



i n v e n t



HP's Web Services Strategy

"hp will provide
the next generation of IT,
not just to transform
the business landscape,
but also to transform
people's lives."



June 29, 2001



HP 's Vision For Web Services



- where people can connect to web services of all kinds, from anywhere, at any time
- where any application or any business process can be delivered as a service across the net
- where useful web services travel along an always-on infrastructure, and are delivered to information appliances that are simple, personal, and pervasive



June 29, 2001

what are web services?

any asset available over
the internet to complete a
task, solve a problem, or
conduct a transaction

- applications
- business processes
- computing resources
- information

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What's the customer
problem they solve

What's the market
opportunity

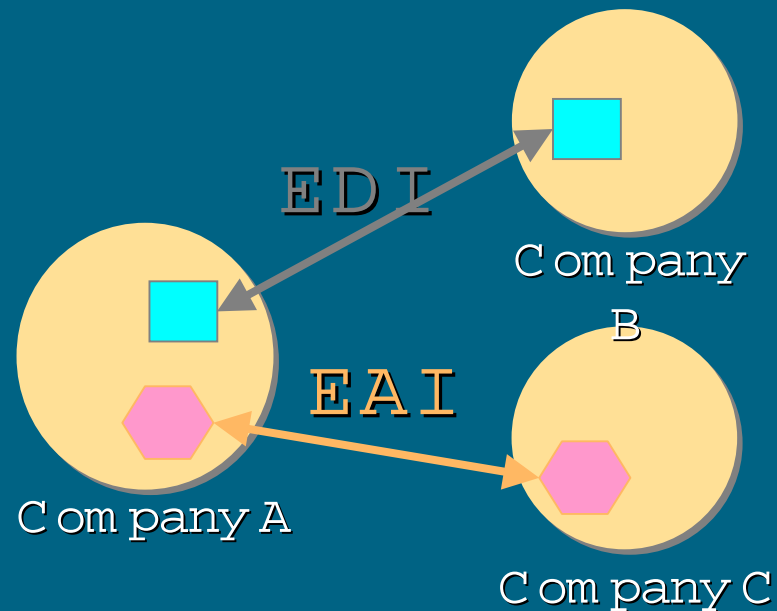
- Enables e-businesses to connect and transact freely with their partners on the open Internet

- Provides Inter-operability across business processes in different verticals/supply chains on the Internet

A Gartner report says the market for web services will grow to 11.8 billion by 2005

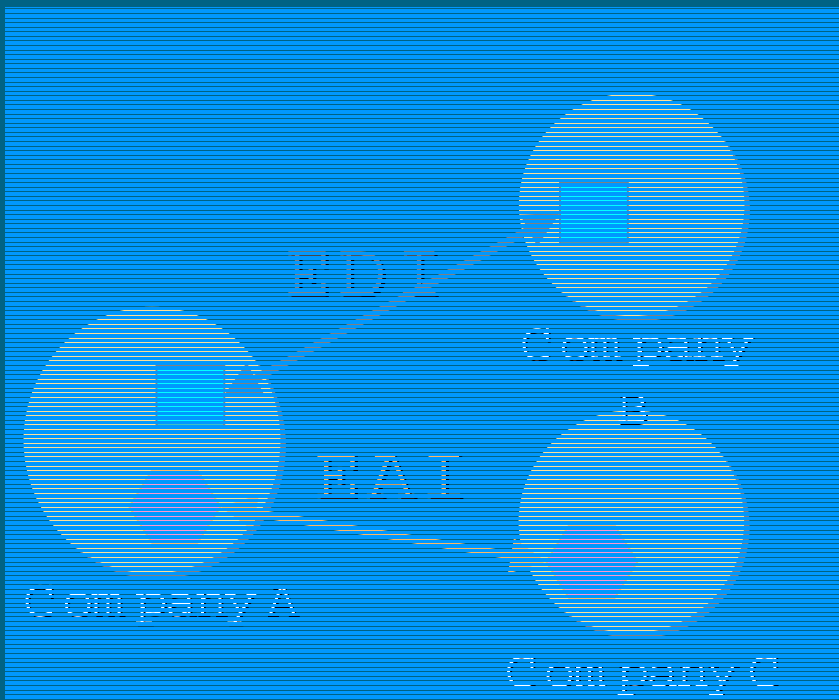
The origin of B2Bi

- "Making connections"
 - costly point to point connections
 - inflexible to change
 - multiple software stacks

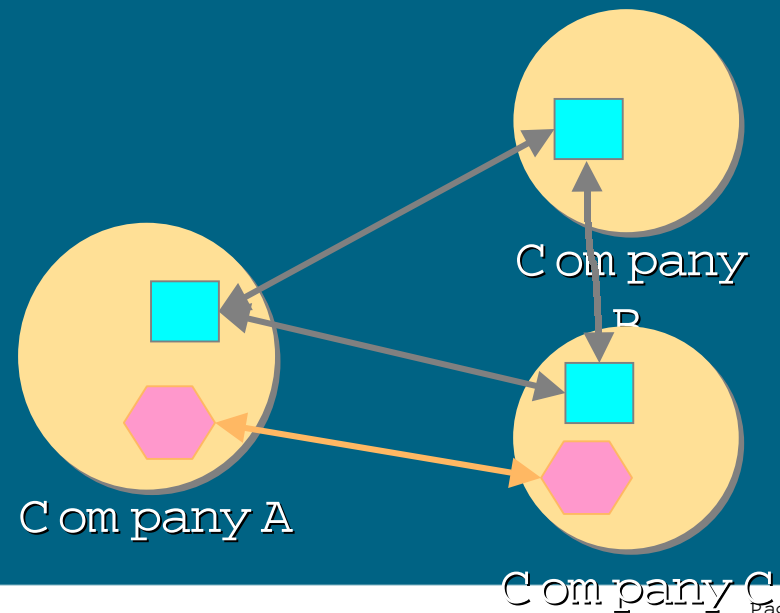


e-services / web services enable collaborative B2Bi

- "Making connections"
 - point to point
 - inflexible to change
 - multiple software stacks

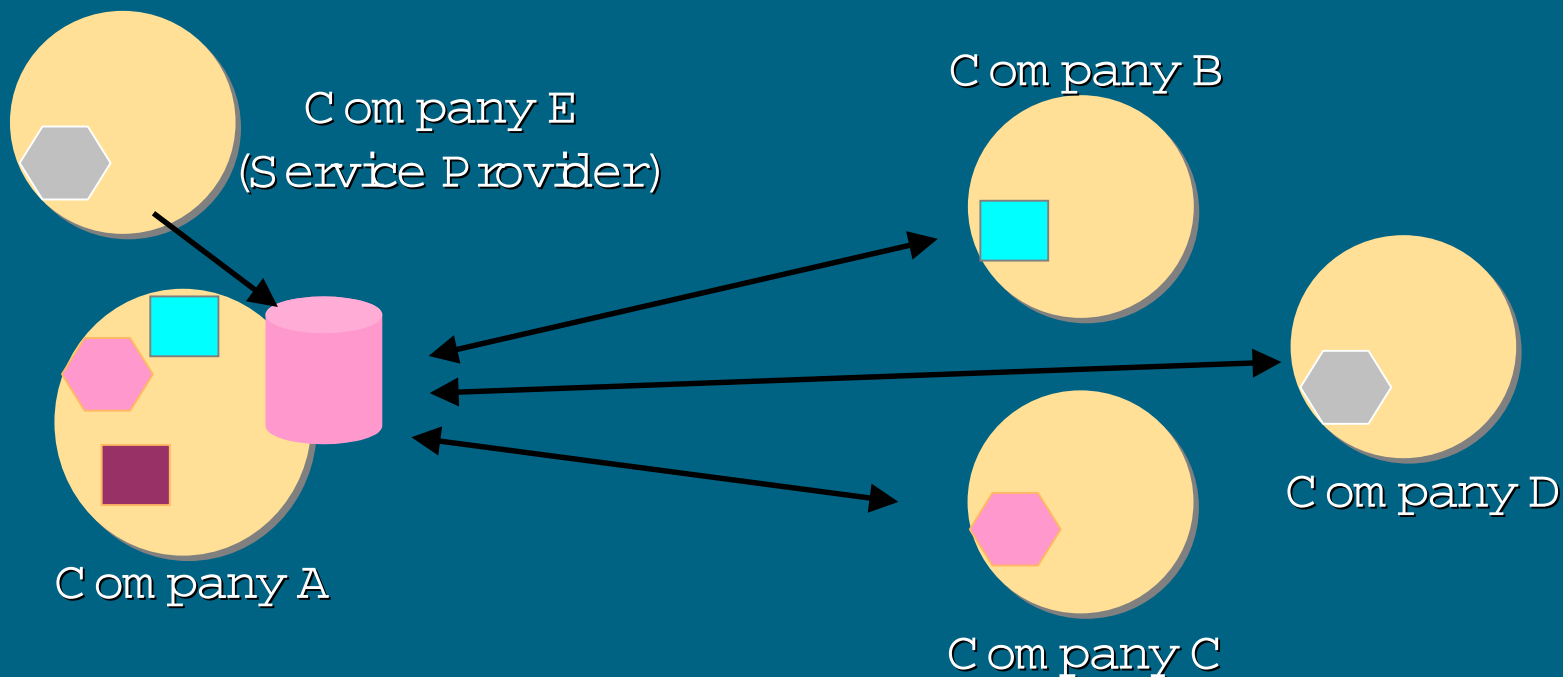


- Establishing community
 - Low-cost connections
 - Flexibly add new members
 - Single software interface
 - Apps, data are services



Extending collaborative B2B iw / e-services / web services

- Offering new services within a community
 - single architecture - fast time to market
 - single architecture - low TCO
 - single architecture - flexible and adaptable



Understanding web- services

What are its

- characteristics,
- fundamental building blocks
- and the standard interaction protocols

XML and Java: The Building Blocks of Web Services

- XML – Governed by W3C standards
- Java – Governed by JAX* initiatives – APIs for XML and web services support in Java
- HP's leadership role in XML and Java

XML – Web Services Conversation Language (WSCL) – A language for describing the interaction protocols and choreography of web services – Actively working with partners in making WSCL a standard

– Contributions to the XML protocol framework – Position papers on web services interactions, security, service description vocabulary

Java – HP is actively involved in all the core JSR's and JAX* proposals

HP plays a leadership role in JSR 111 specifications

XML and Java : Implementation strategy

Product and tools to drive adoption of web services platform

- A 100% J2EE compliant Application Server tightly integrated with the E-speak web services platform (with plug and play XML framework)
- Enable J2EE components (EJBs, Java classes, DCOM, COM+ to be wrapped as web services using WSDL)
- Provide a high-performance private UDDI business registry to publish/discover the web services with appropriate protocol bindings
- Enable web services to connect and transact with one another via interaction protocols such as WSCL, WSFL, BTP, ebXML, RNF
- Provide tools to generate WSDL templates from J2EE components, tools to browse, register and discover web services from a UDDI registry, tools to create external web services conversational interfaces with appropriate mappings to internal business processes

Web-Services Characteristics

- component-based
 - J2EE components such as EJBs, Servlets
 - COM + DCOM , CORBA
- modular, allow easy plug-and-play
- a web service may be built from other web services
- the components of a web service may have different owners
- web services need to be accessible to businesses using varied hardware , OS , and programming languages
- web services are developed , deployed , registered , discovered , and consumed

key web services standards

- WSDL (web service description language)
 - an XML schema for defining web services
 - describes how to use a web service
- UDDI (universal description, discovery, and integration)
 - repository-based directory service for the automated lookup of web services
 - “yellow pages” that enable users to locate services
- SOAP (simple object access protocol)
 - lightweight, XML-based message format for communication between services, over the Internet (XML over HTTP)
 - enables web services to make requests of other web services across the internet
 - provides interoperability b/w programming languages

Web Services - HP's Leadership

- HP pioneered web services through its e-Speak technology since 1995.
- E-speak led services based architecture addressing service description, service discovery, service invocation and service interactions.
- IBM, Microsoft and others endorsed e-Speak vision and started UDDI Initiative which led to the emergence of standards such as WSDL, SOAP
- HP will be one of the three global UDDI Node operators.

Web Services - HP's Leadership

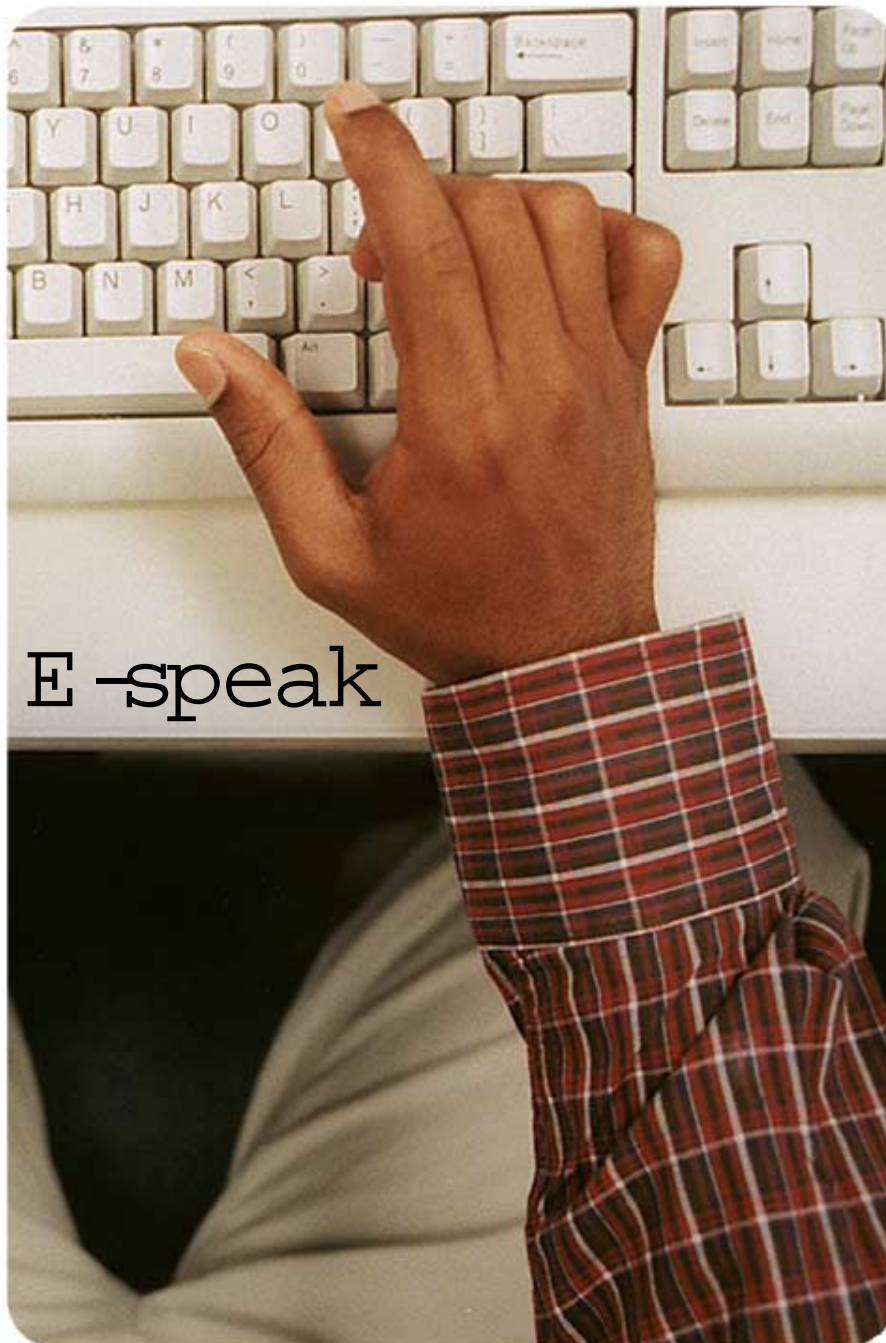
- HP is a driving force in key web services initiatives such as UDDI and BTP
- HP is aggressively working to integrate emerging web services standards such as SOAP, WSDL, and UDDI protocols in its e-Speak Web Services Platform.
- HP's active presence in business process related initiatives such as RosettaNet and ebXML enables the reality of a standards based, tightly coupled end-to-end value chain

UDDI-HP 's Leadership

- HP is a driving force in the development and deployment of UDDI specifications
- HP will become a UDDI public node operator in the fall
- HP will provide private UDDI registries as part of its E-speak web services platform .
 - Will be used by companies that want to become "hubs" of service ecosystems
 - Will enable new business models and revenue opportunities

E -speak

- HP is a pioneer of web services (e-services)
- Began research project in 1995
- Led to formation of e-Speak business unit in 1998
- Released first version of e-Speak in May 1999



E-speak

E-speak enables
business
interactions through
the **discovery**
and **interaction** of
web-services over
the internet

E-speak web services platform charter

set of plug-and-play XML
components that:

- help organizations create and expose J2EE components as web services
- discover and invoke these services
- enable document exchange based B2Bi
- deliver interoperability with NET

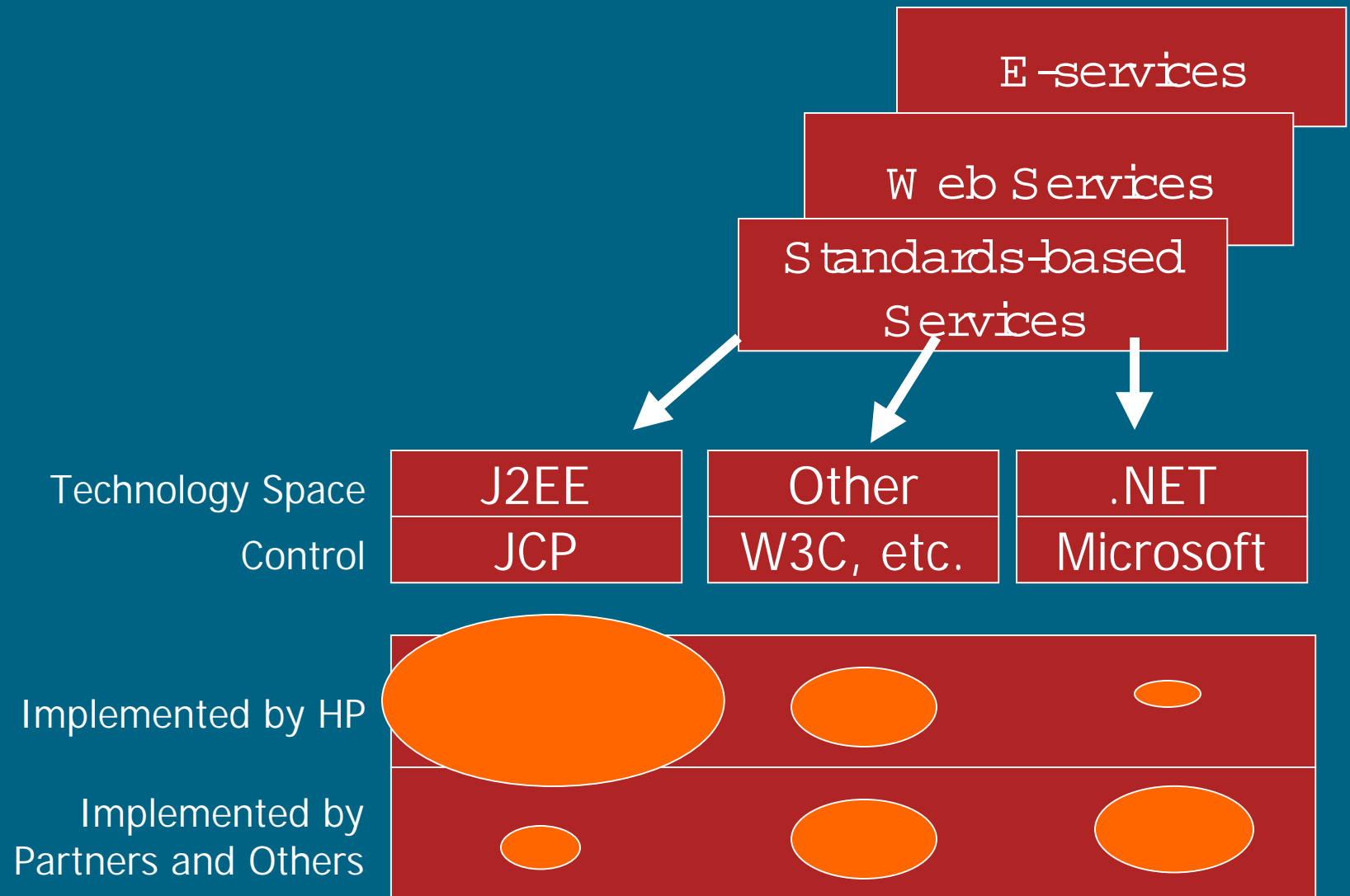
E-speak Web Services Platform

- E-Speak is a platform for the rapid development, integration, and deployment of web services. It is part of HP's Netaction suite of products.
- E-speak is built around the emerging XML web services and J2EE standards and is optimized to run on top of J2EE-based Bluestone Application Server.
- E-speak lays the foundation for a plug and play XML-based architecture
- E-speak is a high-performance implementation of the next generation horizontal web services technology

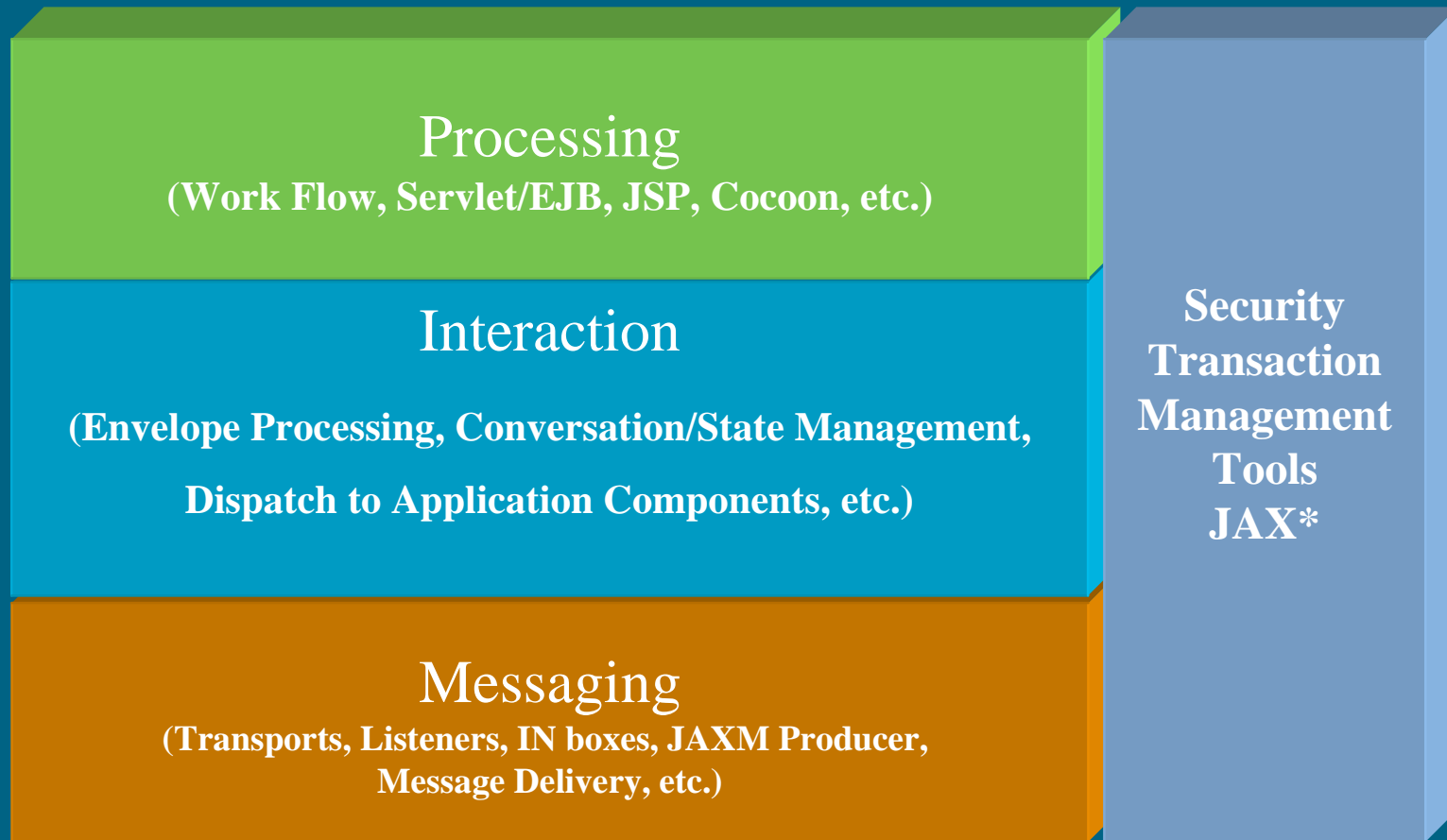
E-speak customer benefits

- reduce time to market creating and deploying e-services
- reduce development and deployment costs through single standard architecture
- lower cost to maintain and add incremental service(s)

(E-speak) From e-services to web-services via Standards



W e b S e r v i c e s C o m p o n e n t S t a c k



spincircuit.com

reinventing the electronics
supply chain

The logo for SpinCircuit, featuring the word "Spin" in a bold, white, sans-serif font with a yellow swoosh above the "i", followed by "Circuit" in a lighter, white, sans-serif font.

links electronic design
engineers directly to
suppliers and product
data

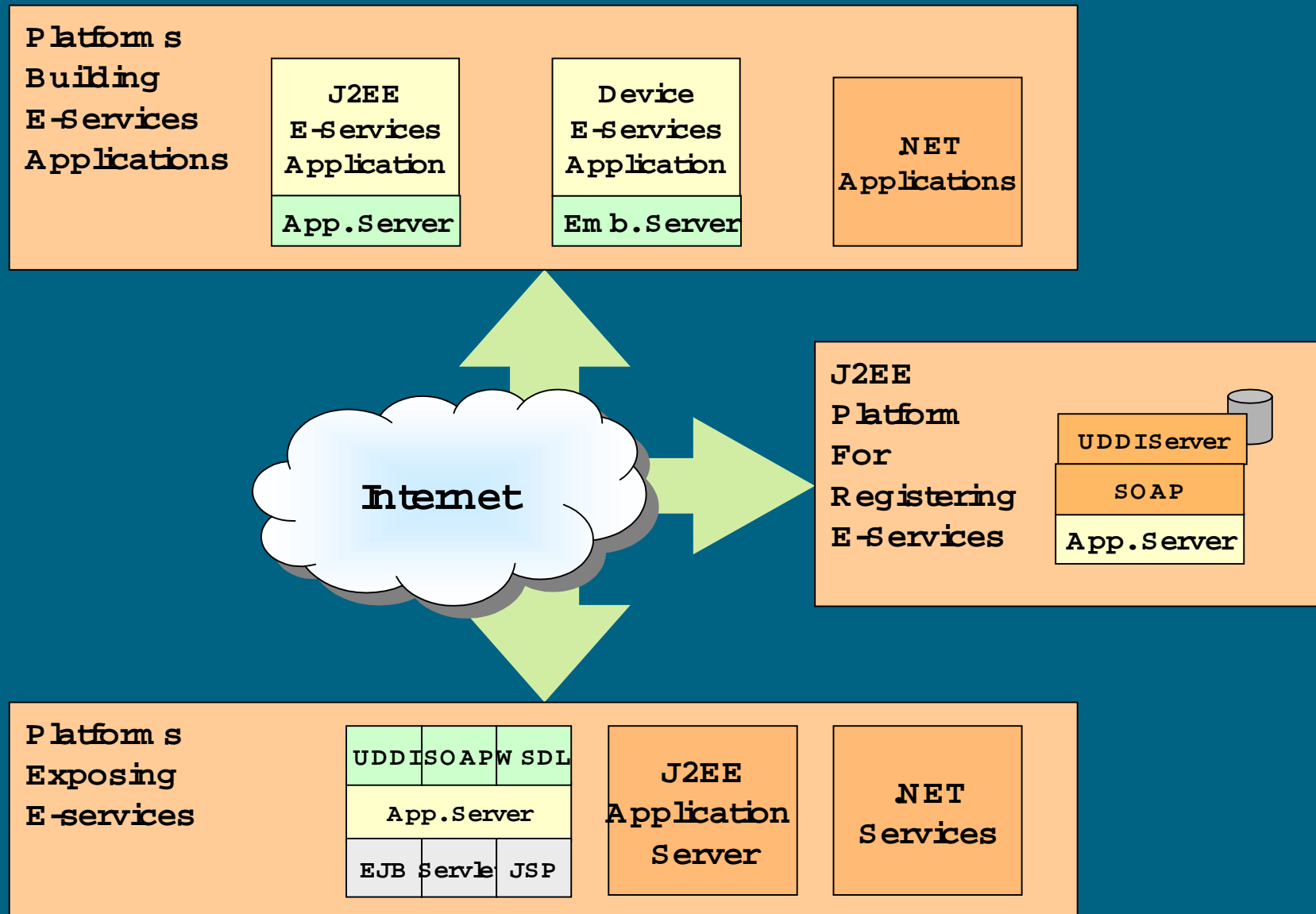
- improves electronic parts
procurement model
 - hp e-Speak
technology enables
direct brokering
between designers
and suppliers
- funded by hp, cadence
and flextronics

Global Support Logistics

Reinventing the electronics supply chain

- Connects HP's customers directly to their support parts suppliers and distributors
- Just-in-time supplier managed inventory delivery - reduced inventory costs - Mission-critical, real-time delivery of support parts directly to customers
- E-speak technology enabled direct brokering between suppliers and HP customers

How client Applications and Web Services Interact



Milestones

- LCR of e-Speak 4.0 available in August
 - HP-SOAP beta already available as free download
- Product release of e-Speak Web Services Platform planned for late fall

web services are a
reality

- E-speak has been available for 2 years
- E-speak delivers robust platform for creating web services
- hp is a driving force behind many XML and Java activities
- hp has successfully demonstrated interoperability with NET



June 29, 2001

For More Information
<http://www.hp.com/go/espeak>

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