



Overview of DPNSS

Updated 3/31/05
Current through Release 1.1(2)

Digital Private Network Signaling System (DPNSS) is an industry standard interface defined between a PBX and an access network. DPNSS expands the facilities normally only available between extensions on a single PBX to all extensions on PBXs that are connected together in a private network.

DPNSS was originally derived from British Telecom's Digital Access Signaling System I (DASS I), and enhanced where necessary to meet private network requirements. DPNSS uses a 2048 kbps or 1544 kbps digital transmission system interface.

DPNSS Signaling Support for Cisco CallManager

Cisco EGW 2200 uses its signaling interworking capabilities to support Cisco CallManager deployments that require the DPNSS protocol. Cisco EGW 2200 allows Cisco CallManager to be inserted into existing DPNSS networks to facilitate migration to IP-based telephony. Cisco EGW 2200 also supports BTNR 188 Issue 6.

The DPNSS PBX interfaces with the IP network by using one of the supported access routers (Cisco 2600, Cisco 3600 or Cisco 3700 class access routers). The access router gives the PBX a physical E1 interface to the IP network and voice packetization. It also provides call control through the Cisco EGW 2200 using MGCP and DPNSS signaling backhaul over IP from the PBX to the Cisco EGW 2200 (and vice versa).

Cisco EGW 2200 performs the following functions in a DPNSS-based network:

- DPNSS to H.323 signaling interworking
- Call control across the IP network
- Feature interworking, including the providing of select DPNSS features
- Centralized call routing and dial plan management
- Computer Telephony Integration (CTI) interfaces to Cisco CallManager for services such as Extension Status for DPNSS Centralized Operator positions
- Network tandem services



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- Centralized billing point, if required

Cisco EGW 2200 offers the following DPNSS features that interwork with Cisco CallManager:

- Basic Call
- Call Hold
- Call Forward (Call Diversion)
- Call Forward Validation (Diversion Validation)
- Message Waiting Indicator
- Calling Name Display
- Call Transfer
- Loop Avoidance
- Call Redirection
- Night Service
- Add-on Conference
- Three-Party Service:
 - Shuttle
 - Transfer
 - Add-on
- Extension Status
- Call Waiting
- Call Offer
- Centralized Operator
- Route Optimization
- Call Back When Free
- Call Back When Next Used

Cisco EGW 2200 supports the following DPNSS features that interwork with Cisco Unity:

- Basic Call
- Call Hold
- Message Waiting Indicator
- Release Transfer

For additional information on these features, see [Overview of DPNSS Features](#).