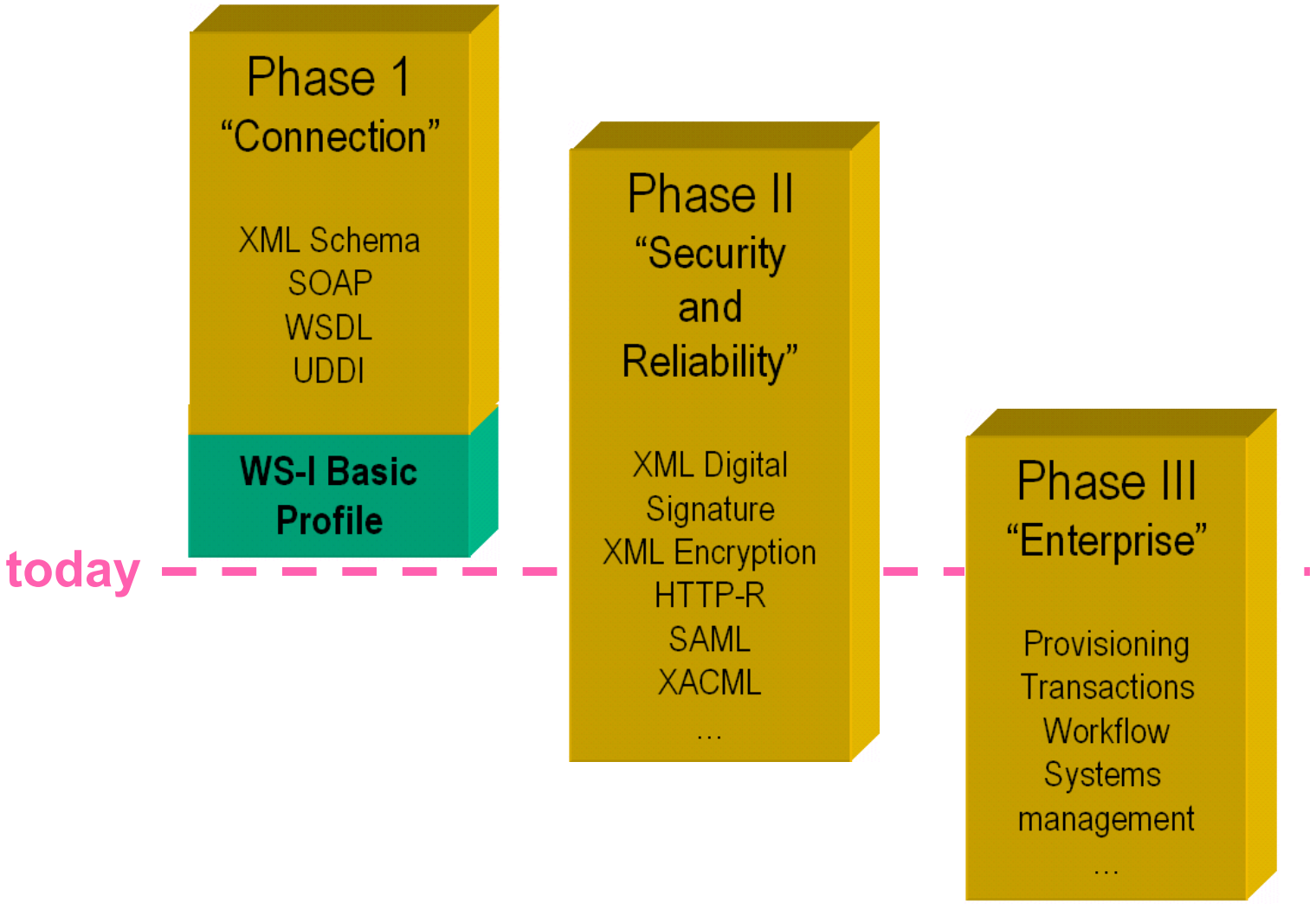
Web Services Interoperability

- WS-I.org announced Feb 6, 2002
- Industry initiative for Web services
  - Open to any organization committed to Web services
  - Promote and accelerate adoption, deployment
- Focused on promoting Web service interoperability
  - Across platforms, applications, and programming languages
  - Promote a common, clear definition for Web services
- Promote customer adoption & deployment
  - Integrate specifications from standards bodies
  - Implementation guidance & tools for customers building and deploying Web services

ws-i.org deliverables:

- Profiles
  - named groups of specifications at given version levels with conventions about how they work together
- Implementation Scenarios
  - based on customer requirements
- Test suites and supporting materials
  - Sample solutions
  - Implementation aids
  - Conformance testing tools
  - Supporting documentation and white papers

Specifications and Standards



Web Services: Summary

- Software evolution, Business revolution
  - leverage existing software as highly-integratable objects
  - no need to learn a new programming language!
  - integrate systems internally, or with business partners
  - new business opportunities abound
- Open standards is a requirement
  - Web Services build on existing standards
  - IBM leads the industry in development of new standards
- Get started now with IBM
  - WebSphere 4.0 fully supports Web Services applications
  - WebSphere Studio Application Developer beta available now
  - SOAP4J, UDDI4J, Web Services Toolkit on ibm.com/alphaworks
  - jStart Web Services team helps get your dev team up to speed quickly with a limited-scope project

Next Steps

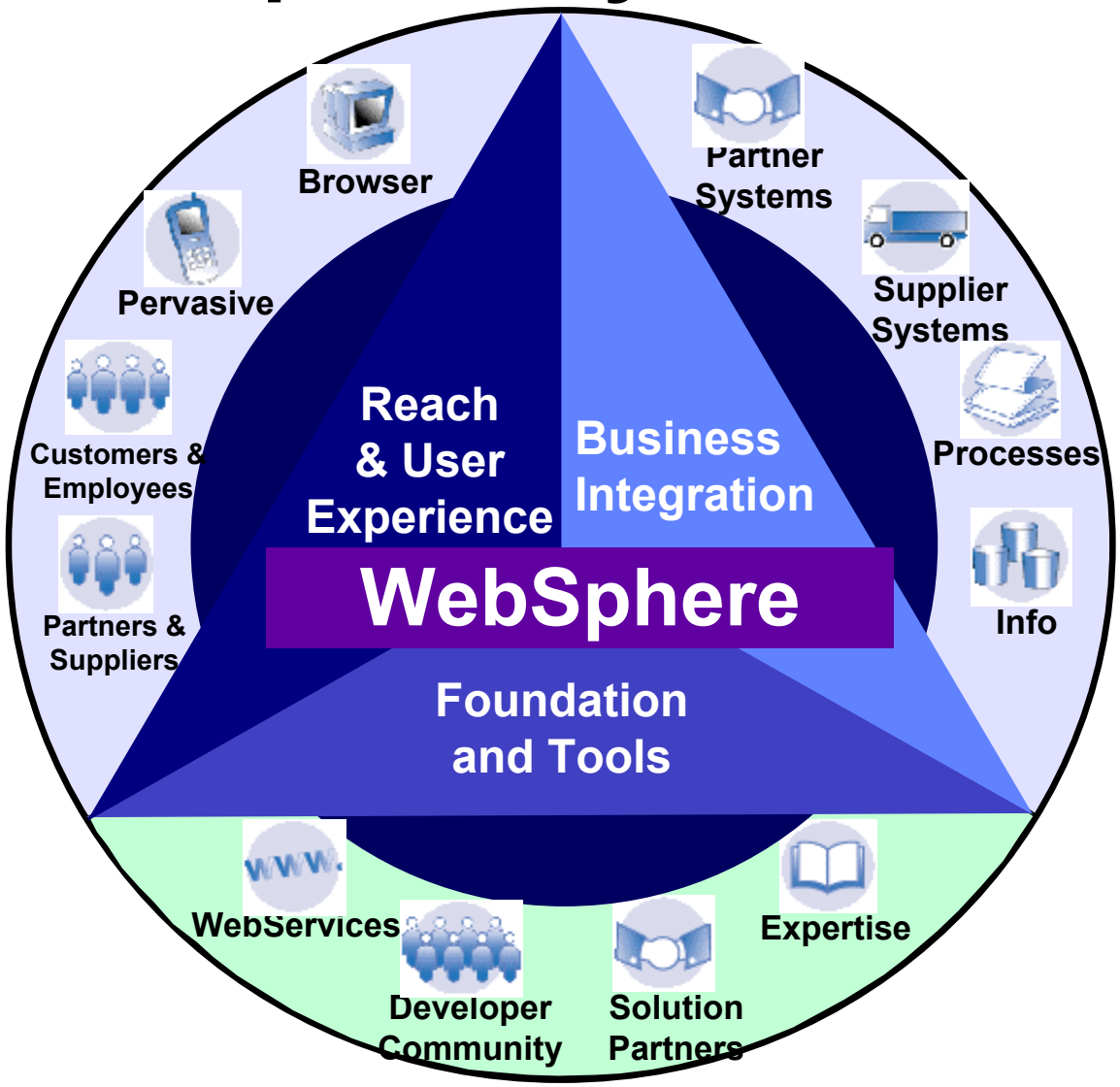
- Register for the **Web services newsletter** at:
  - www.ibm.com/developerworks/newsletter/
- Check out the **Web services Zone** at:
  - www.ibm.com/developerworks/webservices/
- Attend a **local seminar or workshop**:
  - www.developer.ibm.com/spc/events
- Need help getting started? **Contact jStart at**:
  - www.ibm.com/software/ebusiness/jstart/
- Are you an ISV? Check out IBM's new **Web services on WebSp** partner program:
  - www.ibm.com/websphere/wow/
- **Get WebSphere Studio**:
  - www-3.ibm.com/software/info1/websphere/index.jsp

IBM alphaWorks

http://ibm.com/alphaWorks

- Hundreds of tools for Web Services, XML, Java
  - early versions of features that may be in products
  - some are solid production-code (XML4J, LotusXSL)
  - some are experimental, prototypes
  - free download and use
- Some recent Web Services downloads:
  - Web Services Toolkit 3.0 and demos
  - Web Services Hosting Technology
  - Web Services Process Management Toolkit
  - Web Services Invocation Framework
  - Web Services Gateway
  - WSDL Toolkit

The WebSphere Pyramid



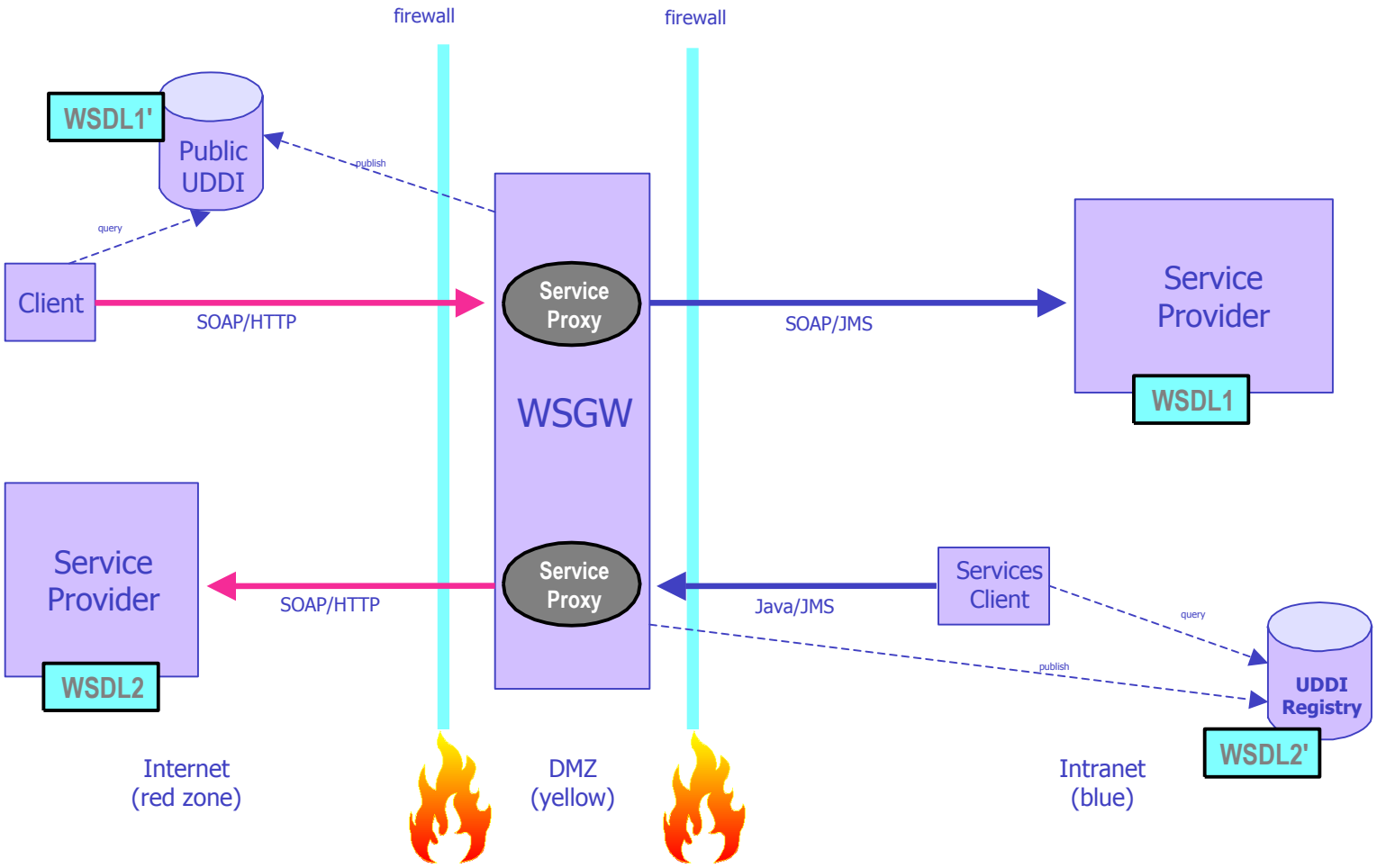
The <u>one</u> comprehensive software platform for end-to-end Dynamic e-business

Backup Slides...

Next Level of Web Services - Web Services Gateway

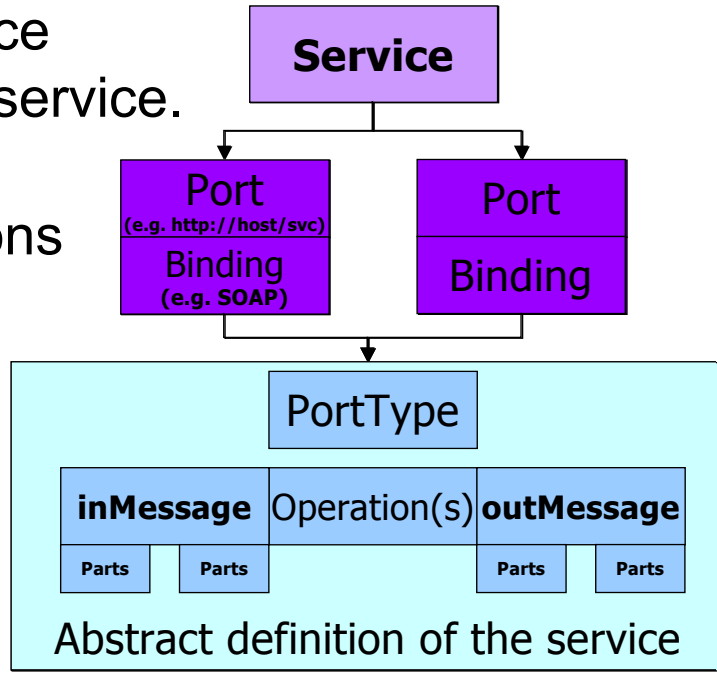
- Middleware component that provides framework between Internet and intranet environment during Web Services invocations
- Can be used to subset exposure of Enterprise Web Services to internet (proxy gateway)
- Support for multiple transports and protocols
  - SOAP/HTTP, SOAP/JMS, Direct Java via RMI-IIOP, Java over JMS
- Benefits
  - J2EE application
  - Application server hosts the service proxy
  - Provides centralized management of Web Services
  - Handles protocol translation

Web Services Gateway



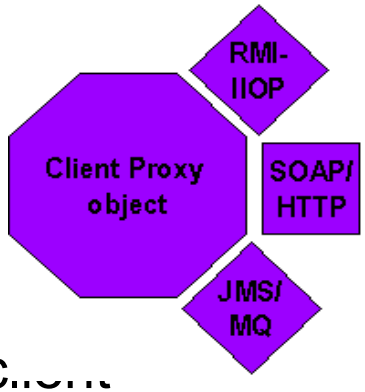
Abstracting Interfaces, WSDL

- WSDL represents a marriage between NASSL (IBM) and SDL/SCL (Microsoft)
  - Structure of NASSL
  - Message oriented flavor of SDL/SCL
- WSDL separates
  - abstract descriptions of service interfaces,
  - reusable protocol bindings for the service
  - actual deployed endpoints offering the service.
- Why bother with WSDL ?
  - SOAP RPC is similar to many invocations
    - CICS transactions
    - DB stored procedures



Invocation using WSIF

- An API for dynamic invocation
  - Location and protocol independent
  - Anything described in WSDL can be invoked
- Able to redeploy services without recompiling code
- Optimized for local calls
  - Java, EJB and JMS providers
  - Smart stubs and Service Bus concepts
- WSIF Components
  - A “portType compiler” produces binding independent c... stubs
  - A “port” factory selects actual protocol and port to invoke, based on a WSDL document.
  - A dynamic “abstract” invocation interface



Hosting WebServices for real business

- Service providers or businesses that publish Web services for internal or external use will need management functions that support the provisioning and control of these services.
  - Ability to charge, audit, monitor... "valuable" services without changing the implementation
- WebServices Hosting Toolkit (WSHT) V1.0 enables developers to
  - Package Web services into an Offer with associated rating information,
  - Publish that Offer to a catalog and enrollment system,
  - Register and subscribe new users to available Offers,
  - Verify user authorization and generate metering events during Web service invocation,
  - Present billing invoices to subscribers based upon usage charges
- Expect to see hosting web services
  - Part of a general requirement for hosting e-business applications
  - WebSphere Software Platform will address these requirements

Intelligenta SMS

Alla produkter i WebSphere portfolion har stöd för Web Services och kan ta del och nyttja en SMS baserad tjänst hos Teila

Utvecklingsverktyg – WebSphere Studio Application Developer

Application Server – WebSphere Application Server

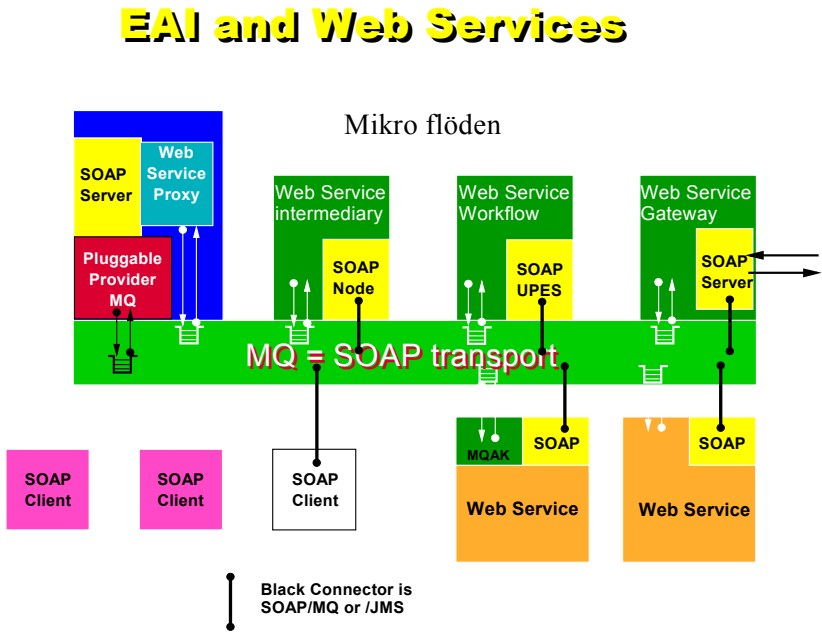
Messaging – MQ Series

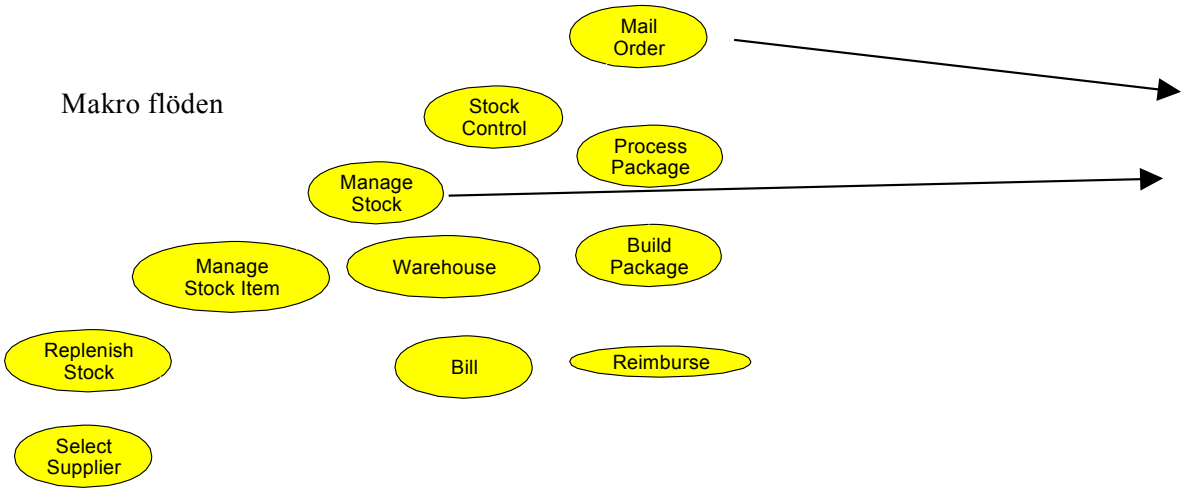
Broker/transformation – WebSphere MQ Integrator

Process/Workflow – WebSphere MQ Workflow

B2B – Partner Agreement Manager

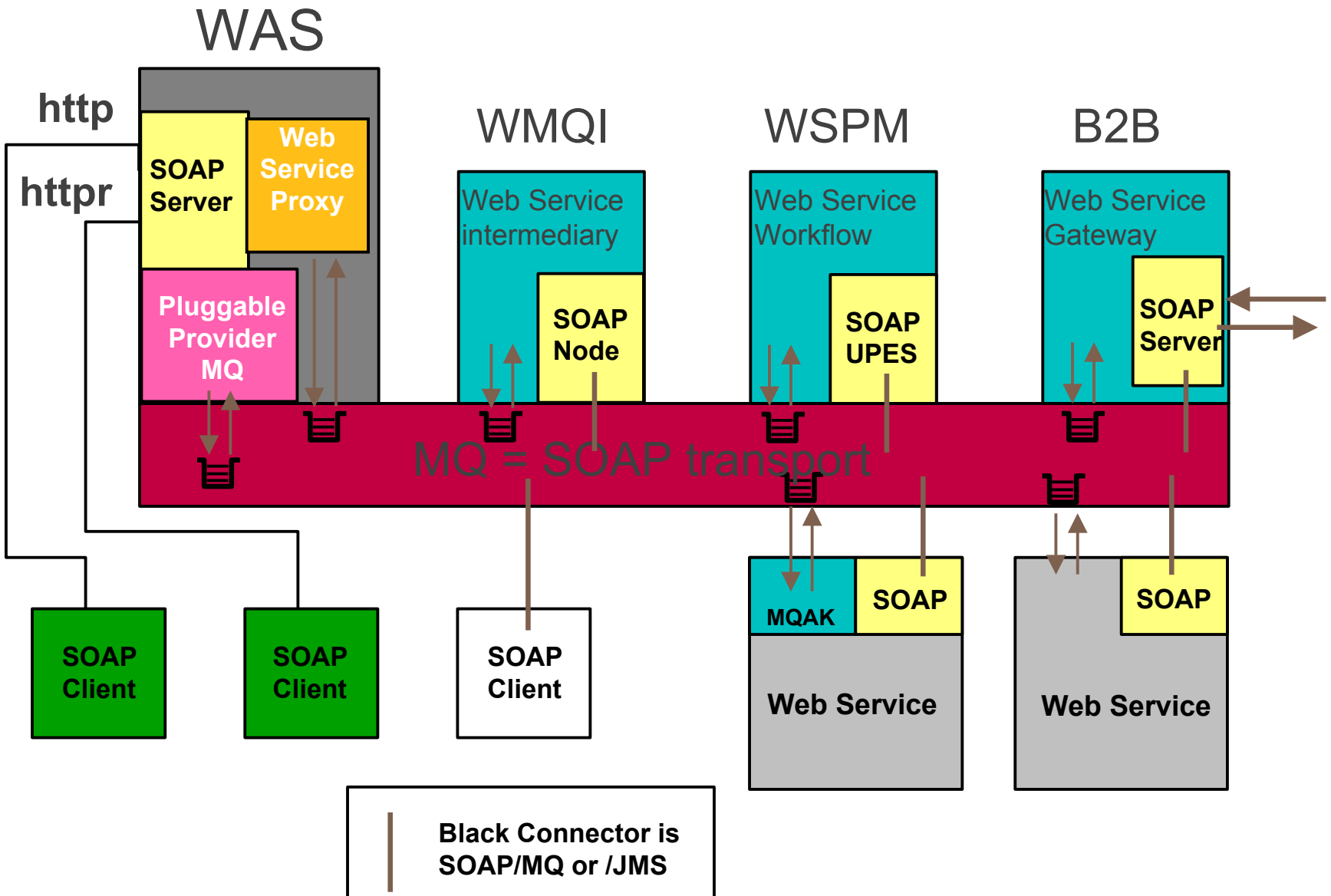
* MQ behöver inte vara transport protokoll – det finns stöd för andra sätt



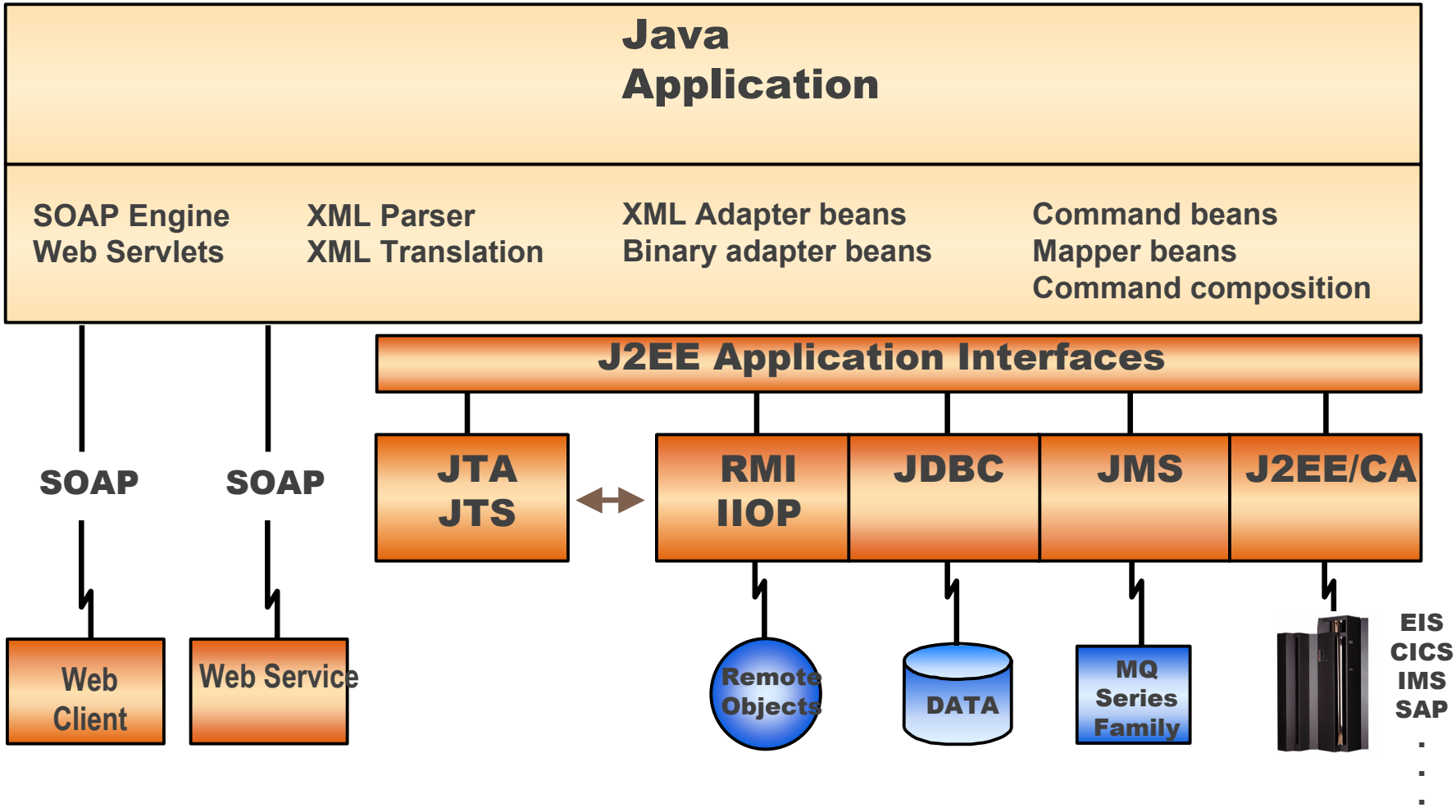


Telia SMS

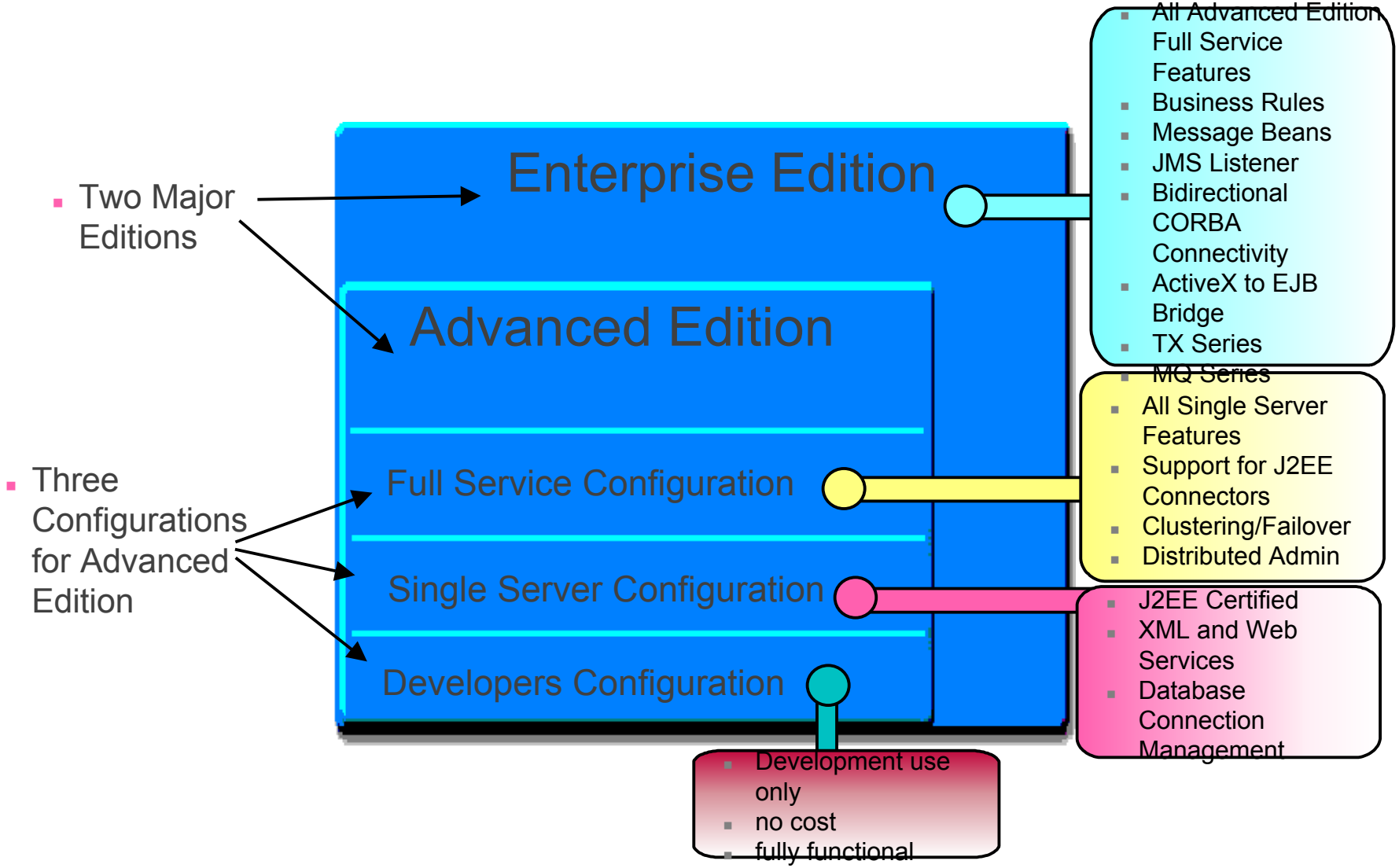
EAI and Web Services



WebSphere Integration Technologies



WebSphere Application Server



Choosing the Right Integration Technology

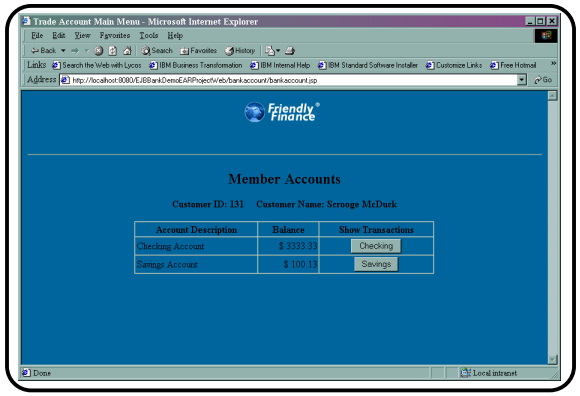
Connection

- J2EE/CA
  - Synchronous Request/Response
  - Enterprise System Protocol
  - Security, Transaction Support
- JMS
  - Asynchronous Message Model
  - Point to Point or Pub/Sub
  - Transform and Route Message
  - Security, Transaction Support
- Web Services
  - Synchronous Request/Response
  - or Send and Forget
  - XML Payloads Only
  - HTTP Security, No Transactions

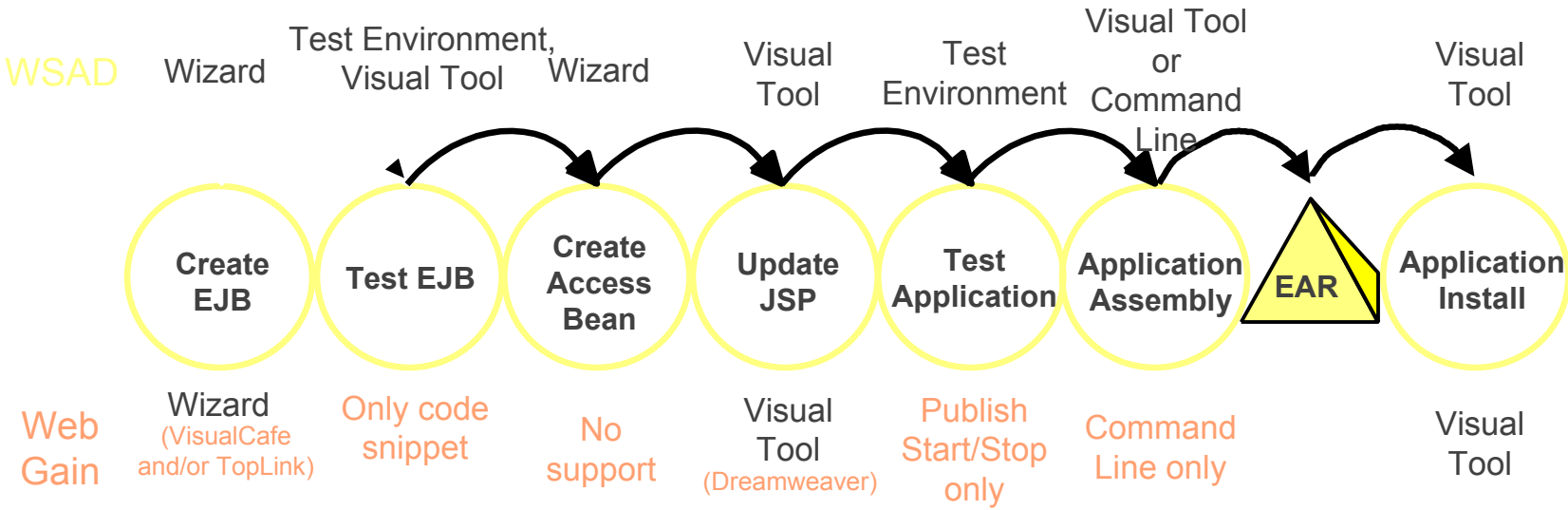
Payload

- Binary
  - Structured Data Formats
- XML
  - Self Describing Data Standard

Web Application Example



- *Login/logout*
- *Savings Account Balance*
- *Checking Account Balance*
- *Transaction History*



WebSphere Application Server Leadership in Integration

- Common Tool Environment
  - J2EE/CA
  - XML
  - JMS
  - Web Services
  - Test Capability
- J2EE/CA
  - Command Object Generation
  - Variety of Adapters Provided (81 CC for J2EE/CA adapters)
- XML
  - Object Wrapper Generation
  - XSLT Transformation
- JMS
  - Use of MQSeries Extends Reach and Reliability
- Web Services
  - Support for Complete Model - Publishing, UDDI, Interoperability

Leverage IBM brand recognition

All Business Partners

WebSphere Studio: The Power of Choice

Site Developers

WebStudio "Classic"
WebSphere Studio Site Developer

Application Developers

WebSphere Studio Application Developer

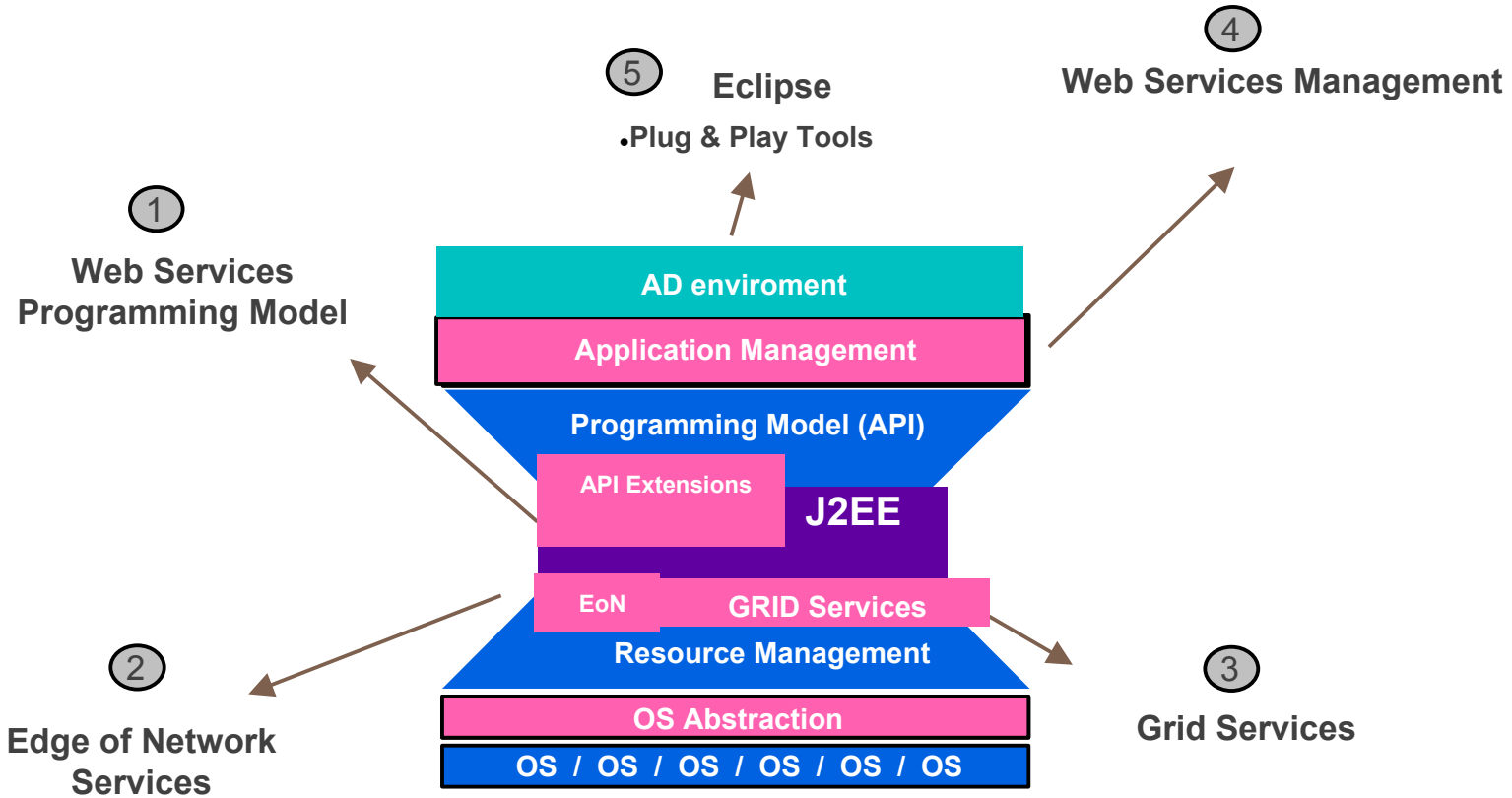
Web Page Creation/ Editing Tools	XML Tools	Web Services Tools	3rd Party Plug-In Tools	Application Development Tools	Enterprise Application Integration (EAI) Tools
JSP *HTML* *WML* *VoiceXML* *Personalization* *Database*	*Authoring/ Editing* *Transformation/ Mapping* *SQL and XML* *Integration*	*Service Registry* *Service Provider* *Service Consumer*	*Versata* *Rational* *many others*	*Java IDE* *WebSphere Environment*	*J2EE CA (Enterprise Access Builder)* *MQ Adapters*

WebSphere Studio Workbench

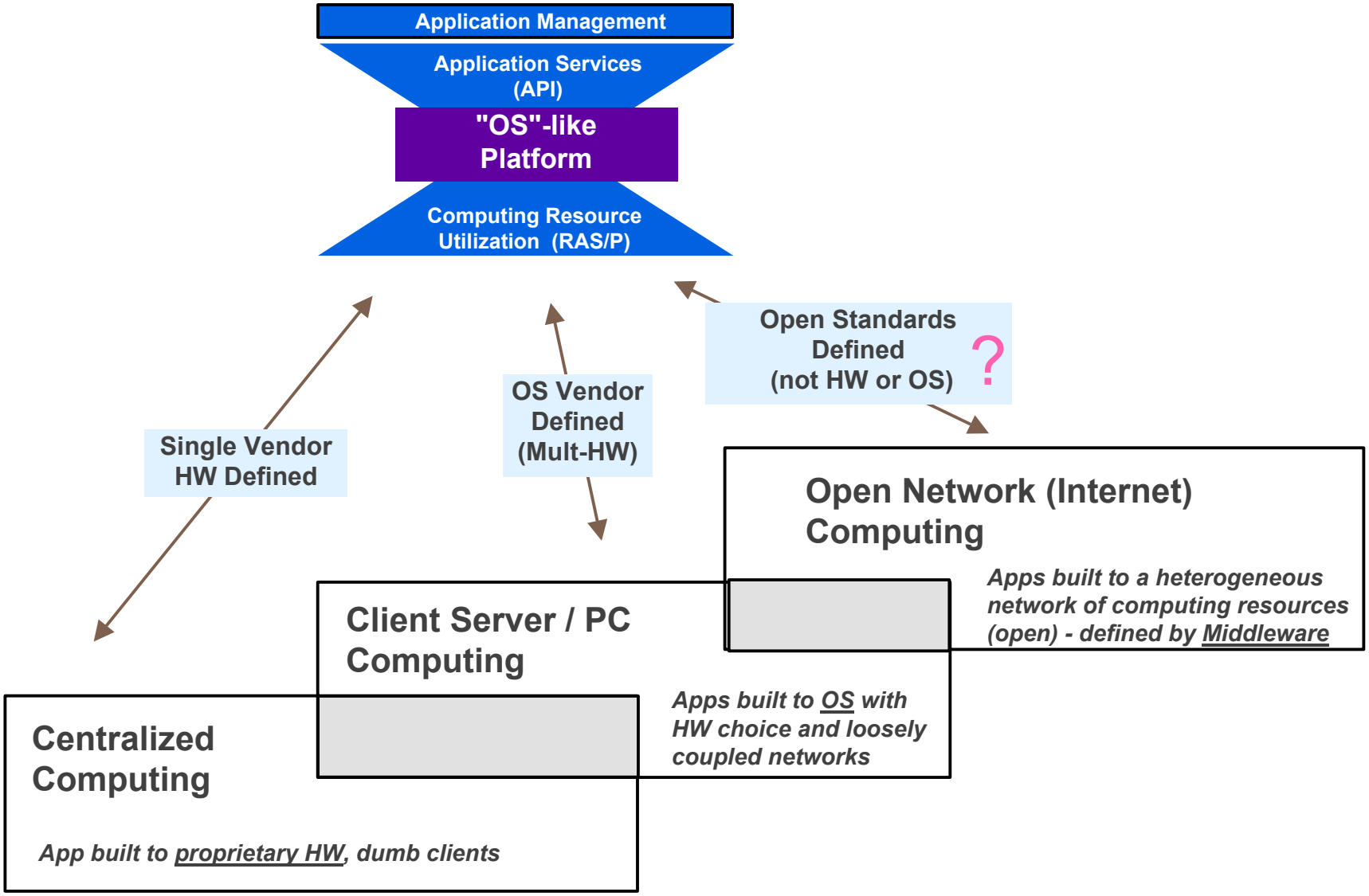
based on open source Eclipse framework

e-business Platform Evolution

Web Services Chapter Two: The Business Grid



intelligent Transactions



Jim Farmer

From: Tommy Hagvall [tommy.hagvall@se.ibm.com]
Sent: Wednesday, September 11, 2002 11:43 AM
To: jxf@immagic.com
Cc: Joakim Bjorklund
Subject: Re: Permission to Reproduce Presentation

Hi, I am glad that you appreciated the content !

Yes, of course it is OK for you to reproduce the presentation.

There is nothing secret with the content in the presentation.

The text on slide 55 is old and can be removed because the first
implementation of the WebServices Gateway has been available
for download att AlpaWorks website for one year (no support though ...)

The first commercial version of WebServices Gateway was during this summer
(after my presentation) announced to be integrated and shipped within
WebSphere Application Server 5.0

Do you want me to sentdyou the original presentation in either Freelance or
Powerpoint format ?

By the way - what does the abbrevation JA-SIG stand for ?

Kind Regards, Vänliga hälsningar

Tommy Hägvall
Advisory Software Specialist

IBM Sweden, Software Group, Application Integration Middleware
Address: Oddegatan 5, SE-164 92 Kista
Office: +46 8 793 1021, Cellular: +46 70 793 1021, Fax: + 46 8 793 2425
email: tommy.hagvall@se.ibm.com

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	"Jim Farmer"
	<jxf@immagic.com>
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	jxf
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Joakim shared with me your presentation "Web Services Now" given at the portal conference earlier this summer. I thought it was an excellent presentation.

I would like to reproduce your presentation and share it with others in the JA-SIG organization (and perhaps agencies of the U.S. federal government).

Because fo the U.S. Digital Millenium Copyright Act, we cannot reproduce content obtained from the Web if a copyright is claimed.

Slide 55, Web Services Gateway. indicates that slide, and perhaps the whole presentation, cannot be produced because of the "All rights reserved" statement. We have an arrangement with IBM where we send requests to reproduce documents found on the IBM Web Site for permission. However, I thought rather than sending your presentation to Armonk, New York, I would ask you if permission can be given locally?

The presentation was well done. I thought your organization of the material was excellent. And I learned a lot.

jim farmer
Project Administrator
JA-SIG Collaborative

Jim Farmer

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Subject: Re: Permission to Reproduce Presentation

Hi, I am glad that you appreciated the content !

Yes, of course it is OK for you to reproduce the presentation.

There is nothing secret with the content in the presentation.

The text on slide 55 is old and can be removed because the first
implementation of the WebServices Gateway has been available
for download att AlpaWorks website for one year (no support though ...)

The first commercial version of WebServices Gateway was during this summer
(after my presentation) announced to be integrated and shipped within
WebSphere Application Server 5.0

Do you want me to sentdyou the original presentation in either Freelance or
Powerpoint format ?

By the way - what does the abbrevation JA-SIG stand for ?

Kind Regards, Vänliga hälsningar

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	"Jim Farmer"
	<jxf@immagic.com>
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	PM
	Please respond to
	jxf
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  | To: Tommy Hagvall/Sweden/IBM@IBMSE
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  | cc: "Joakim Bjorklund" <Joakim@unit.LIU.se>
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Joakim shared with me your presentation "Web Services Now" given at the portal conference earlier this summer. I thought it was an excellent presentation.

I would like to reproduce your presentation and share it with others in the JA-SIG organization (and perhaps agencies of the U.S. federal government).

Because fo the U.S. Digital Millenium Copyright Act, we cannot reproduce content obtained from the Web if a copyright is claimed.

Slide 55, Web Services Gateway. indicates that slide, and perhaps the whole presentation, cannot be produced because of the "All rights reserved" statement. We have an arrangement with IBM where we send requests to reproduce documents found on the IBM Web Site for permission. However, I thought rather than sending your presentation to Armonk, New York, I would ask you if permission can be given locally?

The presentation was well done. I thought your organization of the material was excellent. And I learned a lot.

jim farmer
Project Administrator
JA-SIG Collaborative