Ascend

FAQ

True Access Operating System

1. What is the True Access Operating System?

Ascend's True Access™ Operating System (TAOS) is the embedded access software in the MAX™ and MAX TNT™ that provides the widest range of solutions for WAN access environments. TAOS represents the brand name for the leading WAN access feature set for service providers and corporate enterprises. TAOS also underlines Ascend's heritage in WAN access solutions and commitment to research and development for continued leadership in the market.

2. What is Global Digital Access?

Global Digital Access™ is the new name for the Hybrid Access software bundle. This includes software functionality for ISDN signaling, Frame Relay support and ISDN clients. On the MAX, the ISDN signaling includes support for both BRI and PRI signaling, and the ISDN client support enables the HDLC processors on the MAX itself to allow remote ISDN equipment, like the Pipeline® products, to connect into a MAX. On the MAX TNT, the individual components of Global Digital Access are available separately: the HA192 slot card is needed for ISDN client connectivity, and individual software options are available for ISDN PRI signaling and Frame Relay support.

3. What are the differences between the kernel and the extensions?

The TAOS kernel comes standard on all MAX and MAX TNT systems, and represents the functionality required for mainstream WAN access environments. The TAOS extensions are additional functionality available to customize the MAX and MAX TNT into a larger range of applications. The TAOS extensions are either bundled with specific product offerings, like the MAX 2012/2024 that comes standard with Intragy™ and SecureConnect™ Firewall, or are available for purchase separately.

4. Which of the TAOS extensions are bundled with which products?

		Intragy	Global Digital Access	Tunneling	Virtual Routing	SecureConnect Firewall	NavisAccess Option
Low-end	MAX 200Plus	S	S	O	-	O	O
Fixed configuration/modular systems	MAX 2012/2024	S	O	O	-	S	O
	MAX 4030/48/60	O	S	O	-	O	O
Midrange chassis	MAX 1800	S	S	O	-	O	O
	MAX 2000	O	S	O	-	O	O
	MAX 4000	O	O	O	-	O	O
	MAX 6000	O	O	O	-	O	O
High-end chassis	MAX TNT	O	-	O	O	-	O

Figure 1 – S = Standard, O = Optional, - = Not Available

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5. What are all of the model numbers and prices for the TAOS extensions?

Model Number	Product Description	US List Price
	Intragy	
MX20-SO-RNS	Intragy for MAX 2000	$ 1,000
MX-SO-RNS	Intragy for MAX 4000, 4002/4004, 4030/4048/4060	$ 4,000
MX60-SO-RNS	Intragy for MAX 60XX	$ 4,000
TNT-SO-RNS	Intragy for MAX TNT	$24,000
	Global Digital Access	
MX20-SP-HA24	Global Digital Access for MAX 2012/2024	$ 1,500
MXHP-SP-HA60	Global Digital Access for MAX 4000/02/04	$ 1,500
MX60-SP-HA	Global Digital Access for MAX 6000	$ 3,000
TNT-SO-ISDN	ISDN Signaling for MAX TNT	$ 4,000
TNT-SO-FR	Frame Relay for MAX TNT	$ 4,000
	Tunneling	
MX-SO-VPN	Tunneling for all MAX products	$ 1,500
TNT-SO-VPN	Tunneling for MAX TNT	$15,500
	SecureConnect Firewall	
M201-SO-ASA	SecureConnect Firewall for MAX 200Plus	$ 1,000
MX18-SO-ASA	SecureConnect Firewall for MAX 1800	$ 2,000
MX20-SO-ASA	SecureConnect Firewall for MAX 2000	$ 2,000
MXHP-SO-ASA	SecureConnect Firewall for MAX 4000/02/04, 4030/48/60	$ 4,000
MX60-SO-ASA	SecureConnect Firewall for MAX 6000 products	$ 4,000
	NavisAccess Option	
M201-SO-ANC	NavisAccess Software Option for MAX 200Plus	$ 250
MX18-SO-ANC	NavisAccess Software Option for MAX 1800	$ 395
MX20-SO-ANC	NavisAccess Software Option for MAX 2000, 2012/2024	$ 550
MXHP-SO-ANC	NavisAccess Software Option for MAX 4000/02/04, 4030/48/60	$ 995
MX60-SO-ANC	NavisAccess Software Option for MAX 6000, 6096	$ 995
TNT-SO-ANC	NavisAccess Software Option for MAX TNT	$ 3,995

6. What are the major features and functions within TAOS?

TAOS Kernel	
IP Router	RIPv1, RIPv2, OSPF
AAA Server	RADIUS, TACACS, TACACS+, PAP, CHAP, MS-CHAP, encrypted token card, Calling Line ID (CLID), transmit and receive packet filtering, callback
Modem Manager	K56flex, V.34, V.FC, V.32bis, V.32, V.22, V.22bis, V.21 and below, MNP and MNP 10-EC error correction, V.42bis data compression, Group 3 fax support up to 14.4, V.120
Management Agent	Telnet, NASI, SNMP II, PPP LQM, Frame Relay ITU Annex A, Frame Relay ANSI Annex D, SNMP MIBs, Password protected Telnet remote management, Local management via VT-100 terminal, ISDN event log and Syslog support
Bandwidth Manager	Multilink PPP (MP), Multilink Protocol Plus™ (MP+), Bandwidth Allocation Control Protocol (BACP), TCP header compression, data compression (Ascend/Microsoft/STAC V9)
WAN Access Server	T1, E1, T3, E3, BRI, PRI, IDSL, RADSL, SDSL, HDSL, D4 framing (T1/E1), G703/732 framing (R1), X.25 PAD, X.25 over B-channel, D-channel multiplexing and X.25 packet services
Terminal Server	PPP, SLIP, C-SLIP, Async PPP, Sync PPP, password-protected access
Scalability Agent	Distributed multiprocessing architecture MAX Stack support for multi-chassis MAX scalability Multishelf support for multi-chassis MAX TNT scalability
DSP Manager	V.110 for GSM-based cellular networks Personal Handy-Phone Systems (PHS) support
TAOS Extensions	
IntragyCentral	Multiprotocol Routing: IPX and AppleTalk Transparent Bridging: Bridging of all non-routed protocols Multiprotocol Access: AppleTalk Remote Access, Async IPX with local spoofing DeskDial: LAN-based dial-/fax-out
Global Digital Access	Digital Access: HDLC processors for ISDN client access ISDN Signaling: BRI and PRI signaling homologation in over 30 countries worldwide, ITU-T R2 signaling on E1, ITU-T R1 signaling on T1, PRI to T1 signaling conversion, D4 to ESF conversion Frame Relay: Frame Relay PVC, PPP-FR gateway, FR NNI, PVC switching Frame Relay forum UNI and NNI, Route to multiple Frame Relay PVCs over single or multiple interfaces, supports up to 4096 PVCs with RADIUS authentication software, Dial-in PPP to Frame Relay gateway function with PVCs on a per user basis, RFC 1490 encapsulation, Dial Access Signaling Interface (DASI), Frame Relay-over-ISDN B-channels
Tunneling	ATMP, PPTP, L2TP, GRE
Virtual Routing	Separate route tables for RIP and OSPF to enable port wholesaling
Inverse Multiplexing	BONDING, AIM, BRI slot cards for connections to the desktop Videoconferencing and backup and overflow applications
SecureConnect Firewall	SecureConnect Firewall, packet filtering, console management (VT-100), PPP callback
NavisAccess Option	Allows NavisAccess to manage the MAX or MAX TNT

Worldwide and North American Headquarters
Ascend Communications, Inc.
One Ascend Plaza
1701 Harbor Bay Parkway
Alameda, CA 94502, United States
Tel: 510.769.6001
Fax: 510.747.2300
E-mail: info@ascend.com
Toll Free: 800.621.9578
FAX Server: 415.688.4343
Web Page: http://www.ascend.com

European Headquarters
Aspen House
Barley Way
Ancells Business Park
Fleet
Hampshire GU13 8UT
United Kingdom
Tel: +44 1252.360000
Fax: +44 1252.360001

Asia-Pacific Headquarters
Suite 1908
Bank of America Tower
12 Harcourt Road
Hong Kong
Tel: +852.2844.7600
Fax: +852.2810.0298

Japan Headquarters
Level 19 Shinjuku Daiichi-Seimei Bldg.
2-7-1 Nishi-Shinjuku
Shinjuku-ku, Tokyo 163-07, Japan
Tel: +81.3.5325.7397
Fax: +81.3.5325.7399
Web Site: http://www.ascend.co.jp

Latin, South America and the Caribbean Headquarters
One Ascend Plaza
1701 Harbor Bay Parkway
Alameda, CA 94502, United States
Tel: 510.769.6001
Fax: 510.747.2300

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