Internet and the Information Superhighway:

Impacts on Information Systems

Internet and the Information Superhighway:

Impacts on Information Systems

INPUT LIBRARY
RECEIVED 12-94

INPUT®

Frankfurt • London • New York • Paris • San Francisco • Tokyo • Washington, D.C.

Published by
INPUT
1881 Landings Drive
Mountain View, CA 94043-0848
U.S.A.

Internet and the Information Superhighway—Impacts on Information Systems

Copyright © 1994 by INPUT. All rights reserved.
Printed in the United States of America.
No part of this presentation may be reproduced or distributed in any form, or by any means, or stored in a data base or retrieval system, without the prior written permission of the publisher.

The information provided in this presentation shall be used only by the employees of and within the current corporate structure of INPUT's clients, and will not be disclosed to any other organization or person including parent, subsidiary, or affiliated organization without prior written consent of INPUT.

INPUT exercises its best efforts in preparation of the information provided in this presentation and believes the information contained herein to be accurate. However, INPUT shall have no liability for any loss or expense that may result from incompleteness or inaccuracy of the information provided.

Internet and the Information Superhighway

Impacts on Information Systems

MMONc-1

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.

Peter Cunningham
President and CEO
INPUT

MMONc-2

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.

In This Presentation

- Current U.S. situation in government/ private sector
- Viability of the Internet
- Commercial services on the Internet
- Impacts on information systems
- Impacts on information services market
- Key market players

MMONc-3

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

U.S. Government and the Internet

- Vice President (VP) Al Gore and the National Information Infrastructure (NII)
  - Internet promoted as the national backbone
  - Primary targets: Health, Education, Social Services

MMONc-4

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

U.S. Government and the Internet

- VP Al Gore and the NII
  - Business demonstrations (e.g., $6 Million grant for CommerceNet)
  - Initially for catalog sales
  - Applications growing: Electronic Commerce

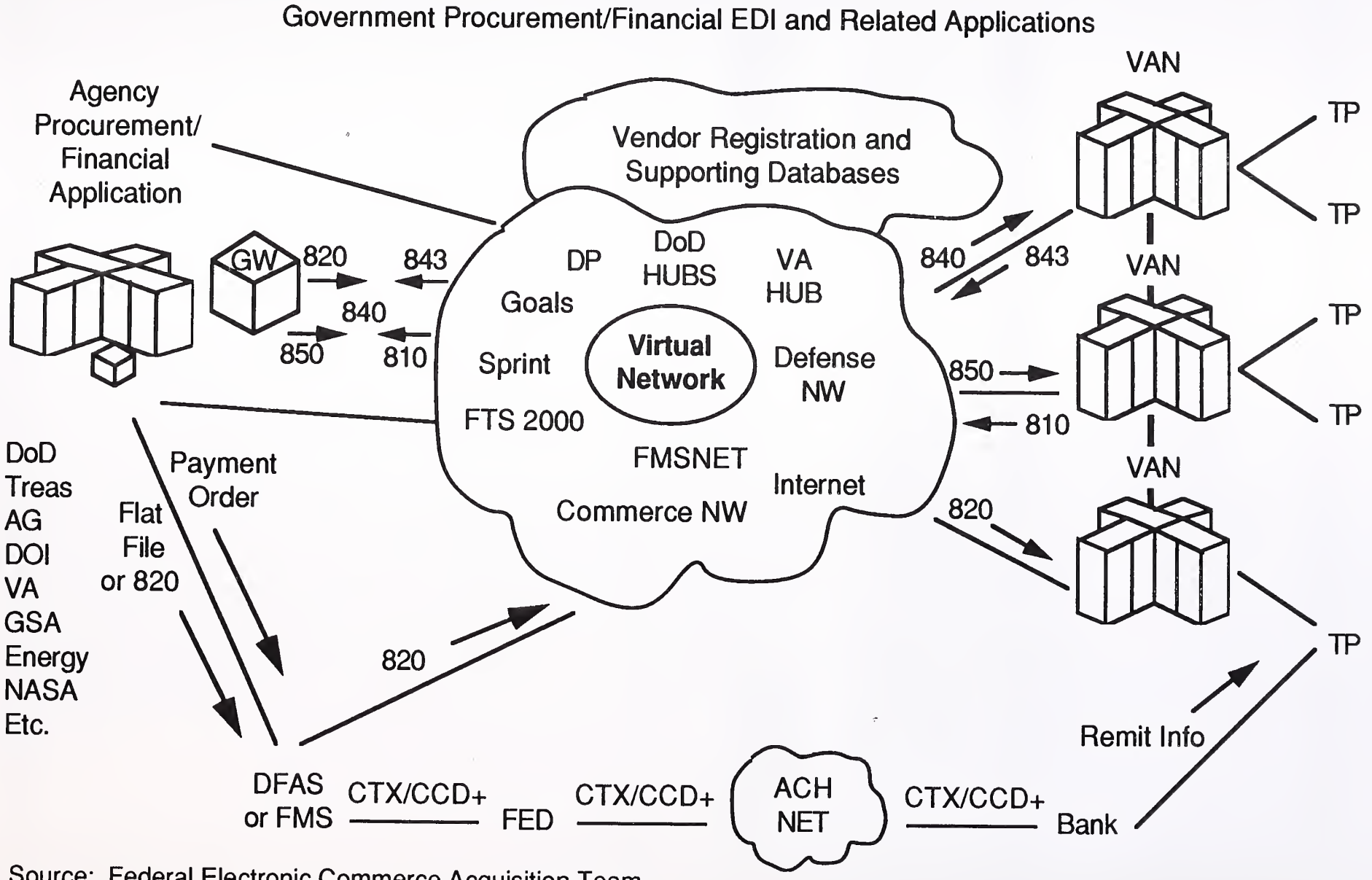
MMONc-5

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Target Electronic Commerce Architecture



Source: Federal Electronic Commerce Acquisition Team

U.S. Government

NPR IT accompanying report. Three major parts:

I. Strengthen leadership in information technology
II. Implement "Electronic Government"
III. Establish support mechanisms for the "Electronic Government"

MMONc-7

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.

Part I: Strengthen Leadership in Information Technology

Provide clear, strong leadership to integrate information technology into the business of government

- Government information technology services working group
- "Empowered" interagency teams

MMONc-8

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.

Part II: Implement "Electronic Government"

- Provide intergovernmental tax filing, reporting and payments processing
- Establish an international trade data system
- Create a national environmental data index
- Plan, demonstrate and provide government-wide electronic mail

MMONc-9

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Part II: Implement "Electronic Government"

- Virtual agency themes
- Seven illustrative cross-agency programs
- National integrated electronic benefits transfer
- Develop integrated electronic access to government information and services
- Establish a national law enforcement/public safety network

MMONc-10

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Part III: Establish Support Mechanisms for the "Electronic Government"

Establish an information infrastructure

- GITS (NII, GII and gsii)
- Share "IT" resources

MMONc-11

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet
Value-Added Services

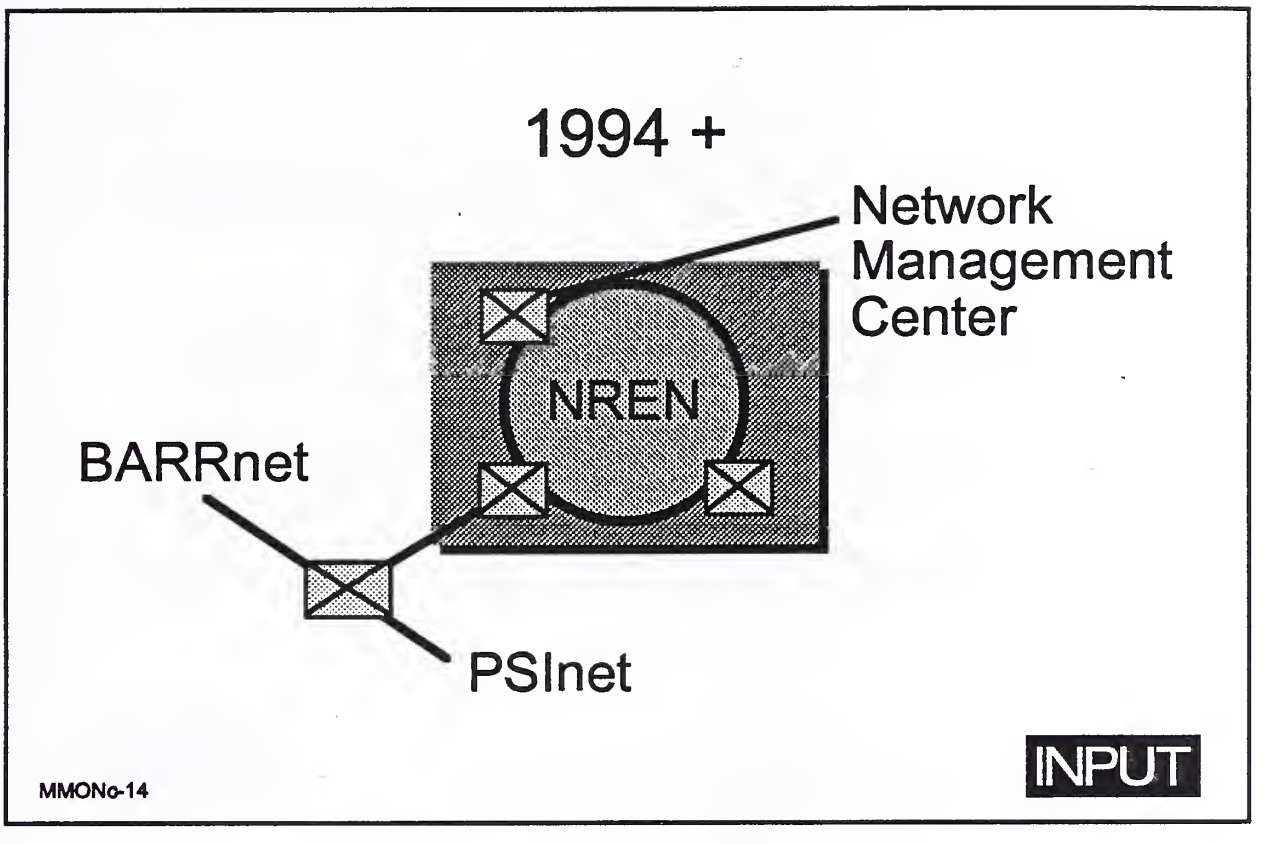
- Usenet News
- Gopher
- WAIS
- WorldWideWeb
- Mosaic

MMONc-13

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.



Notes:

© 1994 by INPUT. Reproduction Prohibited.

1994 +

1993 HPCA replaced NSFNet funding

- Gbit backbone network to interconnect super computer centers
- Network access point (NAP) will provide AUP gateway
- Schools, colleges, non-profits can apply for NREN grants

MMONc-15

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.

Value-Added Application Pilots

- MCC's enterprise integration network (EIN)
- CommerceNet
- MecklerWeb

MMONc-16

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.

Is the Internet a Viable National Network?

- Pros
  - Low cost access
  - Collective management
  - Accessible by all industry types

MMONc-17

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Is the Internet a Viable National Network?

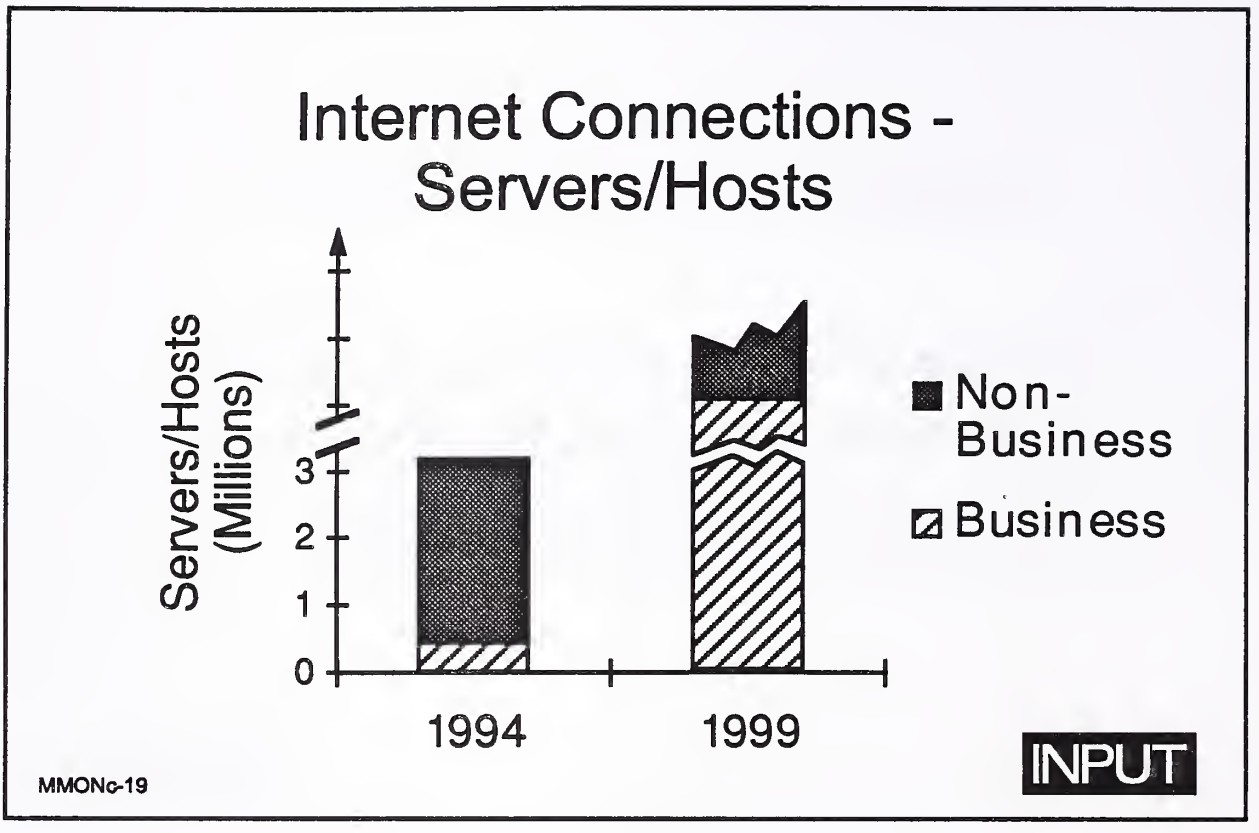
- Cons
  - Security/unreliable delivery remain issues
  - Searches are difficult in a sea of information
  - Relies on vendor agreement to work
  - Limits on capacity (time, bandwidth)

MMONc-18

INPUT

Notes:

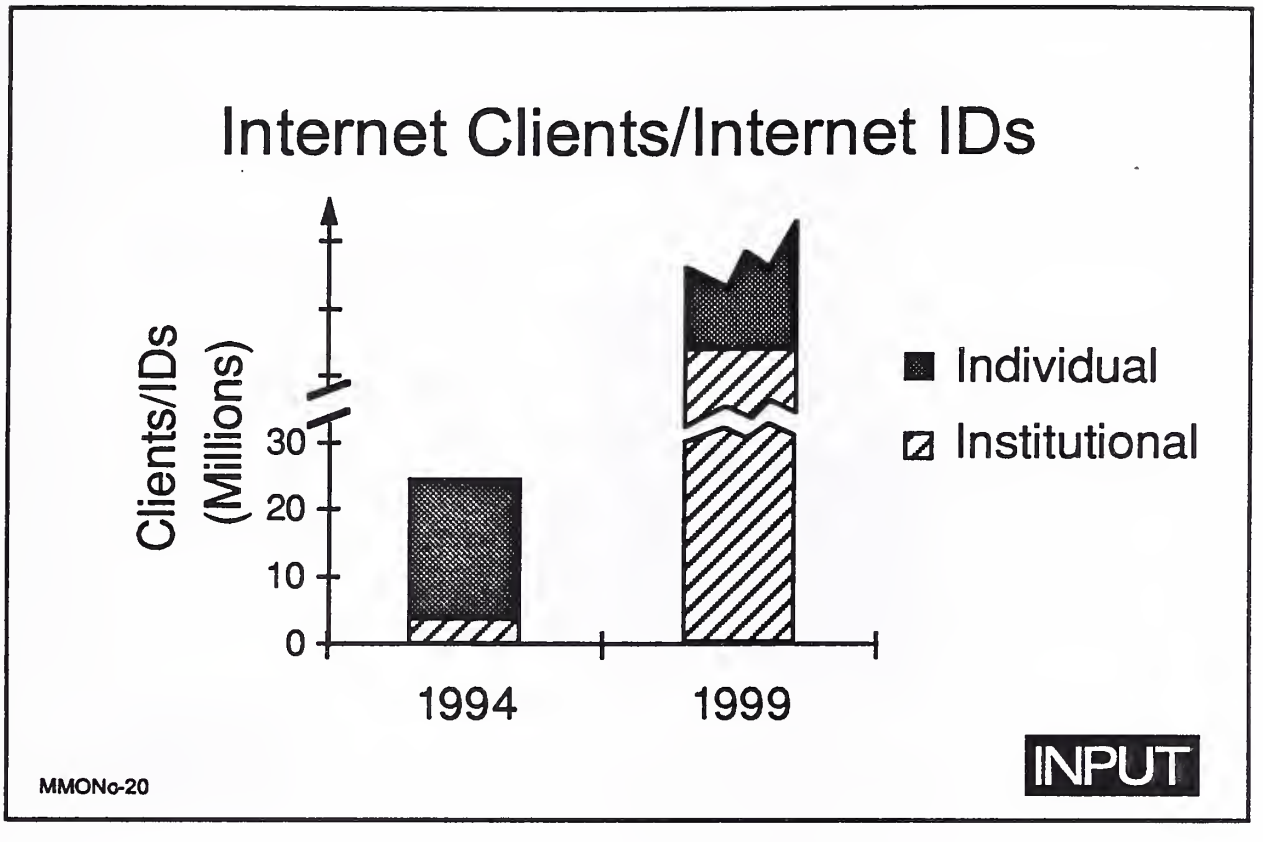
© 1994 by INPUT. Reproduction Prohibited.



Notes:

1994: 20K business servers/hosts
3 M non-business servers/hosts

© 1994 by INPUT. Reproduction Prohibited.

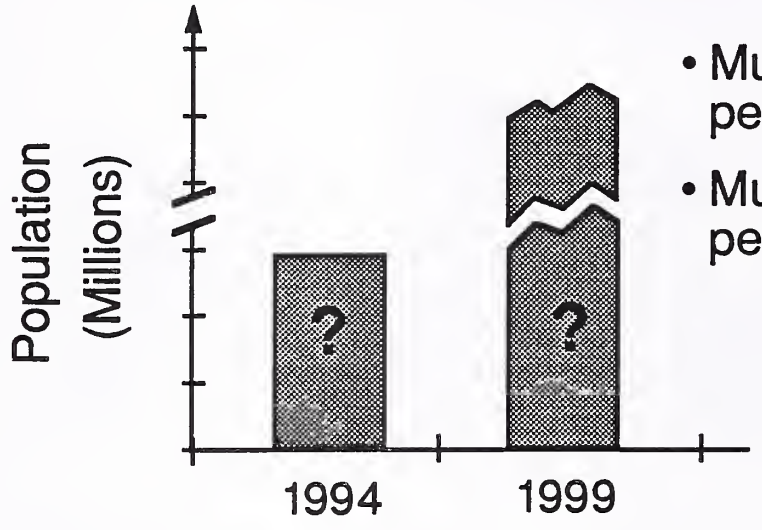


Notes:

1994: 1 million institutional
23 million individual

© 1994 by INPUT. Reproduction Prohibited.

Internet Population



- Multiple devices per person
- Multiple people per device

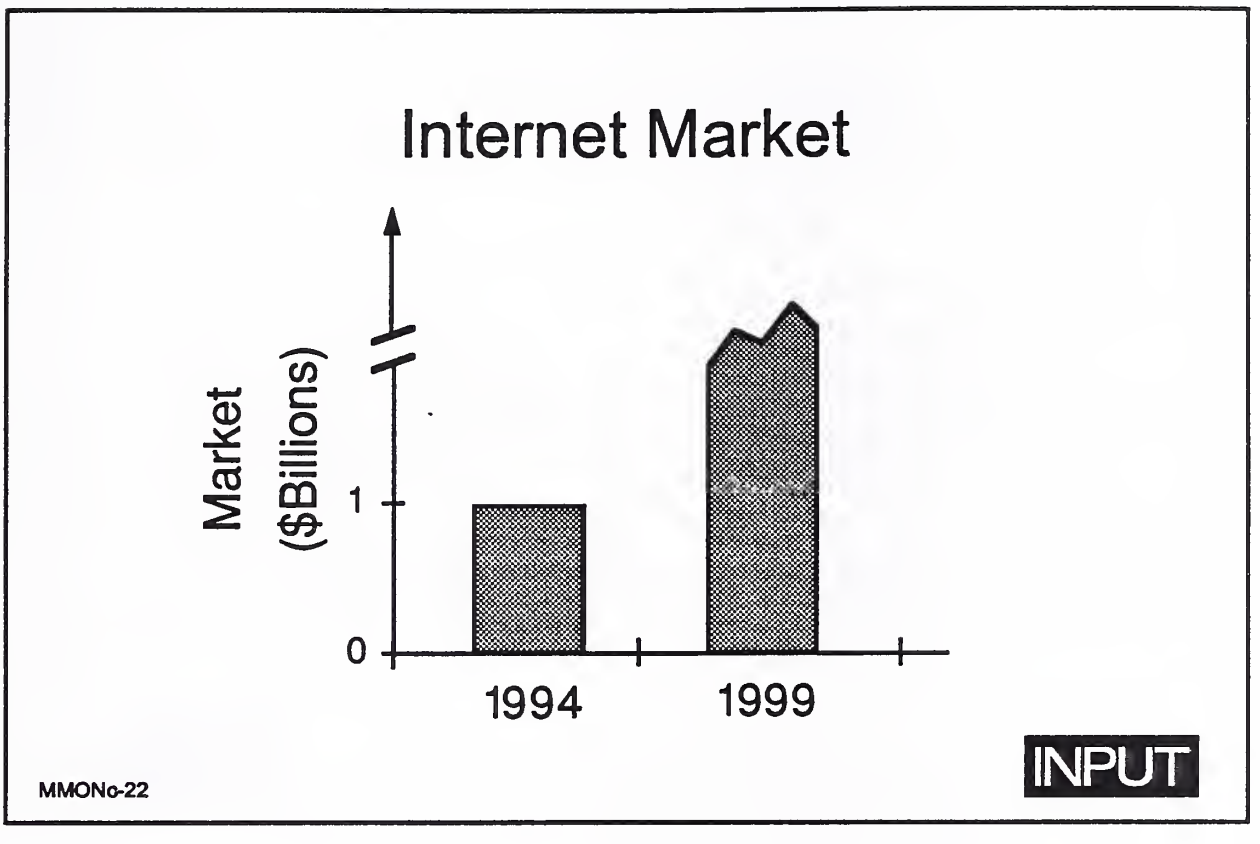
MMONc-21

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.



Notes:

1994 user expenditures approximately $1 billion.

© 1994 by INPUT. Reproduction Prohibited.

Internet Market

- 1994 - $1 billion
- 1999 -

User Expenditure per month	1999 Market Size
$5	$12 Billion
$50	$120 Billion
$500	$1,200 Billion

MMONc-23

INPUT

Notes:

8/94

© 1994 by INPUT. Reproduction Prohibited.

What Will You Get?

- Interactive TV
- Entertainment
- Videoconferencing
- Education
- Communications/BBS
- .....
- Banking
- Security
- Insurance
- Retailing
- Government

MMONc-24

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Electronic Commerce and the Internet

- U.S. Business-to-Business Transactions
  - $3.3 Trillion in 1994
  - $4.3 Trillion in 1999
- Electronic Commerce Component
  - $60 Billion (2%) in 1994
  - $250 Billion (6%) in 1999

MMONc-25

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Electronic Commerce and the Internet

- Internet-related electronic commerce
  - 1994: $500 million (<1%)
  - 1999: $50 billion (20%)

MMONc-26

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Commercial Services Via the Internet

- Access (phone dial-up to satellite, high-speed fiber)
- Basic: File transfer, e-mail, fax, remote computer access

MMONc-27

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Commercial Services Via the Internet

- Other:
  - Information browsing, searching, delivery, archiving
  - Real-time interactions

MMONc-28

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Commercial Services Via the Internet

- Other:
  - Multicasting of audio and video programs
  - Directory look-up

MMONc-29

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet/Superhighway Impact on Information Systems

- EDI:
  - Dramatic increase in use
  - Elimination of niche vendors
  - EDI standards developed by consensus

MMONc-30

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet/Superhighway Impact on Information Systems

- CALS
  - Internet "environment" is a major enabler
  - High perceived potential
    - New uses for CALS (e.g., health area)
    - Standards work continues; improved access
    - CSC major U.S. commercial contract

MMONc-31

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet/Superhighway Impact on Information Systems

- Mosaic
  - Used for surveys, databases, subscriptions
  - Vendors: Spry, Netcom, Netscape Communications
  - Will be one of many "browsers" for Internet
  - Agent market will explode

MMONc-32

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet/Superhighway Impact on Information Systems

- WorldWideWeb
  - Will grow rapidly
  - Linked multimedia documents; like highway billboards
  - Problem: disorganized searching (hence the name "WEB")
  - Users: technology vendors, electronic mall users, colleges
  - Vendors: Infoseek, TRW

MMONc-33

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet/Superhighway Impact on the Information Systems Industry

- Dramatic behavioral impact on corporate IS
- Vendors responding to customer requests for access/integration with Internet
- Standards activity increases
- Backbone upgrades are ongoing
- Security and encryption improves steadily
- Market will leap when standards/security issues resolved

MMONc-34

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Impact on Network Services Companies

- Negatives
  - Reduced prices
  - Content owners will offer their own Internet connections
  - Increased competition
  - Value of proprietary systems will decline

MMONc-35

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Impact on Network Services Companies

- Positives
  - Access to a broader client base
  - Value in cross-content analysis
  - Opportunity for new products/services

MMONc-36

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Conclusion

- Traditional services will shrink
- New vendors will take market share, e.g.,
  - Marvel
  - Disney
  - TCI
  - MCI
- Just like mainframe vs. client/server vendors

MMONc-37

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet/Superhighway Impact on Software Providers

- Each new Internet user is a target
- Bulk of commercial users will stay on commercial networks (VANs)
- Current management and history make evolution into a corporate network option unlikely:
  - Businesses prefer virtual private network
  - Federal government won't use for EC
  - Managed "by committee"
  - Low security/reliability

MMONc-38

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Internet/Superhighway Impact on Professional Services (PS)

- Internet explodes possible integration and reengineering opportunities
- Additional tool for professional services use to solve client problems.
- For many applications
  - Greater connectivity
  - New class of leverageable solutions
- May encourage "do it yourself" client attitudes at midrange level, with risk to PS revenues

MMONc-39

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

Key Market Players

- CommerceNet
- AOL
- Global Internet Access Corp.
- BBN
- Others: CIX, NSFnet; PSINet; ESNET

MMONc-40

INPUT

Notes:

© 1994 by INPUT. Reproduction Prohibited.

INPUT®

INTERNATIONAL IT INTELLIGENCE SERVICES

Clients make informed decisions more quickly and economically by using INPUT's services. Since 1974, information technology (IT) users and vendors throughout the world have relied on INPUT for data, research, objective analysis and insightful opinions to prepare their plans, market assessments and business directions, particularly in computer software and services.

Contact us today to learn how your company can use INPUT's knowledge and experience to grow and profit in the revolutionary IT world of the 1990s.

SUBSCRIPTION SERVICES

- Information Services Markets
  - Worldwide and country data
  - Vertical industry analysis
- Business Integration Markets
- Client/Server Applications and Directions
- Client/Server Software
- Outsourcing Markets
- Information Services Vendor Profiles and Analysis
- EDI/Electronic Commerce
- U.S. Federal Government IT Markets
- IT Customer Services Directions (Europe)

SERVICE FEATURES

- Research-based reports on trends, etc. (More than 100 in-depth reports per year)
- Frequent bulletins on events, issues, etc.
- 5-year market forecasts
- Competitive analysis
- Access to experienced consultants
- Immediate answers to questions
- On-site presentations
- Annual conference

DATABASES

- Software and Services Market Forecasts
- Software and Services Vendors
- U.S. Federal Government
  - Procurement Plans (PAR, APR)
  - Forecasts
  - Awards (FAIT)

CUSTOM PROJECTS

For Vendors—analyze:

- Market strategies and tactics
- Product/service opportunities
- Customer satisfaction levels
- Competitive positioning
- Acquisition targets

For Buyers—evaluate:

- Specific vendor capabilities
- Outsourcing options
- Systems plans
- Peer position

OTHER SERVICES

Acquisition/partnership searches

INPUT WORLDWIDE

Frankfurt
Sudetenstraße 9
D-35428 Langgöns-Niederkleen
Germany
Tel. +49 (0) 6447-6055
Fax +49 (0) 6447-7327

London
17 Hill Street
London W1X 7FB
England
Tel. +44 (0) 71 493-9335
Fax +44 (0) 71 629-0179

New York
400 Frank W. Burr Blvd.
Teaneck, NJ 07666
U.S.A.
Tel. 1 (201) 801-0050
Fax 1 (201) 801-0441

Paris
24, avenue du Recteur Poincaré
75016 Paris
France
Tel. +33 (1) 46 47 65 65
Fax +33 (1) 46 47 69 50

San Francisco
1881 Landings Drive
Mountain View
CA 94043-0848
U.S.A.
Tel. 1 (415) 961-3300
Fax 1 (415) 961-3966

Tokyo
Saida Building, 4-6,
Kanda Sakuma-cho
Chiyoda-ku, Tokyo 101
Japan
Tel. +81 3 3864-0531
Fax +81 3 3864-4114

Washington, D.C.
1953 Gallows Road
Suite 560
Vienna, VA 22182
U.S.A.
Tel. 1 (703) 847-6870
Fax 1 (703) 847-6872

M&S 459/01 11/94