CompuServe is a leader in the development of innovative multi-user data communication solutions for business. Commercial, industrial and government organizations of all sizes turn to CompuServe for:

- Value-Added Packet-Switched Data Network Services
- Electronic mail
- Electronic Data Interchange (EDI) services
- Other electronic information exchange services
- Decision support and database management systems
- Financial analysis database access
- News and news retrieval services

The CompuServe Software Products Division consists of CompuServe Data Technologies, Collier-Jackson, Incorporated, and Access Technology, Inc. The products of these acquisitions complement our existing business services offerings and strengthen CompuServe's position throughout the mainframe and minicomputer software markets.

CompuServe also offers the fastest-growing general interest public information service of its kind. The CompuServe Information Service unites personal computer owners worldwide, linking them to online offerings from travel planning and financial transaction services, to information retrieval from reference databases and shopping on The Electronic Mall.¹

For more information about CompuServe Value-Added Packet-Switched Data Network Services or other CompuServe services, contact a CompuServe branch office near you:

CA Los Angeles
Orange County
San Francisco
Santa Clara
CT Westport
FL Miami
GA Atlanta
IL Chicago
IN Indianapolis
MA Boston
MI Detroit
MN Minneapolis
MO St. Louis
NJ Rochelle Park
NY New York City
OH Cleveland
Columbus
Toledo
PA Pittsburgh
Philadelphia
TX Dallas
Houston
DC Reston, VA

CompuServe
5000 Arlington Centre Blvd.
Columbus, Ohio 43220
614 457-8600
An H&R Block Company
For over a decade, CompuServe has been trusted by leading organizations to help implement systematic data communication services that connect dispersed customers, suppliers and employees to host computer resources.

CompuServe helps companies in every major industry face day-to-day data communication challenges:

**Organizational Challenges**
- The increased expectations and growth of remote user segments
- The proliferation of PCs, auto-dial modems and scripting software
- The demand for interactive computer access—days, nights and weekends

**Market Challenges**
- The burden of keeping pace with the company's strategic plans and the automated computer services of competitors
- The struggle to stay abreast of current technology
- The search among fragmented vendor alternatives for the right product and support mix

**Resource Challenges**
- The difficulty of predicting and tracking computer access by application and by group
- The escalating cost of leased lines
- The priorities of staff, budget and time
Our customers enjoy benefits company-wide:

Executive Officers
Achieve control and long-term predictability of costs.

"Anymore, a lot of our business is done through moving data. Cost is important, but we have to rely on a company who will be around for the long-term. We see CompuServe as a solid partner who helps us control our costs and innovate through tremendous personal attention. While their local people do most of the problem-solving and research of our needs, we also share ideas with their upper management on a regular basis. They understand us, and I like that."

MIS and Telecommunication Directors
Successfully implement comprehensive data communication plans.

"We don't want to have to build our own telephone company. The service I buy from CompuServe meets today's reliability standards and automatically upgrades to keep me state-of-the-art. It also saves staff time, eliminates constant hardware upgrades and maintenance, and complements my own systematic monitoring programs. We bring all our dial traffic through CompuServe—mostly local calls. They do all the switching and multiplexing. We order enough high speed host links to handle our peak load, then they help us understand what our traffic looks like so we can plan for new users in a logical way."

Marketing Managers
Build company recognition as innovators behind aggressive marketing services.

"Nowadays, being able to expedite the delivery of sensitive information to all corners of the world is not just a reason you get business, it's how you keep it. That's why we consider the CompuServe data network vital to our business strategy. By equipping sales personnel to communicate with customers and marketing support staff outside traditional office hours, and by providing them with remote access to central host applications, we create a climate for more responsive service to our accounts."

End Users
Approve and embrace better remote access service.

"It doesn't take an expert to realize that when we experience less downtime, dial fewer busy signals, and enjoy consistent network response, we're more productive and more satisfied. With CompuServe, we hardly even know we're using a dial-up network. And when there is a problem, they tell us what's wrong and talk to us until it's fixed."
**CompuServe**

**Value-Added Packet-Switched Data Network Services**

**END USER ACCESS**

**Public or Private Access Rotaries**
- Target no busy signals during the peak hour on all public ports
- Reach over 85% of the U.S. population with local dial access to CompuServe Network Sites
- Compatible with all microcomputers
- Serve any asynchronous terminal device or terminal concentrator
- Operate at 300–9600 bps
- Support local loop error-correcting protocols
- Offer private telephone numbers or dedicated circuits for private ports
- Incorporate bypass technologies

**Point of Service (POS) Access Rotaries**
- Serve POS devices only
- Permit the bypass of a network log-on sequence
  - Banking Identification Number (BIN)
  - CompuServe Routing Indicator (CRI)
- Support all major transaction types (i.e., debit, credit, private label, etc. For example, Visa® uses CompuServe for nationwide bankcard authorization)
- Operate at 300–1200 bps

**Local Area Network Interfaces**
- Provide X.25 access
- Support asynchronous access (dial-up or dedicated)

*Visa and the Three Bands Design are registered service marks of Visa International Service Association.*
Built to military specifications (design, assembly and production of hardware and software) and serviced by CompuServe.

- Power supply backup
- Requires no specific environmental conditions
- Performs error-checking and routing of data packets, code conversion, multiplexing and monitoring
- Recognizes all other micronodes as peers
- Least-time path to required destination
- Real-time dynamic routing
- Virtual circuit technology
- Full backbone and switch redundancy, without central routing supervision
- Responds to restart and reload signals from remote Network Control Centers
- Automatically reports error rates and trouble conditions

**Micronode Routing Table**

<table>
<thead>
<tr>
<th>Host Name</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>xx-yy</td>
<td>1</td>
</tr>
<tr>
<td>xx-zz</td>
<td>2</td>
</tr>
<tr>
<td>xx-aa</td>
<td>6</td>
</tr>
<tr>
<td>xx-bb</td>
<td>5</td>
</tr>
</tbody>
</table>

**Backbone Link**

- Speeds from 9600 bps to 56K bps to T1
- Redundant terrestrial and satellite architecture

**Domestic Gateways**

- Domestic Public Data Networks
Network Control Centers
- 24-hour monitoring
- Network diagnostics
- Remote node restart and reload

International Gateways
- International Public Data Networks

Packet
- Error checking bit
- Data
- Address

Network alarm signals
Toll-free assistance and technical troubleshooting
HOST CONNECTION PROTOCOLS

**Asynchronous**
- Recognizes 7 or 8 bit ASCII data
- Provides hardware and software flow control
- Replaces modems
- Controls remote terminal and PAD support by setting parameters similar to X.3 (via tandem sequence and network command codes that substitute for X.29 and X.28 network command sets)

**X.25**
- Follows 1980/84 CCITT recommendations
- Supports extended set of terminal parameters
- Provides X.3 (1980/84) terminal parameter support
- Provides link level control for HDLC LAP/LAPB
- Supports X.121 addressing

**SNA/SDLC and Bisynchronous**
- Provides full screen IBM 3278 emulation
- Provides 3270 and 5250 emulation
- Compatible with most PCs or asynchronous terminals
- Permits file transfers
- Serves local printers
- Enables local echo
- Supports extended screen and local editing control for IBM PCs