

IPAX

Highly Scalable Intelligent Switching Gateway

Product Features

The NACT IPAX is a robust, scalable switching gateway for service providers who need to deliver high-volume service over high-performance, flexible TDM and VoIP-based networks.



- > Scales from 2 to 84 T1s or 68 E1s and up to 2,016 simultaneous VoIP calls
- > Flexible IP- and TDM-based network support
- > Class 4 switching capabilities
- > Toll quality voice transmission
- > Fault-tolerant operation
- > Dynamic call routing and rating
- > Integrated applications
- > Cluster up to 16 IPAX shelves

The Industry's Best Price for Performance

The NACT IPAX is a fully integrated switching gateway designed for high growth service providers who want to deliver high volume TDM and VoIP services with telecom grade reliability and Quality of Service. Supporting both circuit-switched and IP-based networks on a single platform, the IPAX delivers the industry's best price to performance ratio for service providers whose success depends on rapid, cost-effective network expansion and superior delivery of high volume traffic.

A Business Solution from the Name You Trust

NACT's robust, fault-tolerant and high availability architecture supports prepaid long distance, prepaid Internet, and prepaid wireless applications that enable service providers to generate revenues, control costs, simplify management and improve customer service. The IPAX is a highly scalable platform and digital class 4 switching gateway that delivers a comprehensive set of features and functionality, uniquely addressing the needs of high volume and high growth service providers. NACT's integrated, field-proven applications suite provides feature rich services over circuit-switched and IP-based networks to help service providers migrate to IP-based service while leveraging legacy technology investments.

PSTN Reliability, Scalability and Quality of Service

- Easily scales from 2 to 84 T1s or 68 E1s per IPAX shelf
- 1,344 T1s or 1,088 E1s per IPAX cluster (16 shelves)
- Up to 2,016 simultaneous VoIP calls per IPAX shelf*
- Distributed switching architecture
- Fast call connection via SS7/C7 for both IP and circuit-switched networks
- Unique end-to-end SS7/C7 transport using VoIP-7 signaling
- Unique IP and PSTN look-ahead and pull-back routing capabilities
- Sophisticated IP and PSTN least cost routing
- Toll quality voice transmission with up to 8:1 voice compression
- British Telecom and Telefónica Certified

Superior Configuration, Management and Reporting Capabilities

- Comprehensive end-to-end call detail records
- Management and engineering reporting
- Simultaneous multi-language/multi-currency support
- Multiple, simultaneous country-specific dialing plans
- Remote alarm notification

Feature-Rich Application Support

- Integrated, customizable, multi-language Voice Response Unit (VRU)
- Extensive fraud control
- ANI/CLI authorization
- Real-time credit card validation
- Robust, flexible real-time rating
- Least-cost routing

Integrated Applications

- Prepaid Calling Cards
- Prepaid Wireless
- Prepaid Dial-tone and Long Distance
- Prepaid Internet
- Toll-Free (Free Phone) Services
- Number Translation Services
- Call Re-origination
- Operator Services
- Long Distance Tandem



Technical Specifications – IPAX

Physical Attributes

- 21 Slots per IPAX shelf
- 19" (w) x 12" (d) x 24.5" (h)
- 2 IPAX shelves per cabinet
- 22.5" (w) x 27.5" (d) x 78" (h) cabinet

IPAX Shelf Capacities

- 6,000,000 prepaid calling cards
- 2,016 ports
- 1,008 simultaneous TDM calls
- Up to 2,016 simultaneous VoIP calls*
- 16,000,000 call minutes per month
- 90,000 BHCA (SS7)
- 2,048 TDM backplane timeslots

CPU Board

- MC68060 processor
- 512 MB RAM
- 2 x 10baseT Ethernet ports

Storage

- Dual 73 GB single-spindle disks
- Optional 68 GB RAID
- 20/40 GB DAT tape

T1/E1 Board

- 11 T1/E1 boards per IPAX shelf
- 8 programmable T1/E1 framers
- MPC860 processor
- 128 MB RAM

- 10baseT Ethernet
- G.823/824 framer jitter
- G.703/704 clock/framing
- Multiple clock sources

VoIP Compression Module

- 11 modules per IPAX shelf
- Attaches to T1/E1 board
- 240 VoIP calls per module
- G.711, G.723.1, G.726, G.729A/B codecs
- T.38 fax codec
- G.168 echo cancellation with 128 ms tail
- DTMF relay per RFC 2833
- Per call codec and silence suppression
- MSC8103 StarCore™ processor
- 3 x MSC8102 StarCore™ DSPs
- 100baseT Ethernet

VRU DSP Board

- 8 boards per IPAX shelf
- 120 tone ports
- 64 voice ports
- MC68349 processor
- 8 MB RAM

PSTN SS7/C7 ISUP Signaling

- ANSI 96, ANSI 92, ANSI 88 (T1.113)
- ITU 93, ITU 92 (white book), ITU 88 (blue book) (Q.761-Q.764, Q.766, Q.730)
- ETSI ITU 92 (ETS 300 356)
- China ITU 92
- UK ISUP (BSI/PD6623 (2001))

* Dependent on type of application used

PSTN SS7/C7 MTP3 Signaling

- ANSI 96, ANSI 92, ANSI 88 (T1.111.4)
- ITU 92, ITU 88 (Q.701, Q.704, Q.707, Q.782, Q.2140, Q.2210)
- China FG001-9001

PSTN SS7/C7 MTP2 Signaling

- ANSI 92, ANSI 88 (T1.111.3)
- ITU 92, ITU 88 (Q.701, Q.703, Q.781)

PSTN ISDN-PRI Signaling

- Q.SIG, Q.931
- NI2, DMS100 (NI1), 5ESS, ETSI (EuroISDN)
- NI2, DMS100, 5ESS with information digits

PSTN CAS Signaling

- R1 (LS, GS, E&M, E&M WS, FGA, FGB, FGD)
- R2 (optional 3rd-party product)

VoIP Signaling

- H.323
- SIP (2006)
- VoIP-7 (VoIP using SS7 over IP)

Environmental Requirements

- Power: -48 VDC @ 20 Amps
- Power: 120/220 VAC @ 13 Amps/7 Amps
- Operational temperature: 50°F-85°F/10°C-29°C
- Storage temperature: 32°F-120°F/0°C-120°C

The IPAX is a component of
NACT Telecom Solutions

