HN1040 Voice Appliance

Integrating VoIP with Hughes broadband systems.

The HN1040 Voice Appliance is a state-of-the-art telephony device that provides efficient telephone and fax connectivity via the Hughes HN and HX networks. The HN1040 is an excellent solution for the enterprise, kiosk, Internet café, or telephony markets where reliable low-cost telephony service is needed. This inexpensive add-on provides telephony services that can generate additional revenues for value-added resellers (VARs) and service providers. The HN1040 provides up to four toll-quality telephone or Group 3 facsimile channels via satellite to the PSTN or, optionally, to a Voice over IP (VoIP) network.

The HN1040, a simple addition to either the HN or HX terminals, provides the transport for carrying telephony traffic via satellite to the Hughes Network Operations Center (NOC). In a typical configuration, a voice gateway at the NOC provides connectivity to the PSTN. The standard H.323 protocol suite is used between the HN1040 and the gateway for call setup and teardown.

Implementing the G.729AB 8 kbps voice codec with echo cancellation, voice activity detection, and comfort noise generation, the HN1040 offers superior telephony quality. Facsimile calls are supported using the T.38 fax over IP protocol to rates of 9.6 kbps. The HN1040 also supports a flexible dialing plan.

Optimized for use with the HN and HX systems, the voice appliance automatically reserves bandwidth through an HN or HX network when each call is initiated. Additionally, the
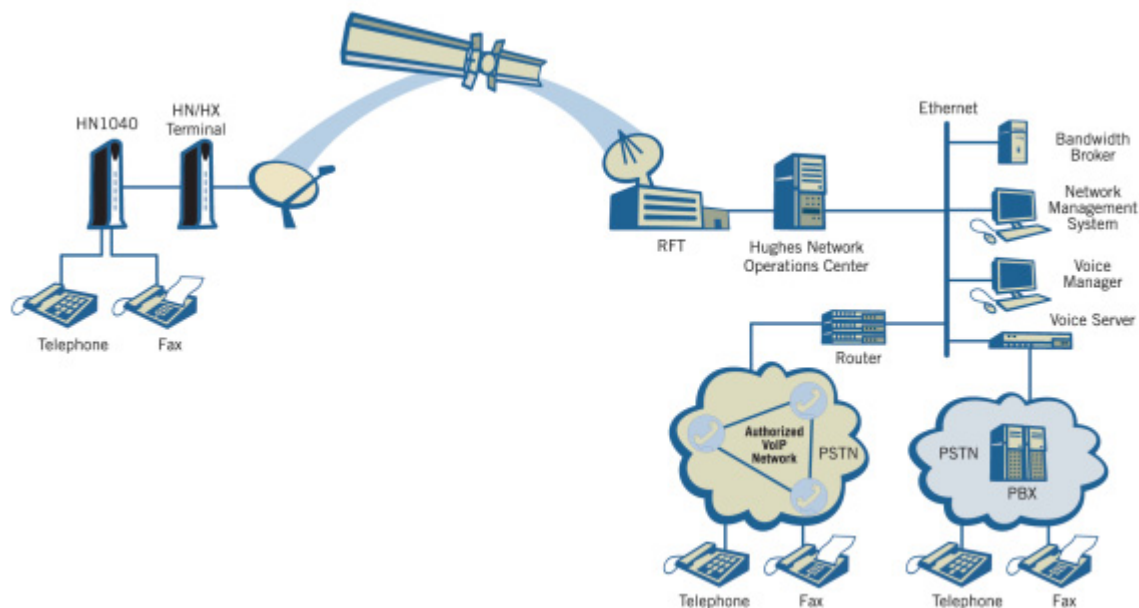
HN1040 and the NOC components prioritize the associated voice stream to ensure end-to-end toll-quality transmission of the call. The prioritization of voice over data significantly improves the quality of service. The HN and HX systems also facilitate short call set-up times—typically less than four seconds—and low end-to-end delay inside the HN and HX networks. Transmission efficiency is further improved by compressing the voice packets.

The Hughes NOC equipment routes the voice calls to the PSTN via an H.323 voice gateway. The voice gateway performs the conversion from the H.323 protocol and the PSTN signaling. The voice gateway provides an E1 interface to the PSTN. Multiple voice gateways may be configured at the NOC. A gatekeeper provides the address resolution between the HN1040 and multiple voice gateways. Alternatively, the voice appliance facilitates international long distance calling to any phone by connecting, via the NOC, directly to a network of multiple Points of Presence (POP) around the world. When integrated with technology from authorized VoIP service providers, the HN1040 supports such advanced features as Interactive Voice Response (IVR) and easy-to-use online account management.

The Hughes Vision® Network Management System (NMS) provides monitoring and control of the voice appliance, as well as the HN and HX terminals. Downloads of software and configuration parameters are also performed by the NMS.

HughesNet™

HughesNet encompasses all broadband solutions and managed services from Hughes, for large enterprises, governments, small businesses and consumers. HughesNet solutions and services are marketed directly by Hughes and its authorized resellers and distributors throughout North America, Europe, India and Brazil. In all other regions of the world, Hughes products and services are available from a growing family of value-added providers and resellers. Hughes satellite products are based on the IPoS (IP over Satellite) global standard approved by TIA, ETSI, and ITU.

■ Key System Features

- ■ Toll-quality voice optimized for satellite transmission
- ■ Prioritization of voice over data traffic
- ■ Guaranteed Quality of Service using Bandwidth Manager
- ■ Scalability by cascading multiple HN1040s
- ■ Short call set-up time—typically 5 seconds or less
- ■ Low end-to-end voice delay
- ■ Flexible dial plan
- ■ Easy installation and commissioning
- ■ Low power, high reliability

■ Voice Appliance

- ■ One to four telephony ports
- ■ Connects to the HN and HX terminals via LAN port
- ■ H.323 and optional authorized VoIP service provider call agent optimized for the HN and HX systems
- ■ Group 3 fax up to 9600 bps
- ■ DTMF

■ Voice/Fax Features

- ■ Toll-quality 8 kbps CS-ACELP (G.729AB)
- ■ Toll-quality 5.3/6.3 kbps LD-CLEP (G.723.1)
- ■ G.165/G.168 echo cancellation
- ■ T.38 fax over IP
- ■ Voice activity detection
- ■ Comfort noise generation
- ■ Pay telephone support via loop reversal

■ Configuration, Status, and Commissioning

- ■ Uses Hughes Vision Network Management System
- ■ SNMP management of voice appliance
- ■ Satellite download of VAP configuration and software

■ PSTN Gateway

- ■ Implements standard H.323 protocol
- ■ E1 Interface to PSTN
- ■ Digital R2 signaling
- ■ Flexible call routing

■ Interfaces

- ■ One 10/100BaseT Ethernet port (not for data traffic)
- ■ One to four FXS 2-wire telephone ports

■ Input Power

- ■ 90–240 Vac, 47–63 Hz
- ■ 12–24 Vdc (optional)

■ Mechanical

- ■ Shipping Weight: 3.5 lbs (1.6 kg)
- ■ Dimensions: 9.5"W x 1.8"H x 10.5"D (24cm W x 4.6cm H x 26.7cm D)

■ Environmental

- ■ 0° C to +40° C, RH 95% noncondensing
- ■ RoHS compliant

■ Optional Features

- ■ International long-distance calling to any phone
- ■ Double-hop VAP-to-VAP calling

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