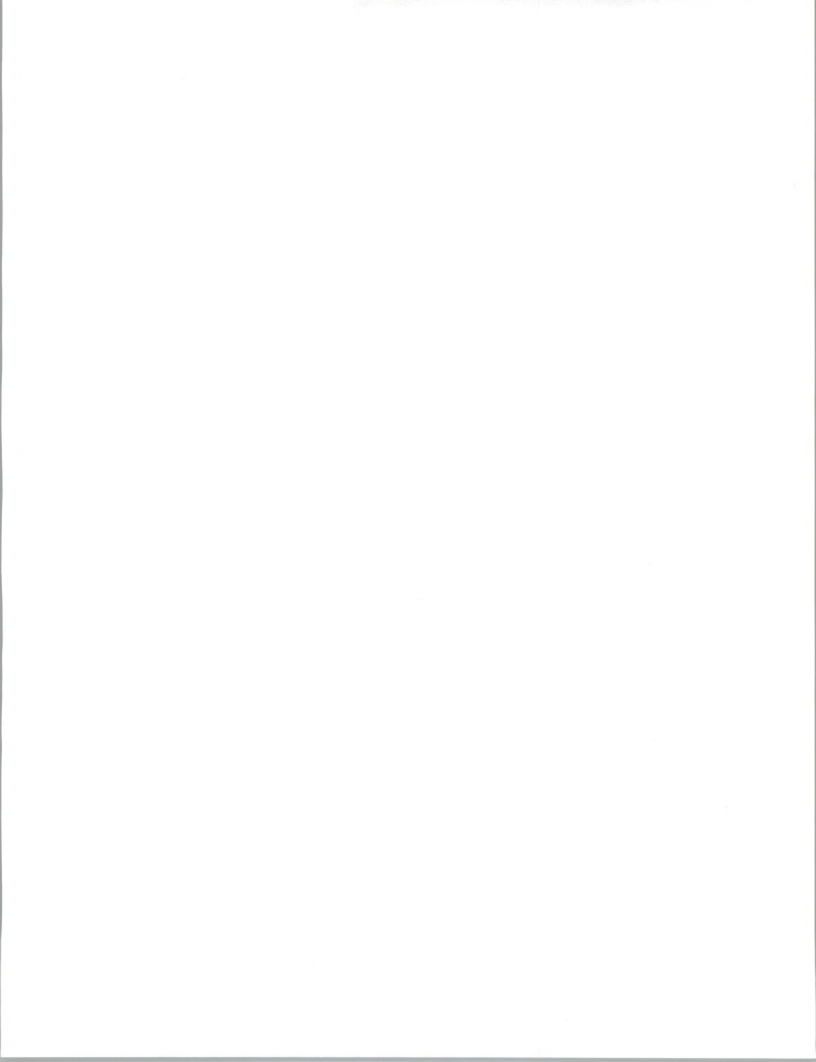


Electronic Commerce and Client/Server Computing

Torrey Byles
Manager
EDI/Electronic Commerce Program



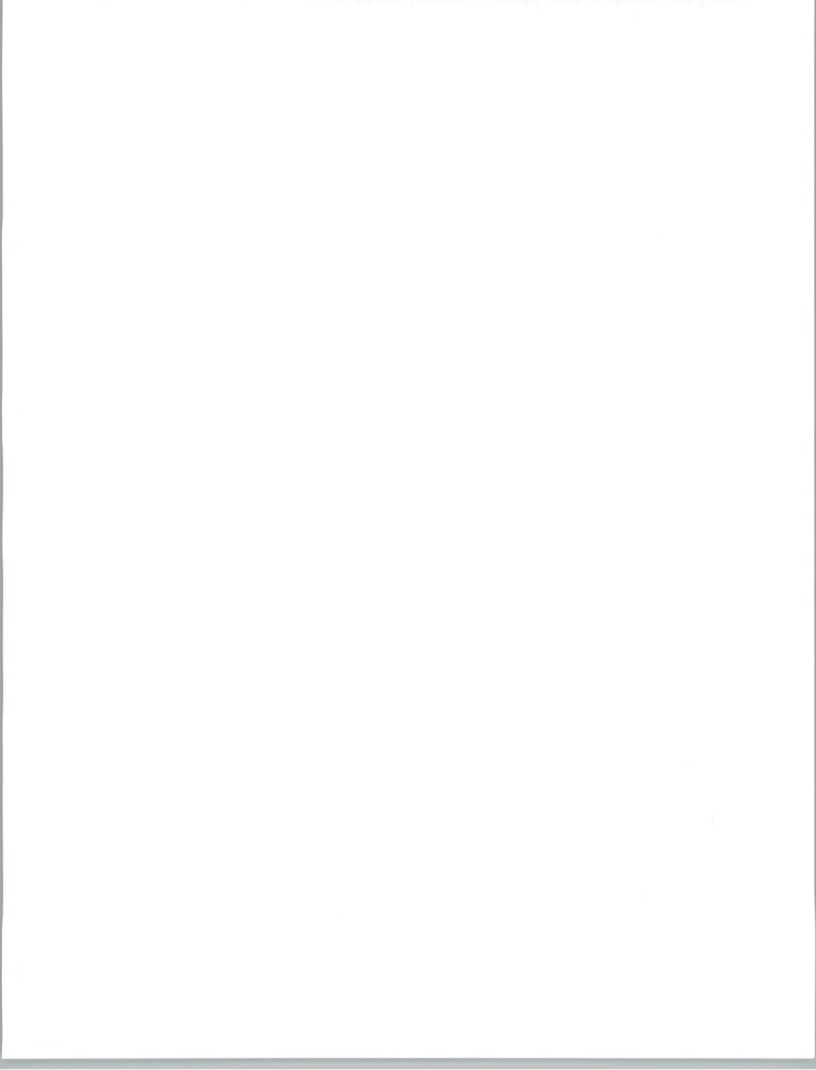
Main Message:

Electronic commerce and
Client/server are perfectly suited
for each other, complementary
and mutually reinforcing

INPUT

MC3-TB-3

Notes



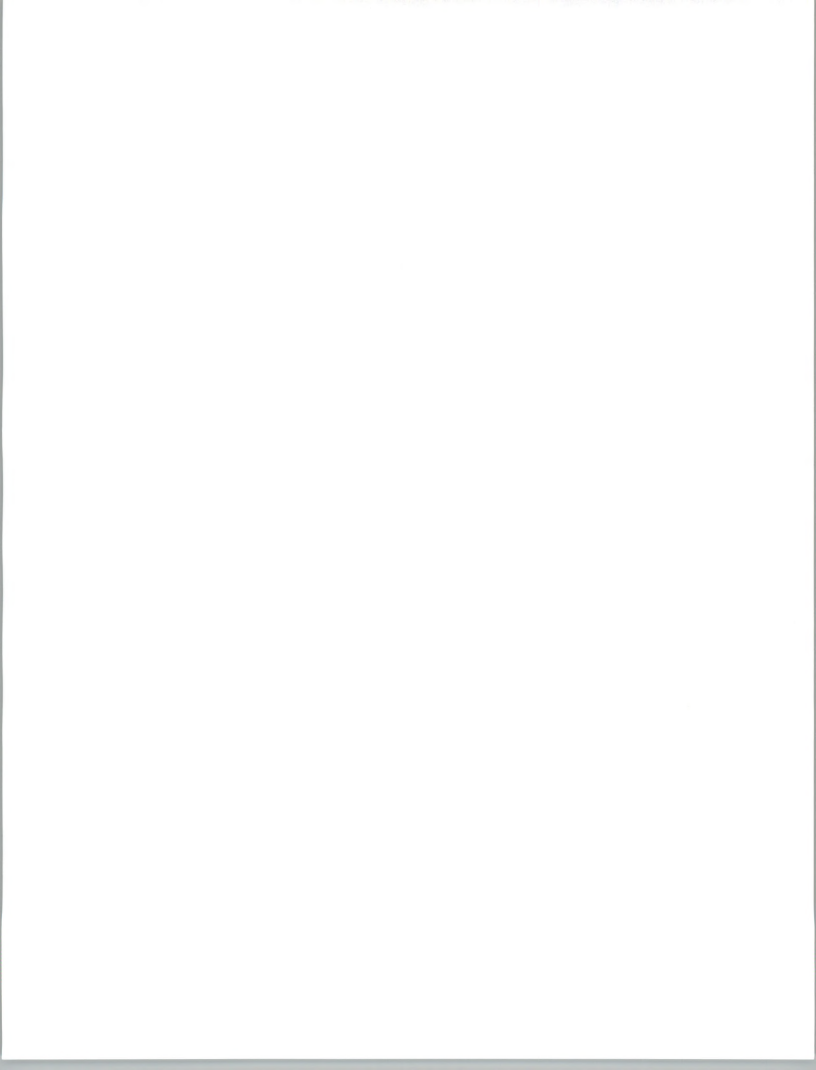
Points Covered:

- Client/server applications in electronic commerce environments
- Impact of electronic commerce on client/server (and vice versa)
- Impact on user communities
- Today's electronic commerce vendors

INPUT

MC3-TB-4

Notes



Definition:

Electronic Commerce is doing business electronically over digital networks. It is the networking of business applications and workflows to support trade among companies.

INPUT

MC3-TB-5

Notes

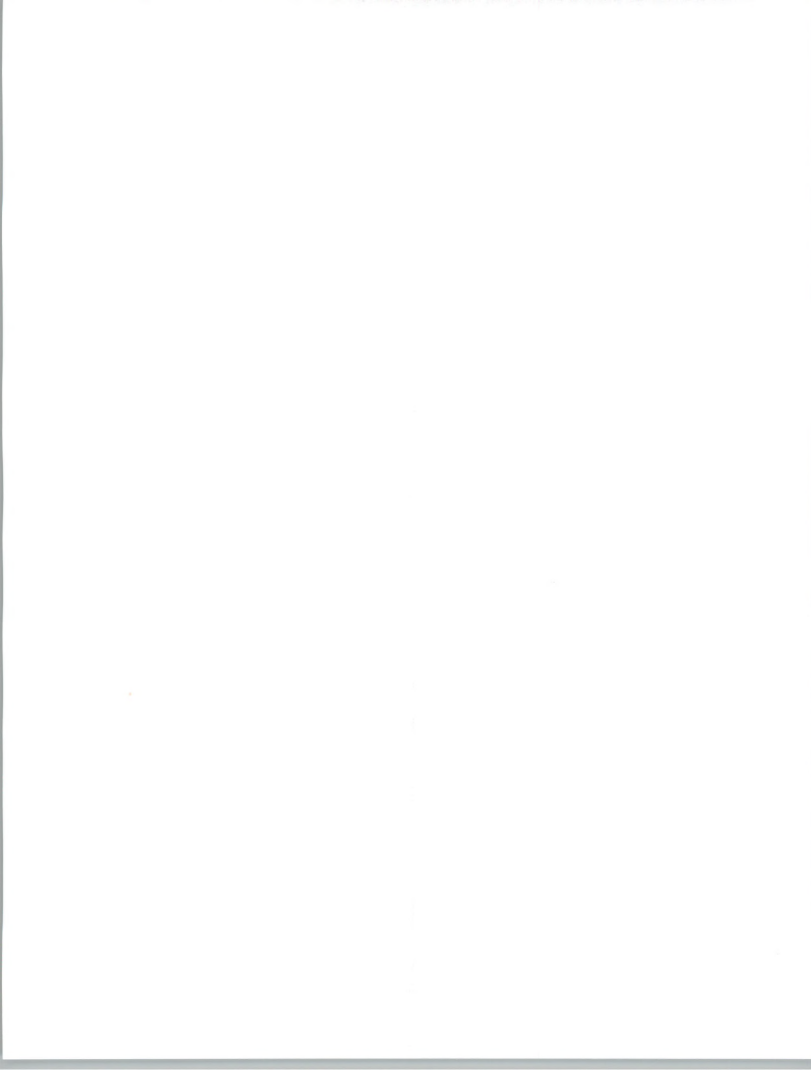
Definition:

Client/server is the division and distribution of processing tasks over several processor units.

INPUT

MC3-TB-6

Notes



A Company is Simultaneously

A client (to its suppliers) and
a server (to its customers)

Its information systems for trade
must reflect this

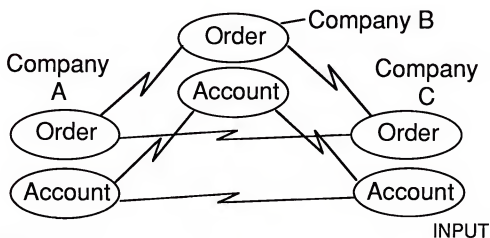
INPUT

MC3-TB-7

Notes



The Client/Server Relationship Among Companies



MC3-TB-8

Notes



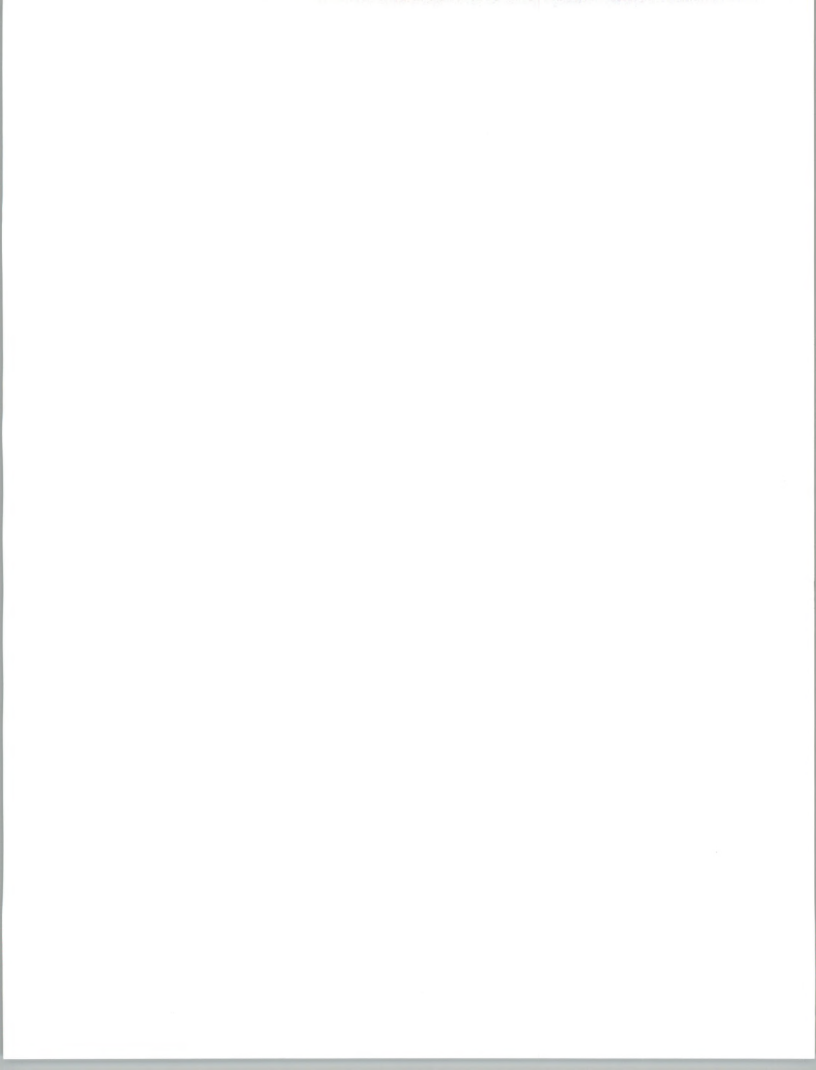
Software: Fastest Growing EC Segment

Segment	'92-'93 Growth (Percent)	'92 Sales (\$ Millions)
Software	28	280
Professional Services	25	40
Elect. Info. Services	16	700
Network App. Services	14	800
Total	17	1,820

INPUT

MC3-TB-9

Notes



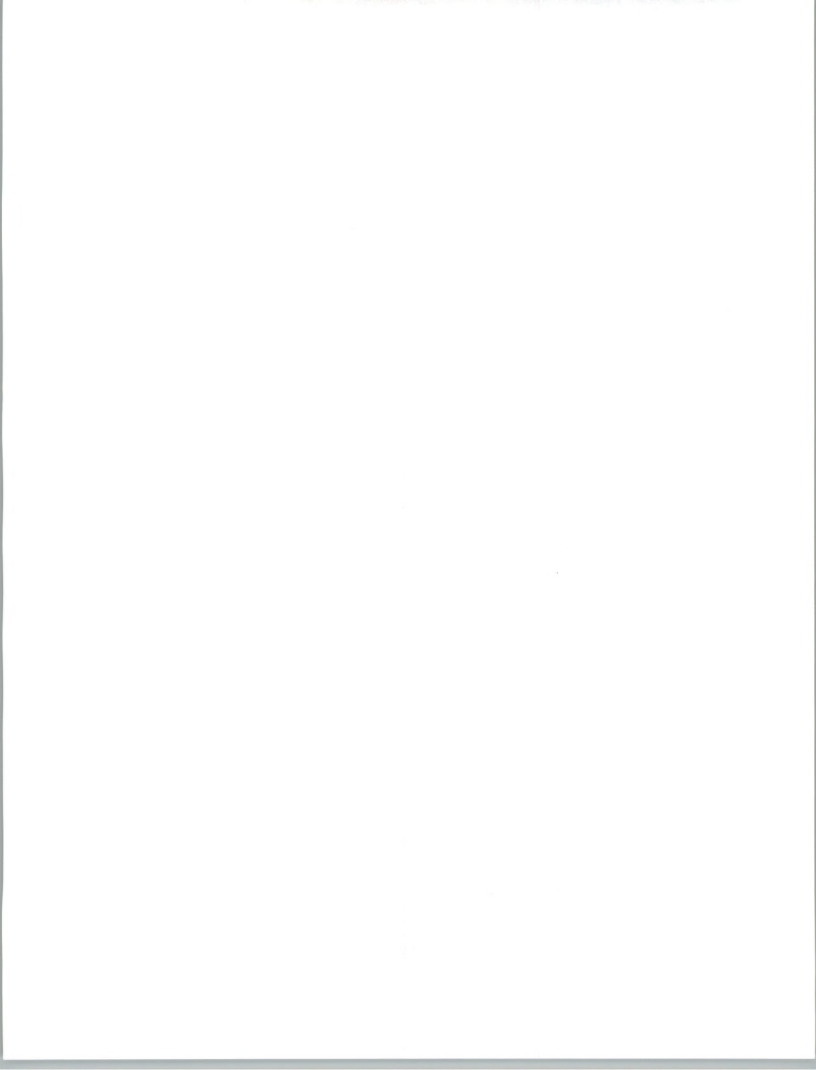
Electronic Commerce Software Segments

Segment	'92-'93 Growth (Percent)	'92 Sales (\$ Millions)
E-mail	33	120
EDI	28	115
EFT	8	25
Other	25	20
Total	28	280

INPUT

MC3-TB-10

Notes



As Proxy for Client/Server

UNIX

- Tremendous growth in EC applications
- Seventy percent growth in sales of UNIX-based EDI translation software (leading all other platforms)

INPUT

MC3-TB-11a

Notes

As Proxy for Client/Server

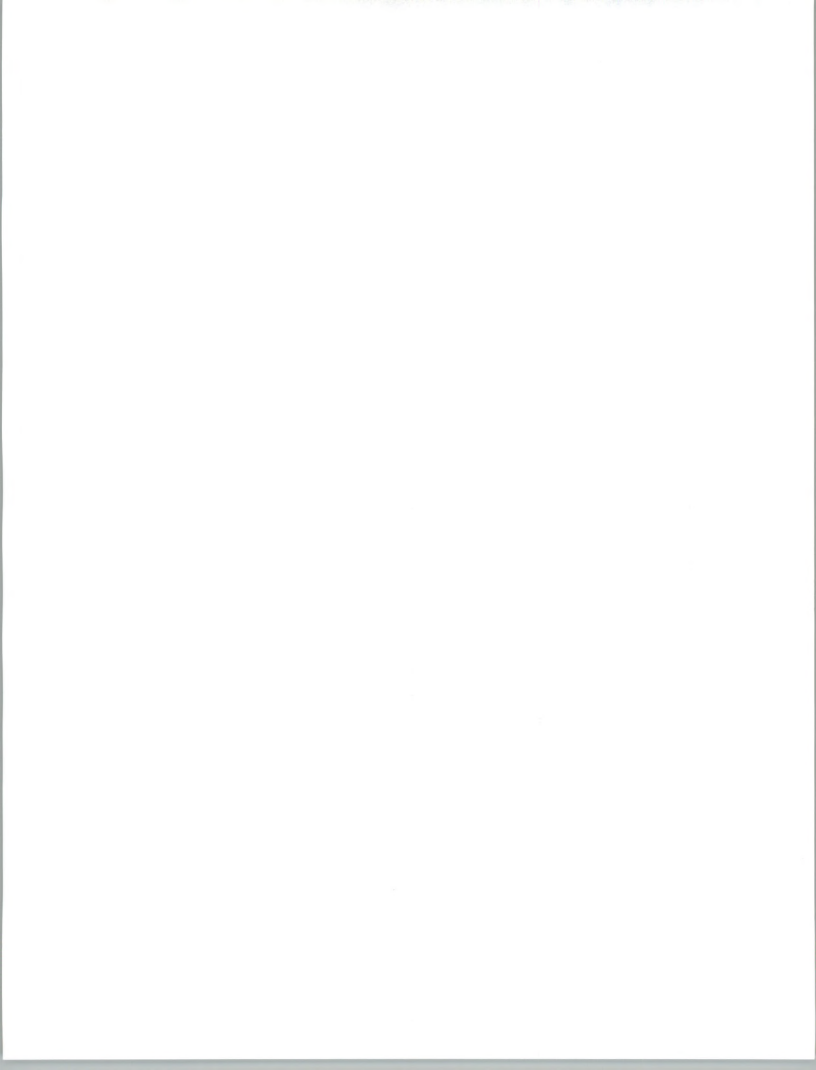
UNIX

- One-third of those using UNIX EDI s/w adopted UNIX specifically for EDI
- Second most frequent IT project is OS conversion (out of 1,600 users)
- One-third of all IT projects involves an EDI component (out of 1,600 users)

INPUT

MC3-TB-11b

Notes



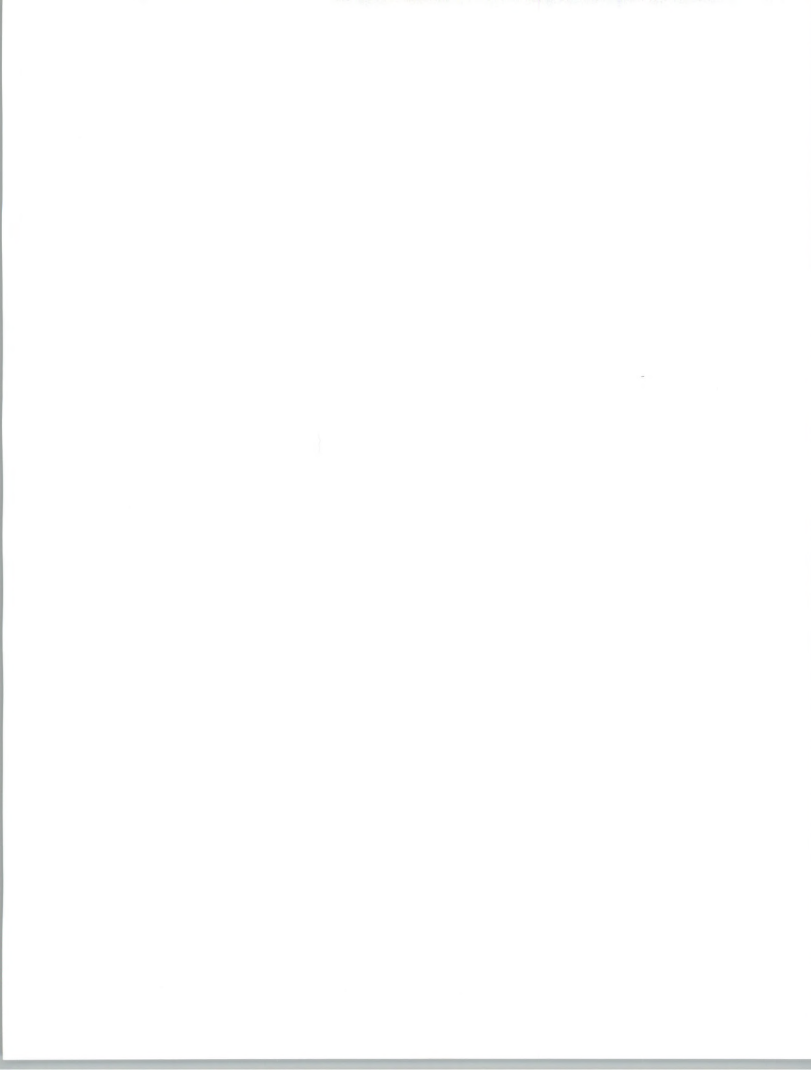
Specific Intercompany Benefits of UNIX

- Time responsive to trading partner
- Internal-to-external IS integration
- Scalable for EDI expansion
- Communication features
- Equitable distribution of IS costs

INPUT

MC3-TB-12

Notes



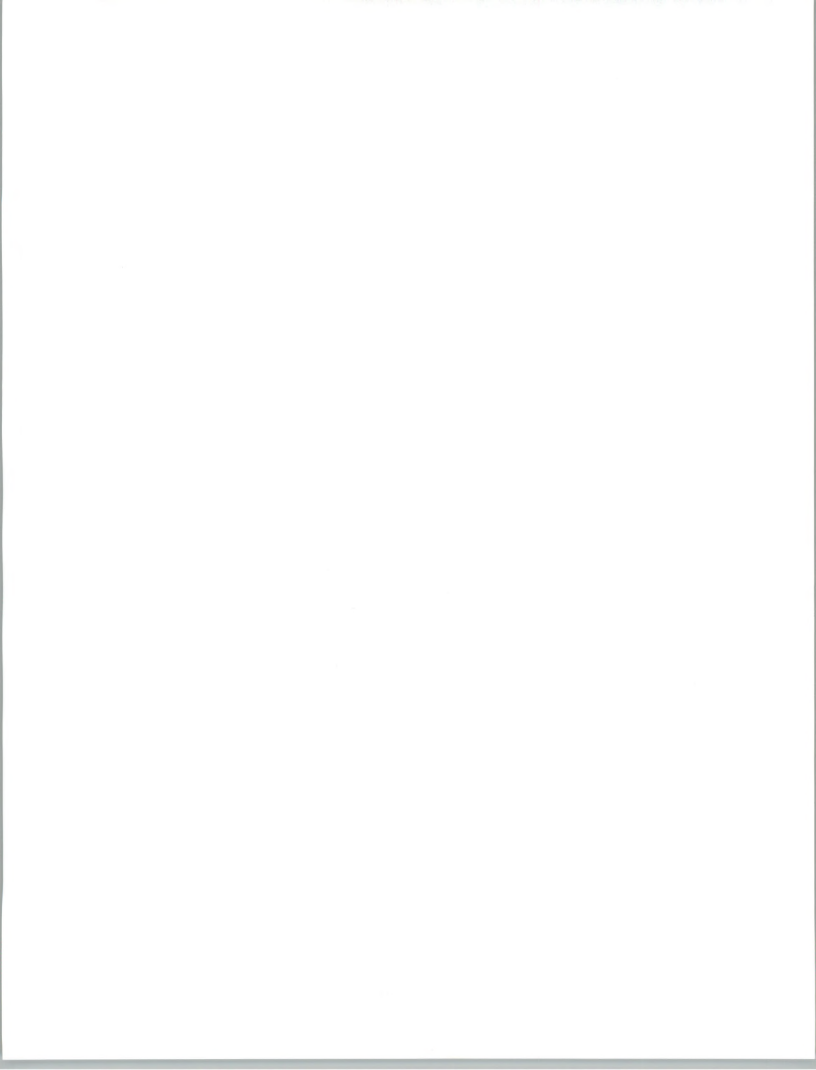
Core Electronic Commerce Client/Server Applications

- Billing
 - Intercompany (invoices)
 - IS chargeback
- Order Entry

MC3-TB-13

INPUT

Notes



Electronic Commerce Client/Server Applications

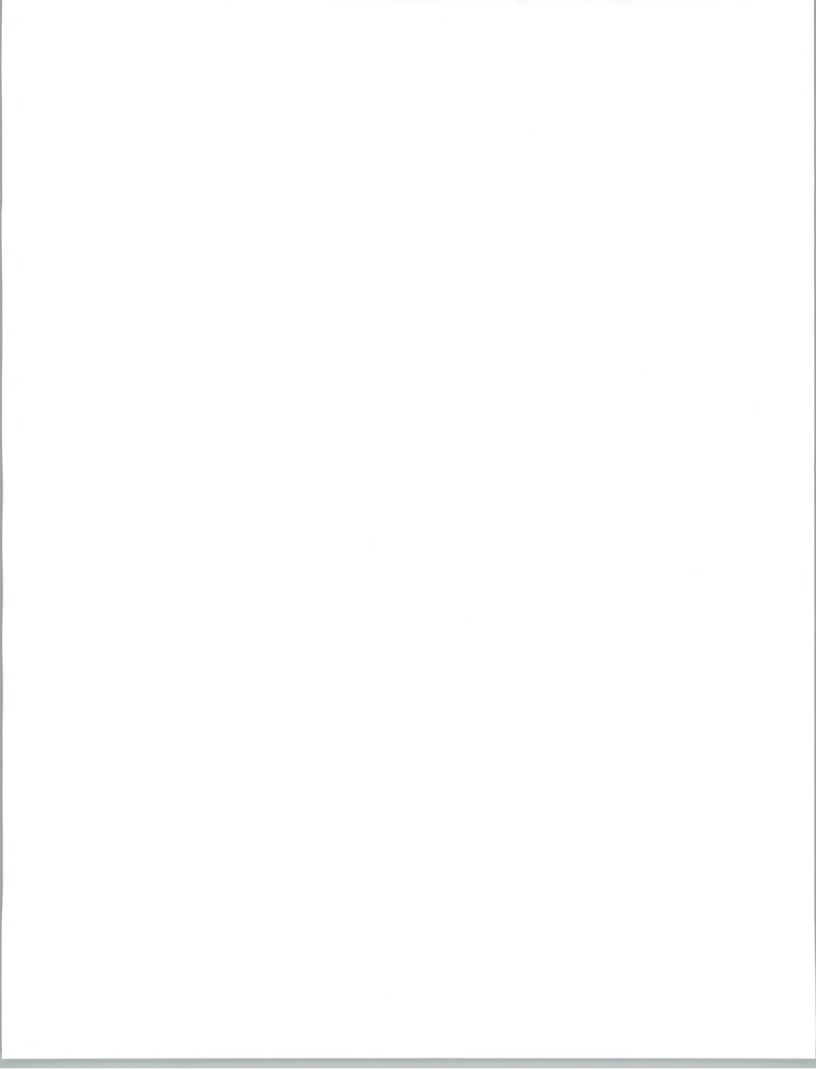
Catalogs and Directories
(pre-transaction; buyer is user)

Segment	'92-'93 Growth (Percent)	'92 Sales (\$ Millions)
Catalogs	37	130
Directories	42	12

MC3-TB-14

INPUT

Notes



Electronic Commerce Client/Server Applications

Data Warehousing and Decision Support
(post-transaction; seller is user)

Segment	'92-'93 Growth (Percent)	'92 Sales (\$ Millions)
Sales & Mktg. EIS	12	580

INPUT

MC3-TB-15

Notes

Electronic Commerce Client/Server Applications

Facsimile Servers

Segment	'91-'94 Growth (Percent)	'94 Installs (Millions)
Standalone Fax	14	15
Fax Card	129	6
Total	26	21

INPUT

MC3-TB-16

Notes

Electronic Commerce Client/Server Applications

- Electronic commerce workstations

INPUT

MC3-TB-17

Notes



Impacts of Client/Server on Electronic Commerce

Technological:

- Falling price performance
- Mass market for EC
- EDI services built into NOS
- Business process is key

INPUT

MC3-TB-18

Notes

Impacts of Client/Server on Electronic Commerce

- Decentralization of information systems/services

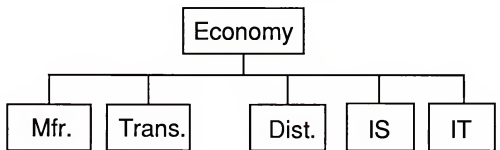
INPUT

MC3-TB-19

Notes

Decentralization of Information Systems/Services

Old Position of IS



INPUT

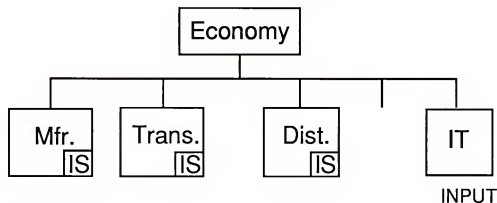
MC3-TB-20

Notes



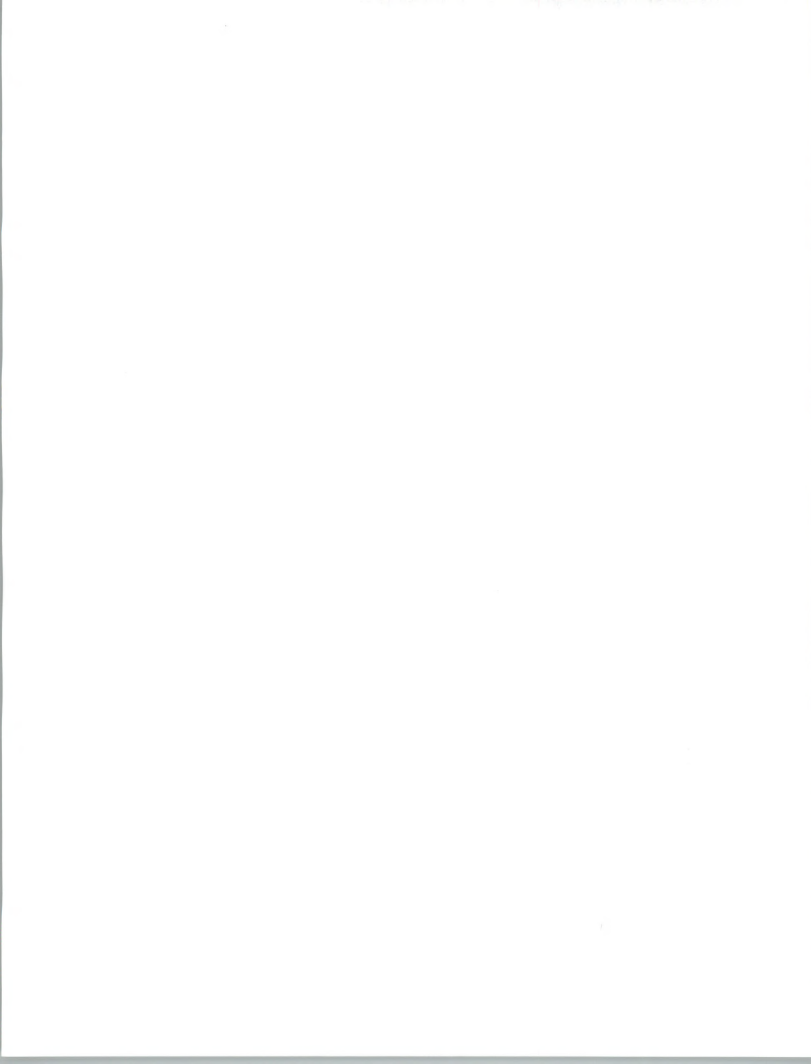
Decentralization of Information Systems/Services

New Position of IS



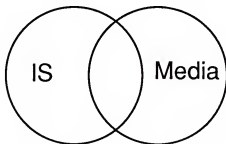
MC3-TB-21

Notes



Impacts of Client/Server on Electronic Commerce

Merging of information services
and media industries



MC3-TB-22

INPUT

Notes

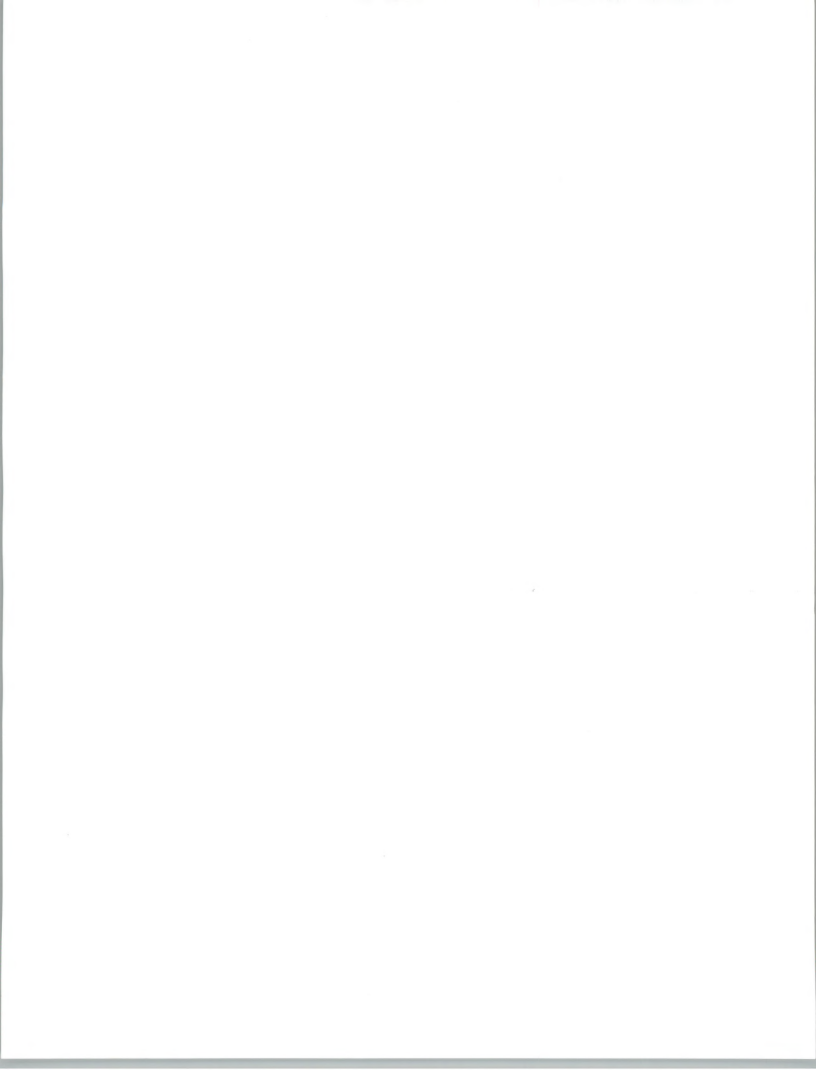
Impacts

- A new organization of the economy
 - “Macro” client/server environment
 - Virtual (network) marketplaces

INPUT

MC3-TB-23

Notes



Impacts on User Communities

Wherever information is directly a competitive advantage, SHAKE OUT

- Distribution
- Information svcs.
- High tech
- Government
- Media
- Health care
- Utilities
- Transportation/logistics

INPUT

MC3-TB-24

Notes

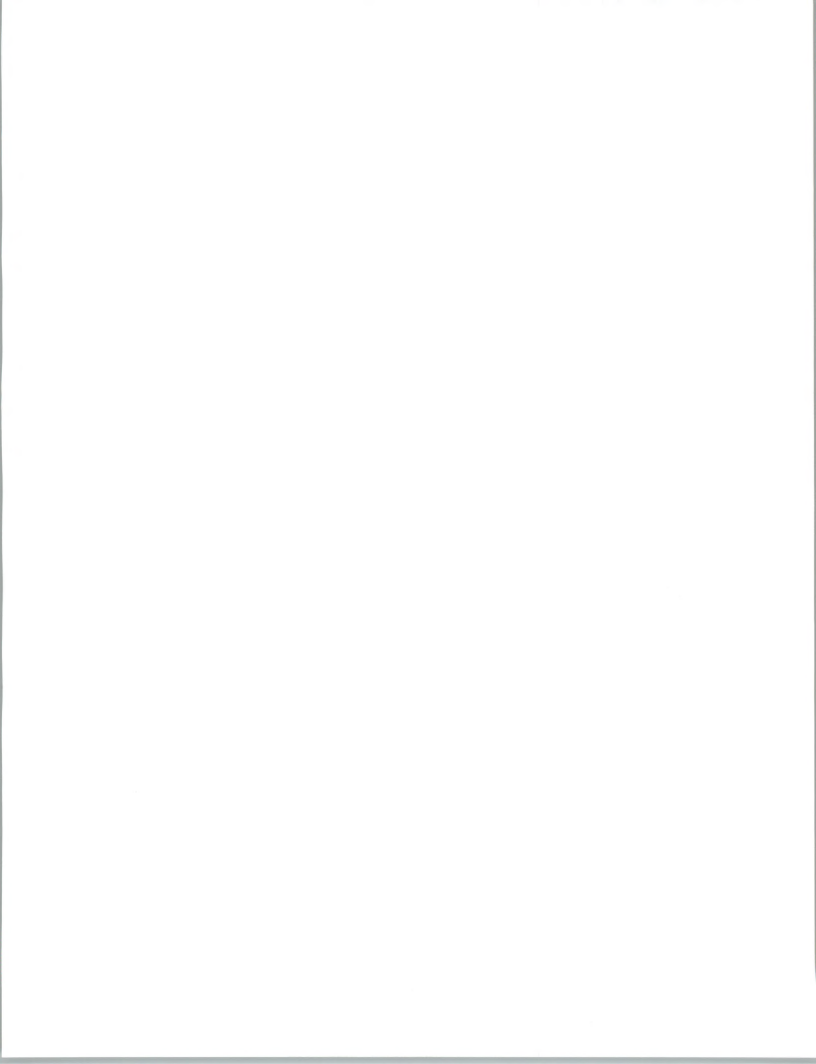
Impacts on User Communities

- Wherever material is key (manufacturing), greater outsourcing, specialization, and information intensification

INPUT

MC3-TB-25

Notes

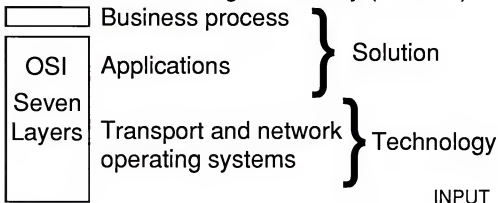


Vendor Impact

Two markets:

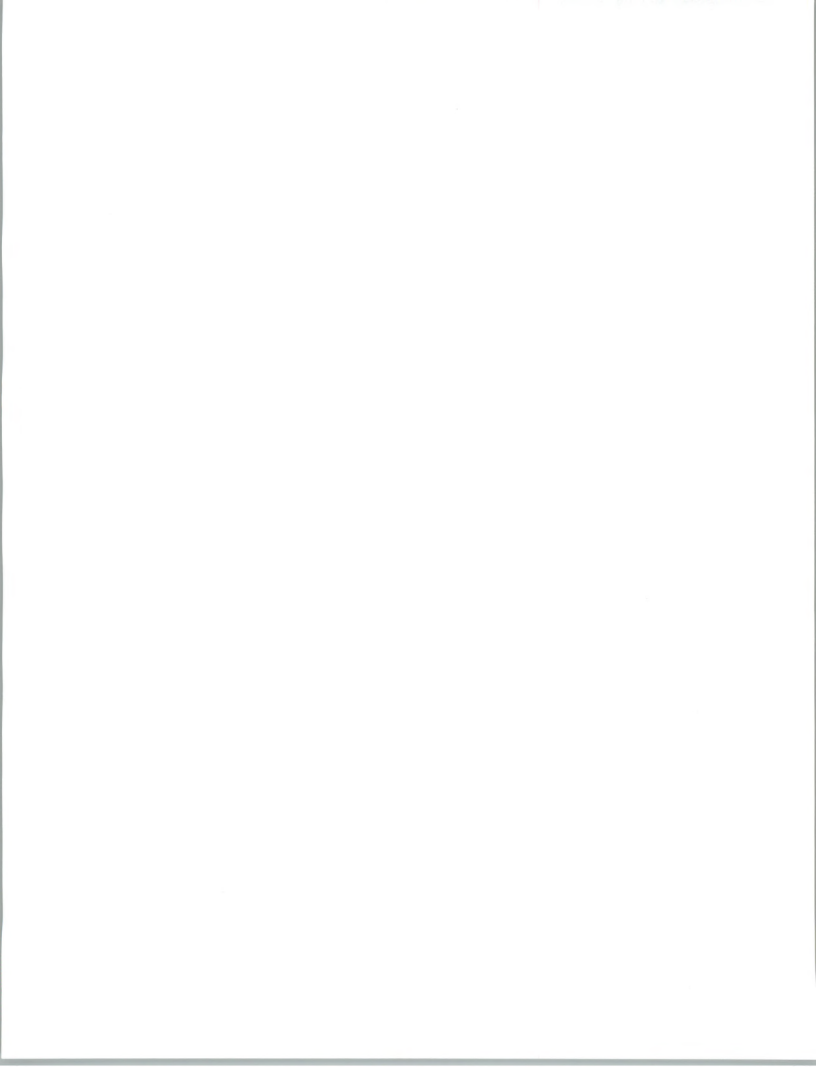
Mass market (technology)

Vertical or trading community (solution)



MC3-TB-26

Notes



Vendor Impact

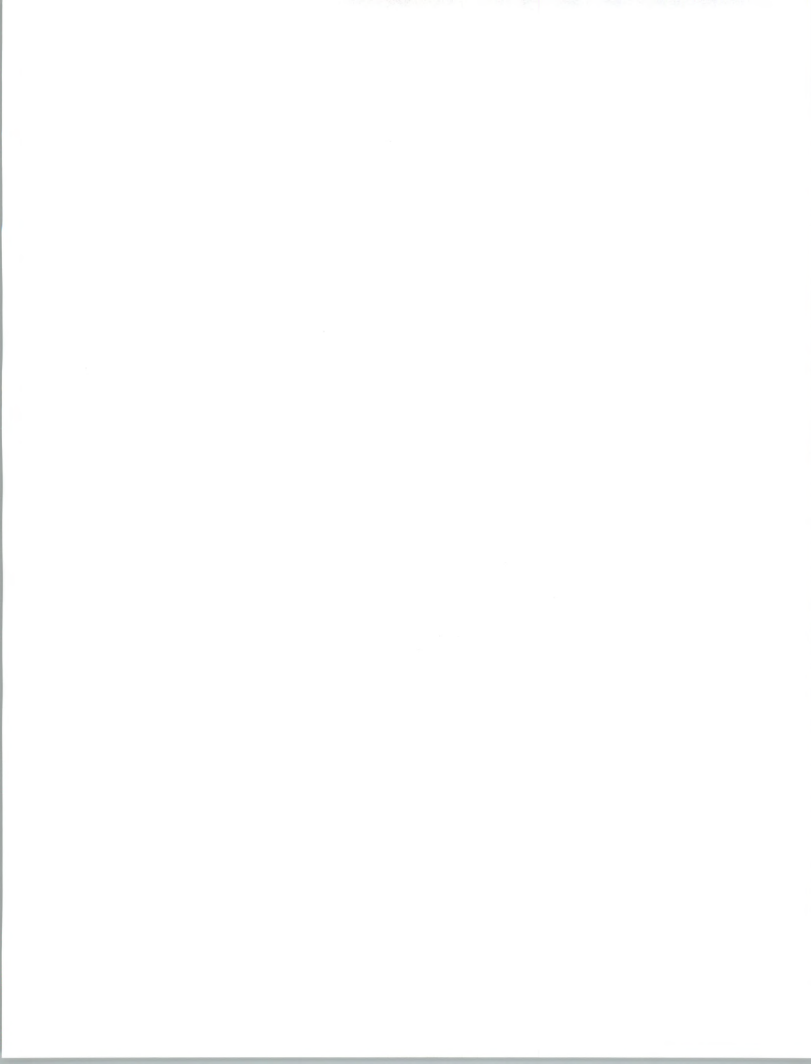
Business Solution Vendors:

Examples:	GEIS, Sterling, EDS, TI, VARs,....
Market:	Trading communities
Revenue source:	Fees, equity

INPUT

MC3-TB-27a

Notes



Vendor Impact

Business Solution Vendors:

IT offering:	Business integration services; customer support
Assets:	People, intangibles
Competitive lever:	Customer satisfaction

INPUT

MC3-TB-27b

Notes

Vendor Impact

"Technology" Vendors:

Examples:

AT&T, Microsoft,
Delrina, Intuit, D&B,
Oracle....

Market:

Mass market

Revenue source:

Royalties, per seat
fees

INPUT

MC3-TB-28a

Notes

Vendor Impact

"Technology" Vendors:

IT offering:	Utility, basic technology
<u>Assets:</u>	<u>Intellectual property</u>
Competitive lever	Negotiative/market power

INPUT

MC3-TB-28b

Notes

Conclusions

- Get on the ubiquitous network
- Charge for customer support
- Obtain industry expertise
- Make alliance with large users
- Sell to communities; belong to communities; be instrumental in communities

INPUT

MC3-TB-29

Notes

TORREY K. BYLES ***SENIOR CONSULTANT***

PROFILE

CAPABILITIES

- Ten years experience in the computer, electronics and information-systems industries.

BACKGROUND

- With INPUT, Mr. Byles provides analysis and consulting services on the market and technologies of Electronic Data Interchange and Electronic Commerce. He is responsible for INPUT's monthly EDI newsletter, researching and writing of market reports, consulting with clients and speaking on EDI topics.
- Previously, Mr. Byles wrote for trade magazines and newspapers in both staff and freelance capacities. Just prior to joining INPUT, he covered EDI for the *Journal of Commerce*, a Knight-Ridder business daily. In addition, he frequently contributed articles on EDI for *Computerworld*, *MIS Week*, and other computer and trade periodicals. Mr. Byles was a staff writer for the IEEE Computer Society, a professional organization and publisher of six computer journals. Byles has written for a variety of other magazines including *Electronic Business*, *Datamation*, *CD-ROM Librarian*, *Wilson Library Bulletin*, and *Asian Electronic News*.
- Mr. Byles has experience in marketing and promotional activities for technology, publishing and educational companies.
- Mr. Byles speaks Mandarin Chinese and was an interpreter for the 1984 Olympic Games in Los Angeles.
- Mr. Byles has lived abroad in Taiwan where he was an editor of an electronic trade magazine.
- Mr. Byles also has experience as a secondary school teacher.

EDUCATION

- B.A., Economics, University of California, San Diego.
- Graduate Program in Education, California State University, Los Angeles.



