

Computing systems V.1 9/1

by
David G. Messerschmitt

Summary

- Host architecture: client/server
- Internet

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Importance of Internet

- A common (very low) layer of interoperability
 - Systems from different vendors
 - Different ownership/administrative domains
- Not a solution to the interoperability problems, but a good first step

What is needed for interoperability besides a common network?

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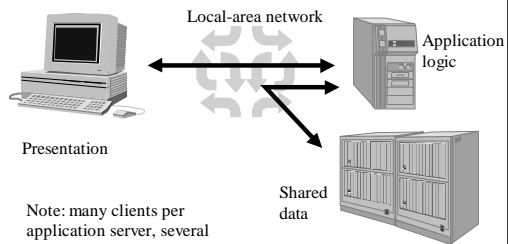
Practical importance of Internet

- Enterprise applications built from existing departmental applications become feasible
- Electronic commerce
 - Available to small companies
 - Opportunistic
- Consumer applications

Examples?

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Three-tier client/server



Note: many clients per application server, several application servers per mainframe

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Practice in defining tiers

- Chatroom on AOL
- Online bookseller (like amazon.com)
- Stock trading system (eSchwab)

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amazon.com



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Schwab



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Question

- What types of social applications would be appropriate for client/server architecture?

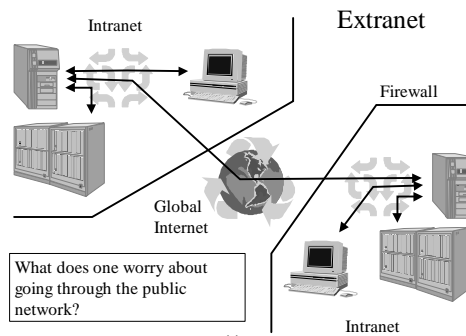
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Shortcomings of client/server

- Departmental solution
- Proliferates non-interoperable technologies and applications
- Hardwired applications lose flexibility

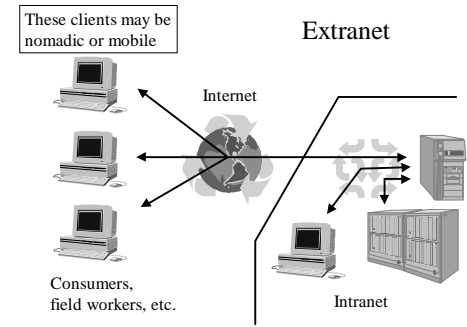
What are some goals and likely characteristics of future *enterprise* architectures?

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What does one worry about going through the public network?

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Consumers, field workers, etc.

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Questions

- What business purposes do nomadic workers serve?
- Mobile?
- What advantage does direct Internet access have over long distance telephony?

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Application lifecycle

- Conceptualization
- Analysis
- Architecture
- Development
- Integration and testing
- Deployment
- Operations, maintenance and upgrade

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Conceptualization

- Primary goals:
 - Brainstorm on how networked computing can add unique value
 - Rethink the application context in light of:
 - Role of people
 - Role of networked computing
 - Interaction between the two
 - Justify pursuing further (benefits and impact)

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Analysis

- Primary goals:
 - Satisfy stakeholders and justify the investment
 - Refine application ideas:
 - Finalize features
 - Develop exhaustive scenarios
 - Define performance and scalability objectives

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Practice application

- Office of the Independent Counsel (OIC):
 - Conceptualization
 - Features, benefits, impact
 - Analysis
 - Features, scenarios
 - Performance, scalability

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