

Accelerating E-Business Portals with XML

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Agenda

- Introduction to Portals
- Portal Requirements
- XML Today
- XML Messaging
- Accelerating Portals
 - Content Delivery
 - Data Integration
 - Web Services
 - Business Process Automation
 - Information Services
- Summary

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What is a Portal?

A Platform for E-Business



Facilitates interaction with customers, suppliers and employees by aggregating:

- Information
- Applications
- Business Processes
- People

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Business Drivers



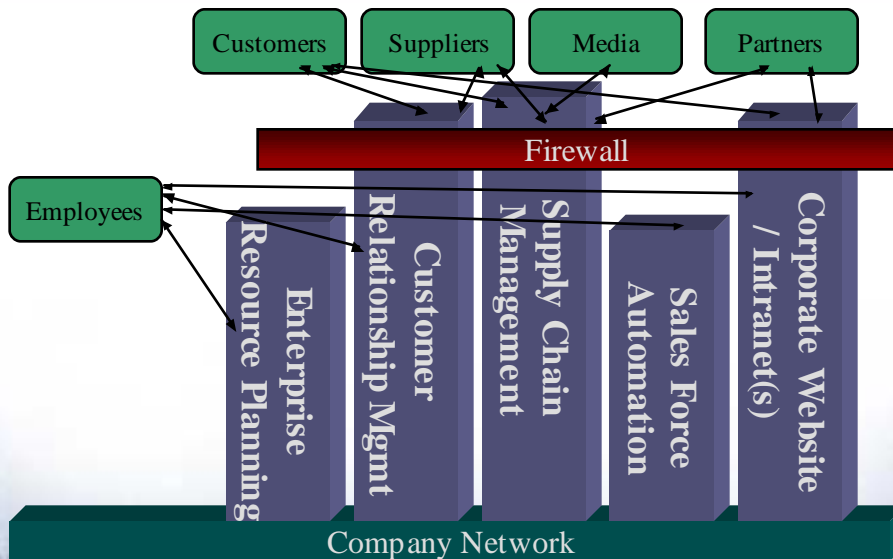
- Transform existing business processes into e-processes
- Mission critical problems
- Requiring aggregation of information, applications, processes & people
- Retain and acquire customers and partners

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The Challenge



Web-enabling Applications



Implementation Challenges



IT Staff

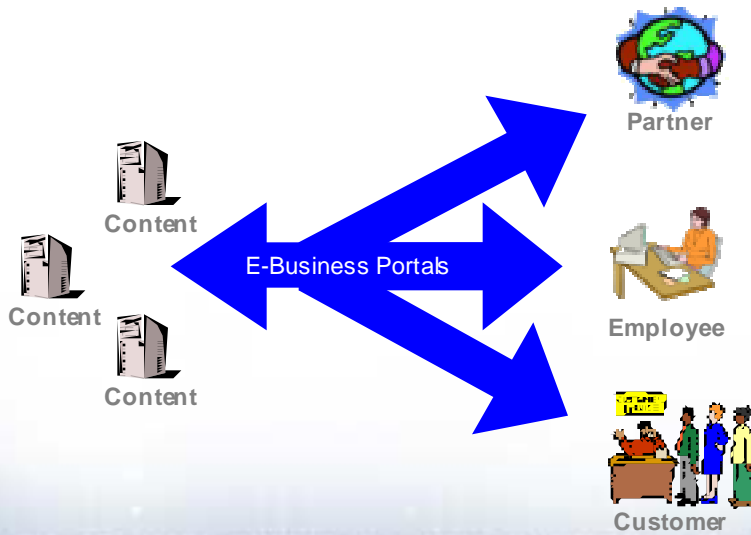
- Incompatible technology
- Duplication of effort
- Inability to define enterprise business processes
- Difficult deployment
- Administration nightmare

Users

- Inconsistent user interfaces
- Multiple Log-on procedures
- Conflicting data
- Information "overload"
- Difficulty locating correct information or functions

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Portal's Role



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Portal Delivery Interface



Requirements



- Open architecture
 - Standards based
 - Extensible
- Ready for growth
 - Users
 - Data
 - Geographic
- Application integration
 - Bi-directional
 - Multiple integration points

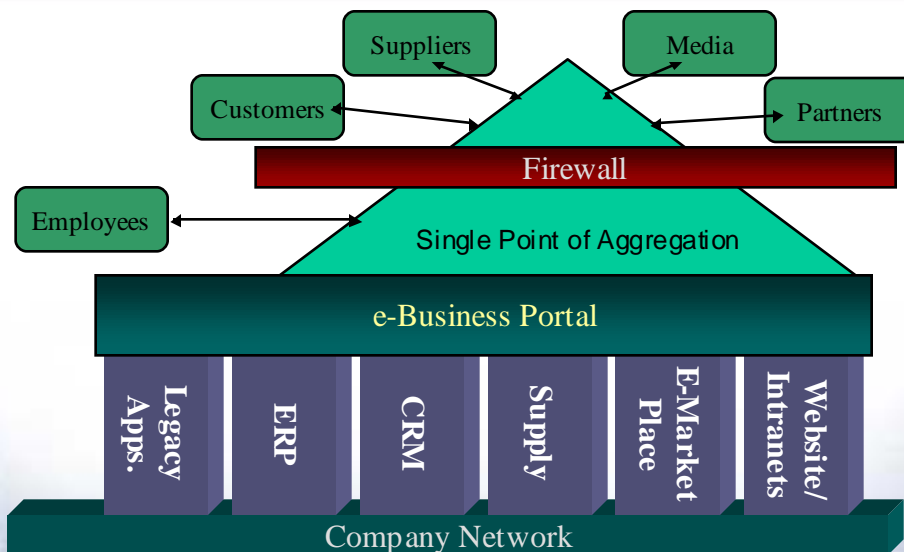
Requirements (2)



- Content delivery
 - Role-based
 - Personalization
- Integrated information services
 - Search & Retrieval
 - Taxonomy
 - Content Management
 - Etc...
- Business processing engine
 - Information routing
 - Business process workflow

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Portal Architecture



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What does it mean to accelerate e-business portals?

Leverage technology to accelerate:

- The aggregation of information, applications, processes and people
- From different sources
- To function as if they were one.

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Technology Innovation



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XML Basics



- Open Standard (W3C)
- Non-proprietary, platform independent
- Separation of content and presentation
- Standard validation techniques
- Standard transformation language (XSLT)
- Accessibility (Unicode)
- Information reuse
 - Across different delivery devices (Web, Wireless, Print)
 - Across different information services/processes
- Improved search and indexing

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XML Today



- XML is being leveraged across industries, platforms and applications to promote
 - Integration
 - Collaboration
 - Contextual Awareness
 - Technology Independence
- Sample Initiatives
 - ebXML
 - RosettaNet
 - SOAP
 - WML
 - RDF

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Accelerating Portals



- XML Messaging
- Data Integration
- Web Services
- Business Process Automation
- Content Delivery

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XML Messaging

XML messaging can be used as a framework for portal communication and interaction with external systems.

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Communication Models



- Synchronous
 - Direct processing (open a dialogue)
 - HTTP, D/COM, EJB, Corba
- Asynchronous
 - Indirect processing (when you get to it)
 - Directory polling, SMTP, HTTP, Queuing
- Timeliness of data
 - Scheduled
 - Triggered (event driven)

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Standards Today



- Message Packaging
 - SOAP
 - Biztalk
 - ebXML Transport
 - XML-RPC
- Supply Chain
 - RosettaNet
- Electronic Commerce
 - cXML
 - eCo
 - ebXML
- Financial
 - FIX
 - FinXML
- Voice
 - VoiceXML
 - JSML
- Insurance
 - ACORD
- Security
 - DSML
 - DirXML
- News
 - NewsML

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Message Structure



Routing Markup

```
<biztalk_1 xmlns="x-schema:D:\Program Files\Sequoia XPS\extra\Biztalk.xdr">
<header>
  <delivery>
    <message>
      <messageID>22F923CC-FB8A-11D3-BA7F-00C04F791123</messageID>
      <sent>2000-03-16T17:33:19</sent>
    </message>
    <to><address></address></to>
    <from><address></address></from>
  </delivery>
  <manifest>
    <document><name>message</name></document>
  </manifest>
</header>
<body>...</body>
</biztalk_1>
```

Interface Markup

Metadata Markup

Business Data

XML Messaging Benefits



- <Standard Data Model/>
- Platform Independent
- Existing Parsers
- Validation Support
- Context Awareness

Accelerating Portals



- XML Messaging
- Data Integration
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Data Integration

XML provides a non-proprietary approach to data level integration from legacy systems to portal applications

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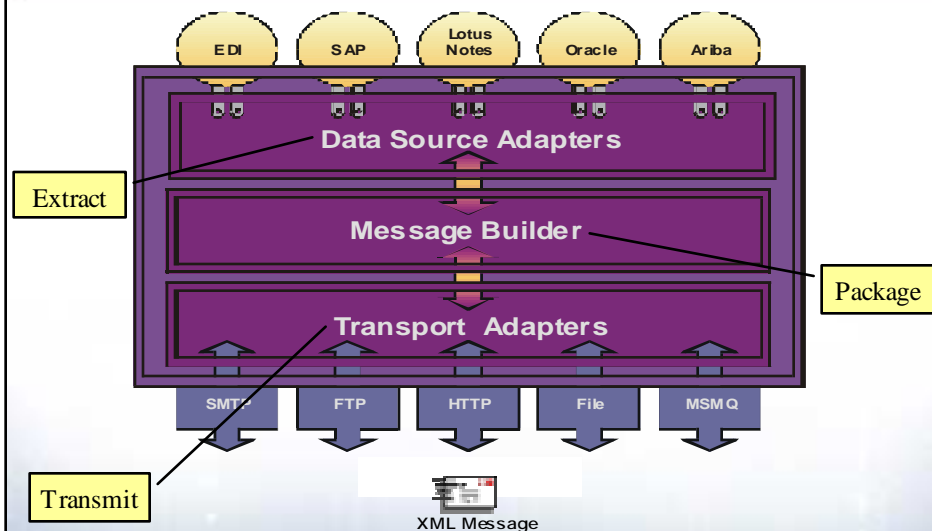
Data: The Portal Foundation



- Data and data exchange represent the cornerstone of mission critical e-business portals.
- Data provides...
 - Foundation for portal information services
 - Drives business process and collaboration
- Data exchange provides...
 - Foundation for business process transactions
 - Trading partner exchanges
 - Device communication

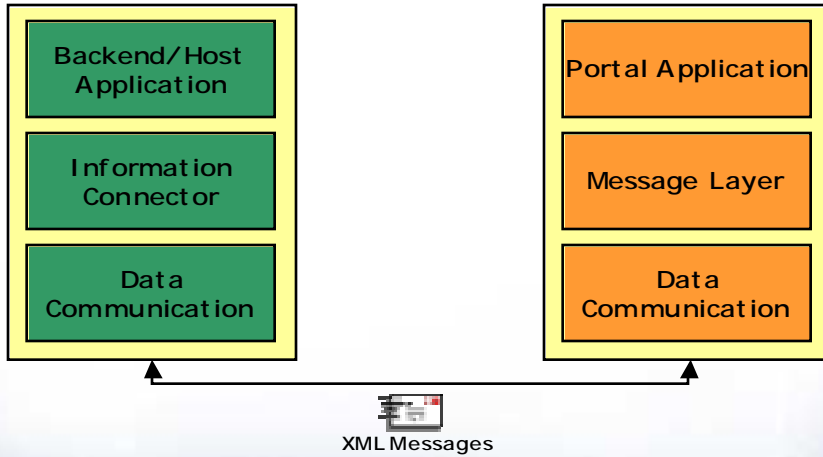
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Information Connectors



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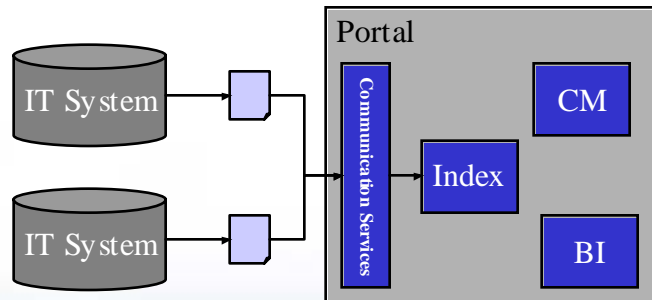
Data Exchange



Portal Applications



- XML messaging can be used as the conduit for data communication between existing IT infrastructure and Portal information services



Benefits



- Utilizes existing XML business protocols and schema types
- Data Flexibility
- Leverages existing IT infrastructure and technologies
- Provides a scalable integration approach
- Positions investment for future growth and integration with next generation systems and services.

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Accelerating Portals



- XML Messaging
- Data Integration
- **Web Services**
- Business Process Automation
- Content Delivery

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Web Services

XML is a catalyst for portals to integrate application information and leverage web services.

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Emerging Industry Trends

- Loosely coupled applications versus hardwired monoliths (flexibility)
- Services
 - Applications
 - Web Content Providers
- New integration process
 - Discovery/Description – UDDI , WSDL
 - Subscription
 - Registration/Binding – Business Protocols



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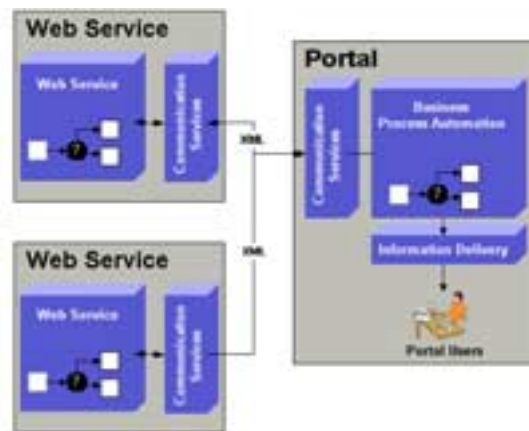
Web Services



- Current trends in software are providing messaging based interfaces to integrate targeted functionality
- Web Services are used to expose encapsulated business processes and applications
- Advantages:
 - Flexible and platform neutral mechanism to expose functionality
 - Leverage internet infrastructure
 - Provides low cost solution

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Web Services



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Portal Applications



- Transaction Processing (Marketplaces, Order processing)
- Collaboration (IM, Chat, Discussions)
- Device Gateways
- Subscription services
- .Net Services
- Next Generation Enterprise Software

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Accelerating Portals



- XML Messaging
- Data Integration
- Web Services
- **Business Process Automation**
- Content Delivery

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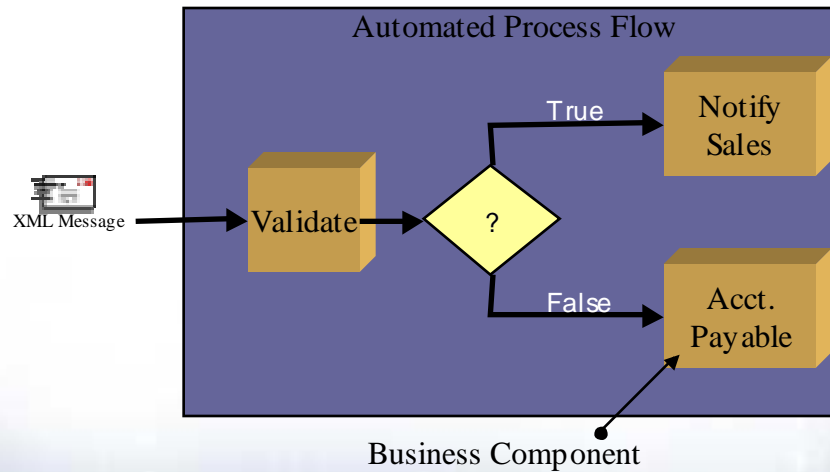
Business Process Automation

XML can be used to dynamically deliver information to various devices in a highly personalized fashion.

Requirements

- Message Routing
 - Message Broker routes messages to designated business component.
- Data Transformation
 - Map between business protocols and interface requirements
- Business Rules
 - Provides conditional logic for routing and automation
- Business Process Support
 - Mechanism to describe and automate processes across business components

Business Logic Layer

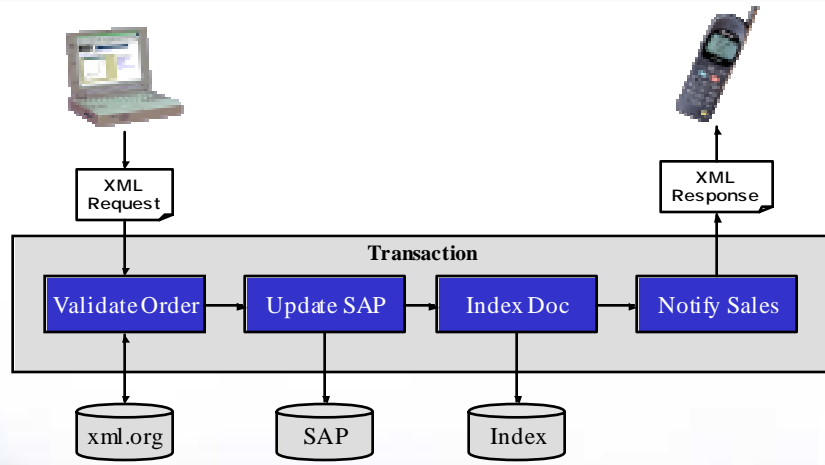


Business Rules

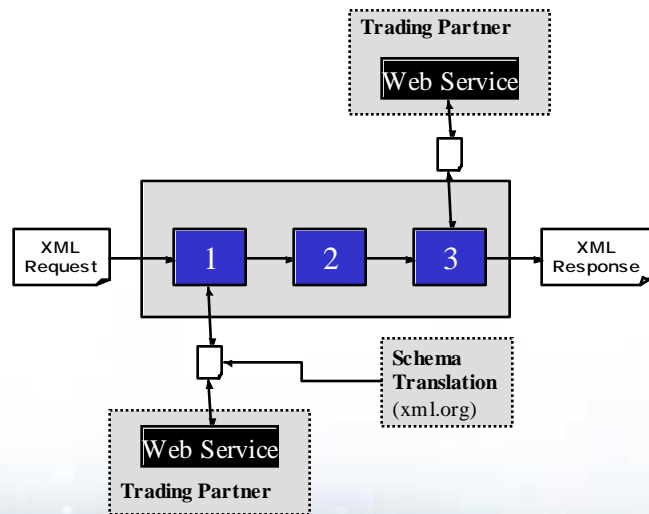


- XML based rules can be used to route messages to integrated services within a portal
- Interrogates the content of an XML message
- Use W3C Xpath specification to address XML contexts
 - I.e. `"//order/payment/type"="mastercard"`

Business Process



Federated Processing



Benefits



- Aggregate existing internal and external processes
- Transform existing business processes into e-processes
- Information synchronization across systems
- Reduction in duplicate processes

- Utilize existing infrastructure
- Supportable by large and small organizations

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Accelerating Portals



- XML Messaging
- Data Integration
- Web Services
- Business Process Automation
- **Content Delivery**

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Content Delivery

XML can be used to dynamically deliver information to various devices in a highly personalized fashion.

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Leveraging XSL

XML File: stock.xml

```

<?xml version="1.0"?>
<?xml-stylesheet type="xslt" href="style_stock.xsl"?>
<portfolio index-id="us-stocks" url="http://www.sequoia.com/data.xml">
  <stock exchange="nyse">
    <name>zack corp</name>
    <symbol>ZCKM</symbol-id>
    <price id="number">28.875</price>
  </stock>
  <stock exchange="nasdaq">
    <name>zaffmat inc</name>
    <symbol>ZFFX</symbol-id>
    <price id="number">92.250</price>
  </stock>
  <stock exchange="nasdaq">
    <name>zysmergy inc</name>
    <symbol>ZYSZ</symbol-id>
    <price id="number">20.313</price>
  </stock>
</portfolio>
  
```

+

Stylesheet: style_stock.xsl

```

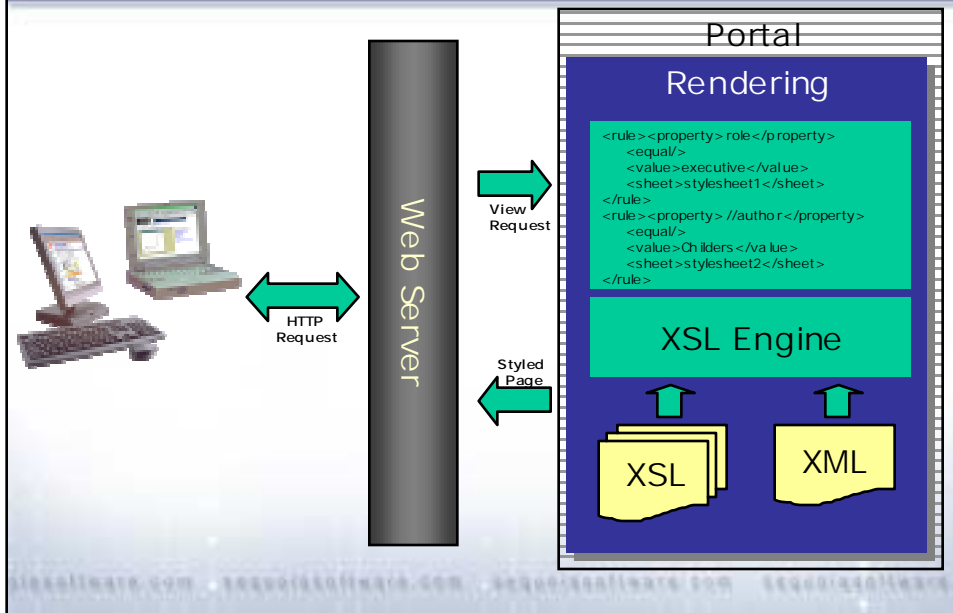
<?xml version="1.0"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/TR/xsl">
  <xsl:template match="/">
    <xsl:output/>
    <xsl:table border="1">
      <xsl:thead>
        <xsl:tr>
          <xsl:th>Symbol</th>
          <xsl:th>Name</th>
          <xsl:th>Price</th>
        </xsl:tr>
      </xsl:thead>
      <xsl:tbody>
        <xsl:for-each select="portfolio/stock">
          <xsl:tr>
            <xsl:value-of select="symbol"/>
            <xsl:value-of select="name"/>
            <xsl:value-of select="price"/>
          </xsl:tr>
        </xsl:for-each>
      </xsl:tbody>
    </xsl:table>
  </xsl:template>
</xsl:stylesheet>
  
```

= Results in HTML

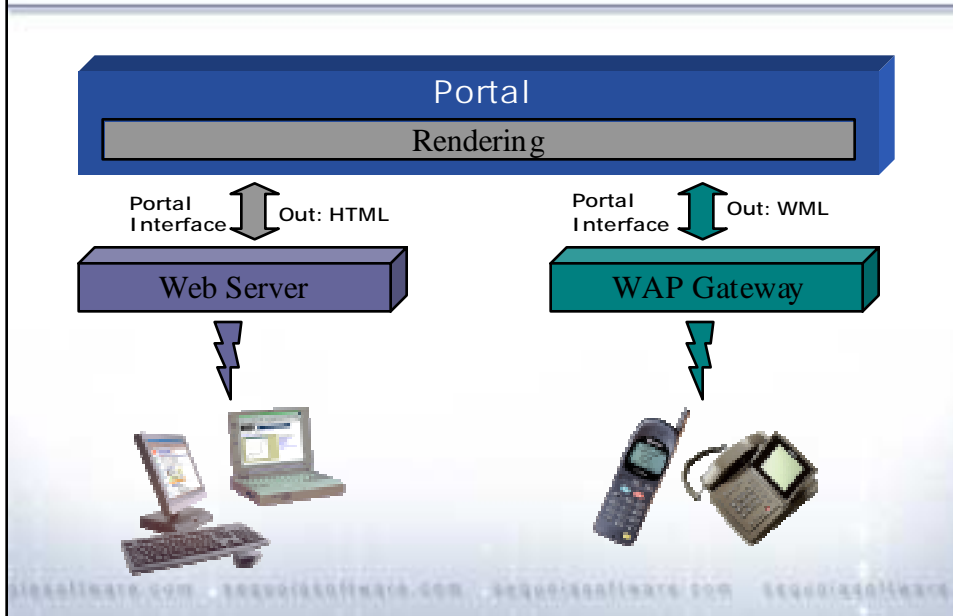
Symbol	Name	Price
ZCKM	zack corp	28.875
ZFFX	zaffmat inc	92.250
ZYSZ	zysmergy inc	20.313

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Dynamic Rendering



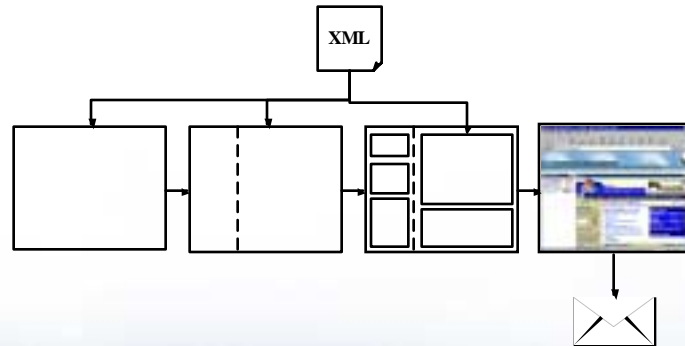
Reaching Un-tethered Users



XML Driven Interface



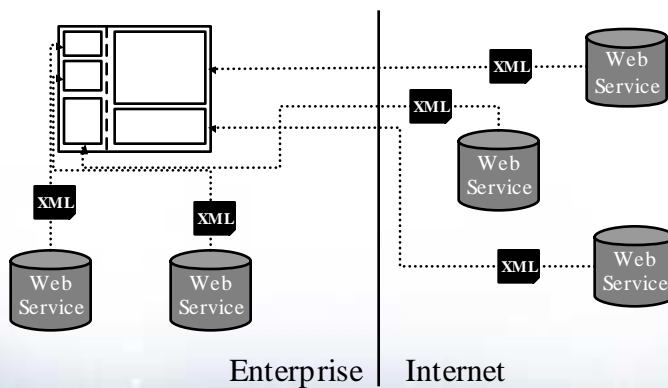
- XML configuration files to rendering structure
- XML based themes to control presentation



Next Generation



Next generation portals will leverage XML to aggregated information services across the internet.



Summary



- Portals aggregate information, processes, applications and people
- XML can be leveraged at various stages of information processing
- Utilizing XML accelerates
 - Standardization
 - Information Exchange
 - Business Process Integration
 - Application Delivery
- Questions?

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For Further information:



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