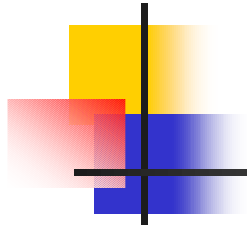


# **Enterprise Application Integration (EAI) Technologies for Data Administrators**

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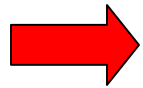
## **Section 2**

# **Enterprise Application Integration Concepts for Data Administrators**



# Session Topics

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**A. Growth of Trading Communities**

**B. XML Messaging Standards**



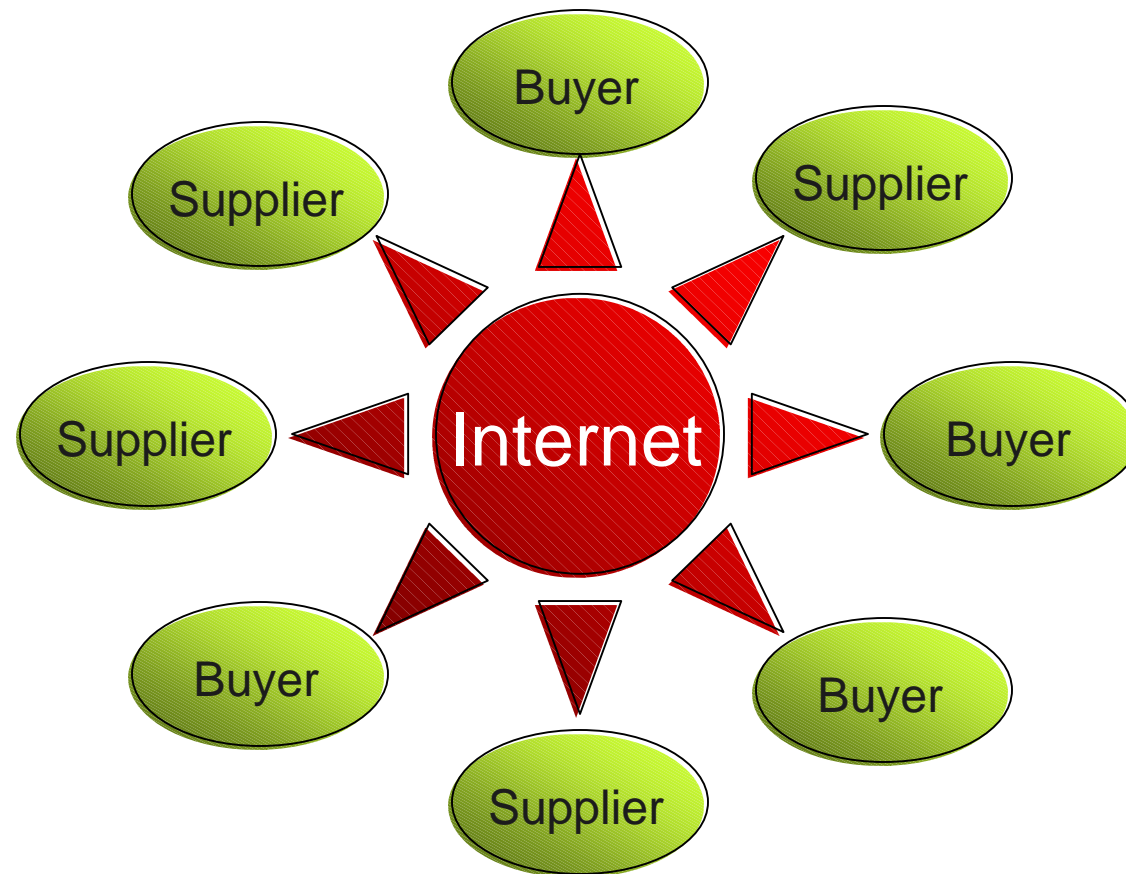
## A. Two problems to solve

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Connecting everyone together

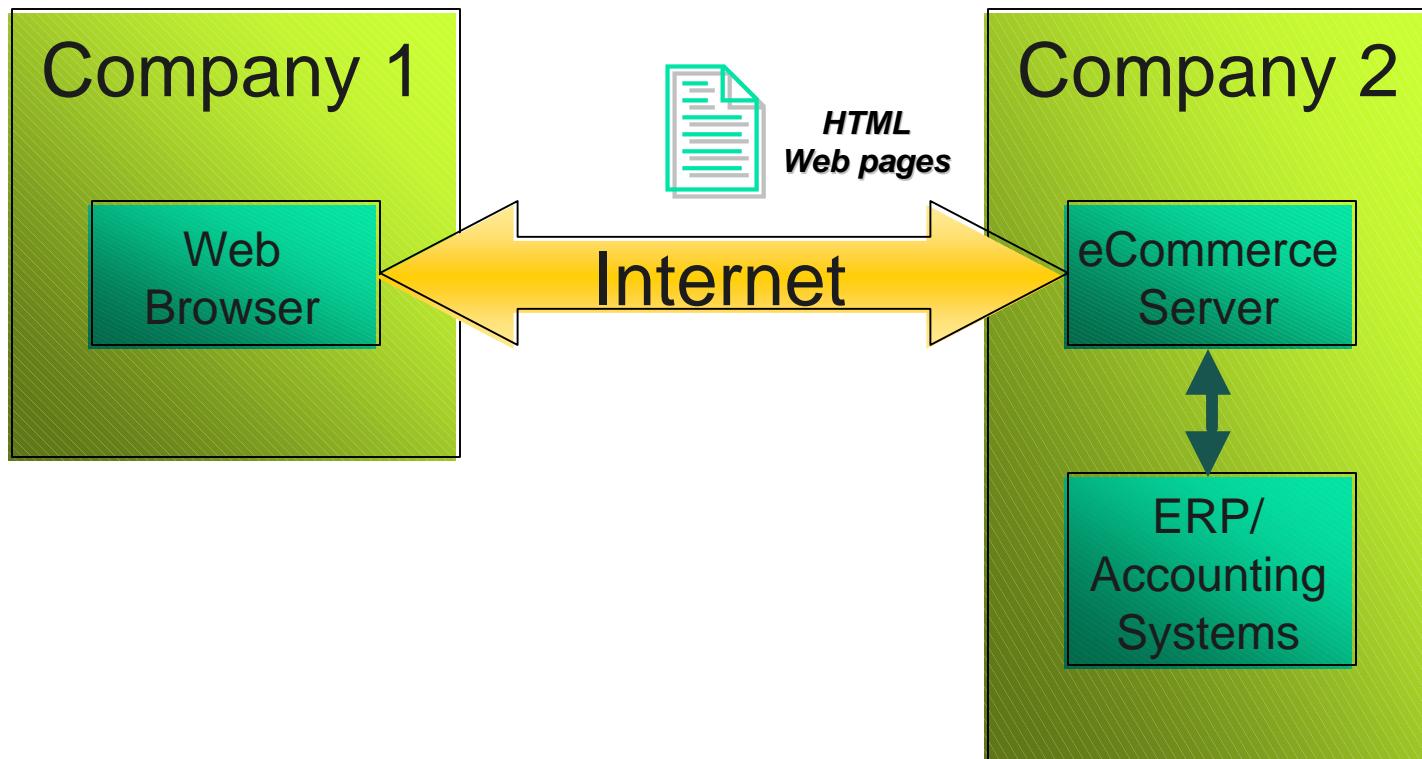
Finding buyers and sellers

## A. Connecting everyone together





## A. The web browser approach

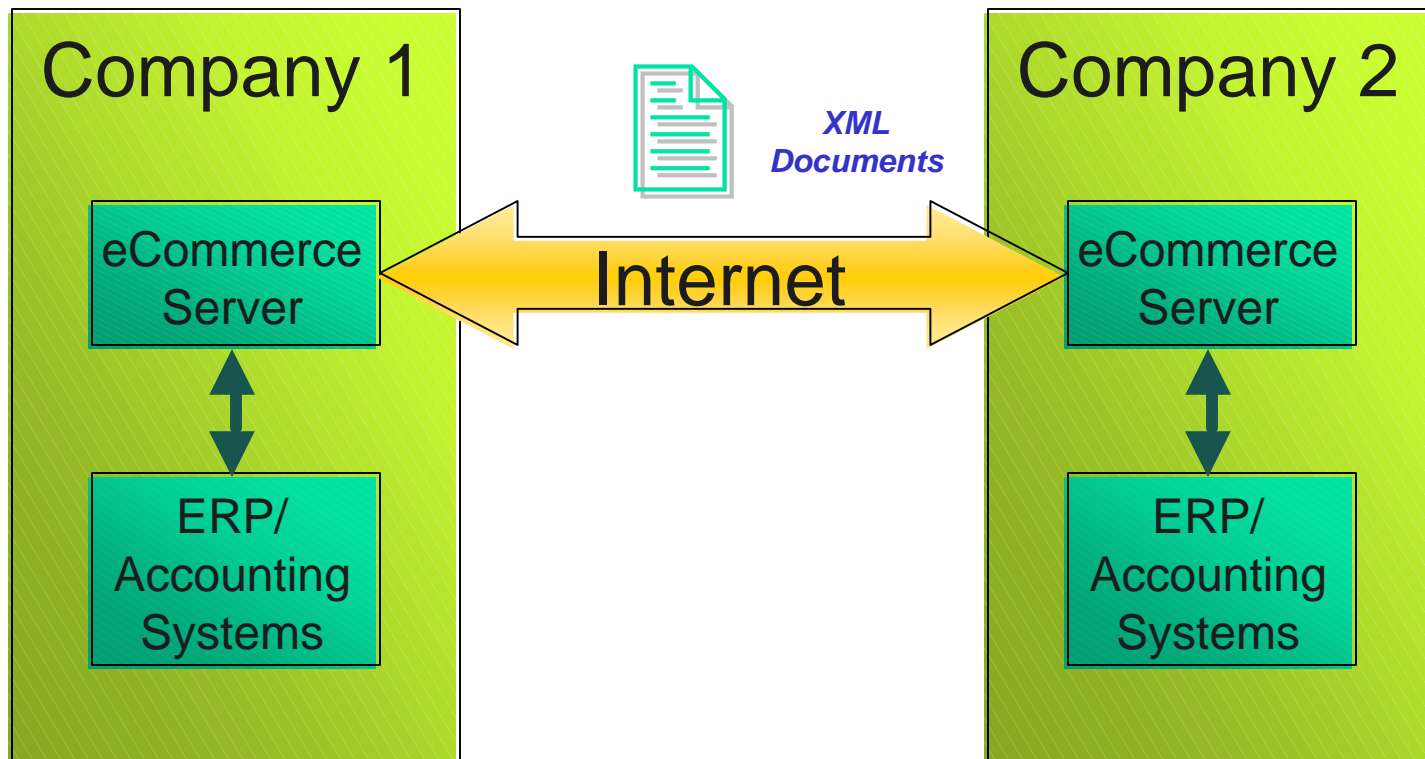


*Benefit: Any company can connect easily, low implementation cost*

*Problem: Company 1 has to enter data into accounting systems manually = \$\$\$  
... sometimes Company 2 will too*

**Source: Commerce One**

## A. The integrated company approach

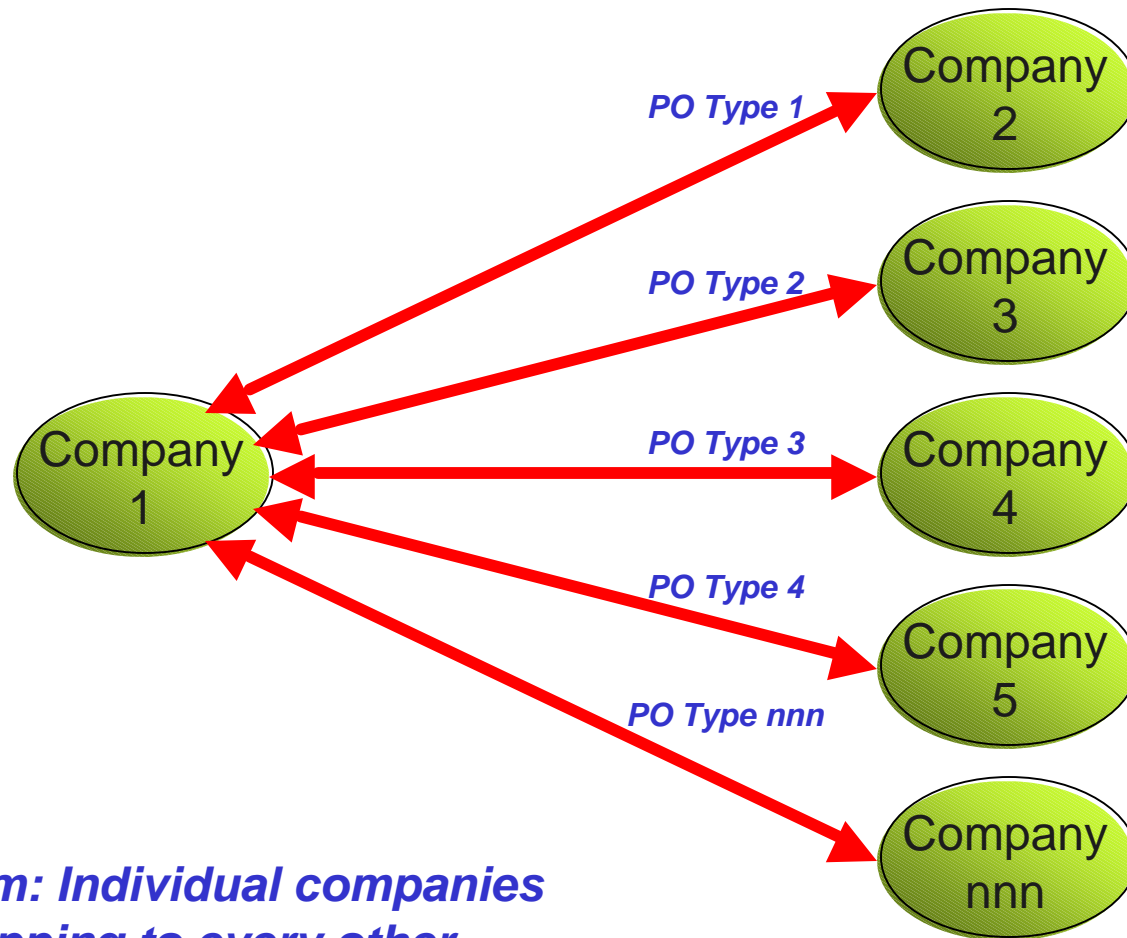


*Benefit: XML can be processed automatically. Potential for huge cost savings (e.g. \$100+ >> \$8 per PO)*

*Problem: Company 1 and Company 2 have to agree on the format of the documents ... but which one*

**Source: Commerce One**

## A. Many different document formats



***Problem: Individual companies  
mapping to every other  
companies document formats  
doesn't scale***

**Source: Commerce One**



## A. XML is not a complete answer

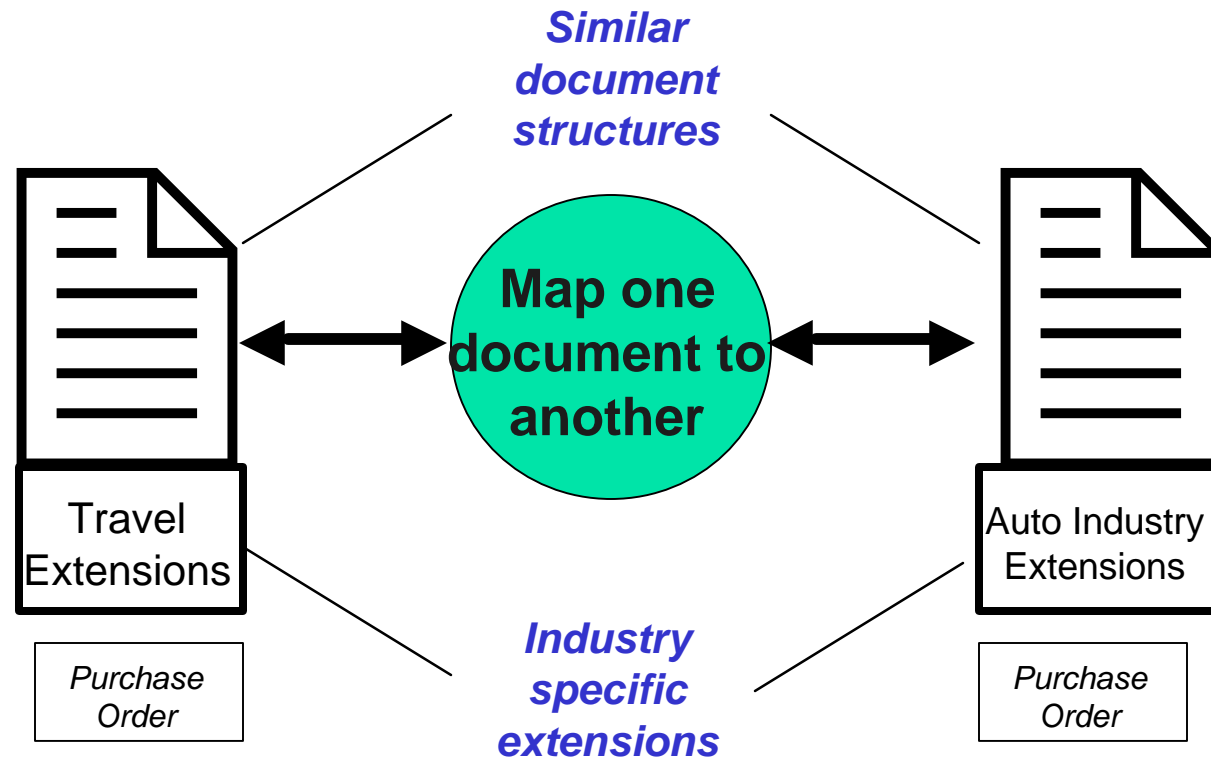
```
<PurchaseOrder OrderNo="1234">
  <Buyer BuyerNo="AB24567"
    Name="Smith and Co">
    <Address1>123 High St</Address1>
    <Address2>Epping Forest</Address2>
    <Zip>E15 2HQ</Zip>
  </Buyer>
  <Supplier>
    ...
  </Supplier>
  <OrderItem>
    ...
  </OrderItem>
  <Tax>
    <TaxType>VAT</TaxType>
    <TaxPercent>17.5</TaxPercent>
    ...
  </Tax>
  ...
</PurchaseOrder>
```

```
<PurchaseOrder>
  <Party Type="Buyer">
    <Reference>AB24567</Reference>
    <Name>Smith and Co</Name>
    <Street>123 High St</Street>
    <Town>Epping Forest</Town>
    <PostCode>E15 2HQ</PostCode>
  </Party>
  <Party Type="Supplier">
    ...
  </Party>
  <OrdNo>1234<OrdNo>
  <OrderItem>
    ...
  </OrderItem>
  <Tax Type="VAT" Percent="17.5"...
/>
  ...
</PurchaseOrder>
```

*XML containing the same data can be defined in different ways*

**Source: Commerce One**

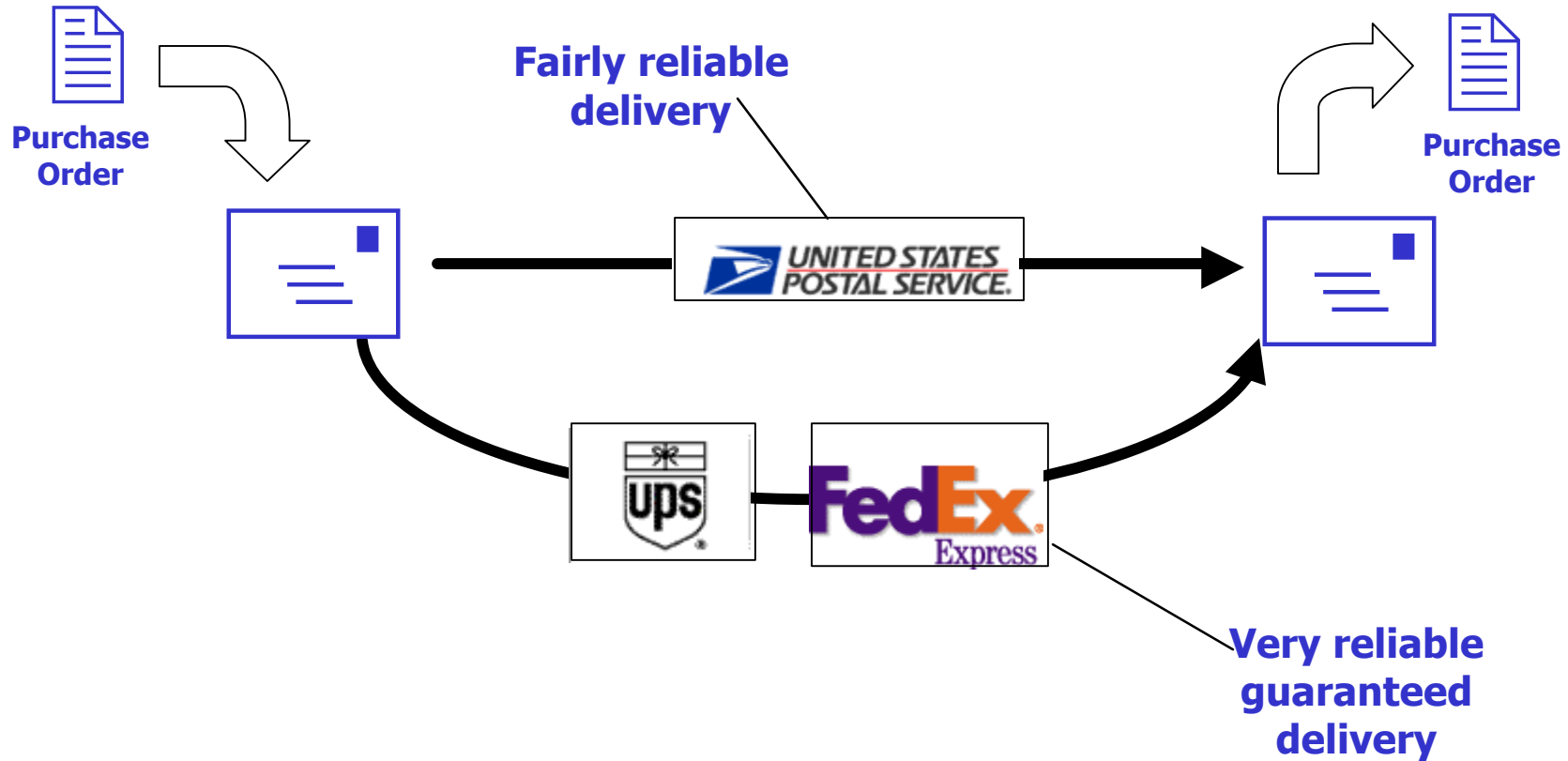
## A. Extensible documents



*Documents are needed that can be mapped easily to one another  
yet can be extended to meet needs of specific industries*

**Source: Commerce One**

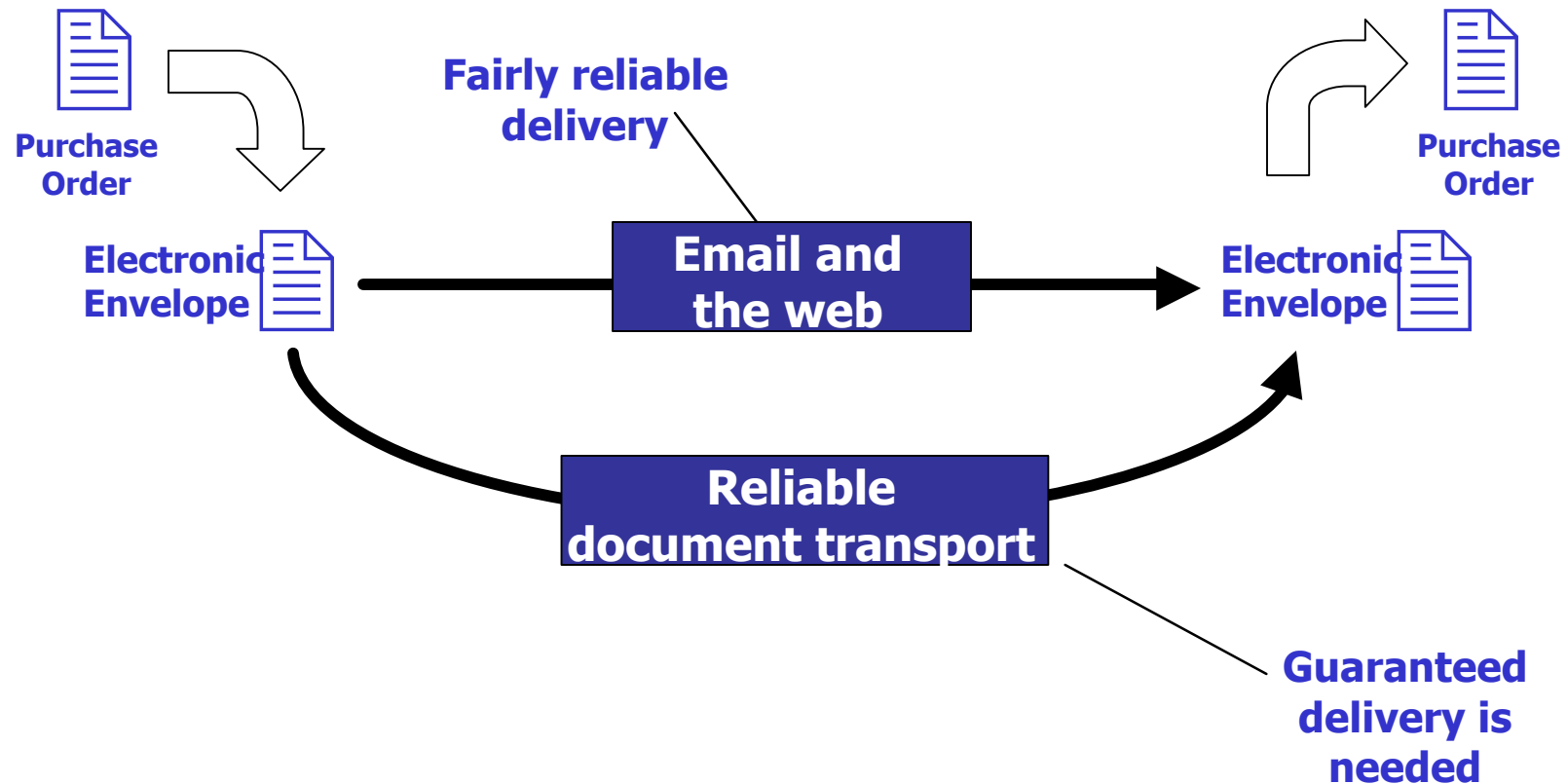
## A. Real-world document delivery



**We rely on the postal service and organizations like UPS and FedEx to get documents safely to their destination**

**Source: Commerce One**

## A. B2B document delivery



**Email & the web are not reliable enough. You need  
to know the document got through ... just once**

**Source: Commerce One**



## **A. Document delivery problem**

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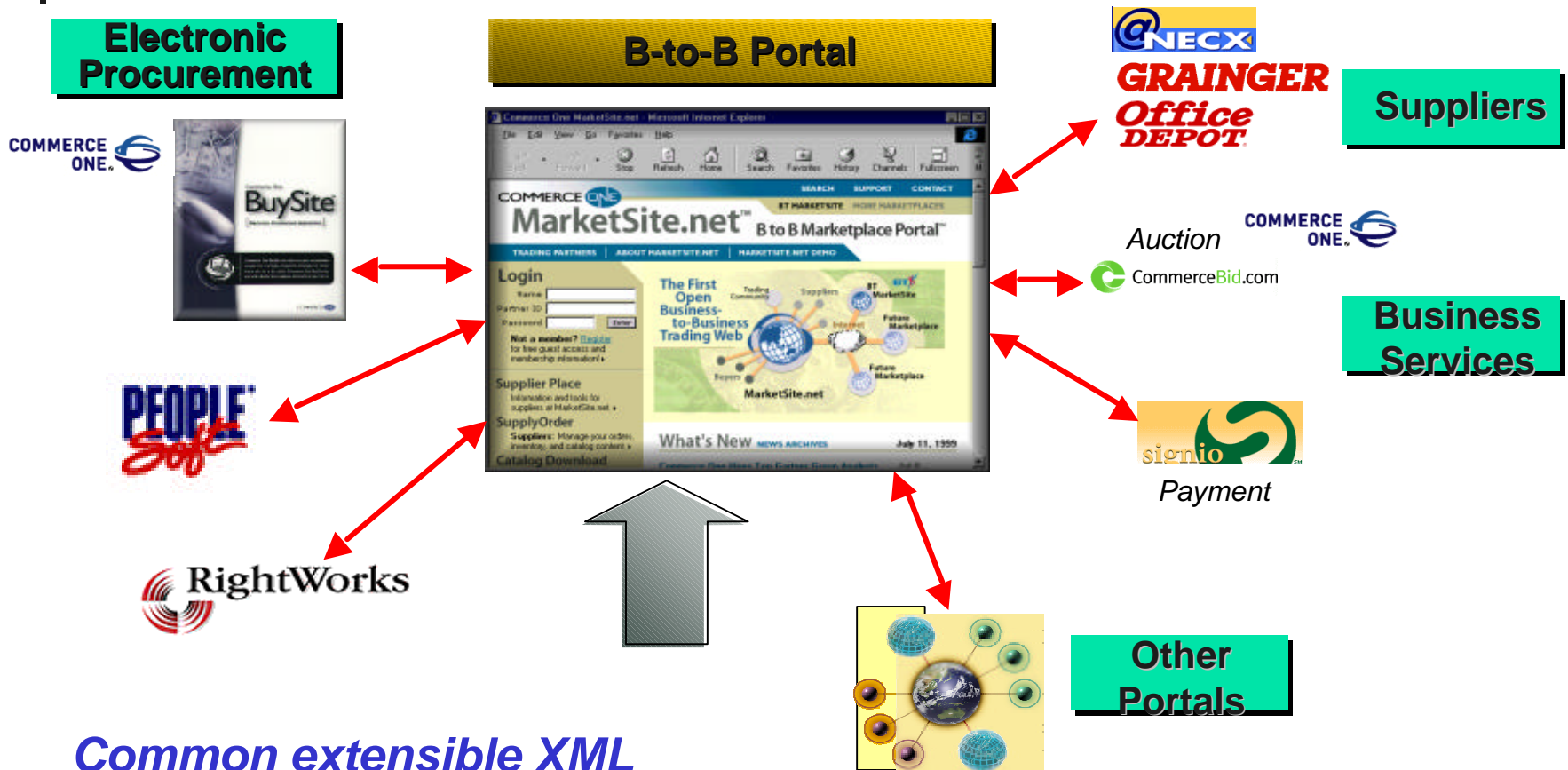
- **UPS, FedEx and the USPS all use different “standards” for addressing an envelope**
- **Computers are “dumb”**
  - **If they can’t recognize what’s on the envelope they can’t deliver the document.**
- **We need:**
  - **common formats for electronic envelopes**
  - **reliable web based document delivery systems**

### **Summary**

- **Incompatible business document formats**
- **The document delivery problem**



# A. Commerce One Solutions



*Common extensible XML  
document formats.  
Document translation.  
Reliable document delivery.*

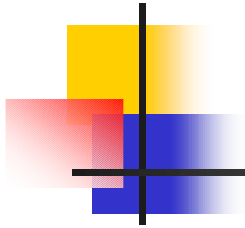
**Source: Commerce One**

## A. Commerce One - the open portal



*Allow BizTalk, OBI, RosettaNet, EDI, ebXML etc solutions to talk to Commerce One MarketSite.*

**Source: Commerce One**

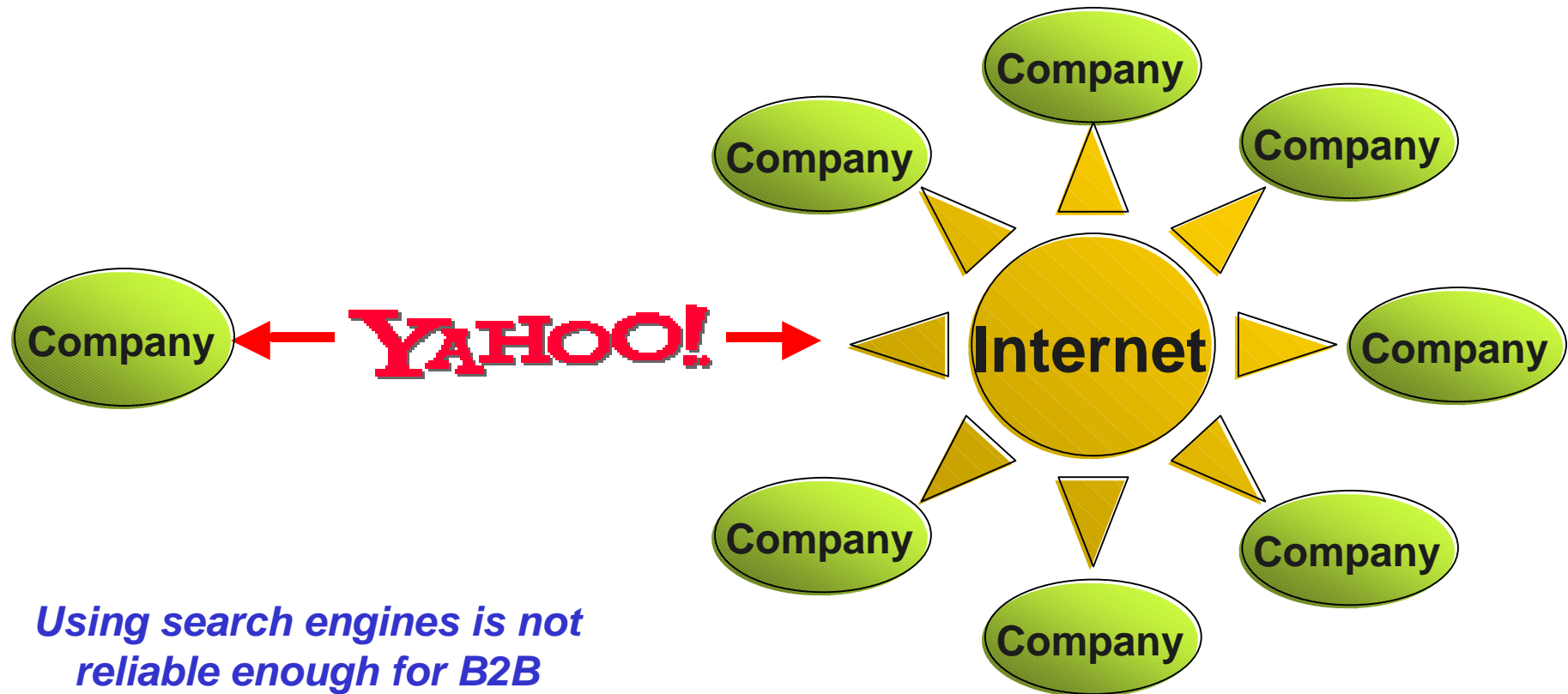


## **A. Benefit of Trading Communities**

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- **Allows companies to use just one format for their XML documents and envelopes**
- **Converts between different envelope formats and e-Commerce protocols**
- **Provides reliable electronic “postal system”**

## A. Finding Buyers and Suppliers Using Search Engines

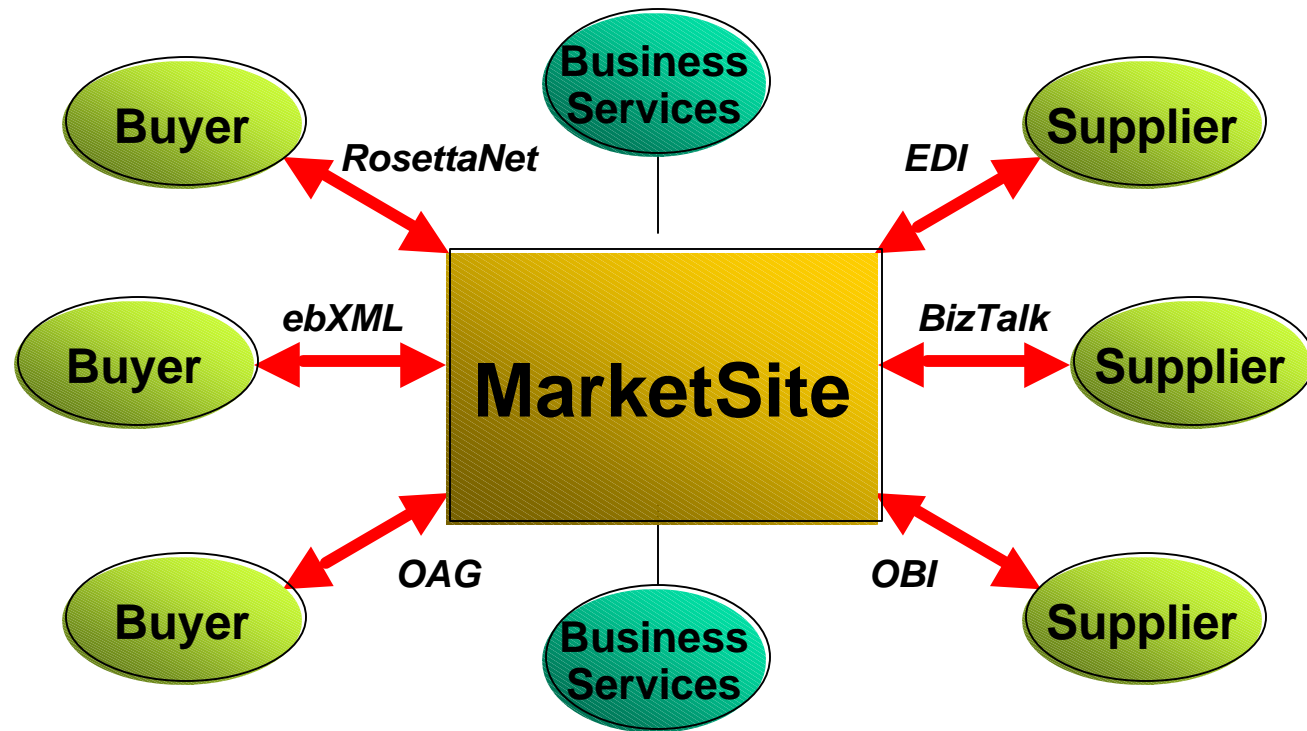


*Using search engines is not  
reliable enough for B2B  
eCommerce ...*

*... but trading communities  
can help ...*

**Source: Commerce One**

## A. Finding suppliers ...

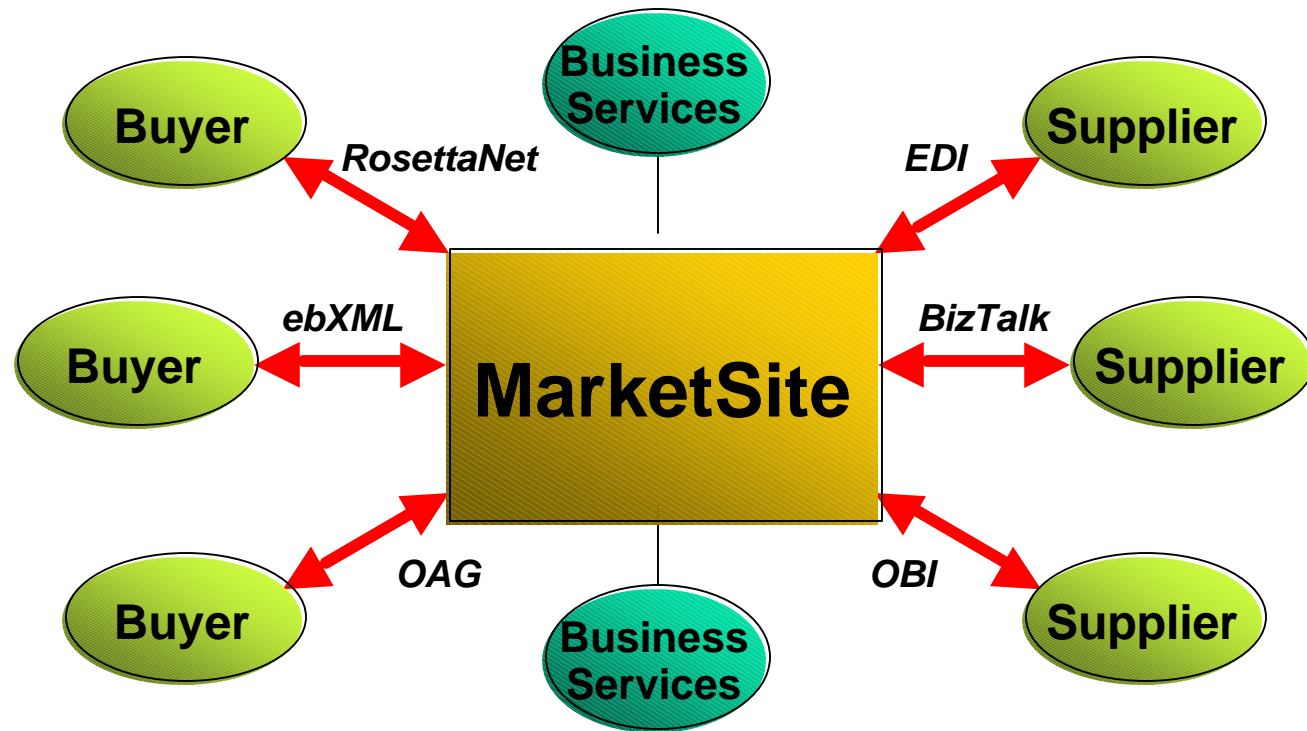


*Buyers can use intelligent XML based searches to find the suppliers they need*

*Suppliers can register their products and services using XML documents*

**Source: Commerce One**

## ... and buyers ...

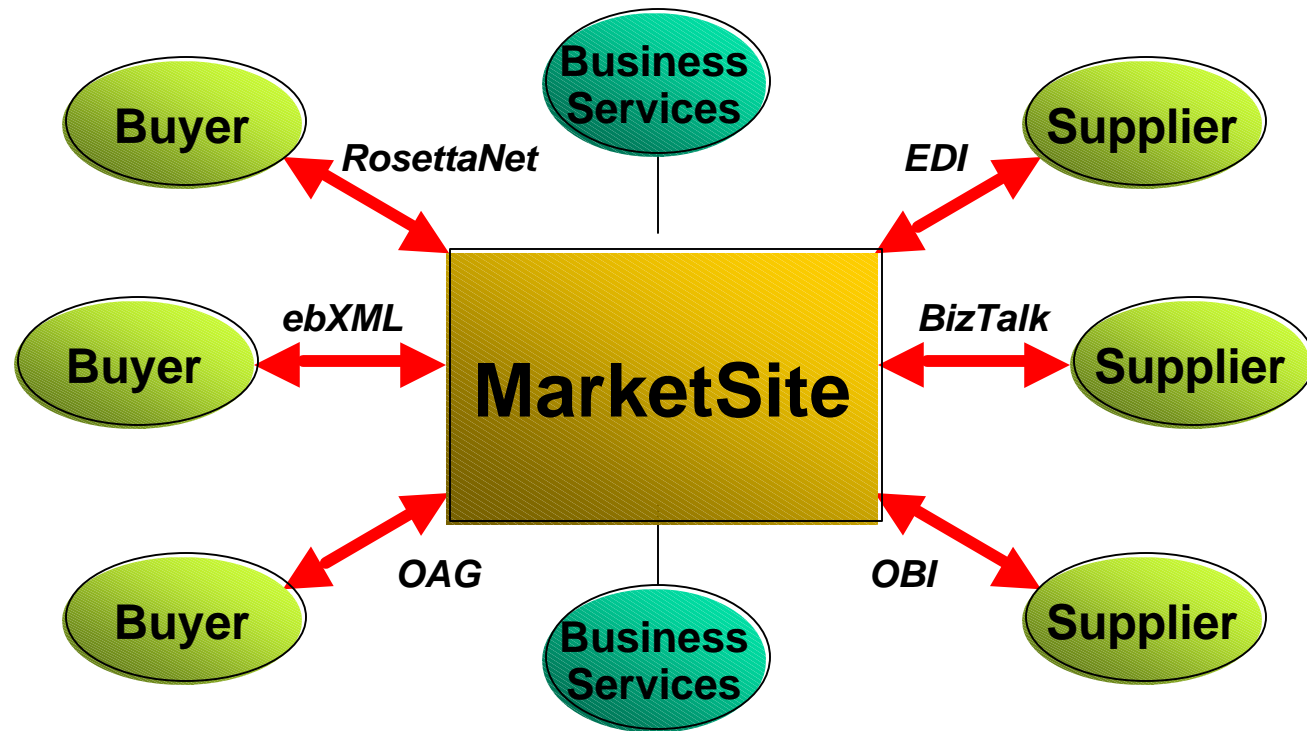


*Buyers can register the products and services they need using XML documents*

*Suppliers can use intelligent XML based searches to find buyers to sell to*

**Source: Commerce One**

## A. Regional Marketplaces



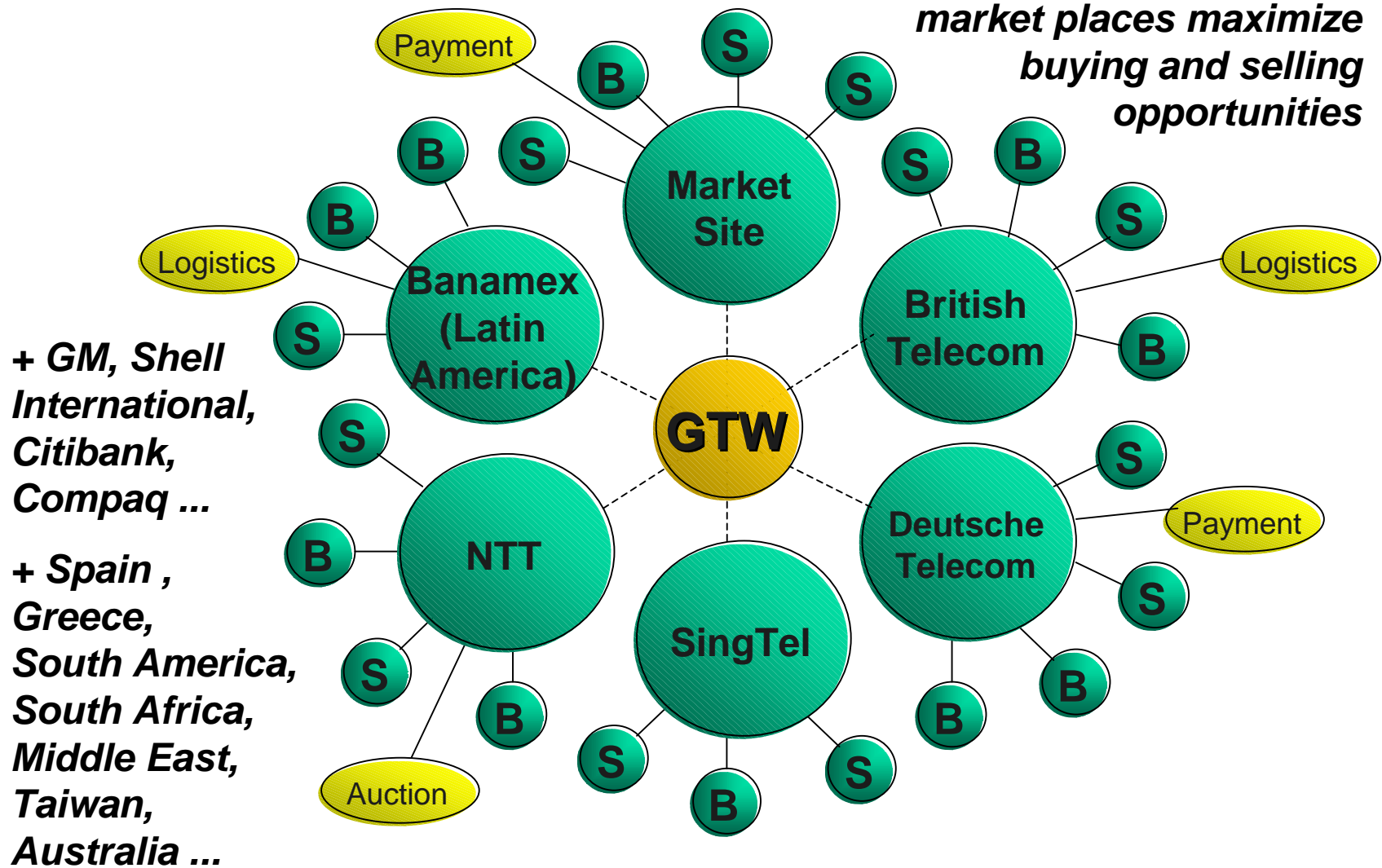
*Isolated trading communities mean companies will need to join several communities to reach all the companies they need*

**Source: Commerce One**



## A. Global Trading Web

*A world-wide global trading web of connected market places maximize buying and selling opportunities*



**Source: Commerce One**

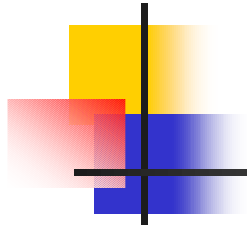




## **A. Summary - Trading Communities**

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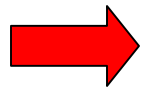
- **Connecting everyone together:**
  - **companies use one format for XML documents and envelopes**
  - **converts between envelope formats and eCommerce protocols**
  - **provides a reliable electronic “postal system”**
  
- **Plus:**
  - **buyers can find suppliers, and**
  - **suppliers can find buyers**
  - **more effectively ... worldwide**



# Session Topics

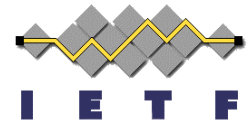
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## **A. Growth of Trading Communities**



## **B. XML Messaging Standards**

## B. The standards alphabet soup



... there are many standards initiatives out there. What problems are they trying to solve?

**BizTalk**

ROSETTANET



**XML.ORG**

*Commerce One is actively involved in all major eCommerce standards initiatives*

**Source: Commerce One**



## **B. Four types of Initiatives**

---

### **Four Initiatives**

- **Common XML Document Definitions**
- **Messaging Standards**
- **Architecture/Discovery Standards**
- **Registries and Repositories**

**Review of some major initiatives follows ...**

### **Common Document Definitions**

- ebXML - joint UN/CEFACT & OASIS effort
- XML Common Business Library (CBL)
- RosettaNet Documents
- Microsoft BizTalk Documents



## **B. Messaging and Architecture Standards**

---

### **Messaging Standards**

- BizTalk
- RosettaNet
- ebXML
- SOAP, WSDL and UDDI

### **Architecture/Discovery Standards**

- eCo Framework
- ebXML Architecture
- UDDI Architecture



## **B. Registries, Repositories and Standards**

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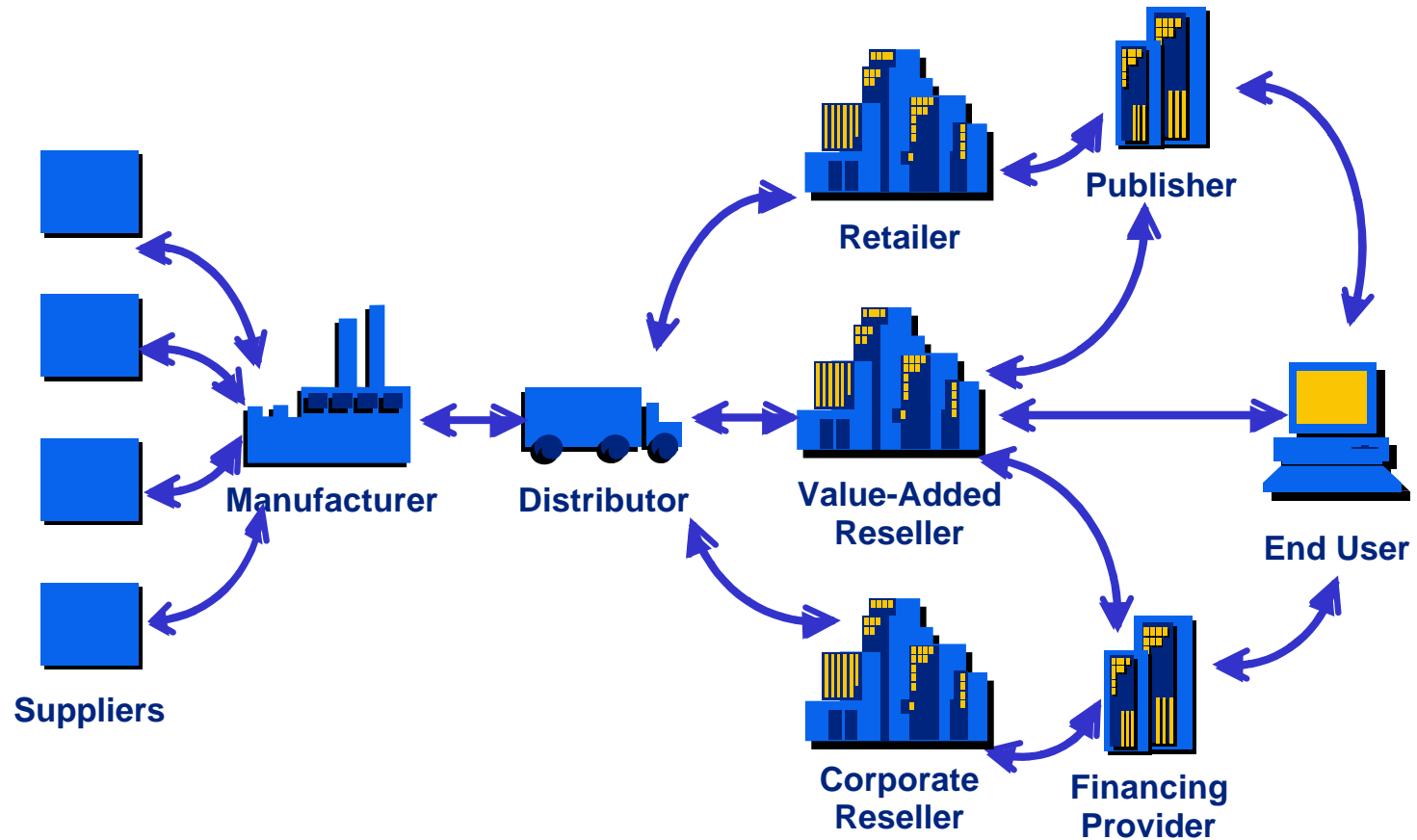
### **Registries, Repositories**

- OASIS XML.org and ebXML.org Repository
  - Hold definitions of XML documents and codes used
- BizTalk.org Repository
  - Hold definitions of XML documents
- UDDI.org Repositories

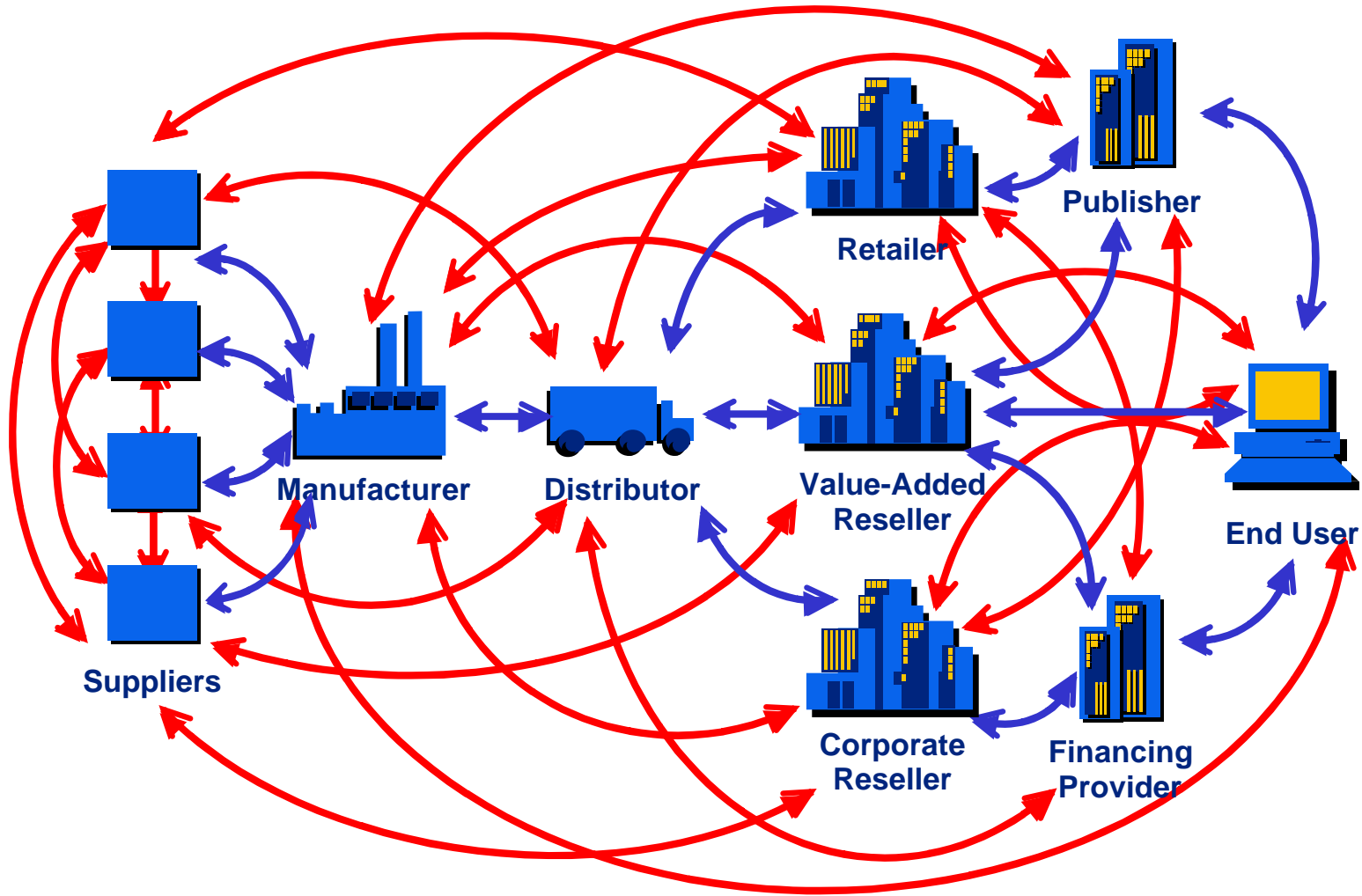
### **Summary of Standards Initiatives**

- There are many competing initiatives
  - Many recognize that, without some convergence, rate of adoption of e-Commerce will be held back
  - ebXML, with UN/CEFACT support, stands best chance of helping competing initiatives to converge

## B. Transition from Linear Supply Chain...



## B. Transition from Linear Supply Chain... To Dynamic Supply Chain Networks







## B. Typical MRO Costs

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- **Maintenance Repair and Operations (MRO) Costs**

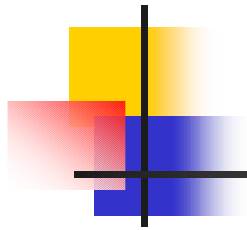
- Organizations process millions of invoices each year
- 75 % items typically cost < \$1,000 (Gartner Group)

- **Cost of Purchase Order, with approvals**

- **Often Costs between US\$100 - \$US150**

- This transaction processing cost is static. No difference if item ordered is \$5 box of pens or \$5,000 computer  
... \$100-\$150 processing cost remains the same

- Complete manual purchase requisition cycle lasts on average 7.3 days ... compared to 2 days with automated buy-side e-commerce system (Aberdeen Group)
  - **Drops in cost down to between \$8 - \$10**

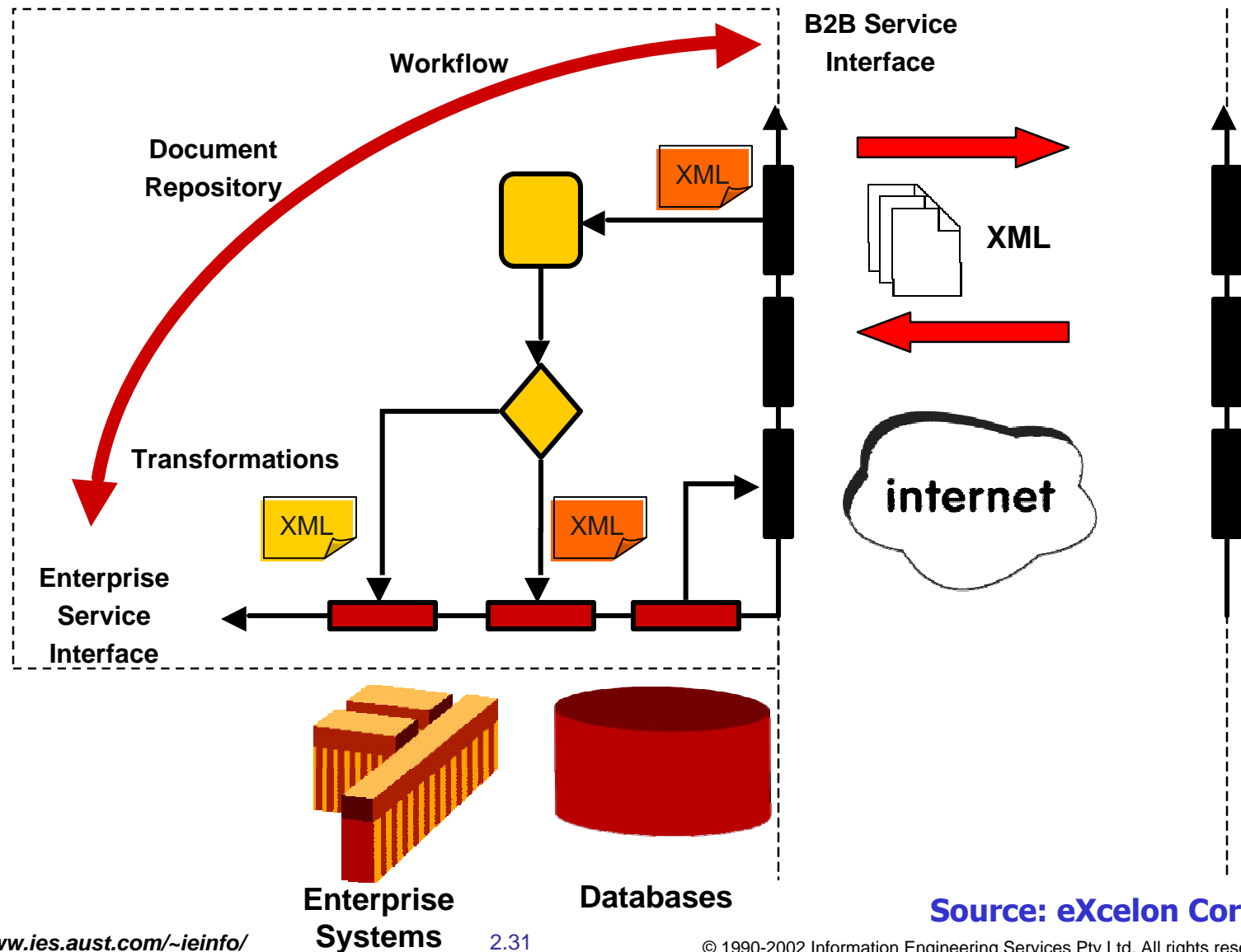


## **B. Integration Servers (EG. eXcelon B2B Integration Server)**

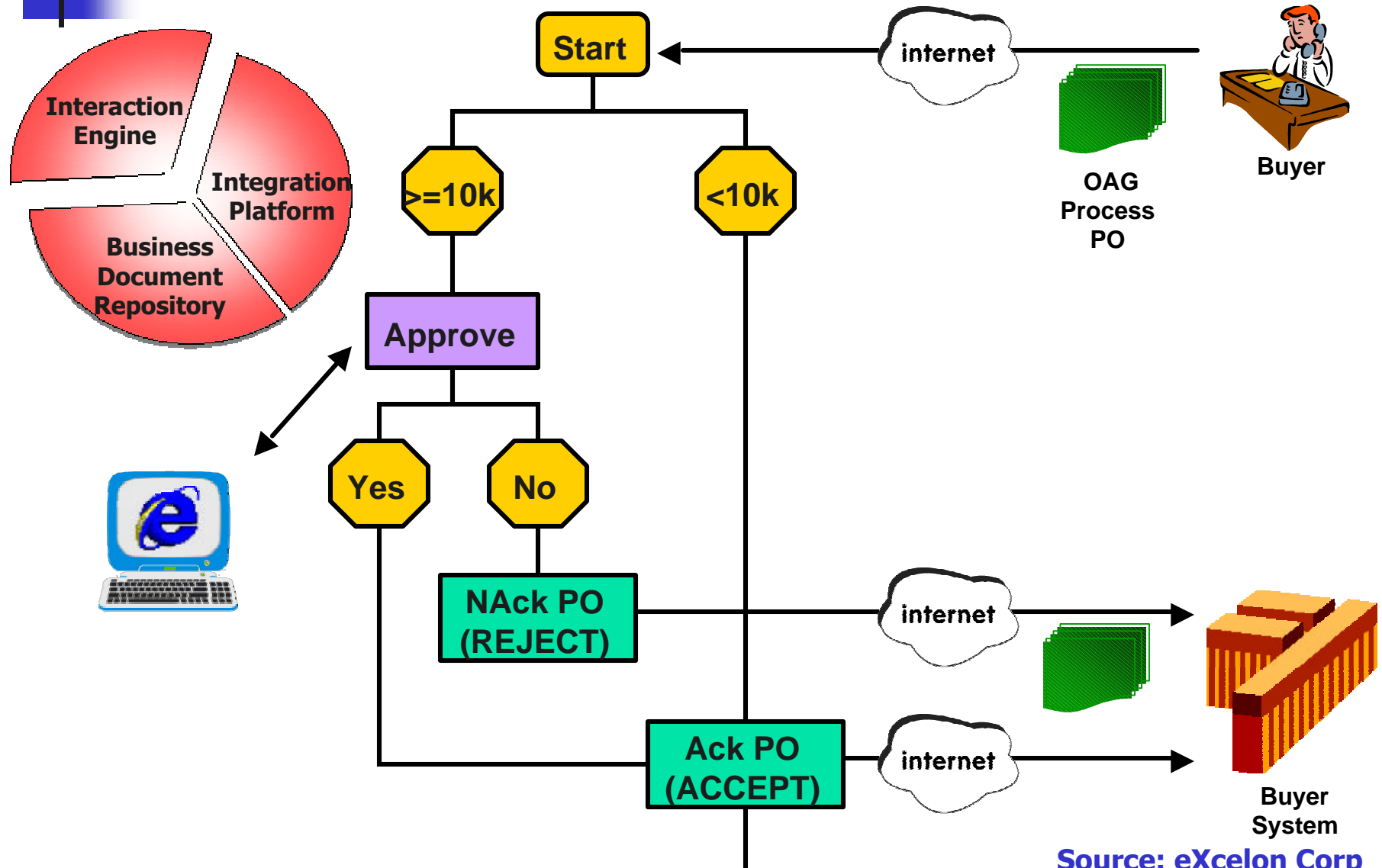
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- **Enables businesses to model and automate business processes that include their partners**
- **Scale to hundreds or thousands of partners**
  - Speak any dialect of XML
  - Lightweight client software
- **Provides a central location to maintain and audit business transactions**

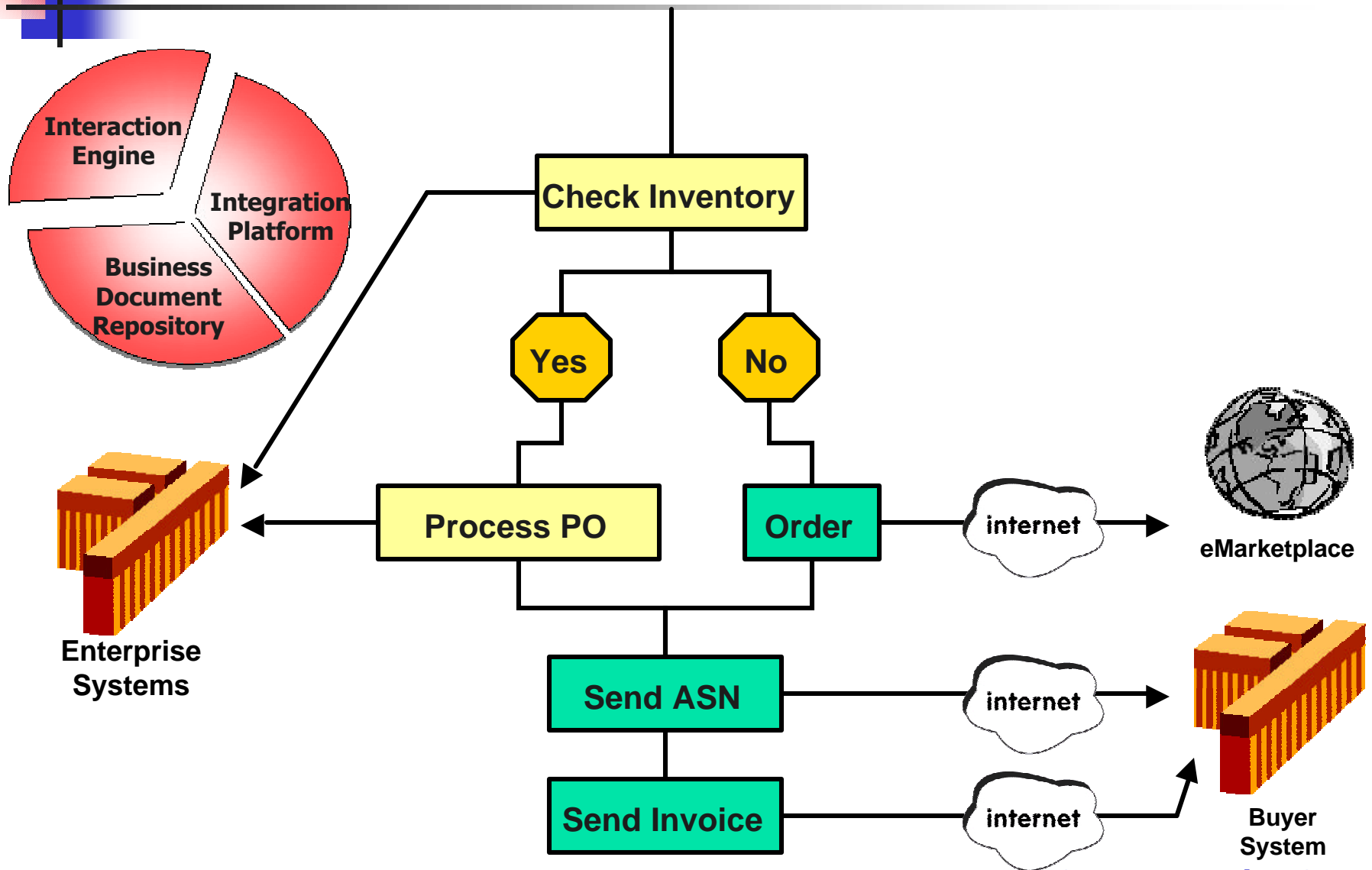
## B. eXcelon Interaction Automation



## B. eXcelon Interaction Engine: Workflow

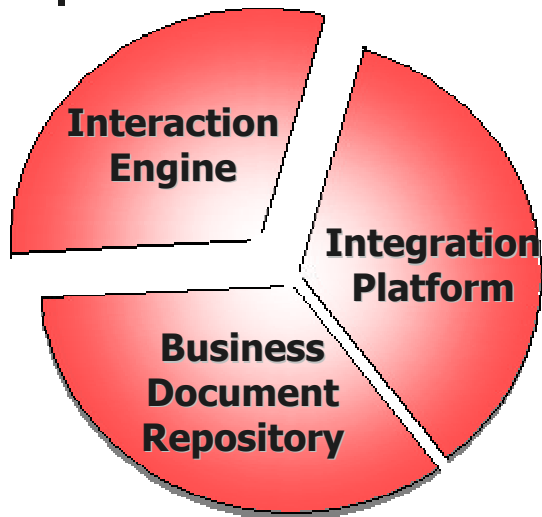


## B. eXcelon Interaction Engine: Workflow



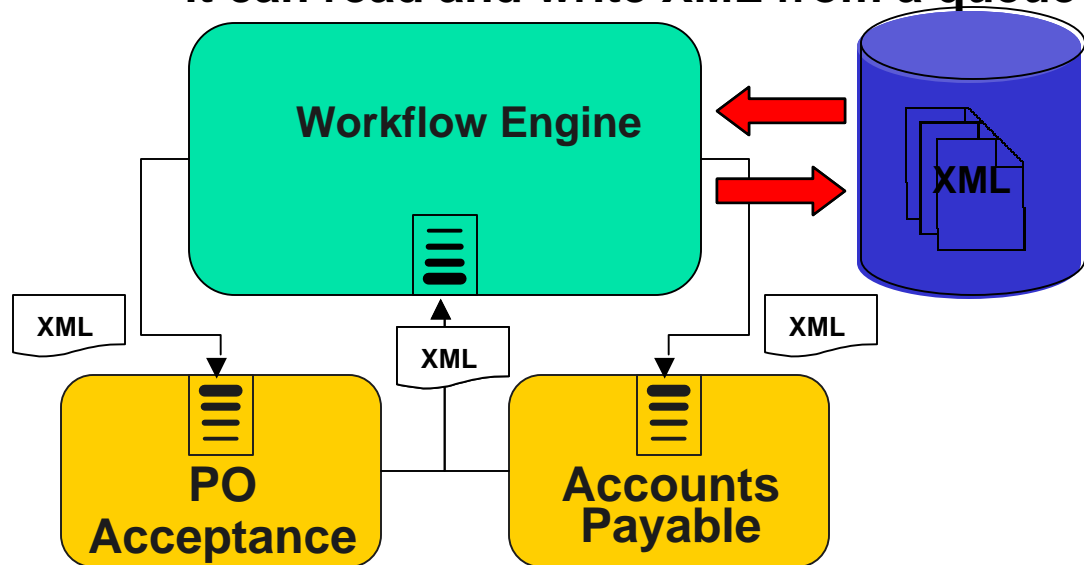
Source: eXcelon Corp

## B. eXcelon Interaction Server



- **Service Architecture**

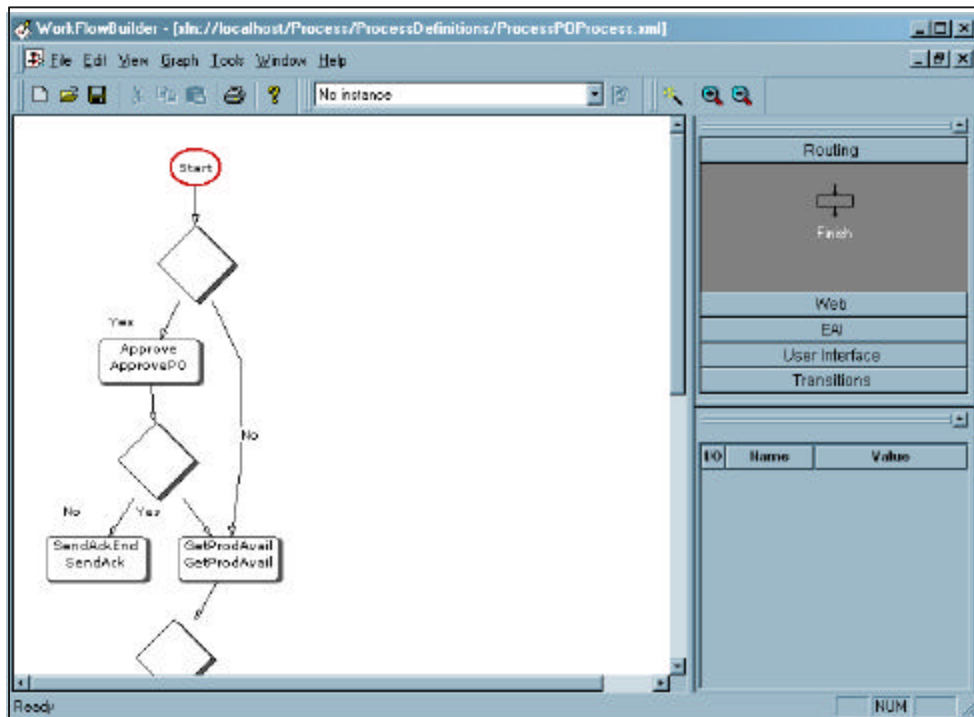
- Any application can interact with B2Bis if it can read and write XML from a queue



- **Allows any type of application to be integrated**
- **Centralizes state management**
- **Removes interdependencies between components**

**Source: eXcelon Corp**

## B. eXcelon Tools: B2B Workflow Designer



### ■ Features

- Graphically create and modify B2B workflows
- Design workflows by dragging and dropping custom or pre-defined activities
- Monitor the status of past or current workflows