

Global Roaming eXchange (GRX).

International Carrier Sales & Solutions (ICSS)

Life is for sharing.



Mobile
World

Fast, always-on global mobile data services.

With the advent of the latest mobile technologies, end users expect their mobile operators to provide them with mobile data services wherever they are. In an era where mobile phones have become an essential personal and business item and the use of mobile data services is becoming increasingly widespread, your smartphone subscribers expect you to offer them a comprehensive package of

IP-based data communication services – whether mobile banking and payment services, e-mail, Internet and intranet access, or news feeds – both in their home country and abroad. To provide your customers with global access to data mobile services from their terminals, you need to interconnect and roam with other at least GPRS-enabled mobile operators. GRX answers your requirements.

Meet your subscribers expectations through international data roaming services.

Provide your subscribers with global mobile data services thanks to ICSS's GRX solution. Using Deutsche Telekom's IPX backbone network (MPLS), GRX is an IP-based solution for national and international mobile use, facilitating data roaming services for domestic and global mobile operators. The connection between mobile roaming operators is totally private, thus ensuring end-to-end management and optimum security.

Discover ICSS's one-stop-shopping solution opening your business to new opportunities:

- A single IPX access brings you new revenue streams: the solution enables you to reach a vast array of connected data roaming and peering partners, therefore increasing your coverage and, your revenues. Through a single connection, ICSS provides you with a complete data roaming and coordination solution.
- A single interface eases your business: through a single point of contact, ICSS helps you develop your mobile data roaming business. Its experts handle the network monitoring and rerouting of your international interconnect solution.
- A single contract and an attractive pricing scheme: only one contract is necessary to access to global data roaming. ICSS has developed a straightforward and competitive pricing scheme consisting of a one-off installation charge based on the geographic location and technical requirements and a monthly flat rate for all traffic.

Why should you go for ICSS's GRX solution?

Security: a cornerstone of GRX.

ICSS's GRX solution provides you with optimum roaming and peering security. GRX has its own platform and is totally separated from the public Internet, thus doing away with the need for data

encryption. Thanks to the inherent autonomous system (AS) of the solution, the GRX service is free from third-party attacks on data from either the public Internet or other VPNs. IP connectivity is only permitted between mobile operators whose data roaming agreements have been double-checked.

Quality of service.

ICSS guarantees optimum quality of service based on the following criteria:

- Full compliance with the GSMA IR.34 standards
- Protection against network failure through automatic path rerouting
- Periodical updating of GRX DNS
- Accurate data and reporting
- Triggers and alarms notifications of dramatic traffic imbalances
- Different service level agreements providing the highest quality of service (QoS)
- Performance monitoring services using PE routers as measurement points and showing bandwidth parameters, delay, jitter and packet loss
- Trouble ticket reporting and tracking

Experience and footprint of a reliable partner.

Deutsche Telekom ICSS is an international leading provider of IP services and has a long-standing experience in installing IP VPNs worldwide. Thanks to its numerous mobile affiliates in Europe, its significant presence in the United States, its close cooperation with mobile operators around the globe, and its well-established peering connections with every other GRX in the world, ICSS will guarantee that your mobile data solution is reliable and internationally widespread.

How to access the service?

You can access ICSS's GRX service in two ways: either via Fixed or IPSec Access.

GRX Fixed Access.

- Deutsche Telekom can provide you with a physical access to its GRX node.
- Benefits of this access include:
 - Fully enabled for MPLS with CoS
 - Speed up to 2.5 Gbps
 - Low latency and packet loss
 - Virtual load sharing possible with two access links

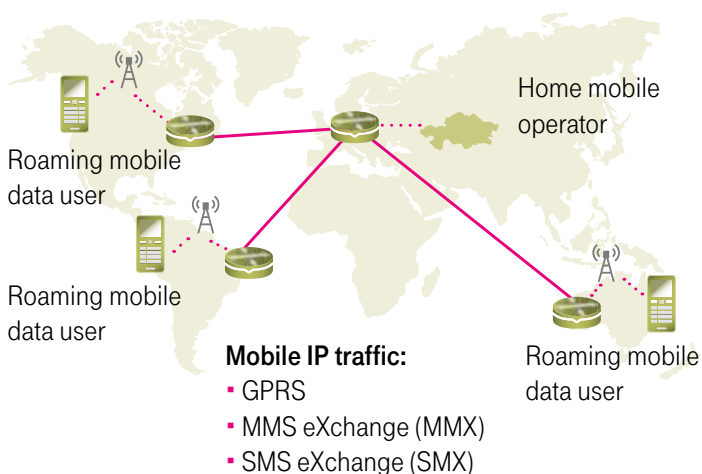
GRX IPSec Access.

If you do not have an upstream provider for Internet access, ICSS will be happy to provide you with this service as well. As a mobile operator, you should ensure that an IPSec gateway is set up and connected to the Internet and the Border Gateway.

Benefits of the IPSec access include:

- Cost effectiveness and reliability
- Scalability
- Possibility to be used as a backup solution
- Fast setup and implementation
- Access to most of ICSS's gateway services (e. g. MMX)

GRX service overview



For further information, see
www.telekom-icss.com

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