

# 3G Radio Network Controller

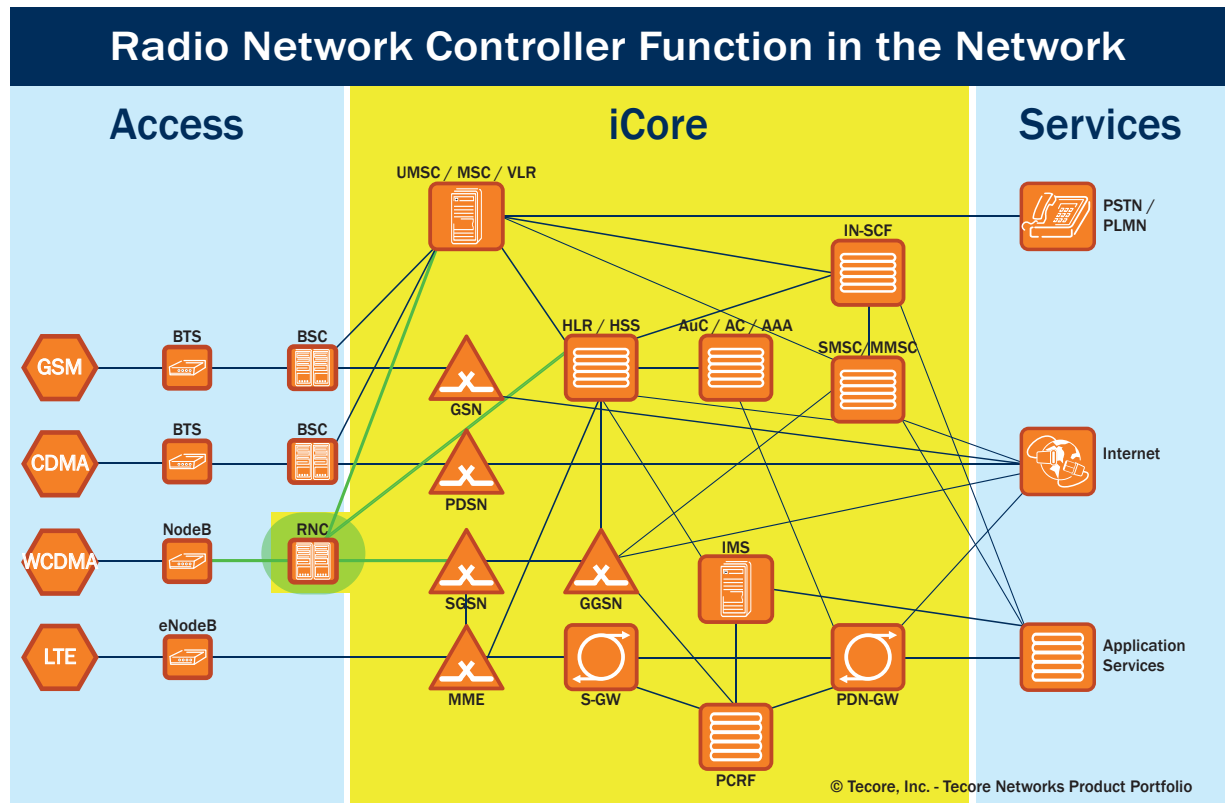


The iCore WCDMA / HSPA Radio Network Controller (RNC) leverages the foundation technologies of the Tecore portfolio: completely standards-based; all-IP; scalable — with pico, micro and macro versions to fit a range of network sizes.

Tecore has adopted 3GPP for 3G and 4G infrastructure due to the robustness of end-to-end transport via IP, introduction of the IP Multimedia Subsystem (IMS) core network, and support for multiple access technologies. The RNC controls the NodeBs, performs radio resource management, handles security functions, congestion control, and admission control, and delivers voice traffic to the media gateway and data traffic to the Serving GPRS Support Node (SGSN). Tecore's RNC is compliant with 3GPP releases 5, 6 and 7, for an IP-centric solution interoperable with any standards-compliant NodeBs, and even supporting multiple vendors' NodeBs simultaneously. *continued*

### Features

- Compliant with 3GPP TS25.401 V9.0.0 & 410 V9.0.0 R7 (backward compatible with R5 and R6)
- IP-centric solution
- HA-Capable
- Scalable from 1-1,000 NodeBs
- Simultaneous support for multiple vendors' standards-based NodeBs



The RNC is also available as an integrated module on the iCore platform. iCore is a scalable, all-IP core network platform capable of supporting 2G GSM and CDMA and 3G networks simultaneously. Together with the iCore UMTS Mobile Switching Center (UMSC) and Home Subscriber Server (HSS), the RNC enhances support for 3G services and further streamlines the smallest multi-technology network-in-a-box in the industry. Rural and emerging mobile network operators can optimize total cost of ownership by avoiding the expense of separate RNCs, and supporting multi-vendor radio access networks from one core network. These operators can utilize any 3GPP standards-compliant NodeBs with Tecore's iCore for their RNC and core network elements. Given the continuing dominance of voice traffic compared to data, iCore's capability to switch voice traffic in a centralized manner represents a significant network cost saving for the operator.

Rural and emerging mobile network operators have waited for the national carriers to prove out 3G services and the industry is now moving swiftly to catch up. These operators need a lower threshold of investment, ability to scale the network with the subscriber base, and built-in path to 4G. Tecore provides the optimal solution by enabling WCDMA / HSPA on a multi-technology core that can bridge protocols and generations.

### Commercial Carriers

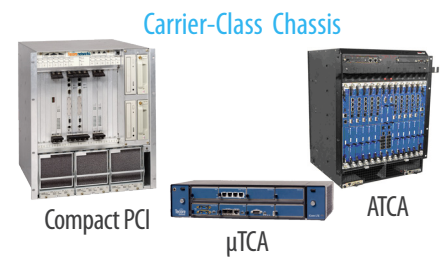
The RNC can be deployed on a standalone basis, on a carrier-grade platform, as part of a macro 3G network. It can also be integrated into a complete, multi-technology iCore network from Tecore, allowing operators to reap revenues from 2G services while fulfilling demand for next-generation devices and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



### Rural Village System



### Government-Class Rapid Chassis



## Software Specifications

Compliant with 3GPP TS25.401 V9.0.0 & 410 V9.0.0 R7 (backward compatible with R5 and R6)

### CORE INTERFACES

- Iu-CS – UDP/RTP
- Iu-PS – UDP/GTP-U
- Iu-R
  - Control Plane: RNSAP over SCCP/M3UA/SCTP
  - User Plane: Framing Protocol using UDP

### NodeB Iu-B INTERFACES

- Control Plane: NBAP using ASN.1
- User Plane: FP over UDP

### LAWFUL INTERCEPT / POSITIONING

- AGPS

### CLOCK SYNCHRONIZATION

- NTP
- PTP

### O&M

- Client/Server
- SNMP

### OPERATING SYSTEM

- Linux-based processing/Centos