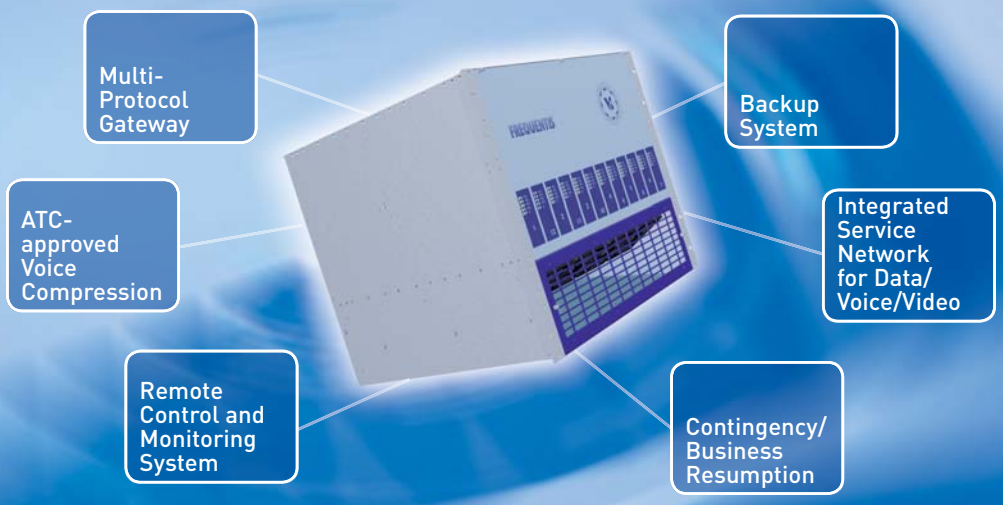
VCX NETWORK SOLUTIONS

Decreasing total cost-of-ownership

Enhanced safety

Convergence of IP and TDM



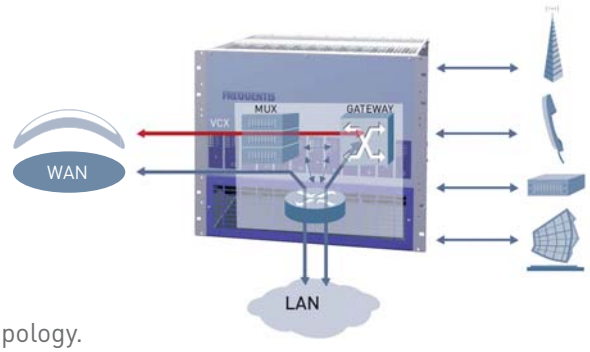
FREQUENTIS VCX – NETWORK NODE

THE ALL-IN-ONE NETWORK SOLUTION FOR SAFETY- AND MISSION-CRITICAL COMMUNICATION

The Frequentis multi-protocol router VCX is specially designed for Air Traffic Control and Defense applications. The Frequentis VCX is the link that interconnects ATC services with various backbone networks. Standard and ATC-specific interfaces ensure flexible connections to different types of equipment for data and voice applications. This concept allows network integration of currently separated systems from different vendors. The Frequentis VCX and its feature range stand out in contrast to other commercial products in regard to network flexibility, safety and special ATC-system demands. The modular structure of the Frequentis VCX allows maximum flexibility in terms of adaptation to customer needs. This implies flexible configuration and easy extension for future upgrades.

FREQUENTIS VCX – CORE FACTS

The Frequentis VCX can provide all relevant ATC services within one solution and combines the functionality of gateway, multiplexing and routing devices on one platform.
The system architecture is based on a highly available circuit-switched (TDM) platform for voice communication.
Packet-based (IP) technology is used for data transmission.
Due to the routing capability of the Frequentis VCX an intelligent contingency concept is provided through out the whole network topology.



BENEFITS	
	→ Increased network safety
	→ Seamless integration of existing infrastructure
	→ Simplified maintenance activities due to central network management
	→ Smooth transition process and minimized transition risk (step-by-step integration of existing and new equipment)
	→ Significant operational cost reduction (based on efficient bandwidth management)

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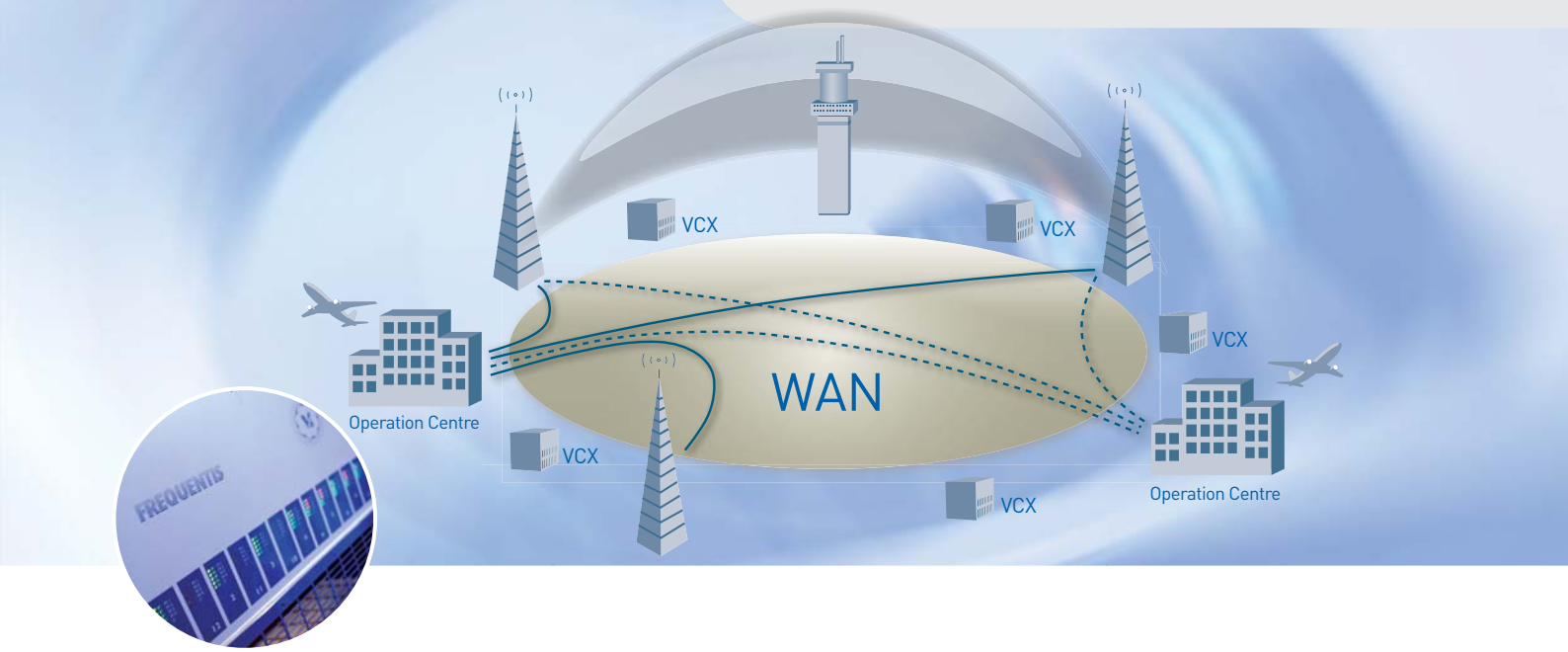
FREQUENTIS

VCX NETWORK SOLUTIONS



FEATURES	
	→ Several levels of hardware and software redundancy (availability →99,9999% for one VCX-node) → Automatic and fast re-routing using different priority levels for voice and data within the network → Central and local network management from any network location → Combination of different services within one product – 'one-box approach' (e.g. Remote Control and Monitoring System, Best Signal Selection/Voting incl. Delay Compensation, Telephone Emergency System,...) → Gateway feature (includes over-the-network protocol conversion) which applies to voice and data services → Parallel access to radio stations from different sites (e.g. ACC, APP, TWR) and message duplication to multiple channels for data services (e.g. radar data distribution to different centres)
TECHNICAL DATA	
VCX Shelf Dimensions:	→ Standard VCX: 6 HU for VCX shelf + 3 HU fan unit/19" rack mount, depth 284.7 mm → Compact VCX: 3 HU/19" rack mount, depth 416 mm
Power Requirements:	→ Power Supply: Duplicated 110/230 VAC, 24 V to 60 VDC, Max. Power: 560 W (6 HU), 100 W (3 HU)
INTERFACES	
Telephone:	→ ISDN-TE/NT BRI → 2-wire analog (Q.23, LB, etc.) → 4-wire analog → SIP VoIP (via gateway)
ATS-Network:	→ ATS-QSIG (EUROCONTROL), MFC
Radio:	→ 4-wire analog interface, contact or in-band PTT/SQU-signalling → 2 MBit/s CAS Radio Interface → G.728 LD-CELP voice compression → Data interface for remote control
Data:	→ Ethernet 10/100 MBit/s → RS 232/485 → X.21/ Unstructured E1 → Digital I/O
Network (WAN):	→ Ethernet 10/100 MBit/s → G.703 64 KBit/s, G. 703/G.704 2 MBit/s E1 → Fractional E1, Fractional E1 CAS → ISDN S0 (BRI) → V.35, X.21

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