

iCore® 3G GSN Universal Mobile Telecommunications System (UMTS) Packet Core

Operators are enjoying increases in demand and ARPU from a new wave of multimedia devices and applications. They're also struggling to ensure that their networks are keeping pace with subscribers' requirements for more, and smarter, bandwidth. Tecore's all-IP 3G General Packet Radio Services (GPRS) Support Node (GSN) provides a powerful, scalable and flexible packet core for UMTS services. The 3G GSN can be deployed as a Serving GPRS Support Node (SGSN), Gateway GPRS Support Node (GGSN) or both. As with all Tecore products, the 3G GSN is fully compliant with the applicable 3GPP standards to be interoperable with other vendors' equipment, is available on a standalone basis on a range of carrier-grade hardware platforms, and can also be integrated as a blade in a complete iCore network system, Tecore's multi-technology platform is capable of evolution to 4G via software upgrades.

Commercial Carriers

The 3G GSN can be deployed on a standalone basis, on a carrier-grade platform, as part of a macro 3G network. It can also be integrated into a complete, multi-technology iCore network from Tecore, allowing operators to reap revenues from 2G services while fulfilling demand for next-generation devices and applications.

Rural and Remote Systems

The challenge facing many operators today is how to provide service to rural and remote areas in an economic fashion while maintaining the same services as their main network. For these scenarios, Tecore offers the Rural Village System (RVS). The RVS turns remote build-outs that are traditional loss leaders to revenue potential. The RVS is a flexible network solution for distributed deployments in multiple wireless technologies and includes the iCore network elements and any combination of RAN elements (2G GSM and 3G UMTS) to meet the operator's needs. Targeted at scenarios for hundreds to several thousand subscribers, the RVS provides a compliant solution that extends the network to previously unreachable (technically or economically) locations.

Government/Military Systems

The 3G GSN is ideal for tactical and first responder systems where the latest communication technologies, streamlined operation and mission-critical security features are essential. A complete, multi-technology voice and data-capable mobile network contained in a single ruggedized case can be operational in one hour. With scalability based on standalone or integrated operations, this system is ideal for environments ranging from embassies to the battlefield.



FEATURES AND BENEFITS

- ▶ Deployable as UMTS, SGSN, GGSN, or both
- ▶ Supports up to 3,000 simultaneous attaches and activates with a data throughput of 700 Mbps
- ▶ Supports up to 50,000 subscribers

ICORE 3G GSN[®] Specifications

GENERAL

General Capabilities	<p>Compliant with 3GPP Release 99 through HSPA+ packet data support</p> <p>Deployable as WCDMA SGSN, GGSN, or both</p> <p>Supports up to 3,000 simultaneous attaches and activates with a data through-put of 700 Mbps on COTS hardware (Intel Xeon Quad core 3.0+ GHz, 1+ GB RAM Linux platform)</p> <p>Supports 50,000 subscribers</p>
SGSN Capabilities	<p>When deployed as an SGSN, iCore UMTS+ GSN handles inbound and outbound packet data traffic to/from mobile stations in a geographical area. It also handles interactions with the short messaging infrastructure.</p> <p>Mobility Management</p> <p>HLR Addressing</p> <p>Session Management</p> <p>SMS</p> <p>Charging Functions</p> <p>Authentication and Identity Check</p> <p>Security</p> <p>Compression</p> <p>Routing</p>
GGSN Capabilities	<p>Subscriber Session/Data Management: Dynamic IP addressing, static IP address allocation, five PDP contexts per MS, with different QoS classes</p> <p>Charging Function</p> <p>Routing</p> <p>RADIUS Accounting</p>
Operating System	Linux-based processing
SGSN Interfaces	<p>RNC (Iu-PS*)</p> <p>GGSN (Gn)</p> <p>SMS IWMSC and SMS Gateway MSC (Gd*)</p> <p>HLR (Gr*)</p> <p>CGF (Ga)</p> <p>* supported on IP using SIGTRAN (M3UA/SCTP)</p>

GGSN Interfaces	<p>HLR (Gc)</p> <p>Charging Gateway Entity (Ga)</p> <p>SGSN (Gn)</p> <p>RADIUS Server</p> <p>DHCP</p>
LTE Interoperability	<p>S3 Diameter interface to MME</p> <p>S4 Diameter interface to SGW</p> <p>S13 Diameter interface to EIR</p> <p>Gx interface to PCRF</p>
Management Interfaces	<p>TCL/Tk-based GUI as management interface</p> <p>Local GUI for configuration and management:</p> <p>Configure, View status & statistics, Receive alarms from the GGSN over proprietary interface, Perform actions like Network Requested PDP deactivation, Generation of UDRs and CDRs, etc.</p> <p>Initialization and provisioning from configuration file</p> <p>Elementary fault management functions for monitoring and reporting of errors occurring in the system and restart in case of severe errors/faults</p> <p>Supports E-mail notification of generated alarms to desired email addresses</p>

