Intel® NetStructure™ Host Media Processing Software 1.2 for Linux

Release Guide

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Revision History

This revision history summarizes the changes made in each published version of this document.

Document No.	Publication Date	Description of Revisions
05-2323-001	September 2004	Initial version of document.

About This Publication

The following topics provide information about this publication.

Purpose

This Release Guide provides information about the features, system requirements, and release documentation for the Intel® NetStructure™ Host Media Processing (HMP) Software 1.2 for Linux.

Intended Audience

This Release Guide is intended for the following types of customers:

- System Integrators
- Toolkit Developers
- Independent Software Vendors (ISVs)
- Original Equipment Manufacturers (OEMs)

How to Use This Publication

The information found in this document is organized into the following sections:

- Chapter 1, “Release Overview” - describes the highlights of this release.
- Chapter 2, “System Requirements” - describes the system software and hardware requirements for the HMP Software.
- Chapter 3, “Release Features” - describes the features supported in this release.
- Chapter 4, “Development Software” - describes the various development software libraries and demonstration programs that are available as part of this release.
- Chapter 5, “Release Documentation” - provides a list of the documents that accompany this release, either on the CD or downloadable from the Intel® support Web site.

Related Information

See the following for additional information:

- *http://developer.intel.com/design/telecom/support/* (for technical support)
- *http://www.intel.com/design/network/products/telecom* (for product information)

Release Overview 1

This chapter provides a high level overview of the Intel® NetStructrure™ Host Media Processing (HMP) Software 1.2 for Linux.

HMP Software performs media processing tasks on general-purpose servers based on Intel® architecture without the need for specialized hardware. The software provides media services that can be used to build flexible, scalable, and cost-effective IP media servers.

HMP software performs like an Intel® NetStructure™ board with DM3 architecture to the customer application, but all media processing takes place on the host processor. To help customers accelerate their time to market and migrate their existing applications to IP, the software also supports two direct APIs: R4 for media processing and Global Call (GC) for call control.

HMP supports the industry-standard H.323 and SIP protocols for call control, and RTP/RTCP for media streaming over IP in G.711, G.723.1, G.729A, and G.729AB format.

HMP software is optimized to run on the Intel® Pentium III, Pentium 4, and Xeon processors. Since HMP software is implemented as a software-only product, it can be installed and upgraded like any other software. The HMP software is licensed using an industry-standard model in which the MAC address (NIC) is used to node-lock the software to a specific computer. To enable customers to choose combinations of media processing, the HMP media software is available through a flexible licensing scheme.

Refer to Chapter 3, “Release Features” for a list of the features supported by HMP Software 1.2 for Linux.

System Requirements 2

This chapter describes the hardware and software system requirements for the Intel® NetStructure™ Host Media Processing (HMP) Software 1.2 for Linux. This information is provided in the following sections:

2.1 Basic Hardware Requirements

The following hardware requirements for this release are for a minimum hardware configuration:

- Intel® Pentium III Processor (See Table 1 for processor recommendations)
- CD-ROM drive (if installing via CD)
- VGA display
- Pointing device (if using the Linux GUI)
- 100 BaseT Network Interface Card (NIC)

  Note: For 120 channels or higher, using a 1000 BaseT NIC, while still using a 100 BaseT Network, is recommended. In general, better performance will be realized by using a 1000 BaseT NIC, even for configurations of less than 120 channels.

Table 1. Processor Recommendations

Number of User Sessions (RTP and Voice Functionality)	Minimum Processor Type and Clock Speed	
	G.711 (20 msec Frame)	G.723.1, G.729A, or G.729B (Number of Low Bit Rate Coder Sessions = 50% of G.711 Sessions)
Up to 4	Intel Pentium III, 850 MHz	Intel Pentium III, 850 MHz
Up to 32	Intel Pentium III, 1.26 GHz	Intel Pentium III, 1.26 GHz
Up to 64	Intel Pentium 4, 2.0 GHz	Dual Intel Xeon, 2.0 GHz
Up to 96	Single Intel Xeon, 2.4 GHz	Dual Intel Xeon, 2.8 GHz
Up to 120	Dual Intel Xeon, 2.4 GHz	Dual Intel Xeon, 3.06 GHz
Over 120	Dual Intel Xeon, 3.2 GHz	Dual Intel Xeon, 3.6 GHz‡
‡ = Up to a maximum of 60 low bit rate coder sessions		

2.1.1 Hyper-Threading Technology

Hyper-Threading (HT) is only supported on systems using the Intel Pentium 4 or Xeon processors.

2.1.2 Channels Supported

240 Channels are supported in this release.

2.1.3 Memory Requirements

A minimum of 512 MB of memory is required, but 1 GB is recommended.

2.2 Software Requirements

The software requirements for this release are:

- RedHat Enterprise Linux Advanced Server 3.0
- Update 1 (only) - Requires a Certificate of Authorization from RedHat
- Kernel version 2.6.8.1 - HMP Linux 1.2 Software CD No. 2 of 2 (See the readme.txt file for instructions.)
- Supported compilers: GCC Version 3.2.3

2.3 IP Endpoints

HMP interoperates with the following H.323 devices:

- Polycom™ SoundPoint IP 500
- Intel® NetStructure™ PBX-IP Media Gateway
- Cisco AS5300 Universal Gateway IOS Version 12.3(1)

HMP interoperates with the following SIP devices:

- Polycom™ SoundPoint IP 500
- Intel® NetStructure™ PBX-IP Media Gateway
- Cisco AS5300 Universal Gateway IOS Version 12.3(1)

Release Features 3

This chapter lists and describes the features that are supported by the Intel® NetStructure™ Host Media Processing (HMP) Software 1.2 for Linux.

Features

Supported Codecs for IP (RTP) Encoding/Decoding:

- G.711 (64 kbps format) - μ Law and A Law (10, 20, and 30 ms frames)
- G.723.1 (5.3 and 6.3 kbps) - (30 ms frames) (2 or 3 frames per packet)
- G.729A and G.729AB (8 kbps) - (10 ms frames) (2, 3, or 4 frames per packet)

IP Signaling:

- H.323 (H.450.2)
- SIP

Tone Management:

- Inband DTMF detection and generation
- RFC 2833 DTMF detection/generation
- H.245 User Input Indication (UII) Support (Out-of-Band DTMF)

APIs:

- IP Media to support third-party protocol stacks for call control over IP
- Global Call for call control
- Standard Runtime Library for event handling
- R4 for Media Processing for voice, conferencing, fax, and continuous speech processing

Play and Record Format:

- G.711 μ Law and A Law (48 Kbps and 64 Kbps)
- OKI ADPCM (24 Kbps and 32 Kbps)
- G.726 (16 Kbps and 32 Kbps)
- Linear PCM (88 Kbps)

Play and Record Capability:

- Playing and recording files in all supported encoding formats, with or without Wave headers
- Volume Control
- Automatic Gain Control
- Indexed Play

- Stream to Board (streams data to the network interface in real time)

Conferencing:

- Active Talker status
- Digit Detection with tone clamping
- Volume Control
- Monitoring
- Coach/Pupil Monitoring

Speech Integration (Continuous Speech Processing)

Fax over IP (T.38 Fax origination/termination only)

Flexible Configuration Licensing

Network Interface Card (NIC) Failover (implemented by the operating system)

Configurations Tested

The following table lists the resource configurations tested for this release.

Table 2. Resource Configurations Tested

Configuration	RTP	Enhanced RTP	Voice	Conferencing (DCB)	Fax	Speech
IVR (G.711)	120	0	120	0	0	0
IVR (G.711)	240	0	240	0	0	0
Unified Messaging	60	12	60	60	6	60
Unified Messaging	96	60	96	24	8	96
Unified Messaging	200	0	200	0	14	140
Gateway (SIP)	23	11	23	0	6	23
Gateway (H.323)	23	11	23	0	6	23
Conferencing (DCB)	100	60	50	100	0	0
Conferencing (DCB)	240	0	100	240	0	0

Development Software 4

This chapter describes the various development libraries and demonstration programs that are available as part of Intel® NetStucture™ Host Media Processing (HMP) Software 1.2 for Linux.

4.1 IP Media API Library

The IP media library (IPML) API is used to control media on IP devices. Voice over IP applications that use IP signaling stacks other than those supplied with Intel® products may use this library for application development.

IP media library functionality is documented in the *IP Media Library API for Host Media Processing Library Reference* and the *IP Media Library API for Host Media Processing Programming Guide*.

Features

The IP media library (IPML) provides the following features:

- Applications can configure the preferred DTMF mode: UII Alphanumeric, RFC 2833, or Inband. In addition, applications can generate and receive DTMF tones on the TDM bus.
- Media resource management and media resource operations functionality
- Quality of Service (QoS) threshold alarm configuration and status reporting
- Support of Standard Runtime Library (SRL) event management routines for error retrieval

4.2 Global Call API Library

The Global Call API library provides a uniform call control interface for developing applications for multiple network interface technologies. The Global Call API library supports a variety of protocols operating on Intel® NetStructure™ DM3 architecture.

The Global Call API library:

- Is designed to support a both H.323 and SIP protocols
- Provides a consistent application interface for the various protocols and technologies

The generic functionality of Global Call is documented in the *Global Call API for Host Media Processing Library Reference* and the *Global Call API for Host Media Processing on Linux Programming Guide*. HMP-specific functionality is documented in the *Global Call IP for Host Media Processing Technology User's Guide*.

Features

The Global Call API library provides the following features for IP technologies:

- Global Call supports the development of applications that use the host-based H.323 and SIP RADVISION* stacks supplied with the HMP software.
- Applications can open and use devices that support the H.323 protocol, the SIP protocol, or both protocols.
- Applications can use Global Call to register with a Gatekeeper (H.323) or Registrar (SIP).
- Applications can configure the preferred DTMF mode: UII Alphanumeric (H.323 only), RFC 2833, or Inband. In addition, applications can initiate the generation of DTMF, and receive notification of DTMF detection.
- Basic call control that includes the ability to make a call, detect a call, answer a call, release a call etc. The implementation of these capabilities is based on a generic call state model that maintains a consistent call control paradigm across all technologies supported by Global Call.
- Global Call supports the sending and receiving of fax information by the inclusion of the T.38 UDP coder in the capability exchange. Applications can be configured to receive notification of audio-to-fax and fax-to-audio transition as well as notification of T.38 status changes.
- Feature Transparency and Extension (FTE), that is, the ability to extend the capabilities of Global Call to handle features that are technology-specific so that those features are accessible via the Global Call interface.
- Global Call Alarm Management System (GCAMS) that provides the ability to manage alarms.
- Real Time Configuration Management (RTCM) that allows the modification of call control and protocol elements in real time, providing a single common user interface for configuration management.
- Easy access to error information using **gc_ErrorInfo( )** for function failures and **gc_ResultInfo( )** for event information.
- Selective call control library initialization using **gc_Start( )** that allows applications to control which call control libraries are started during initialization.

- Library information functions that enable an application to get information about the call control libraries being used.

4.3 Voice Library

The Voice API library provides a rich set of features for building a wide range of high-density call processing applications such as voice messaging, interactive voice response, telemarketing/call center, operator services, and more. Features include tone signaling, global tone detection and generation, call progress analysis, and a variety of voice encoding algorithms selectable on a channel-by-channel basis.

Refer to the *Voice API for Host Media Processing Library Reference* and the *Voice API for Host Media Processing Programming Guide* for more information.

Features

The Voice API library provides the following features:

- Call progress and call analysis including the ability to handle pre-connect (Call Progress) information that reports the status of the call connection, such as busy, no dial tone or no ringback, and post connect (Call Analysis) information that reports the destination party's media type (that is, voice, answering machine, fax, or modem).
- The range of valid values for DX_MAXSIL and DX_MAXNOSIL is 10 ms to 250 seconds (1 to 25000 in 10 ms units). There are no further restrictions within this range.
- Tone detection/generation:
  - Dual Tone Multi Frequency (DTMF)
  - Multi Frequency (MF)
  - Global Tone Detection (GTD) user-defined tones
  - Global Tone Generation (GTG) user-defined tones, including Cadenced Tone Generation
- Data formats for play and record:
  - G.711 PCM at 6 kHz with 8-bit samples (48 kbps) and 8 kHz with 8-bit samples (64 kbps) using A-law or μ-law coding, VOX and WAVE file formats
  - OKI* ADPCM at 6 kHz with 4-bit samples (24 kbps) and 8 kHz with 4-bit samples (32 kbps), VOX and WAVE file formats
  - PCM at 11 kHz with 8-bit samples (88 kbps) using linear coding, VOX and WAVE file formats
  - G.726 bit-exact voice coder at 8 kHz with 2- or 4-bit samples (16, 32 kbps), VOX and WAVE file formats
- Volume Control
- Call Progress Analysis through the **dx_dial( )** function

4.4 Standard Runtime API Library

The Standard Runtime Library (SRL) API provides a common interface for event handling and other functionality common to all Intel® devices. The Standard Runtime Library provides the framework for implementing the supported programming models and serves as the central dispatcher for events that occur on all devices. Through the Standard Runtime Library, events are handled in a standard manner.

Refer to the *Standard Runtime Library API for Linux Operating Systems Programming Guide* and the *Standard Runtime Library API for Linux and Windows Operating Systems Library Reference* for more information.

Features

The Standard Runtime Library (SRL) API provides the following features:

- A set of functions called the device grouping API has been added to support a more efficient alternative to the **sr_waitevtEx( )** variant of the extended asynchronous model.
- Support for the following programming models:
  - Asynchronous polled model
  - Asynchronous with non-signal callback model
  - Extended asynchronous model
- Device event management
- Device information retrieval using ATDV_ prefixed functions
- The ability to set and retrieve user-specific context using the **sr_setparm( )** and **sr_getparm( )** functions

4.5 Continuous Speech Processing (CSP) API Library

The CSP API Library supports development of host-based automatic speech recognition (ASR) applications. CSP provides many features such as high-performance echo cancellation, voice energy detection, barge-in, voice event signaling, pre-speech buffering, and full-duplex operation.

The CSP software includes library functions, device drivers, firmware, and demonstration programs.

Refer to the *Continuous Speech Processing API for Linux and Windows Operating Systems Programming Guide* and *Continuous Speech Processing API for Linux and Windows Operating Systems Library Reference* for more information.

Features

The following Continuous Speech Processing features are supported:

- The **ec_stream( )** and **ec_reciottdata( )** functions support the DX_MAXTIME termination condition which is set in the DV_TPT data structure.

- Full duplex operation
- Voice Activity Detector (VAD)
- Barge-in
- Voice event signaling
- Pre-speech buffering
- Modifying certain voice activity detector (VAD) parameters on the fly
- Barge-in and play event generation
- Ability to re-arm the VAD
- Ability to send an echo-reference signal (also called external reference signal) from another device across the TDM bus to the CSP voice channel
- Unified API

4.6 Fax API Library

The Fax API library supports development of a wide variety of fax applications such as fax mail, fax broadcast and fax-on-demand. The Fax software includes library functions, device drivers, firmware, and demonstration programs.

Refer to the *Fax Software Reference for Linux and Windows* for more information.

Features

The following fax features are supported in the HMP Linux 1.2 software:

- Uses T.38 Fax protocol to convert T.30 Fax session information and data to UDP packets
- Operates in T.38 Fax server mode (originates and terminates Fax sessions using T.38 protocol
- Data rate
  - Up to 14.4 kbps transmission
  - Up to 14.4 kbps reception
  - Selectable preferred data transmission and reception rates
- File storage format
  - Raw MH, MR and MMR encoded data
  - TIFF/F MH, MR and MMR encoded data
  - ASCII for transmit only
- Data transmission encoding scheme with advanced compression
  - MH, MR, and MMR
  - ASCII
  - Selectable data transmission encoding scheme
- Data reception encoding scheme with advanced compression
  - MH, MR, and MMR
  - Selectable data reception encoding scheme
- Polling and turnaround polling

- Bad scan line detection and correction
- Image concatenation, compression formats and resolutions
- Scaling to and from all supported page sizes, compression formats and resolutions
- Support for A3, A4 and B4 page sizes
- Normal (100 dpi), fine (200 dpi), and superfine (400 dpi) resolution
- Simple header overlay
- Image bit order (MSB/LSB) conversion
- ASCII configuration:
  - Left/right/top margin
  - Line spacing
  - Tab stop
  - Wrapping
  - Extended characters greater than ASCII #127
- Enhanced Color Fax
  - Support for **fx_originate( )** function
  - Transmission and reception of JPEG encoded color facsimile images to and from color fax devices
  - Encoding of color fax images using the JPEG format as specified in ITU Rec. T.85 standard and the ITU Rec. T.4 Annex E standard (ITU Rec. T.85 defines a specific color profile for color fax images. ITU Rec. T.4 Annex E defines the specific JPEG profile for color fax.)

4.7 Audio Conferencing (DCB) API Library

The Audio Conferencing (DCB) API library supports development of host-based conferencing applications. The Audio Conferencing API library provides many features that can be used to develop customized audio conferencing servers.

The Audio Conferencing software includes library functions, device drivers, and firmware.

Refer to the *Audio Conferencing API for Linux and Windows Operating Systems Library Reference* and the *Audio Conferencing API for Linux Operating Systems Programming Guide* for additional information.

Note: The Conferencing (CNF) API library is not supported in this release.

Features

HMP supports the following Audio Conferencing features:

- Conference bridging, where all parties in two or more established conferences can speak and listen to one another, enabling large conferences to be conducted
- Volume control for any conferee by issuing pre-programmed DTMF digits

- Conference monitoring, which allows one or more conferees to monitor a single conference without interrupting the conference.
- Coach/pupil feature allows two selected conferees to establish a private communication link with respect to the overall conference. The coach is a private member of the conference and is only heard by the pupil. However, the pupil cannot speak privately to the coach.
- DTMF digit detection for any conferee, allowing the application to determine when or if any party has generated a DTMF digit
- Tone clamping that allows each conferee to reduce the amount of DTMF tones heard during a conference

  Note: DTMF tones may be heard by conferees if the application encourages the user to repeatedly press DTMF tones: for example, press 9 to raise the volume
- Automatic gain control (AGC) for all conferees, which equalizes the volume levels of different parties
- Active talker indication to determine which conferees in any given conference are currently talking. The active talker feature can be set to indicate which conferees are talking the loudest or for the longest amount of time.
- Monitoring feature, enabling many participants to monitor a single conference without interrupting the conference
- Echo cancellation for each active talker

4.8 Demonstration Programs

Demonstration programs are provided to demonstrate the functionality and features of Intel products and serve as examples of application programming using Intel API libraries. All demo programs are supplied as source code which users may modify to explore other capabilities of the products.

All of the demo programs listed below are located in */usr/dialogic/demos* on the CD for this release.

Demo Programs

The following demo programs are included in Intel® NetStructure™ Host Media Processing (HMP) Software Release 1.2 on Linux:

IP Media Server (Global Call) Demo Program
: The IP Media Server (Global Call) Demo uses the Global Call API to provide voice services via IP technology. See the *IP Media Server (Global Call) Demo Guide* for more information.

Continuous Speech Processing (CSP) Demo
: The HMP CSP demo is a single-threaded program that illustrates key CSP features such as barge-in, voice activity detection, and streaming. See the *Continuous Speech Processing API for Host Media Processing Demo Guide* for more information.

Audio Conferencing (DCB) Demo
: The HMP audio conferencing demo is a single process, single-threaded program that handles events using the polled mode. Conferencing features are accessed using the Audio

Conferencing (DCB) API. The Global Call API is used for implementing call control and the Voice API is used for basic voice functionality. See the *Audio Conferencing API for Host Media Processing Demo Guide* for more information.

Global Call Basic Call Control Demo
: A demonstration program that exercises some of the capabilities of Global Call. See the *Global Call API Demo Guide* for more information.

4.9 API Functions Not Supported

The following sections identify those API functions that are not supported by the HMP Software. The functions that are not supported are mostly those functions associated with a particular feature that is not supported in this release of the HMP Software.

The functions are grouped alphabetically by the API with which they are associated.

IP Media API Functions

The following IP Media API function is not supported:

- ipm_SendRFC2833SignalToIP()

Global Call API Functions

Note: The Global Call API functions are documented in the HMP-specific *Global Call API for Host Media Processing Library Reference.* Only those functions supported by HMP are listed in this document.

Voice API Functions

Note: The Voice API functions are documented in the HMP-specific *Voice API for Host Media Processing Library Reference*. Only those functions supported by HMP are listed in this document.

Standard Runtime Library API Functions

The following Standard Runtime Library API function is not applicable or supported:

- sr_getboardcnt()

Continuous Speech Processing (CSP) API Functions

The following CSP API functions are either not applicable or not supported. See the *Continuous Speech Processing for Linux and Windows Operating Systems Library Reference* or the *Continuous Speech Processing for Linux and Windows Operating Systems Programming Guide* for additional information:

- ec_getxmitslot()
- ec_listen()

- ec_rearm()
- ec_unlisten()

Fax API Functions

The following Fax API functions are either not applicable or not supported. See the *Fax Software Reference for Linux and Windows* for additional information:

- fx_listen()
- fx_unlisten()
- fx_getxmitslot()

Audio Conferencing API Functions

The following Audio Conferencing API functions are either not applicable or not supported. See the *Audio Conferencing API for Linux and Windows Library Reference* or the *Audio Conferencing API for Linux Programming Guide* for additional information:

- dcb_GetAtiBitsEx()
- dcb_monconf()
- dcb_unmonconf()

Release Documentation 5

This chapter provides information about the documentation that supports the Intel® NetStructure™ Host Media Processing (HMP) Software 1.2 for Linux. This information is organized into the following sections:

5.1 Documentation Support for HMP 1.2 Linux Features

The following table lists the HMP 1.2 Linux features and the user documentation containing the information about these features.

Table 3. User Documentation Feature Support

HMP 1.2 Linux Feature	User Documentation
HMP Software Installation	• Intel NetStructure Host Media Processing Software Release 1.2 for Linux Installation Guide (05-2354-001)
Licensing	• Intel NetStructure Host Media Processing Software Release 1.2 for Linux License Manager Administration Guide (05-2353-001)
IP Call Control Using Global Call • RFC2833 • H.245 UII • Low Bit Rate Coder Reservation	• Global Call API for Host Media Processing Library Reference (05-2362-001) • Global Call API for Host Media Processing on Linux Programming Guide (05-2346-001) • Global Call IP for Host Media Processing Technology Guide (05-2239-003) • IP Media Server (Global Call) Demo Guide (05-2065-001)
IP Call Transfer	• Global Call API for Host Media Processing Library Reference (05-2362-001) • Global Call IP for Host Media Processing Technology Guide (05-2239-003)

Table 3. User Documentation Feature Support

HMP 1.2 Linux Feature	User Documentation
Media Streaming Compatibility with a Third-Party Stack for IP Call Control • RFC2833 • H.245 UII • Low Bit Rate Coder Reservation	• IP Media Library API for Host Media Processing Library Reference (05-2257-002) • IP Media Library API for Host Media Processing Programming Guide (05-2330-002) • Device Management API for Windows and Linux Operating Systems Library Reference (05-2222-002)
IP Multicast	• IP Media Library API for Host Media Processing Library Reference (05-2257-002) • IP Media Library API for Host Media Processing Programming Guide (05-2330-002)
Voice Features	• Voice API for Host Media Processing Library Reference (05-2333-001) • Voice API for Host Media Processing Programming Guide (05-1829-001)
Conferencing	• Audio Conferencing API for Linux and Windows Operating Systems Library Reference (05-1843-001) • Audio Conferencing API for Linux Operating Systems Programming Guide (05-1879-001) • Audio Conferencing for Host Media Processing Demo Guide (05-2290-002)
Speech Integration	• Continuous Speech Processing API for Linux and Windows Operating Systems Library Reference (05-1700-003) • Continuous Speech Processing API for Linux and Windows Operating Systems Programming Guide (05-1699-003) • Continuous Speech Processing API for Host Media Processing Demo Guide (05-2084-002)
T.38 Fax Using Global Call	• Global Call IP for Host Media Processing Technology Guide (05-2239-002) • Fax Software Reference for Linux and Windows (05-2341-001)

Table 3. User Documentation Feature Support

HMP 1.2 Linux Feature	User Documentation
T.38 Fax Using Third-Party Stack	• IP Media Library API for Host Media Processing Library Reference (05-2257-002) • IP Media Library API for Host Media Processing Programming Guide (05-2330-002) • Device Management API for Windows and Linux Operating Systems Library Reference (05-2222-002) • Fax Software Reference for Linux and Windows (05-2341-001)
Event Handling	• Standard Runtime Library API for Linux and Windows Operating Systems Library Reference (05-1882-002) • Standard Runtime Library API for Linux Operating Systems Programming Guide (05-1881-001)
Diagnostics	• Intel NetStructure Host Media Processing Software for Linux Diagnostics Guide (05-2356-001)

5.2 System Documentation

The following system documentation is provided for this release:

- *Intel NetStructure Host Media Processing Software 1.2 for Linux Release Guide* (this document)
- *Intel NetStructure Host Media Processing Software 1.2 for Linux Release Update* (Web download only)
- *Intel NetStructure Host Media Processing Software Release 1.2 for Linux Installation Guide*

5.3 Development Software Documentation

The following development software documentation is provided to support this release:

- *Audio Conferencing API for Linux and Windows Operating Systems Library Reference*
- *Audio Conferencing API for Linux Operating Systems Programming Guide*
- *Audio Conferencing API for Host Media Processing Demo Guide*

- *Continuous Speech Processing API for Linux and Windows Operating Systems Library Reference*
- *Continuous Speech Processing API for Linux and Windows Operating Systems Programming Guide*
- *Continuous Speech Processing API for Host Media Processing Demo Guide*
- *Device Management API for Windows and Linux Operating Systems Library Reference*
- *Fax Software Reference for Linux and Windows*
- *Global Call API for Host Media Processing Library Reference*
- *Global Call API for Host Media Processing on Linux Programming Guide*
- *Global Call IP for Host Media Processing Technology Guide*
- *Global Call API Demo Guide*
- *IP Media Library API for Host Media Processing Library Reference*
- *IP Media Library API for Host Media Processing Programming Guide*
- *IP Media Server (Global Call) Demo Guide*
- *Standard Runtime Library API for Linux and Windows Operating Systems Library Reference*
- *Standard Runtime Library API for Linux Operating Systems Programming Guide*
- *Voice API for Host Media Processing Library Reference*
- *Voice API for Host Media Processing Programming Guide*

5.4 Operating Software Documentation

The following operating software documentation is provided to support this release:

- *Intel NetStructure Host Media Processing Software Release 1.2 for Linux License Manager Administration Guide*
- *SNMP Agent Software for Intel NetStructure Host Media Processing Software for Linux Operating Systems Administration Guide*
- *Intel NetStructure Host Media Processing Software for Linux Operating Systems Diagnostics Guide*