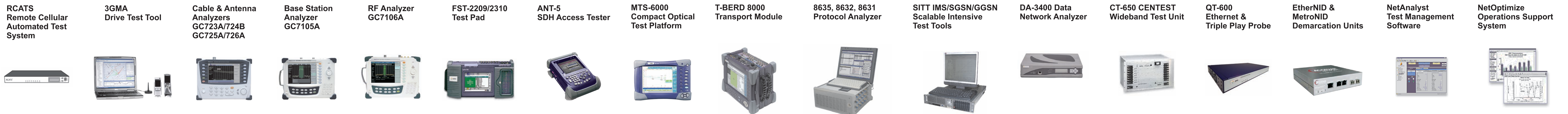
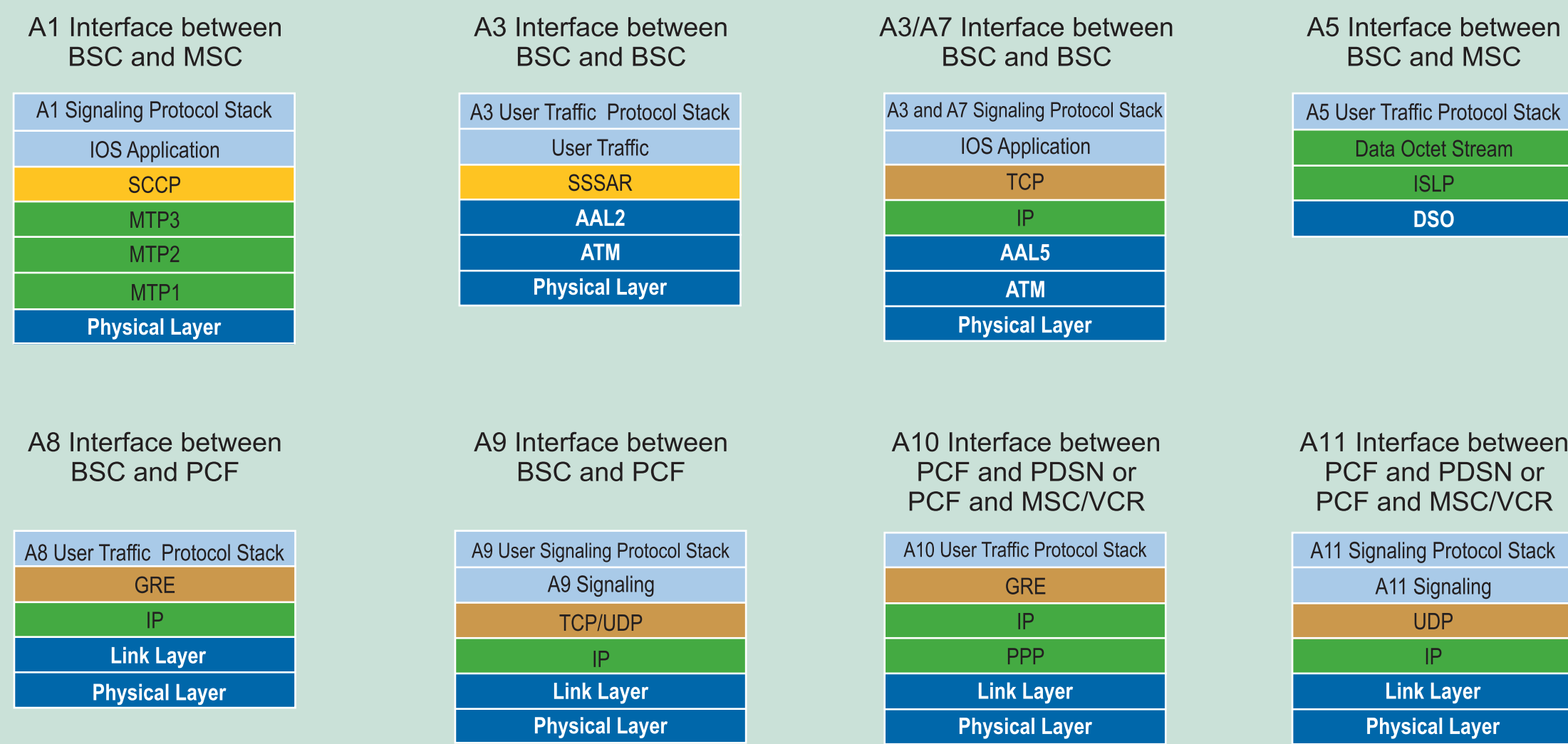


CDMA-Based Network Structure

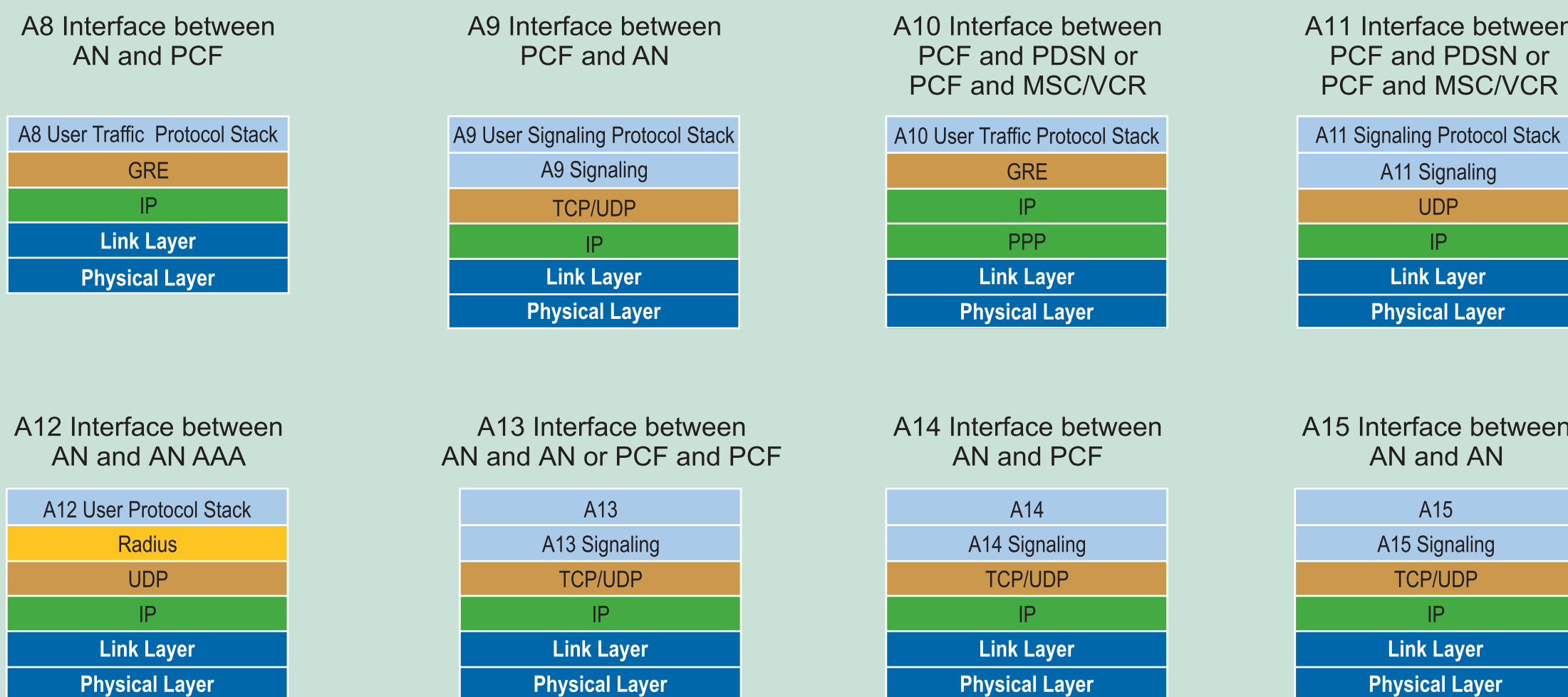


Interface Protocol Stacks

CDMA2000 1x Access Network

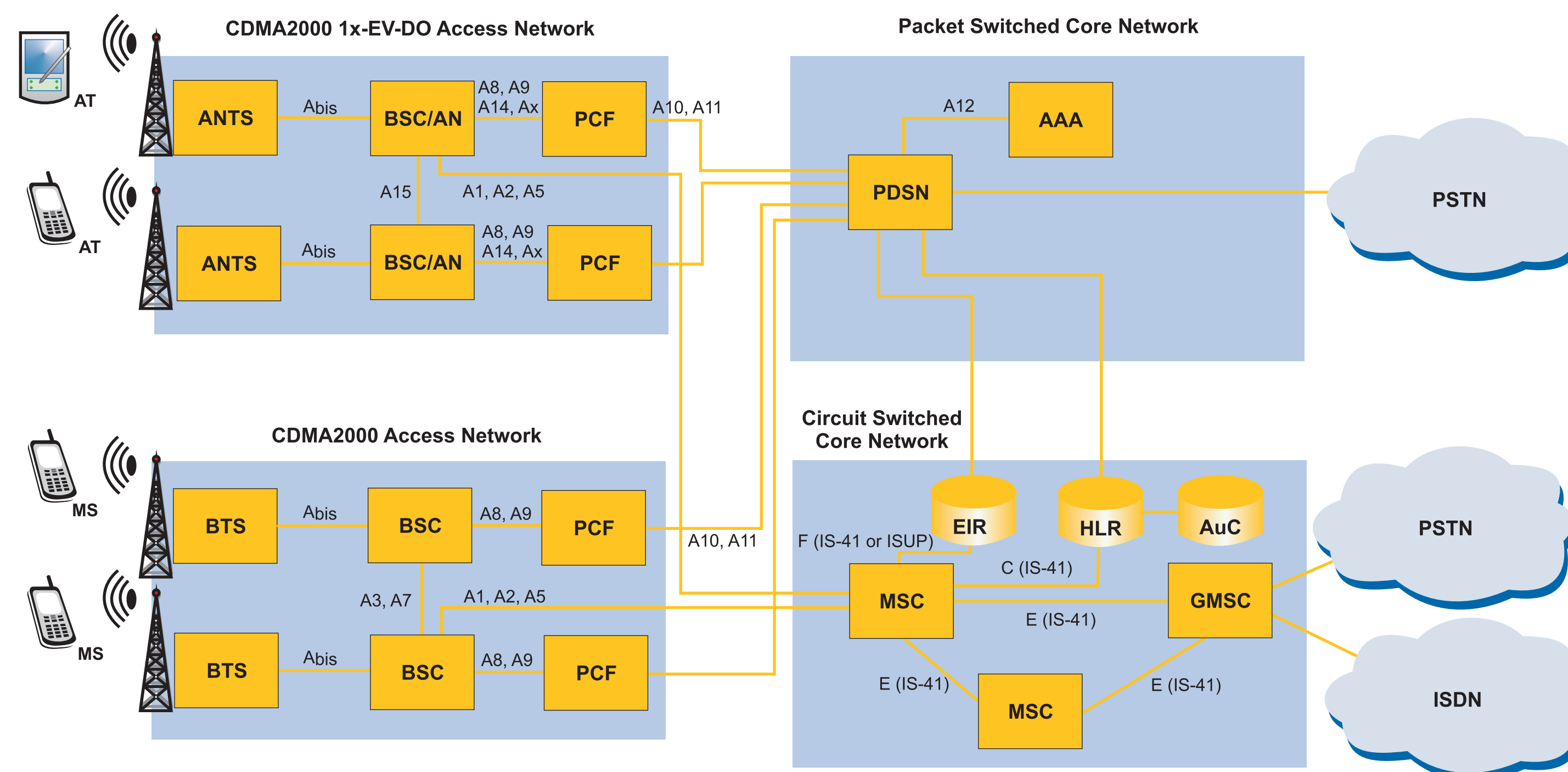
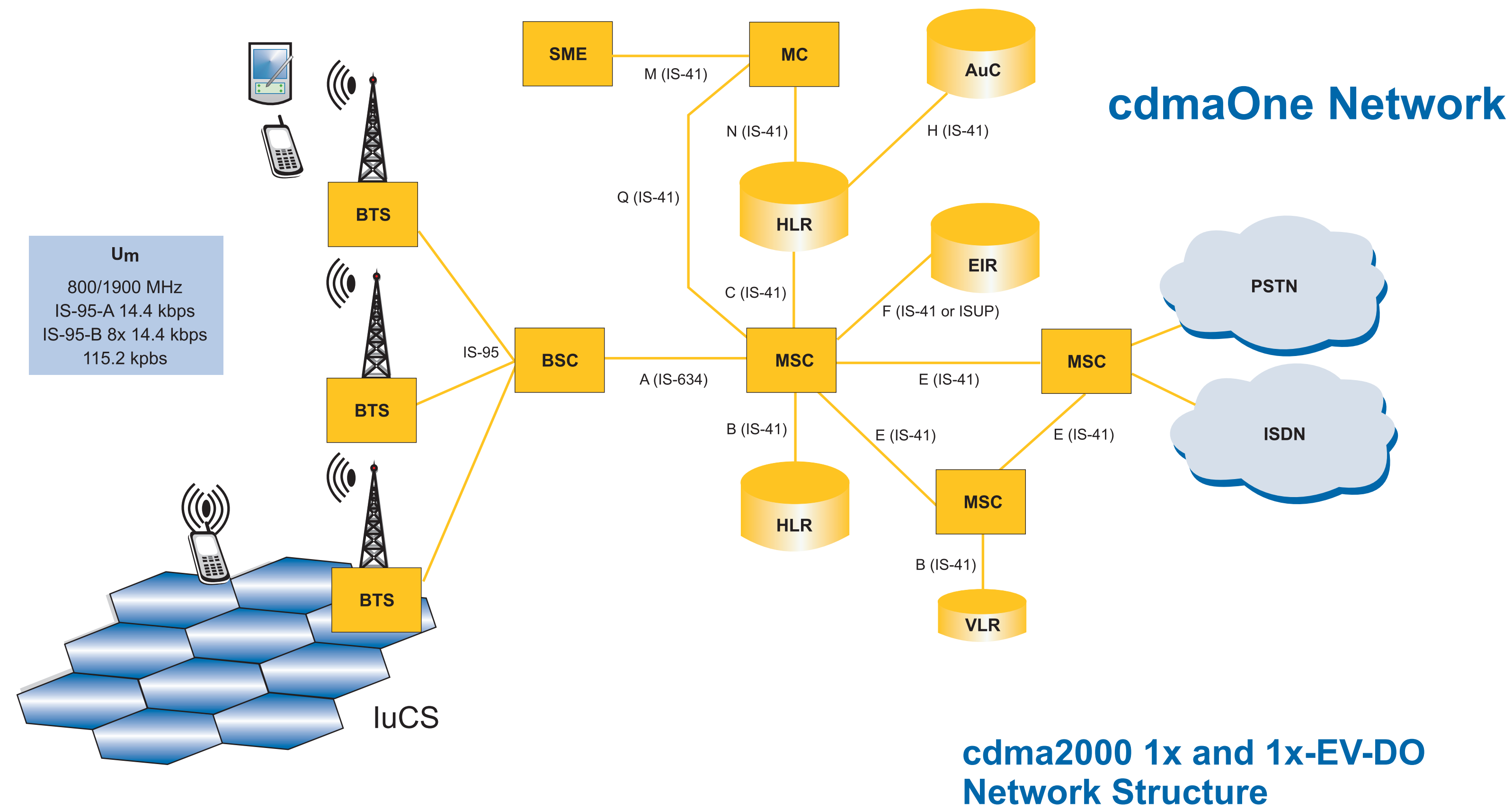
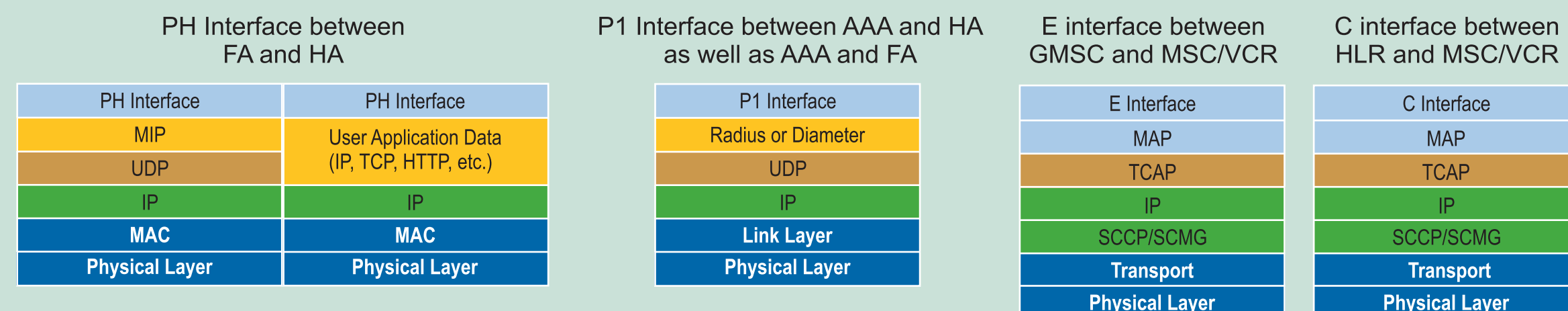


CDMA2000 1x EV-DO Access Network



Packet Switched Core Network

Circuit Switched Core Network



CDMA2000 1x and CDMA2000 1x-EV-DO Interface Descriptions

- A1** The A1 interface carries **signaling information** between the Call Control (CC) and Mobility Management (MM) functions of the MSC and the call control component of the BS (BSC).
A1 Signaling, SCCP, MTP3, MTP2, MTP1 Base Station Application Part (BSAP), BS Management Application Part (BSMAP), Direct Transfer Application Part (DTAP)
- A2** The A2 interface carries **64/56 kbps PCM information** or **64 kbps Unrestricted Digital Information (UDI, for ISDN)** between the Switch component of the MSC and the Selection/Distribution (SDU) function of the BS.
- A3** The A3 interface carries **coded user information (voice/data)** and **signaling information** between the source BS SDU function and the channel element component (BTS) of the target BS. This is a logical description of the end points of the A3 interface. The A3 interface is composed of two parts: signaling and user traffic. The signaling information is carried across a separate logical channel from the user traffic channel, and controls the allocation and use of channels for transporting user traffic.
- A5** The A5 interface carries a **full duplex stream of bytes** between the MSC and the SDU function of the BSC.
- A7** The A7 interface provides **direct BS to BS signaling** for the support of an efficient soft handoff procedure. Only a call release procedure interrupts any Handoff procedure. Multiple concurrent A7 Handoff Add procedures are prohibited for the same physical channel on the same call.
- A8** The A8 interface carries **user traffic** between the BS or Access Network (AN) and the Packet Control Function (PCF). The A8/A9 interfaces support mobility between BSCs under the same PCF.
- A9** The A9 interface carries **signaling information** between the BS or Access Network (AN) and the Packet Control Function (PCF).
- A10** The A10 interface carries **user traffic** between the PCF and the PDSN. The A10/A11 interfaces support mobility between PCFs under the same PDSN.
- A11** The A11 interface carries **signaling information** between the PCF and the PDSN for packet data services and provides a signaling connection between a PCF and PDSN pair (A11). A11 signaling messages are also used for passing accounting related and other information from the PCF to the PDSN.
- A12** The A12 interface carries **signaling information** related to terminal authentication between the SC/MM function in the PCF and the AN AAA (Authentication, Authorization, and Accounting entity for 1x-EV-DO).
- A13** The A13 interface carries **signaling information** between the SC/MM function in the source PCF and the SC/MM function in the target PCF.
- A14** The A14 interface carries **signaling information** between the SC/MM function in the PCF and the AN.
- A15** The A15 interface carries **signaling information** between ANs when inter-AN paging is used.
- Ax** The Ax interface carries **user traffic** between the SC/MM function in the PCF and the AN.

Abbreviations

- AAA: Authentication, Authorization, and Accounting Server
- AAL: Adaptation Layer Type
- AMPS: Advanced Mobile Phone Service
- ARPU: Average Revenue Per User
- AT: Access Terminal
- ATM: Asynchronous Transfer Mode
- AuC: Authentication Center
- BS: Base Station
- BSC: Base Station Controller
- BTS: Base Transceiver Station
- CDMA: Code Division Multiple Access
- CDPD: Cellular Digital Packet Data
- EDGF: Enhanced Data Rates for Global Evolution
- EIR: Equipment Identity Register
- FA: Foreign Agent
- GMSC: Gateway Mobile Switching Center
- GPRS: General Packet Radio Service
- GRE: Generic Routing Encapsulation
- HA: Home Agent
- HLR: Home Location Register
- IMS: IP Multimedia Subsystem
- IMT-2000: International Mobile Telecommunications 2000
- IOS: Interoperability Specification
- IP: Internet Protocol
- ISDN: Integrated Services Digital Network
- ISLP: Intersystem Link Protocol
- IWF: Interworking Function
- LLC: Logical Link Control
- MAC: Medium Access Control
- MC: Message Center
- MIP: Mobile IP
- MS: Mobile Station
- MSC: Mobile Switching Center
- MTP: Message Transfer Part
- PCF: Packet Control Function
- PDSN: Packet Data Serving Node
- PPP: Point-to-Point Protocol
- PSTN: Public Switched Telephone Network
- SCCP: Signaling Connection Control Part
- SME: Short Message Entity
- SMS: Short Message Service
- SSSAR: Segmentation and Reassembly Service Specific Convergence Sublayer
- TCP: Transmission Control Protocol
- TDMA: Time Division Multiple Access
- UDP: User Datagram Protocol
- UMTS: Universal Mobile Telecommunications System
- VLR: Visitor Location Register
- W-CDMA: Wideband Code Division Multiple Access
- 1x EV-DO: 1x Evolution Data Only
- 1x EV-DV: 1x Evolution Data and Voice
- 1x RTT: 1x Radio Transmission Technology
- 3G: Third Generation
- 3GPP: 3G Partnership Project
- 3GPP2: 3G Partnership Project 2

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