

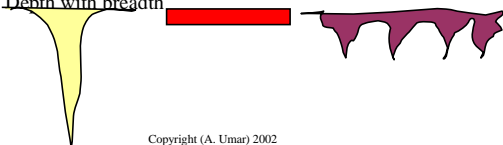
Ebusiness and Distributed Systems - An Overview

- Objectives
- The jargon and definitions
- Ebusiness versus Ecommerce
- Stages of EB evolution
- Evolution of Distributed Systems
- Framework for discussion

Anjad Umar

Objectives

- Answer key questions
 - What are the key ebusiness technologies and their roles
 - How is ebusiness related to distributed systems
 - What are the concepts/terms (vocabulary), building blocks and their interrelationships
- Discuss
 - state of the art
 - state of the market
 - state of the practice
- Depth with breadth

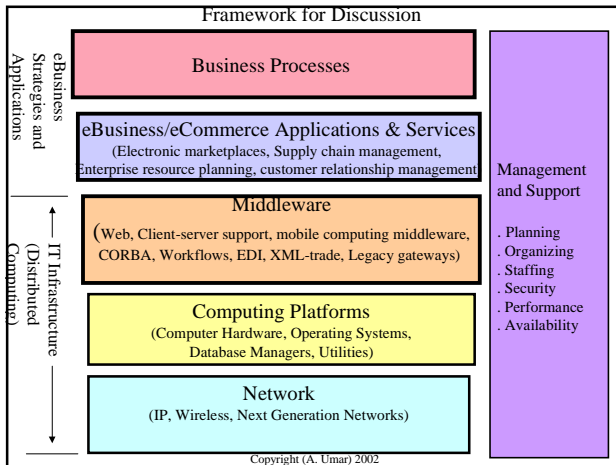


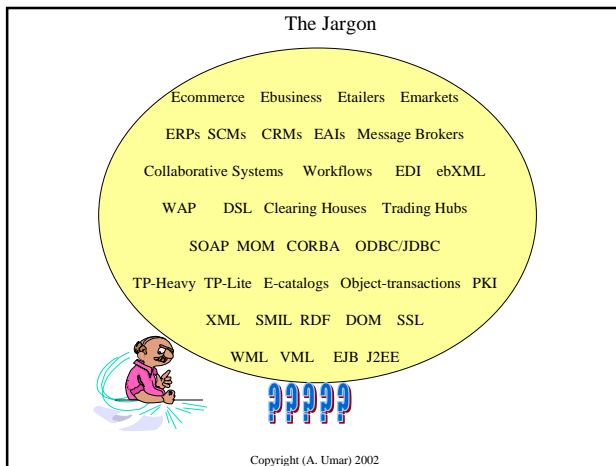
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State of the Business (2000 and Beyond)

- Information technology can be
 - Agent (driver) for enterprises
 - Enabler
 - Disabler (complexity, legacy systems)
- Many new technologies are emerging to meet the growing enterprise needs (mobility is another)
- Each new technology expected to replace existing N becomes N+1. Mobility will be N+1
- New technologies must co-exist with existing. Must know how to build new and deal with existing.
- The life cycle for the reason for undertaking an effort should be longer than the life cycle of the undertaking itself.
- There is a thin line between vision and hallucination. You should know when you cross it.
- A realistic approach is needed - View eBusiness as a special case of distributed systems

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Some questions (eBusiness)

- Why amazon.com, a company started by two people in a run down house in 1995, was valued at \$600 M in 1998 (beating Barnes and Noble and Borders)
- Why can you buy airline tickets, reserve hotel rooms, rent a car on line in less time than the the time to get through to an airline reservation agent
- Why can Cisco reinvent itself every two years while it may take 6 years for auto companies to introduce a new car model
- others ?

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Critical success factors in Today's eEconomy

- Ability to respond to changes
- Ability to assess value to customers
(example: amazon.com looked at value of time to buy versus time to receive)
- Be different and original
 - Today's strategic edge becomes tomorrow's cost of doing business

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Why So Much Activity (Business Drivers for eBusiness)

- Survival
- Need to expand services
- Need to reach new customers
- "Keeping up with the Joneses"
- Market differentiation
- Others

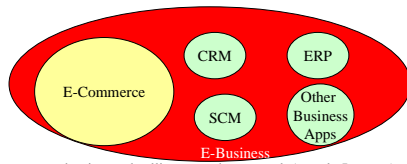
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Key Definitions (Attempted)

- **Ecommerce:** buying and selling over the network (mostly Internet)
- **Ebusiness= Ecommerce + Other business activities**
- **Virtual Enterprises(VE):** independent of "physical" things (distance, building, contact)
- **Next Generation Enterprise (NGE):**
NGE = VE + mobility + self-serve customers + QoS + zero-latency supply chain management +
- **We will use NGE to indicate the future enterprises that may be**
 - Virtual
 - Extended
 - E-corporations

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E-Business Versus E-Commerce



E-Commerce: buying and selling over the network (mostly Internet)

- Advertising
- Browsing/selection
- Purchasing
- Payment/payment settlement

E-Business= E-Commerce + Other business activities conducted electronically

- Conducting meetings for geographically distributed parties
- Software development and delivery across multiple organizations
- Delivering on-line instruction and training
- Customer relationship management (CRM)
- Supply chain management (SCM)
- Enterprise resource planning (ERP)
- Knowledge management

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Ecommerce Activities

- Establish presence
 - Web site
- Advertise
 - Home pages
- Product/service browsel and search
 - Catalogs
- Product selection
 - Shopping cart
- Purchasing
 - Purchase systems
 - Order processing
 - Inventory management
 - Billing/Payment
 - Shipping/receiving

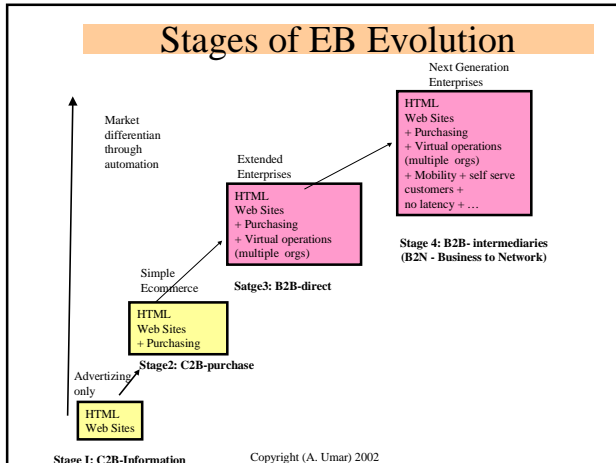
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Ebusiness

“Ebusiness is Ecommerce plus other business activities over the network”

- Conducting meetings
- Software development
- Delivering instruction
- Customer relationship management
- Managing supply chains
- Managing trade

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- ## Some Examples
- Amazon.com
 - From book supplies to a shopping mall
 - Drugstore.com
 - Can buy drugs online(many partners)
 - Verticalone.com
 - allows payment of bills
 - Frequent flyer miles
 - Other business functions
 - Virtual Parts Supply Base (VPSB, <http://www.vpsb.com/>) to supply hard to find parts for US Government
 - Telebank.com, a Virginia based virtual bank, is currently worth 3 Billion dollars. The company has grown 100% per year in the last 3 years. Many other banks are getting into ebanking.
 - Greek apparel co. building low cost, high fashion clothes through VE
 - Others
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- ## Distributed Systems
- eBusiness systems are large scale distributed systems
 - Distributed systems definition (Kleinrock, 1988): distributed systems consist of
 - Autonomous components
 - Common (global) mechanism for sharing
 - Many, many examples:
 - Web, Ecommerce and Ebusiness, Client/server systems
 - Distributed systems are natural for organizations
 - Three powerful technologies being leveraged (OCSI)
 - object-oriented
 - client/server
 - Internet
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Evolution of distributed systems

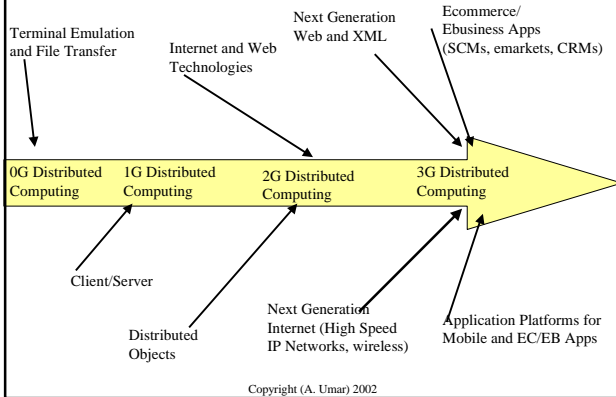


Suppose a user at C1 needs to access a DB at C2

- Terminal emulation
- File transfer (downloads)
- Basic client/server (access a remote file)
- Web clients and servers
- Distributed databases (data at different sites accessed)
- Distributed transactions (updates at multiple sites)
- Distributed objects
- Distributed operating systems

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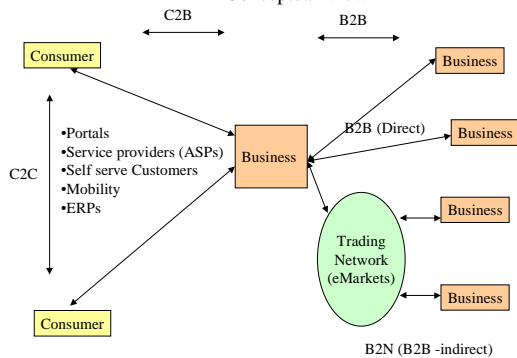
Evolution of Distributed Systems -- eBusiness is a special case of 3G Distributed systems



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Next Generation Enterprises (e-Corps)

Conceptual View



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