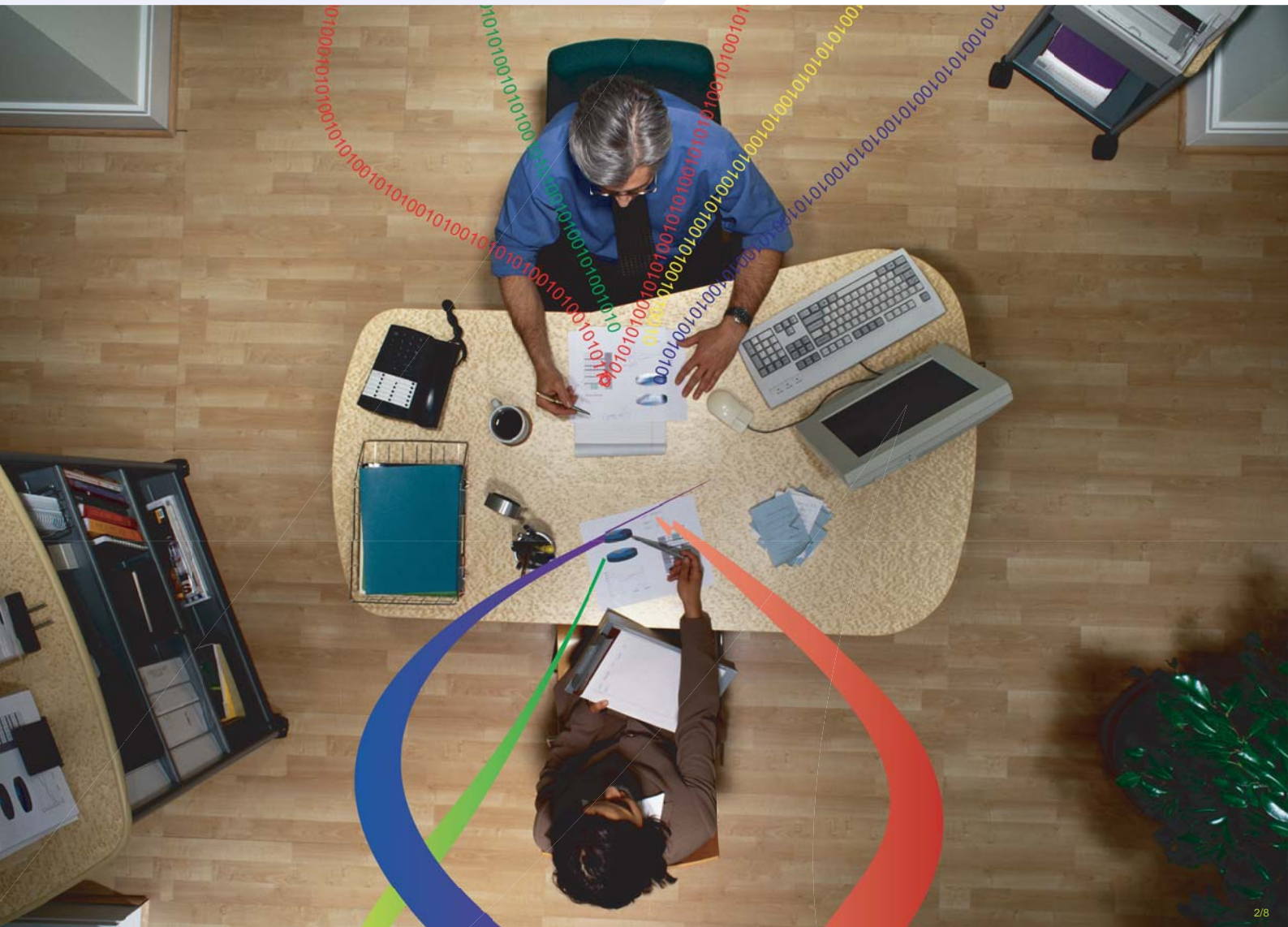# mGate

gateways & converters

iMAK

Connecting networks - a Next Generation solution

The differing principles of switching, control and transmission of information in existing telecommunications networks prevent operators from exploiting their full potential. Special gateways are employed to provide successful connection between traditional telephone networks and IP networks (including Next Generation networks).

Gateway equipment allows operators to expand their field of activity and enables the deployment of new services.

Our mGate equipment line supports the exchange of voice traffic and signalling data between circuit-switched and packet-switched networks.

It converts various signalling protocols (E-DSS1, SS7, CAS2, R2, SIP, H.323, H.248/MEGACO, SIGTRAN) and provides interconnection between different kinds of networks.

Features

With the gathering pace of conversion to NG networks, demand is growing fast for high-capacity, high-performance equipment that can connect traditional telephone networks to new, developing networks. The mGate line meets and surpasses these requirements:

• **Compatibility with third-party equipment.** In years of exploitation in the field, mGate gateways have proven their complete compatibility and reliability in use with equipment from the world's leading manufacturers. Regular tests and trials maintain the mGate line's high level of compatibility.

• **Scalable architecture.** mGate architecture allows the construction of compact and economical gateways that can be progressively scaled to increase capacity. Gateway board modules slot into a standard 19″ chassis, allowing from 1 to 12 modules in one chassis.

• **Effective resource usage.** A wide range of gateway boards with capacity for 80, 120 and 160 channels ensures effective use of network resources.

• **Flexible modular structure.** The gateway's architecture allows its capacity to be changed flexibly, while a comprehensive range of board types makes expansion and optimization of the system as simple as possible.

• **Support for wide range of signalling protocols.** Our equipment can convert any combination from the range of supported protocols: E-DSS1, SS7, CAS2, R2, SIP, H.323, H.248/MEGACO, SIGTRAN.

- **Wide range of supported codecs.** The ability to work with different codecs means that mGate equipment can be deployed in virtually any network.

- **Unified maintenance system.** System maintenance can be carried out using a number of means: Telnet/SSH, FTP, a graphical Web interface and command line interface. The system for controlling equipment status and various levels of alarm signal features an SNMP and can be integrated with existing monitoring systems already in the network. mGate modules are connected by a common management network, allowing maintenance and reconfiguration to be handled from one center.

- **Adaptation.** mGate equipment features a high-performance echo cancelling system developed specially to deal with the peculiarities of Russian telecommunications networks.

• **Traffic logging.** mGate provides CDR logging, and can also log transit traffic.

• **Network reliability.** To increase general network reliability, all mGate equipment has internal switching capability which is brought into play if softswitch servers are offline.

• **Increased reliability.** The system has safeguards to protect it from failures in the control, switching, transmission channel and power supply systems.
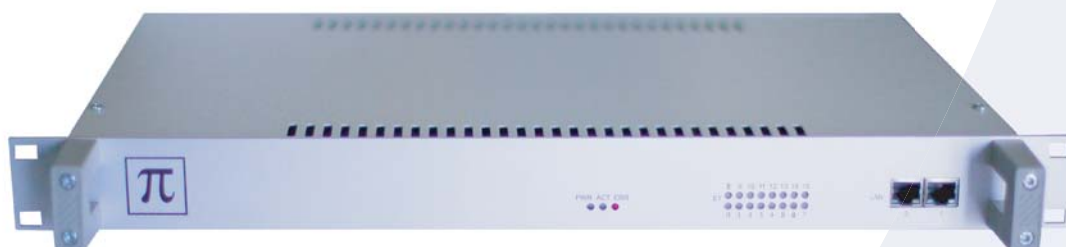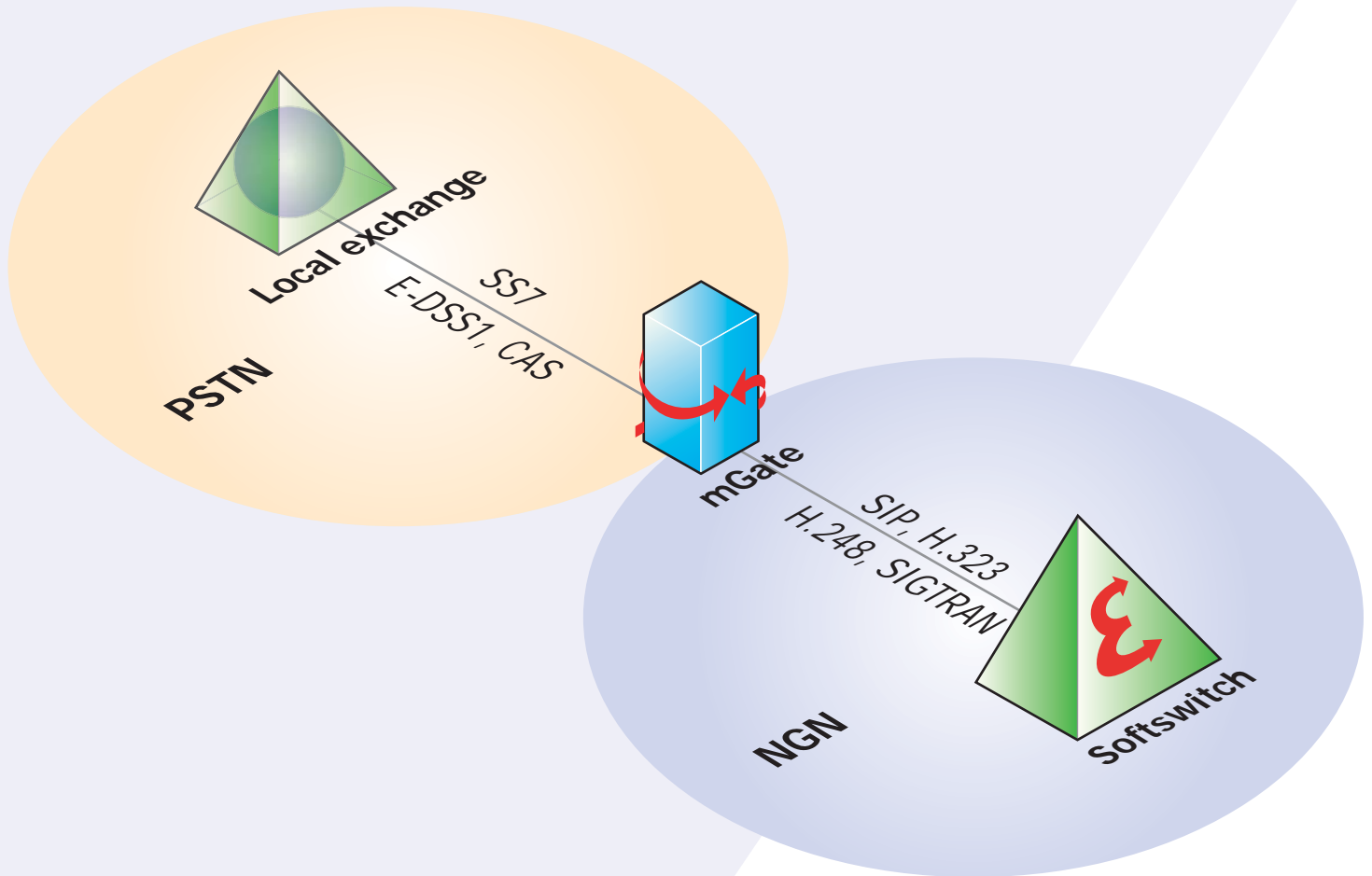
Equipment

The mGate equipment line:

• **mGate.ITG** – a gateway for conversion of signalling protocols (E-DSS1, SS7, CAS2, R2, SIP, H.323, H.248/MEGACO, SIGTRAN) and voice streams. Scalable up to 16 E1.

• **mGate.CTG** – a gateway for creating high-capacity connection points. The capacity and number of E1 connections is specified by the operator and can easily be expanded if necessary. In terms of its modular construction, mGate.CTG is the same as mGate.ITG.

• **mGate.CDR/ITG** – specialist equipment for logging transit traffic from operators connected by E1 streams. mGateCDR/ITG keeps Call Detail Records (CDR) for all calls. Aside from traffic logging, mGate.ITG/CDR can also provide the same functionality as mGate.ITG or mGate.CTG.

iMAK

Application

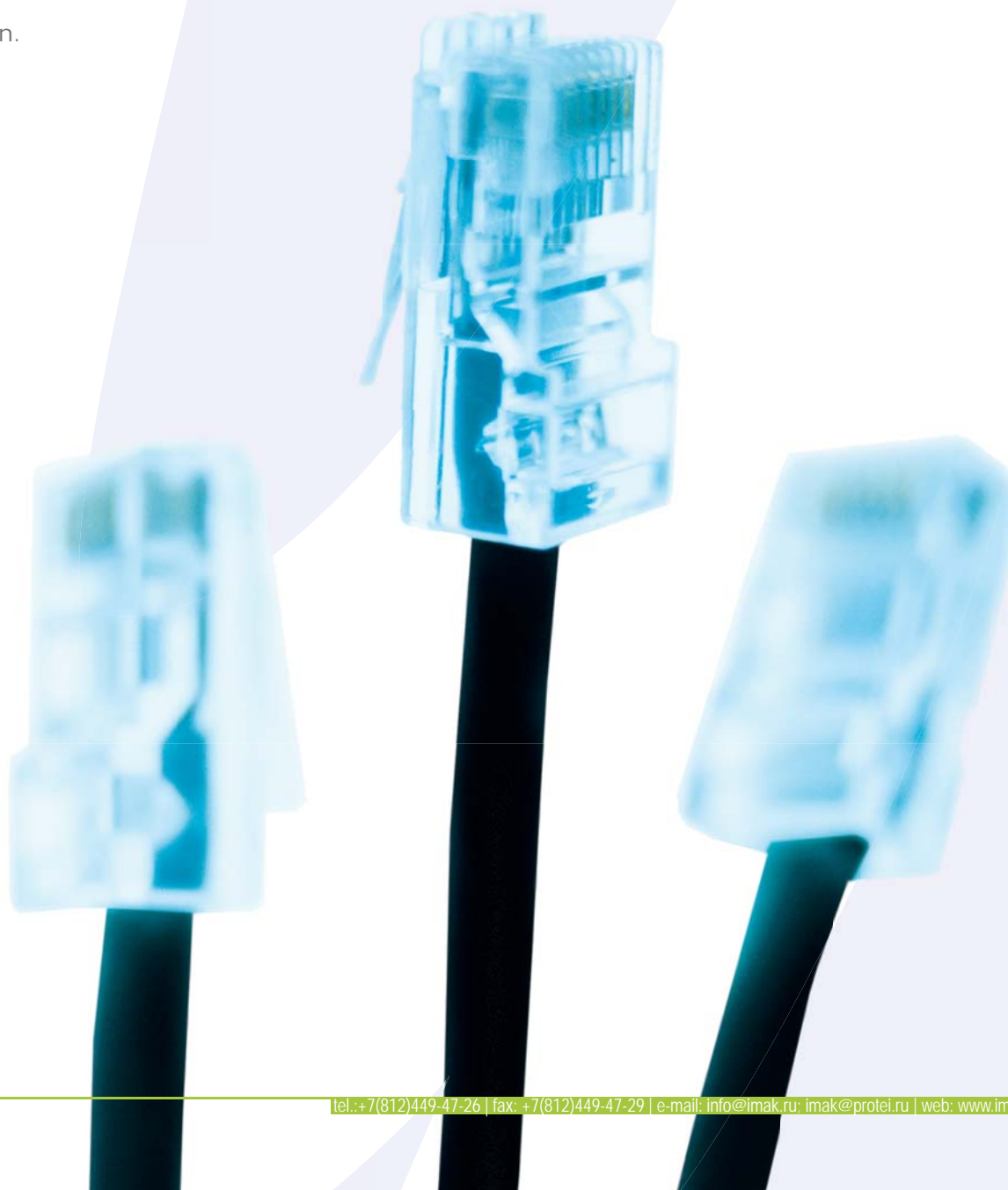mGate equipment can be used in a variety of applications:

• As an IP-telephony gateway for converting voice and fax protocols transmitted over circuit-switched networks into a format suitable for transmission over IP networks.

• Processing transit traffic is one of the main uses for mGate. In this case the gateway passes transit traffic, keeps CDRs and provides all necessary information to the billing system on demand.

• As a traffic logging solution, mGate allows you to control and log incoming and outgoing traffic from/to connected networks.

• mGate can convert signalling information streams between telecommunications networks.

Basic mGate specifications

Characteristic	Value
System capacity dependent on configuration: • 19" module 1U • 19" module 6U (chassis)	 - up to 4 E1 - up to 48 E1
Interface for connection to PSTN. Physical layer properties: • Digital stream rate • Linear code	120 Ohm, balanced (ITU-T G.703 recommendation) • 2048 Kb/s • HDB3
Interface for connection to network with IP-packet routing	Ethernet 10/100/1000 Base-T
Supported protocols	CAS2, E-DSS1, SS7, SIP, H.248, SIGTRAN, H.323
Voice codecs	G.711, G.723.1, G.726, G.729
Maintenance	Configuration via secure Web connection, CLI, telnet/SSH, FTP, SNMP
Power supply	1. -48V (-10/+15%) 2. -60V (-10/+15%)