

SOLUTION BRIEF

A Smooth and Sustainable Migration from Analog to IP



How Ekinops Can Help

PSTN and ISDN networks are currently phased out in many countries around the world. In Hungary, Austria, the national operators have already transitioned, Switzerland is transitioning now, France stops selling analog lines now and across Europe only the UK started the migration plan with the end target date of 2025.

Multiple applications are unable to migrate to IP without changing all remote terminals and central devices. The public switched telephone network (PSTN) is giving way to VoIP telephone systems and other cloud-based communications. This migration affects not only traditional business telephony services, but also other services such as monitored fire alarms and elevator communication devices, which are essential security services. Many companies are therefore forced to migrate to SIP Trunking technology now.

This IP migration is revolutionizing the telecommunications landscape and all associated service offers; opening the door to the next generation of enterprise voice businesses which include hosted voice services and in particular Unified Communication As A Service (UCaaS) solutions.

Change is coming now, are you ready?

Companies need to prevent the impact of the end of PSTN. Secure their current business while providing a smooth migration becomes crucial for companies. Enterprises need to keep in-premise devices available to reduce the cost of changes while the connectivity moves to the cost-effective IP networks by raising SIP trunks. If office moves or new branch office implementations are scheduled, companies will have to do without analog lines to prevent the impact of the end of PSTN!

Multiple applications (see the detailed list in the below table) are unable to migrate to IP without changing all the associated remote terminals & central control systems:

- Alarms (ex: elevators / lifts, cold rooms in retail ...)
- Remote control machines (e.g.: utilities)
- Physical gates access & control (e.g.: retail, ...)

Impacted Applications / Specific Terminals

Used for		Voice	Modem	DTMF (dual-tone multi-frequency)	Powered Terminal
Telemetry / remote reading meters	Gauges, franking machines		3		3
Remote maintenance /control	Industrial robots, private switches, doorkeepers, digital locks		3		3
Remote monitoring	Alarm centers	3	3	3	3
Remote alarm / assistance	Lifts, elevators	3	3	3	3
Machines alarms	Sensors, lifts, cold rooms (retail)		3	3	3
Fax			3		
Terminals	Payment terminals, badge readers		3		
Emergency / security calls	Firefighters, police, on-call technician	3			3

Source: Livre blanc ACERP 2017 "Transition du RTC vers la voix sur IP"

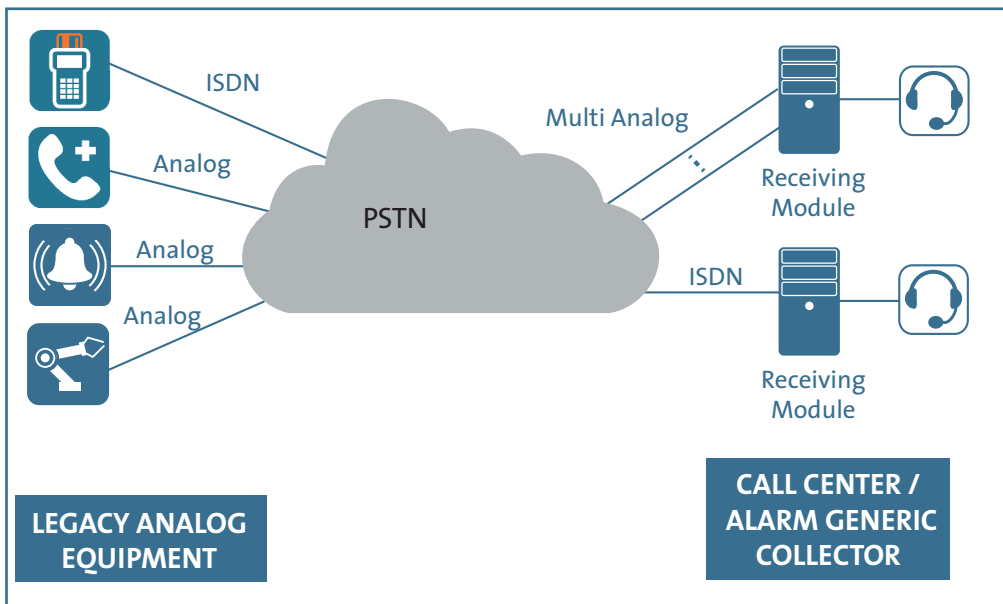
Another alternative is GSM but it is not always suitable as a PSTN replacement due to:

- Its low data rate precludes service evolution (e.g. video)
- Potential issues (GSM network overflow, radio coverage issue, and the uncertain future of 2G and 3G networks)
- Lack of simultaneous data flows

Ekinops through its OneAccess branded portfolio, offers a sustainable option for a smooth migration without the need to effect changes in the above listed terminals. We offer particularly competitive solutions for businesses operating within environment with constraints (for instance requiring self-powered or ruggedized equipment).

Today's Solution

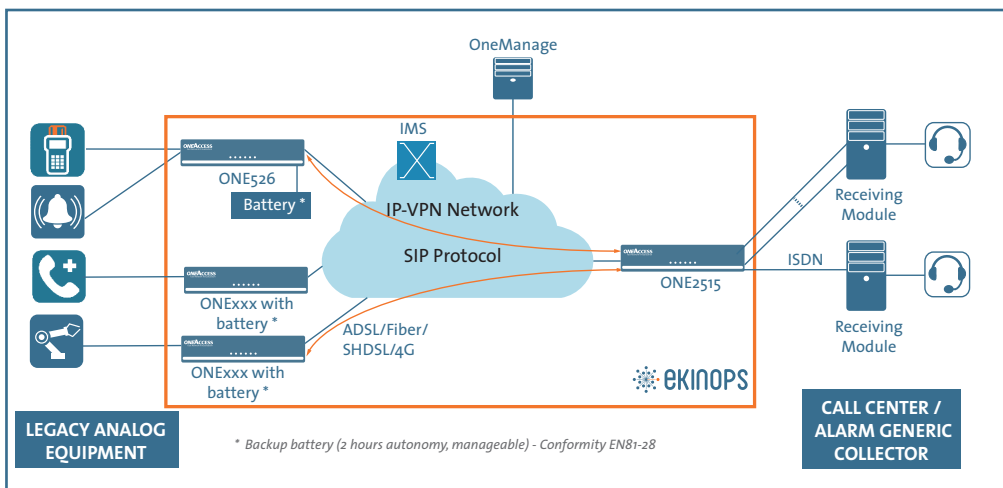
All protocols are transported transparently over a switched communication: ISDN-Basic Rate interface of FXS analog phone interface.



Legacy Setup

The Ekinops Solution

All protocols are transported transparently over a safe VPN IP network via an integrated voice-data router (in this case ONExxx product) with ISDN interfaces and/or FXS analog phone interfaces and with adequate QoS to support SIP traffic.



With Ekinops Solution

Advantages

- Legacy equipment stay: transparent for the end user
- Cost efficient solution
- Simple deployment and provisioning
- Optimum security (IP-VPN)
- Realtime network monitoring
- High bandwidth enabling video and new services

IP-VPN Technology

The design of the IP transport is based on IP-VPN technology allowing dedicated private communications between sites. This private network using VPN technology (based on MPLS) is not connected to the Internet network so no Internet attacks may occur and disturb alarms or voice communications.

The ONE range is equipped with sophisticated defense mechanisms to control IP security issues such as Denial-of-Service attacks.

Additional mechanisms based on control of the source IP address protects the Call center/Alarm collector from malicious calls.

On site, the ONExxx platforms are only connected to alarm devices as thus do not share traffic with a local IP network.

The Quality of Service features, present on all Ekinops platforms, enable an adequate data rate to be dedicated to the most critical data flows, such as alarms or voice traffic.



Hybrid Access Branch Office Router for Converged Services

- BRI SIP Voice & Data router with 8 BRI, 12 FXS, 1 FXO
- Multiple WAN interfaces: A/VDSL2 profile 35b, 1GE UTP/SFP WAN, 4G/LTE, SD-WAN
- Optional E-SBC (*)
- Advanced Data features up to 400 Mbps
- Optional data features (*)
- Giga Ethernet LAN switch, WIFI ac

Next Generation High Speed Multi-service Access Router

- 2 or 4 PRI SIP Voice & Data router with 24 FXS, 2 FXO
- Advanced Data features up to 400 Mbps
- High performance up to 2 Gbps (*)
- Optional E-SBC (*)
- Optional data features (*)
- Multiple WAN interfaces; A/VDSL2 profile 35b, Dual GE UTP/SFP WAN Uplink, 4G/LTE
- 8 Giga Ethernet LAN switch



(*) Features under license

More information

- [Monetizing the ISDN to SIP upgrade path for PBX resellers Business Case](#)
- <https://www.ekinops.com/solutions/voice-data-access/sip-trunking>

About Ekinops

Ekinops is a leading provider of open and fully interoperable Layer 1, 2 and 3 solutions to service providers around the world. Our programmable and highly scalable solutions enable the fast, flexible and cost-effective deployment of new services for both high-speed, high-capacity optical transport networks and virtualization-enabled managed enterprise services

Our product portfolio consists of three highly complementary product and service sets: Ekinops360, OneAccess and Compose.

- Ekinops360 provides optical transport solutions for metro, regional and long-distance networks with WDM for high-capacity point-to-point, ring and optical mesh architectures, and OTN for improved bandwidth utilization and efficient multi-service aggregation.
- OneAccess offers a wide choice of physical and virtualized deployment options for Layer 2 and Layer 3 access network functions.
- Compose supports service providers in making their networks software-defined with a variety of software management tools and services, including the scalable SD-WAN Xpress.

As service providers embrace SDN and NFV deployment models, Ekinops enables future-proofed deployment today, enabling operators to seamlessly migrate to an open, virtualized delivery model at a time of their choosing.

A global organization, with operations in 4 continents; Ekinops (EKI) - a public company traded on the Euronext Paris exchange - is headquartered in Lannion, France, and Ekinops Corp., a wholly-owned subsidiary, is incorporated in the USA.

