4.2.14 Private Network Solutions/PBXs

COMPANY NAME	PRODUCT NAME	Size Range (Ports) up to 36,000 lines (max 166 PRI interfaces)
AT&T Global Business Communications Systems 211 Mt. Airy Road Basking Ridge, NJ 07920	DEFINITY ® G3V3 Communications System	Price: varies by model and size NI-1 Date: NI-2 Date: 1994
Voice features: Display Speakerphone Feature Keys many other voice features available	Circuit-Data features: 56/64 Kbps Nx64 Wideband Split and combine B channels? Nx64 ($N \leq 31$) H0 (384 Kbps) H_{11} (1.536 Mbps) H_{12} (1.920 Mbps) Bonding? Yes w/Inv Mux.	Packet Data features:
	Data bridge? Yes (pt.to pt.)	
BRI Interfaces: AT&T, ANSI	PRI Interfaces: AT&T, NI-2, ETSI, ANSI, ECMA	Data Interfaces: RS-232, DCP, V.35 (w/TA)

Additional Features:

- Non-Facility Associated Signaling (NFAS)
  (PRI = mB+D, where $1 \leq m \leq 479$)
- D-Channel Backup
- Message-Associated User-to-User Information (MAUUI)
- B-Channel Negotiation
- Temporary Signaling Connections (TSCs)
- Selected ECMA Supplementary Services
- PRI interface certified in 5 overseas countries (as of Aug '93)
- Nx64 requires inverse multiplexer or PRI Terminal Adapter

4.2.14 Private Network Solutions/PBXs

<table>
<tr><td>COMPANY NAME</td><td>PRODUCT NAME</td><td>Size Range (Ports)</td></tr>
<tr><td rowspan="3">Communication Satellite
Corporation, Inc. (COMSAT)

22300 Comsat Drive
Clarksburg, MD 20871

Wayne Redman
(301) 428-4480</td><td rowspan="3">COMSAT ISDN
Satellite Switch
Model 9200

ISDN switch
for satellite networks</td><td>Price:</td></tr>
<tr><td>NI-1 Date:</td></tr>
<tr><td>NI-2 Date:</td></tr>
<tr><td rowspan="2">Voice features:</td><td>Circuit-Data features:

Split and combine
B channels?

Bonding?</td><td>Packet Data features:</td></tr>
<tr><td>Data bridge?</td><td></td></tr>
<tr><td>BRI Interfaces:</td><td>PRI Interfaces: 4</td><td>Data Interfaces:</td></tr>
<tr><td colspan="3">Additional Features:
• Supports up to 4 PRI interfaces
• Circuit mode voice and data.
• Remote configuration, diagnostics, and performance analysis available</td></tr>
</table>

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4.2.14 Private Network Solutions

COMPANY NAME	PRODUCT NAME	Size Range (Ports) 100 - 1500 timeslots
Intecom, Inc. Corporate Headquarters Liberty Plaza 5057 Keller Springs Road Dallas, TX 75248 (214) 447-9000 Sydney Burton, Product Mgr.	TELARI	Price: NI-1 Date: 1Q94 NI-2 Date: 1Q95
Voice features: Hold, Conference, Transfer, Drop, Call Waiting, Callback Busy Recall, Camp-on, Call Forward All/Busy/No Answer, Do Not Disturb, Abbreviated Dial, Last Number Redial, Call Pickup, Call Park, Silent Monitor, Busy Override, Cancel Transfer/Call-back, Incoming Call Display, Dialed Number Display	Circuit-Data features: • Sync or Async data calls to ISDN or prop devices • V.120 Rate Adaption Split and combine B channels? 23B+D Bonding? Yes through end systems Data bridge? No	Packet Data features: • D channel on demand - throughput up to 9600 baud • B channel provisioned - throughput up to 64 Kb • Closed user group IPGs Supported: Future Enhancement
BRI Interfaces: S/T	PRI Interfaces: 4ESS, 5ESS, DMS-100, DMS-250	Data Interfaces: RS-232-C, RS-449, V.35, RS-366, X.25, Switched 56 Kbps, FDDI, Ethernet

Additional Features:

- BRI implementation initially based on AT&T 5ESS - 5E6
- BRI interworks with terminal equipment available from several vendors, list available on request
- PRI card has on-board CSU; supports both D4 framing and ESF formats and both AMI and B8ZS line encoding
- PRI Call-by-Call Service Selection
  PRI Calling Line Identification
- Support of ISDN/Telephony dial plans including 7D, 10D, DID and international as well as private network dial plans including NNP and directory numbers
- Support of Intecom Feature Transparency over private PRI facilities
- Support of keypad and keyboard originated PRI channel data calls
- Support of modem calling over B-channels

4.2.14 Private Network Solutions

COMPANY NAME	PRODUCT NAME	Size Range (Ports) 300 - 2000 timeslots
Intecom, Inc. Corporate Headquarters Liberty Plaza 5057 Keller Springs Road Dallas, TX 75248 (214) 447-9000 Sydney Burton, Product Mgr.	IBX S/10	Price: NI-1 Date: 1Q94 NI-2 Date: 1Q95
Voice features: Hold, Conference, Transfer, Drop, Call Waiting, Callback Busy Recall, Camp-on, Call Forward All/Busy/No Answer, Do Not Disturb, Abbreviated Dial, Last Number Redial, Call Pickup, Call Park, Silent Monitor, Busy Override, Cancel Transfer/Call-back, Incoming Call Display, Dialed Number Display	Circuit-Data features: • Sync or Async data calls to ISDN or prop devices • V.120 Rate Adaption Split and combine B channels? 23B+D Bonding? Yes, through end systems Data bridge? No	Packet Data features: • D channel on demand - throughput up to 9600 baud • B channel provisioned - throughput up to 64 Kb • Closed user group IPGs Supported: Future Enhancement
BRI Interfaces: S/T	PRI Interfaces: 4ESS, 5ESS DMS-100 DMS-250	Data Interfaces: RS-232-C, RS-449, V.35, RS-366, X.25, Switched 56 Kbps, FDDI, Ethernet

Additional Features:

- BRI implementation initially based on AT&T 5ESS - 5E6
- BRI interworks with terminal equipment available from several vendors, list available on request
- PRI card has on-board CSU; supports both D4 framing and ESF formats and both AMI and B8ZS line encoding
- PRI Call-by-Call Service Selection
- PRI Calling Line Identification
- Support of ISDN/Telephony dial plans including 7D, 10D, DID and international as well as private network dial plans including NNP and directory numbers
- Support of Intecom Feature Transparency over private PRI facilities
- Support of keypad and keyboard originated PRI channel data calls
- Support of modem calling over B-channels

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4.2.14 Private Network Solutions

COMPANY NAME	PRODUCT NAME	Size Range (Ports) 1000 - 1600 timeslots
Intecom, Inc. Corporate Headquarters, Liberty Plaza 5057 Keller Springs Road Dallas, TX 75248 (214) 447-9000 Sydney Burton, Product Mgr.	IBX S/80	Price: NI-1 Date: 1Q94 NI-2 Date: 1Q95
Voice features: Hold, Conference, Transfer, Drop, Call Waiting, Callback Busy Recall, Camp-on, Call Forward All/Busy/No Answer, Do Not Disturb, Abbreviated Dial, Last Number Redial, Call Pickup, Call Park, Silent Monitor, Busy Override, Cancel Transfer/Call-back, Incoming Call Display, Dialed Number Display	Circuit-Data features: • Sync or Async data calls to ISDN or prop devices • V.120 Rate Adaption Split and combine B channels? 23B+D Bonding? Yes, through end systems Data bridge? No	Packet Data features: • D channel on demand - throughput up to 9600 baud • B channel provisioned - throughout up to 64 Kb • Closed user group IPGs Supported: Future Enhancement
BRI Interfaces: S/T	PRI Interfaces: 4ESS, 5ESS DMS-100 DMS-250	Data Interfaces: RS-232-C, RS-449, V.35, RS-366, X.25, Switched 56 Kbps, FDDI, Ethernet

Additional Features:

- BRI implementation initially based on AT&T 5ESS - 5E6
- BRI interworks with terminal equipment available from several vendors, list available on request
- PRI card has on-board CSU; supports both D4 framing and ESF formats and both AMI and B8ZS line encoding
- PRI Call-by-Call Service Selection
- PRI Calling Line Identification
- Support of ISDN/Telephony dial plans including 7D, 10D, DID and international as well as private network dial plans including NNP and directory numbers
- Support of Intecom Feature Transparency over private PRI facilities
- Support of keypad and keyboard originated PRI channel data calls
- Support of modem calling over B-channels

4.2.14 Private Network Solutions

<table>
<tr><td>COMPANY NAME</td><td>PRODUCT NAME</td><td>Size Range (Ports) 5000 -32000 timeslots</td></tr>
<tr><td rowspan="3">Intecom, Inc.
Corporate Headquarters,
Liberty Plaza
5057 Keller Springs Road
Dallas, TX 75248

(214) 447-9000
Sydney Burton, Product Mgr.</td><td rowspan="3">IBX S/80+</td><td>Price:</td></tr>
<tr><td>NI-1 Date: 1Q94</td></tr>
<tr><td>NI-2 Date: 1Q95</td></tr>
<tr><td rowspan="2">Voice features:

Hold, Conference, Transfer, Drop, Call Waiting, Callback Busy Recall, Camp-on, Call Forward All/Busy/No Answer, Do Not Disturb, Abbreviated Dial, Last Number Redial, Call Pickup, Call Park, Silent Monitor, Busy Override, Cancel Transfer/Call-back, Incoming Call Display, Dialed Number Display</td><td>Circuit-Data features:

• Sync or Async data calls to ISDN or prop dev
• V.12 Rate Adaption

Split and combine B channels? 23B+D

Bonding? Yes, through end systems</td><td>Packet Data features:

• D channel on demand - throughput up to 9600 baud
• B channel provisioned - throughput up to 64 Kb
• Closed user group</td></tr>
<tr><td>Data bridge? No</td><td>IPGs Supported: Future Enhancement</td></tr>
<tr><td>BRI Interfaces: S/T</td><td>PRI Interfaces:

4ESS, 5ESS
DMS-100
DMS-250</td><td>Data Interfaces:

RS-232-C, RS-449, V.35, RS-366, X.25, Switched 56 Kbps, FDDI, Ethernet</td></tr>
<tr><td colspan="3">Additional Features:

• BRI implementation initially based on AT&T 5ESS - 5E6
• BRI interworks with terminal equipment available from several vendors, list available on request
• PRI card has on-board CSU; supports both D4 framing and ESF formats and both AMI and B8ZS line encoding
• PRI Call-by-Call Service Selection
• PRI Calling Line Identification
• Support of ISDN/Telephony dial plans including 7D, 10D, DID and international as well as private network dial plans including NNP and directory numbers
• Support of Intecom Feature Transparency over private PRI facilities
• Support of keypad and keyboard originated PRI channel data calls
• Support of modem calling over B-channels</td></tr>
</table>

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4.2.14 Private Network Solutions

COMPANY NAME	PRODUCT NAME	Size Range (Ports) 100 - 19000 timeslots
Intecom, Inc. Corporate Headquarters, Liberty Plaza 5057 Keller Springs Road Dallas, TX 75248 (214) 447-9000 Sydney Burton, Product Mgr.	Intecom E	Price: NI-1 Date: 1Q94 NI-2 Date: 1Q95
Voice features: Hold, Conference, Transfer, Drop, Call Waiting, Callback Busy Recall, Camp-on, Call Forward All/Busy/No Answer, Do Not Disturb, Abbreviated Dial, Last Number Redial, Call Pickup, Call Park, Silent Monitor, Busy Override, Cancel Transfer/Call-back, Incoming Call Display, Dialed Number Display	Circuit-Data features: • Sync or Async data calls to ISDN or prop devices • V.120 Rate Adaption Split and combine B channels? 23B+D Bonding? Yes, through end systems Data bridge? No	Packet Data features: • D channel on demand - throughput up to 9600 baud • B channel provisioned - throughput to 64 Kb • Closed user group IPGs Supported: Future Enhancement
BRI Interfaces: S/T	PRI Interfaces: 4ESS, 5ESS DMS-100 DMS-250	Data Interfaces: RS-232-C, RS-449, V.35, RS-366, X.25, Switched 56 Kbps, FDDI, Ethernet

Additional Features:

- BRI implementation initially based on AT&T 5ESS - 5E6
- BRI interworks with terminal equipment available from several vendors, list available on request
- PRI card has on-board CSU; supports both D4 framing and ESF formats and both AMI and B8ZS line encoding
- PRI Call-by-Call Service Selection
- PRI Calling Line Identification
- Support of ISDN/Telephony dial plans including 7D, 10D, DID and international as well as private network dial plans including NNP and directory numbers
- Support of Intecom Feature Transparency over private PRI facilities
- Support of keypad and keyboard originated PRI channel data calls
- Support of modem calling over B-channels

4.2.14 Private Network Solutions

<table>
<tr><td>COMPANY NAME</td><td>PRODUCT NAME</td><td>Size Range (Ports) 24576 (max.)</td></tr>
<tr><td rowspan="3">NEC America Inc.
1555 Walnut Hill Lane
Irving, TX 75038

CPE/Product Management
(214) 518 - 5000</td><td rowspan="3">NEAX 2400 ICS
Integrated
Communications
System</td><td>Price:</td></tr>
<tr><td>NI-1 Date: 1994</td></tr>
<tr><td>NI-2 Date: 1994</td></tr>
<tr><td rowspan="2">Voice features:

Call-by-Call Service Selection
Least Call Routing
LCR - Time of Day
Call Restriction
Incoming Call ID
Call Forwarding
Non-Facility Associated
Signalling</td><td>Circuit-Data features:

Data Transparency - PRI,
56/64 K, Data Security,
Uniform Numbering Plan

Split and combine
B channels? H0, H11
(23 B +D)

Bonding? Yes</td><td>Packet Data features:</td></tr>
<tr><td>Data bridge?</td><td></td></tr>
<tr><td>BRI Interfaces:

S/T</td><td>PRI Interfaces:

AT&T 4/5 ESS
NTI DMS 100/250</td><td>Data Interfaces:

V.35 X.21 RS-449</td></tr>
</table>

Additional Features:

- NEAX 2400 ICS/PRI conforms to all CCITT recommendations for providing primary rate interface. The PRI supports D4 framing extended superframe (ESF) with binary eight zero suppression for 64 Kbps clear channel transmission
- D channel communications link utilizes CCITT #7 signaling.
- Data communications connectivity:
  - Data adapter (RS-232C/V.110 interface, sync/async, 300 - 19.2K)
  - Data module (sync 2400 - 64K, async 50 - 19.2K)
  - Data networking
    - (a) modem pooling
    - (b) heterogeneous data trunk (provides utilization of a 1.5 Mbps digital transmission link for sub-rate multiplexing

4.2.14 Private Network Solutions

<table>
<tr><td>COMPANY NAME

Racal-Datacom, Inc.
1601 North Harrison Parkway
Sunrise, FL 33323

Heather Vaughn
(305) 846-6762</td><td>NI-1 Compatibility Yes

NI-2 Compatibility 1994</td></tr>
<tr><td>PRODUCT NAME

Excalibur DAP
CSU/DSU with Integrated ISDN Backup</td><td>ESTIMATED PRICE

List Price: $2,400 - 4,200</td></tr>
</table>

Notes:

The Excalibur Multirate CSU/DSU provides an interface between your DTE and Digital Data Services (DDS), at speeds of 2.4 - 64 Kbps. The product is available in either a singleport or 6-port multiport model. Each of these is also offered in either a point-to-point or multipoint version, utilizing time division multiplexing.

Additional features include remote configuration, non-interruptive diagnostics, monitored key statistics, menu-driven front panel, and integrated ISDN dial backup.

In the event of a failure of the dedicated circuit, an ISDN call is initiated. This provides a full switched 64 Kbps backup for your application, without loss of data. Dial backup can also be initiated from the front panel of the unit, or from the CMS® network management system. This integrated, one-box solution is an "U" interface product, thus eliminating the expense of a NT-1 converter.

4.2.14 Private Network Solutions

COMPANY NAME	PRODUCT NAME	Size Range (Ports) 40 - 4,000
TADIRAN Electronics Industries, Inc. Telecommunications Division 5733 Myerlake Circle Clearwater, FL 34620 (813) 536-3222	Coral ISBX	Price: $380 - $500 per port installed NI-1 Date: Now NI-2 Date:
Voice features: Fully featured as Key, Hybrid, Centrex CPE PBX, Tandem, Turret T1/E1/PRI Channel Banks ACD Directory System and Adjunct Switch - On Same Chassis	Circuit-Data features: Accunet (56 & 64 k clear) SDN Split and combine B channels? H0, H11 Bonding? No	Packet Data features:
	Data bridge? LAN Bridging Module (Ethernet, Token Ring)	
BRI Interfaces: Proprietary BRI	PRI Interfaces: AT&T, ECMA	Data Interfaces: Computer Telephony Interface Async, Synch, LAN Bridging

Additional Features:

- Fully distributed linear architecture, with up to 240 universal slots
- Can use any card in any slot for configuration transparency
- Runs all telecommunications services in the same chassis, or standalone
- Feature support for all AT&T services