OVERVIEW SHEET

SAP

GRX 365

A market leading service for superior network performance and security, community value and global reach.

GRX (GPRS Roaming Exchange) is a secure IP routing network for mobile operators that enables their subscribers to roam across multiple operators and still access their home network data services (such as wireless email, WAP browsing, MMS, SMS, etc.).

SAP GRX 365 is our flagship, global data roaming service that enables mobile operators to route 3G and GPRS/EDGE traffic to a far-end mobile operator with whom they have a roaming agreement. Virtually every mobile operator that has launched data roaming can be reached through a connection with SAP GRX 365. Secure, dedicated access can be provided to over 140 countries. SAP GRX 365 has peering points in Amsterdam and Singapore and will have established third peering point in the US in 2013. With over 19 peering agreements, our GRX reach extends to over 500 mobile operators, making us the world's largest GRX provider based on number of mobile subscribers served.

SAP GRX 365 provides industry-leading SLAs guaranteed by excellent network quality. It supports 3G applications such as IP voice and video, as well as traditional GPRS/EDGE applications. SAP GRX 365 is built as a dedicated VPN across the secure, private, global MPLS IP Backbone built and managed by Cable&Wireless. SAP GRX 365 is compliant with all relevant guidelines and standards including IR.34 and IR.77. SAP is an active participant in the development of GRX communities and the evolution of GRX towards IPX and is involved in a variety of GSMA committees and events.

Value proposition

SAP GRX 365 increases the Average Revenue Per User (ARPU) of its connected mobile operators by providing

- access to a large on-net community
- bringing together a truly global MPLS network
- best-in-class network performance

all of which contributes to excellent end-user experience of inbound and outbound roamers.

Network performance and security

Excellent network performance and security means that SAP GRX 365 provides reliable end-user experience from almost anywhere in the world. This inevitably results in high customer retention and loyalty. SAP GRX 365 is built on the high quality Cable&Wireless MPLS backbone, which is one of the most secure and best performing private IP networks in the world. The backbone supports two services: IP-VPN networks for Cable&Wireless corporate customers, and SAP GRX 365. In response to demand from IP-VPN customer as well as SAP GRX 365 customers, the network was designed and built to meet the even the most demanding requirements.

Global reach

SAP GRX 365 has unrivalled direct global network reach with Points of Presence in Europe, Africa, the Middle East, Asia Pacific, North and South America and the Caribbean, and resilient connectivity to the GRX peering points in Amsterdam and Singapore. In most cases, mobile operators can have a dedicated connection to a network node nearby. Proximity to a network node means lower connectivity costs, even to a secondary node for full resiliency, and a better SLA for Service Availability. SAP GRX 365 offers Domain Name Service with three DNS servers, Singapore, Munich and Swindon (UK), all fully synchronized with the GSMA Root DNS.

Community value

SAP GRX 365 connects over 500 mobile networks, many of them the top two players in their respective countries with high ARPU customers. SAP GRX 365 offers the world's largest on-net community in terms of connected mobile subscribers. A large on-net community decreases dependency on third party GRX networks and peering points. The experience of the quality of on-net data communications greatly contributes to user satisfaction. This strengthens a mobile operator's inbound and outbound roaming revenue. And to retain an inbound roamer with excellent data connectivity guarantees the voice traffic of that roamer as well.

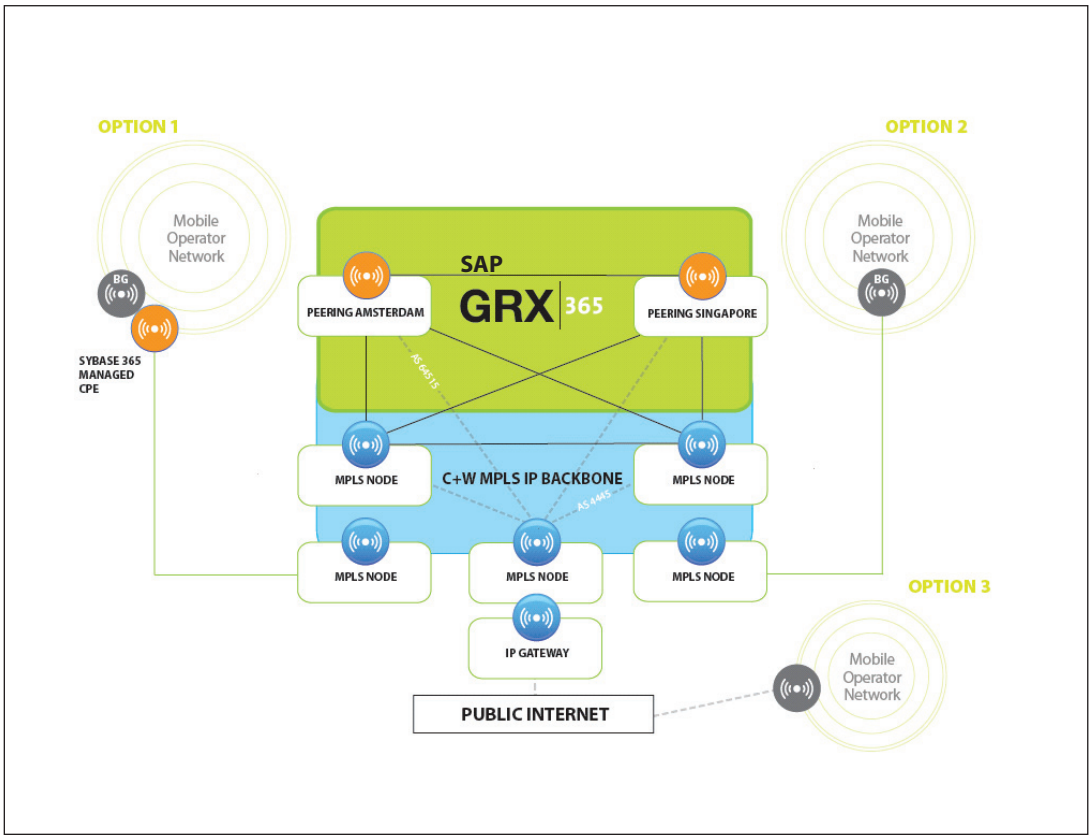
Additional services +product roadmap

Services that are supported on SAP GRX 365 in addition to data roaming are MMS interoperability, including MMS Hub, Roaming Signaling and SMS. IPX will enable interoperability of many new services between carriers, mobile and fixed. SAP GRX 365 is IPX-ready. Since SAP GRX 365 is built on an MPLS IP Backbone, Classes of Service can be offered to support various applications including Voice and Video over IP.

SAP has substantial experience in negotiating and establishing service interoperability. We are well aware of sensitivities around quality, reliability, financial accountability and fraud. Developing and investing in new IPX services, using GRX as a basis, is firmly part of our strategy.

Connectivity options

SAP GRX 365 offers two types of connectivity: Dedicated connectivity and IPSec across the Internet. Each connection type can be provided with full resilience: a physically diverse path, with traffic balancing across the two connections, if required.



Service Level Agreement
The Service Level Agreement has performance targets in three areas:-
1. Service provisioning at agreed delivery date
2. Service availability defined at the service level; this SLA item can be improved by using two connectivity links
3. Network performance per Class of Service: IP packet loss and latency and jitter

Performance against target is backed by credit policies for non-compliance.

Customer services + support
SAP supplies solutions to leading mobile operators throughout EMEA, the Americas including the Caribbean, and the Asia-Pacific region. With specialists dedicated exclusively to meeting our customers' requirements, SAP has an excellent track record for service design and implementation.

We offer comprehensive commercial, technical and operational support at all phases of the project lifecycle, from planning through delivery to ongoing maintenance and enhancement. In order to simplify communication with our customers, we keep the number of contact points to a minimum and assign clear responsibilities to specialists within our organization.

We offer service reliability backed up by service schedules, 24x7 traffic control from our state-of the-art Network Operations Management Centers, and a round-the-clock helpdesk for fault reporting and handling.

Overall responsibility for the operational relationship for each customer is assigned to a nominated, GRX-dedicated service manager.

Web-Based Tools
SAP GRX 365 customers have access to two web-based tools: Diagnostics tool and reporting for SAP GRX 365

Reporting for SAP GRX 365
This tool provides near real-time information and historic data and diagrams about the performance of the core network, the dedicated connection and the managed router.

Diagnostics tool for SAP GRX 365
The diagnostics tool has three query and diagnostic options.

Query options
1. Full IP BGP Route: This shows the full GRX routing table of the site you have selected.
2. IP BGP Route by Address: This allows you to enter an IP address or CIDR IP address and instruct the tool to retrieve the routes it has available and shows the route that is best and the one that is used. It also displays other BGP attributes such as communities and AS Path.
3. IP BGP Route by AS: This allows you to search for routes based on an AS number. (Useful if you don't want to search manually through the entire routing table). It is also very useful to find out the routes available from your own AS and those of the destination AS.

Diagnostic options
1. Ping: A diagnostic tool - Uses the well known PING utility to send a series of ping packets from the GRX site you have chosen to the address specified and display the results.
2. Traceroute: A diagnostic tool – Uses the well known traceroute utility to display the path the trace route packets take from the GRX site you have chosen, to get to the specified destination IP address.
3. DNS Query: This tool is comparable to the command line tools nslookup or dig on Windows or Unix operating systems. It allows hostname/address queries to be performed live on the GRX DNS servers.

For more information:

Visit: www.sybase.com/365 **Read:** http://blogs.sybase.com **Email:** info365@sybase.com

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