

Utility Communications SOPHO iS3000 - Advanced hybrid PBX switching systems



The iS3000 is an advanced hybrid PBX system with utility specific features. Its architecture provides a combination of IP telephony and traditional solutions by combining the best of hybrid and server based technology. Besides the iS3000 full hybrid PBX, a server version is part of the communication platform family. It supports the broad range of critical voice features and functions with which users are familiar, now in a converged network environ-

ment. The IP call-processing software platform SIP@Net forms the basis for both the hybrid and the server solution of migration to a converged network.

iS3000 grants like all other ABB solutions for utility communication systems a high level of future oriented investment protection while keeping full interoperability with earlier deployments.

Communication is key

Information and communications technologies are constantly changing. Speech and data networks are merging. Converged networks based on internet protocol (IP) pave the way for completely new and integrated speech and data applications.

ABB implements Utility Communication networks with its FOX-family, the ETL-series for PLC-solutions, radio infrastructure and LAN-devices, all offering the perfect mix of TDM and IP-services.

Thanks to state-of-the-art IP enabling technology in the SOPHO iS3000, all of the proven features of traditional TDM telephony are available for IP extensions as well.

SOPHO iS3000 gives utilities complete freedom in implementing an IP migration strategy. Earlier and future investments are therefore fully protected. Since the same performance is available for IP and TDM extensions, you determine the speed and the extent of your IP migration with full support of true IP peer-to-peer voice communication or SIP-based trunking.

Features that count for utilities

- Optimized use of existing PLC bandwidth for PLC networks with the latest algorithms for speech compression
- Busy trunk break-in and forced release
- Scalability and module design, available from small to very large systems
- Redundancy where needed
- TDM and IP hybrid communication solution
- In-System IP gateway for IP trunks and IP extensions
- IP DECT locally and remotely
- SIP-based IP trunks and extensions
- Wide range of signalling protocols
- Integrated voice mail and automatic attendant
- Test call set up by selecting specified trunks manually
- Remote extensions through E1 and E&M interfaces
- Touchscreen dispatcher console applications
- Local or remote management through TDM or IP

Scalable redundancy

The iS3000 19-inch housing is available for single processor, fault-tolerant processor and server based platforms. The iS3000 is available as an AC- or DC-powered system. The control & switching module (CSM) as well as the peripheral module (PM) are utility-standard 19-inch units for easy installation of the complete system into a single standard cabinet.

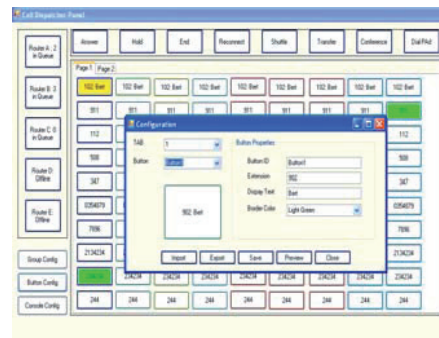
Powered by SIP@Net, a iS3000 single processor system as well as the iS3000 Fault-tolerant system can be deployed in virtually any VoIP, digital or analogue telephony network. The system allows expansion into the IP-connected world. Full SIP functionality is offered across extensions, trunk lines and applications. The large variety of interface boards available in the iS3000 product range and supported by the iS3000 19-inch systems ensures a high level of investment protection.

Utility specific dispatcher application

In addition to call-center applications based on iS3000, ABB has developed a unique utility tailored dispatcher application. one or several concurrent and freely configurable touch-screen consoles allow efficient dispatching & emergency handling for mission utility services.

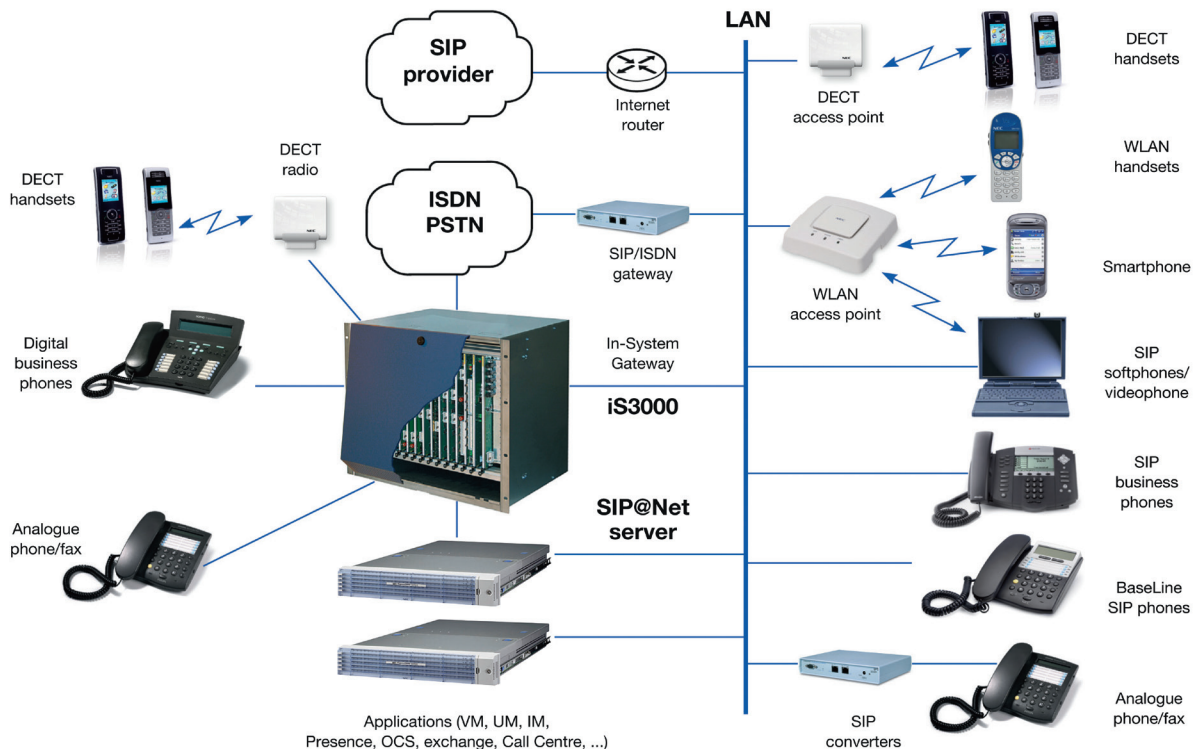


iS3000-19" chassis with integrated CPU



Utility specific touch-screen Dispatcher Console application

System architecture



Full support for analogue, digital and wireless services, including SIP-based applications

Technical data

System capacity

	Single processor	SIP@Net server	Fault tolerant processor
Max. no. of 19-inch shelves	4	24	31
Max. no. of remote peripheral modules	4	24	15
Max. no. of ports	1216	5000	10000
Max. no. of cordless DECT handsets (0.2 Erlang)	1216	2560	2560
Max. no. of IP ports (0.2 Erlang)	1216	5000	1000
Max. no. of trunks and/or tie-lines	600	n.a.	2500
Max. no. of IP trunks	300	600	300
Max. no. of operators	8	12	31

Hybrid configuration interfaces

analogue extensions:

- Tone/pulse dialling
- Earth, flash, dial one recall

Digital extensions:

- B+D Uko (2-wire 2B1Q)
- 2B+D Upn (2-wire)
- 2B+D S0 (4-wire, ISDN TBR3)

IP extensions (SOPHO):

- 10/100 Mbit/s Ethernet
- TCP/IP
- G.711 A-law, G.729A,AB
- QoS (802.1Q/p,ToS)
- SIP (RFC 3261)
- TLS, SRTP

Cordless extensions:

- DECT (GAP standard)
- WLAN (SIP standard)

Analogue trunks:

- Subscriber signalling
- DDI/DDO via pulse, MFC, DTMF
- Polarity detection
- Metering (50Hz, 12/16 kHz)
- Power failure switch (ESU)

Digital trunks:

- Euro ISDN:
 - ISDN basic rate TBR3 (2B+D)
 - ISDN primary rate TBR4 (30B+D)
- Channel associated (CAS -2Mb/s):
 - MFC

IP trunks:

- 10/100 Mbit/s Ethernet
- TCP/IP, H.323,T.38
- G.711 A-law, μ -law, G.729A,AB
- ECMA 333
- QoS (802.1Q/p,ToS)
- SIP (RFC 3261)
- SRTP, TLS

Analogue tie lines:

- CEPT-L1
- E&M (2/4 wire)
- Loop disconnect
- Local battery

Digital tie lines:

- 2B+D or 30B+D with:
 - BT DPNSS
 - ETSI QSIG

IP extensions/trunk/network/application with SIP@Net only server

- Ethernet based
 - TCP/IP
 - G.711 A-law, G.729A,AB
 - QoS (802.1Q/p, ToS)
- SIP (RFC 3261)



SIP@NET server as standalone or combined solution with iS3000

SOPHO technical data & compliance

Physical characteristics

- Dimensions CSM and PM 19-inch
 - Width 483 mm (19-inch)
 - Height 400 mm (9 U)
 - Depth 408 mm; 468 mm including front cover
- Weight: 15 kg excluding system boards and AC power unit

Power

The basic CSM and PM 19-inch are DC-powered. They can be AC-powered by insertion of one or two AC power units 19-inch (two units in CSM only).

- Operating voltage range:
 - AC: 100 to 240V, 47 to 63 Hz
 - DC: 42 to 60V, positive ground
 - Safety class (IEC) 60950-1

Compliance

- European directives
 - Safety: 2006/95/EC
 - EMC: 2004/108/EC
 - R&TTE: 1999/5/EC
 - EU RoHs: 2002/95/EC
 - WEEE: 2002/96/EC
- Council recommendation
 - EMF 1999/519/EC
- European standards
 - EN55022
 - EN55024
 - EN61000-3-2
 - EN61000-3-3
 - EN60950-1

Environmental conditions

- ETS 300 019
 - Storage class 1.2
 - Transportation class 2.3
 - Stationary use class 3.1
- Temperature: -5° to +45°C
- Humidity: 10 to 85%

Complementing communications solutions

SOPHO is part of a comprehensive overall portfolio for utility communication systems covering following technologies and solutions:

Fiber optic equipment

ABB's FOX-family covers the full range from access-multiplexers with integrated teleprotection interfaces up to high capacity SDH / WDM solutions for edge and core-networks. It fully supports all latest standards for Ethernet / Gigabit-Ethernet of next generation networks.

Power line carrier

ABB's combined analogue / digital power line carrier solutions are based on the ETL600 product family. ETL600 reaches so far unseen transmission rates and self-adapting speed- and multiplexing features.

Stand-alone teleprotection

ABB's NSD-family has a long tradition of stand alone teleprotection devices. The latest generation of NSD570 provides highly reliable protection signalling over a wide choice of media (direct fiber, analogue / digital interfaces).

L2 & L3 – data-switches & firewall

ABB's portfolio includes a range of hardened and robust Ethernet devices for switching and routing in utility networks. Their fast traffic protection and QoS schemes are essential for IP-based voice services.

Radio, microwave, wireless

Where no fibers can be installed due to missing rights of way or topographic reasons, ABB provides radio-, microwave and Wimax solutions, tailored to the local situation and the possible frequencies available.

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