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Application Note

Configuring Dialogic® PowerMedia™ Host Media Processing Software Release 4.1LIN Software Licenses for Voice and Native Video Multimedia Applications

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Executive Summary

Designing a telephony and/or native video multimedia system with a software model allows for flexible system designs to match specific customer requirements. Dialogic® PowerMedia™ Host Media Processing (PowerMedia HMP) is well suited to build your solution to customers' specific requirements.

Knowing how to configure a PowerMedia HMP software license enables developers to choose the specific functionality that benefits their customers using Dialogic® Host Media Processing Software Release 4.1LIN (PowerMedia HMP 4.1), including the support of the Dialogic® HMP Interface Boards (DNI Boards) that provide PSTN connectivity for building converged TDM and IP solutions.

This application note covers PowerMedia HMP 4.1 software license selection and configuration for voice- and fax-centric applications over IP and TDM, including HD Voice-enabled applications for play/record and HD Voice Conference, which enable a wider range of audio frequencies than standard "toll quality" calls. This application note also covers native video multimedia applications to IP and 3G endpoints that do not require video transcoding, but may include audio transcoding (Note: Video transcoding licensing, also known as advanced video, is not covered in this application note).

Note: Dialogic® Host Media Processing Software has joined the Dialogic® PowerMedia™ Media Processing Product Family and is now known as Dialogic® PowerMedia™ Host Media Processing Software (PowerMedia HMP).

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Introduction

This application note provides developers who are designing a telephony and/or native video multimedia system with information about using Dialogic® Host Media Processing Software Release 4.1LIN (PowerMedia HMP 4.1) to build solutions that are customer-requirements driven. This includes information about selecting and configuring the PowerMedia HMP 4.1 software license and selecting Dialogic® HMP Interface Boards (DNI Boards) that provide PSTN connectivity for building converged TDM and IP solutions.

Specifically discussed is configuring and selecting the PowerMedia HMP 4.1 license, including information about the types of licensable resources (media, network interface, and audio transcoding) available; examples of ways to combine resources to create basic IP media, call center, conference server, and HD Voice-enabled sessions; and examples of common types of solutions in which PowerMedia HMP 4.1 is used, such as unified messaging servers, IP call centers, hybrid call centers, 3G-324M video portals, and 3G-324M-based video portals with RTSP server.

Configuring Media and Interface Resources

PowerMedia HMP 4.1 has a flexible software license model for voice and native video multimedia resource provisioning in contrast to the fixed quantities model that is delivered in hardware boards. Choosing a customized "package" of resources for each license based on the types of resources available and the rules for combining them is a relatively straightforward task.

Note: Information in this document is valid for PowerMedia HMP 4.1. This information is subject to change in, or may not be applicable to, future releases of PowerMedia HMP.

Types of Resources

The three general classes of licensable resources available in PowerMedia HMP 4.1 are media, network interface, and audio transcoding. Each is explained in the subsequent sections.

Media Resources

Media resources are used for voice and native video applications such as video mail, video portal, voice mail, or Interactive Voice Response (IVR). The types of media resources available for discrete licensing are as follows:

- Voice resources for functions such as play/record, tones, call progress, and others
- Continuous Speech Processing (CSP) resources as add-ons to voice resources and as required for speech enablement. See the "Rules for Combining Resources" section for more information.
- Conference resources for narrowband audio conferencing
- HD Voice Conference resources for audio conferencing at narrowband or HD Voice wideband fidelity
- Fax resources for TDM, IP and T.38 fax termination
- Multimedia resources for play/record of video and audio streams (including HD Voice). Video streams can be native H.263, MPEG-4, or H.264 format without the option for video transcoding.
- Audio only multimedia resources for play/record of audio streams (including HD Voice)

Access to media resources is available through the Dialogic® R4 API enabling technology.

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Network Interface Resources

Network interface resources are grouped into the following categories:

- Basic RTP streaming
- IP call control
- 3G-324M multiplexing and demultiplexing

Basic RTP Streaming Resources

Basic RTP streaming resources provide functionality required to stream media between PowerMedia HMP 4.1 and IP clients using the Real-time Transport Protocol (RTP). PowerMedia HMP 4.1 also supports secure RTP through the basic RTP streaming resource when enabled with an encryption license.

IP Call Control Resources

IP call control resources are required to access IP call control functionality provided through the H.323 and SIP protocol stacks from RADVISION, which are included with PowerMedia HMP 4.1. Access to call control resources is available through the Dialogic® Global Call API. Both H.323 and SIP are included in a single resource. PowerMedia HMP 4.1 supports SIP TLS (Transport Layer Security) through the IP call control resources when enabled with an encryption license.

The use of the Global Call API is optional, and is enabled when IP call control resources are licensed with PowerMedia HMP 4.1. Alternatively, customers can choose to use their own call control stacks.

IP call control resources can be used in two modes: first party call control (1PCC) and third party call control (3PCC). When used in 1PCC mode, the IP call control resources are directly tied to a corresponding number of RTP connections — each call that is controlled by PowerMedia HMP 4.1 is routed through the media server. When licensed in 1PCC mode to control media streams, each IP call control resource must be provisioned with an associated RTP session resource for the media session (for example, 60 basic RTP streaming connections will require 60 IP call control resources).

PowerMedia HMP 4.1 also supports 3PCC mode, giving developers the ability to set up SIP sessions without RTP media, thus enabling a Back to Back User Agent (B2BUA) type application. The RTP media stream goes directly from one SIP endpoint to another. This allows for many more endpoints to be controlled by PowerMedia HMP 4.1 than media streams passing through the media server itself (see Figure 1). 3PCC is only available for SIP call control.

First-Party Call Control

Dialogic® PowerMedia™ Host Media Processing Software Release 4.1LIN Media Server

Third-Party Call Control

PowerMedia HMP 4.1 Media Server
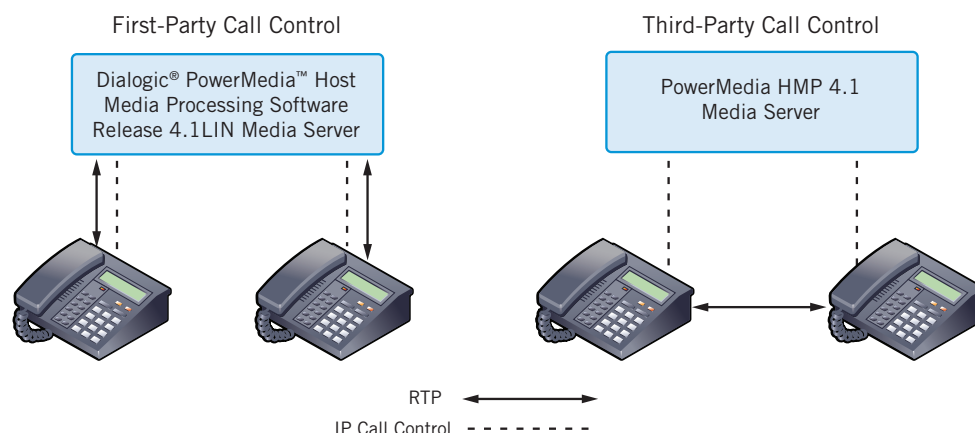
RTP ◄——————►

IP Call Control - - - - - - -

Figure 1. IP Call Control Resources Models

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3G-324M Multiplexing and Demultiplexing Resources

The 3G-324M multiplexing and demultiplexing resources are required for interfacing with 3G wireless networks. 3G-324M is the 3GPP umbrella protocol for video telephony in 3GPP mobile networks. PowerMedia HMP 4.1 supports 3G-324M Release 99 (3G-324M over TDM) when used with Dialogic® HMP Interface Boards (DNI Boards) (single, dual, quad, and octal span PCIe) as the network transport. PowerMedia HMP 4.1 supports the 3G-324M Release 4/5 (via NbUP protocol for 3G-324M over IP) when used with a basic RTP streaming resource as the network transport. Standard coders used with 3G-324M are AMR-NB (mandatory) and G.723.1 (optional) audio coders, and H.263 (mandatory), MPEG-4 (optional), and H.264 (optional) video coders.

Audio Transcoding Resources

Audio transcoding resources provide the capability to communicate between different types of IP and 3G coders, as well as to perform manipulative media functions. Each of the available resources supports a single channel of transcoding for the following coders:

- G.711/G.726 coder
- G.729/G.723 coder (supporting G.729a, G.729ab, G.723.1)
- AMR-NB coder

HD Voice-enabled coders:
- G.722 coder
- AMR-WB (G.722.2) coder

Summary of Available Resources

In summary, the following licensable resources are available with PowerMedia HMP 4.1:

Media
- Voice
- Speech
- Conference
- HD Voice Conference
- Fax termination
- Multimedia
- Audio only multimedia play/record (formally native play and record)

Network Interface
- Basic RTP streaming
- IP call control
- 3G-324M multiplexing and demultiplexing

Audio Transcoding
- G.711/G.726 coder
- G.729a, G.729ab, G.723.1 coder
- AMR-NB coder
- G.722 coder
- AMR-WB (G.722.2) coder

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Rules for Combining Resources

Some resources cannot be used alone and must be combined with other resources. Table 1 lists the resources and identifies if another resource is required for using it.

Resource	Requires the Resource(s)
Speech	Voice
Voice	An audio transcoding resource or a Dialogic® HMP Interface Board (DNI Board)
Conferencing	An audio transcoding resource or a DNI Board
HD Voice Conference	An audio transcoding resource
Fax	Basic RTP streaming or DNI Board
G.711/G.726 coder	Basic RTP streaming
G.729/G.723 coder	Basic RTP streaming or 3G-324M
AMR-NB coder	Basic RTP streaming or 3G-324M
G.722 coder	Basic RTP streaming
AMR-WB (G.722.2) coder	Basic RTP streaming or 3G-324M
3G-324M	Basic RTP streaming or DNI Board
Multimedia	Basic RTP streaming or 3G-324M
Audio only multimedia	Basic RTP streaming

Table 1. Licensable Resources and Required Resources Available with Dialogic® PowerMedia™ Host Media Processing Software Release 4.1LIN

Note: Voice resources and conferencing resources used to record a conference would not require a coder resource.

Combining Resources to Create Basic IP Media Sessions

PowerMedia HMP 4.1 resources can be combined to enable various sessions in an application just as they would if telephony boards were in use. The following are examples of combined resource IP media sessions:

- Native multimedia over IP with video mail
- Multimedia 3G-324M Release 99 Gateway to IP
- Multimedia over 3G-324M Release 4/5 with video mail
- IP announcement server with no audio transcoding
- IP voice mail HD Voice coder
- IP speech-enabled IVR
- Speech-enabled IVR
- IP fax

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Native Multimedia over IP with Video Mail Session Example

A single multimedia (native audio/native video) session using H.263, MPEG-4, or H.264 as the video coder and G.711 as the audio coder along with SIP-based call control using the Global Call API requires:

- A multimedia resource for play/record of H.263, MPEG-4, or H.264 video and G.711 audio streams (multimedia files stored in native format)
- A basic RTP streaming resource
- An IP call control resource for SIP call control using the Global Call API

Multimedia 3G-324M Release 99 Gateway to IP Session Example

A single multimedia (audio/native video) 3G Gateway session using H.263, MPEG-4, or H.264 as the video coder; and AMR-NB as the 3G-324M audio coder transcoded to G.711 on the IP connection requires:

- A Dialogic® HMP Interface Board (DNI Board) that supports 3G-324M
- A 3G-324M resource
- An AMR-NB resource
- A basic RTP streaming resource for media streaming to the IP endpoint
- A G.711/G.726 resource
- An IP call control resource for Global Call API support

Multimedia over 3G-324M Release 4/5 with Video Mail Session Example

A single multimedia (audio/native video) session using H.263, MPEG-4, or H.264 as the video coder; and AMR-NB as the audio coder for a 3G-324M-based video mail solution where the audio coder is AMR-NB, but can be picked up by an IP connection later requires:

- A multimedia resource for play/record of H.263, MPEG-4, or H.264 video and AMR-NB audio streams. Multimedia video file stored in native format; offline conversion to audio stored in .pcm or .wav format for pickup by IP connection later.
- A basic RTP streaming resource for 3G-324M transport
- An AMR-NB coder resource
- A 3G-324M resource

IP Announcement Server with No Audio Transcoding Session Example

A low-latency/cost sensitive announcement server that only requires a single protocol (including HD Voice coders) with no audio transcoding requires:

- A basic RTP streaming resource for media streaming
- An audio only multimedia resource for play/record function with no transcoding
- An IP call control resource for Global Call API support

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IP Voice Mail Session Example

A single voice mail session using G.729 and the SIP call control stack requires:

- A voice resource to provide media resources for play/record and DTMF detection
- A basic RTP streaming resource
- A G.729/G.723 coder resource for G.729 support
- An IP call control resource for Global Call API support

IP Voice Mail with HD Voice Coder Session Example

A single voice mail session using G.722, in-band DTMF detection, and the SIP call control stack requires:

- A voice resource to provide in-band tone detection/generation
- An audio only multimedia resource for HD Voice fidelity play/record function
- A basic RTP streaming resource
- A G.722 coder resource for G.722 HD Voice support
- An IP call control resource for Global Call API support

IP Speech-Enabled IVR Session Example

A single speech-enabled IVR session using G.711 and the SIP call control stack requires:

- A voice resource to provide media resources for play/record
- A speech resource for speech enablement via CSP
- A basic RTP streaming resource
- A G.711/G.726 coder resource for G.711 transcoding
- An IP call control resource for Global Call API support

IP Fax Session Example

A single IP fax session using the Global Call API requires:

- A fax resource
- A basic RTP streaming resource
- An IP call control resource for Global Call API support

Combining Resources to Create Sessions for a Call Center

The following are the basic sessions for a call center:

- RTP sessions in which a customer calls an agent or an agent calls another agent
- IVR or auto-attendant sessions

Global Call API is used in the following examples.

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RTP Session Using G.729 Example

A single voice call session using G.729 requires:

- A voice resource to provide a media resource for the call
- A basic RTP streaming
- A G.729/G.723 coder resource for G.729 support
- An IP call control resource for Global Call API support

RTP Session Using G.711 Example

A single voice call session using G.711 requires:

- A voice resource to provide media resources and tone detection for the call
- A basic RTP streaming
- A G.711/G.726 coder resource

An IP Call Control Resource for Dialogic® Global Call API Support IVR/Auto-Attendant Session Using G.711 Example

A single IVR/auto-attendant session using G.711 requires:

- A voice resource to provide media resources and tone detection for the call to the IVR/auto attendant
- A basic RTP streaming resource
- A G.711/G.726 coder resource
- An IP call control resource for Global Call API support

Since the IVR/auto attendant is not speech-enabled, only a voice resource is required.

IVR/Auto-Attendant Session Using G.722 HD Voice Coder Example

A single HD Voice IVR/auto-attendant session using G.722 requires:

- A voice resource to provide tone detection/generation
- An audio only multimedia resource for HD Voice fidelity play/record function
- A basic RTP streaming
- A G.722 coder resource
- An IP call control resource for Global Call API support

Combining Resources to Create Sessions for a Conference Server

A conference server usually requires one type of session, but provision for different coders may be needed. In addition, a conference is often recorded, and the ability to record a conference requires a single voice resource and one additional conference resource.

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The following is a list of resources needed for a three-session conference, assuming there are three endpoints (one using G.711, one using G.723, and one using G.729) and that the conference also must be recorded.

- A voice resource to provide a media resource for recording the conference
- Four conferencing resources, one for each of the three conference participants, plus one to connect the voice resource to the conference so that the conference can be recorded
- Three basic RTP streaming resources, one for each conferee
- One G.711/G.726 coder resource for G.711 support
- Two G.729/G.723 coder resources for G.723 and G.729 support
- Three IP call control resources for Global Call API support

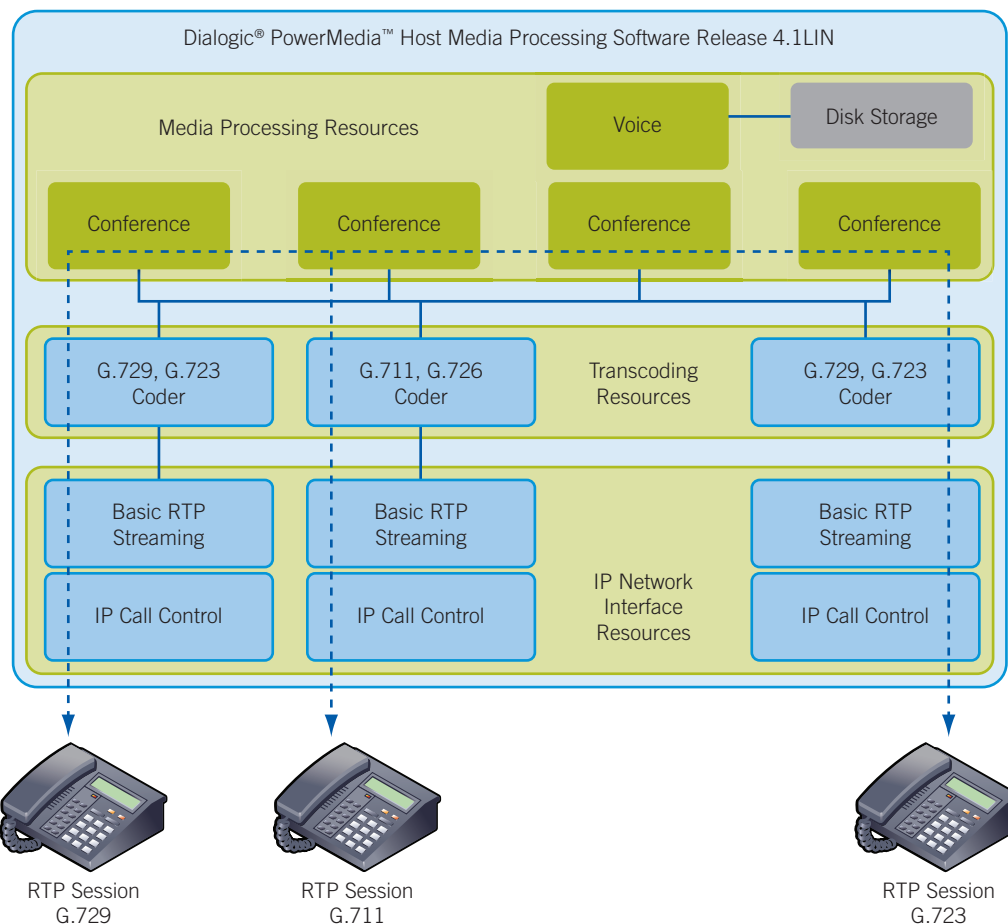Figure 2 shows how these resources are grouped.

Figure 2. Resources for a Three-Session Conference with Conference Record

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The number of coder resources governs the number of RTP sessions that will allow the use of coders. The G.729/G.723 coders are low bandwidth coders, whereas the G.711/G.726 coders are more standard bandwidth. In a total IP solution, the number of coders that can be used simultaneously is equal to or less than the number of basic RTP streams.

Combining Resources to Create Sessions for an HD Voice-Enabled Conference Server

An HD Voice-enabled conference server usually handles both HD Voice (wideband codec) endpoints and traditional (narrowband codec) endpoints. The HD Voice Conference resource can be used for mixing wideband and/or narrowband coders while delivering the mixed output to the highest fidelity associated with the output coder.

The HD Voice Conference resource is a separate software device than the conferencing resource. All endpoints, narrowband or wideband, connected to the HD conference must use the HD Voice Conference resource to provide a HD conference party connection. An HD Voice Conference resource can be recorded in a narrowband or wideband format. The ability to record a conference in HD Voice wideband fidelity requires a single audio only multimedia resource and one additional HD Voice Conference resource. The ability to record a conference in narrowband requires either a single voice resource, or a single audio only multimedia resource plus one additional HD Voice Conference resource.

The following is a list of resources needed for a three-session conference, assuming three endpoints: one using G.711, one using G.722, and one using AMR-WB (G.722.2). The conference also must be recorded in HD Voice.

- An audio only multimedia resource for HD Voice fidelity play/record function
- Four HD Voice Conference resources, one for each of the three conference participants, plus one to connect the audio only multimedia resource to the conference so that it can be recorded
- Three basic RTP streaming resources, one for each conferee
- One G.711/G.726 coder resource for G.711 support
- One G.722 coder resource for G.722 HD Voice support
- One AMR-WB (G.722.2) coder resource for AMR-WB HD Voice support
- Three IP call control resources for Global Call API support

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Figure 3 shows how these resources are grouped in this three-session, three-endpoint example.
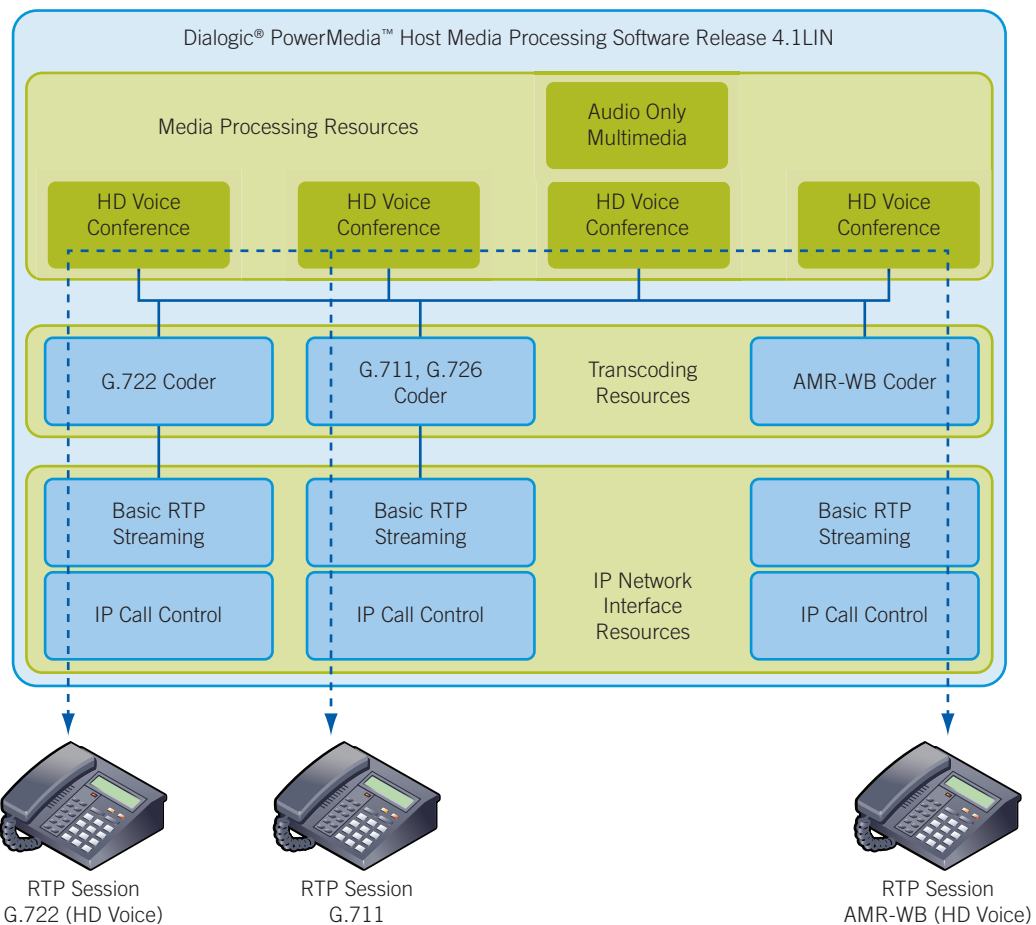

Figure 3. Resources for a Conference Server with a Three-Session Conference with Three Endpoints

The mixed output of this conference will provide the audio fidelity associated with each RTP session coder. The HD Voice endpoints, using G.722 and AMR-WB, will receive a mixed output of HD Voice wideband fidelity mixed and up-sampled G.711 audio. The G.711 endpoint will receive the mixed output of the two HD Voice endpoints, down-sampled to G.711 narrowband audio fidelity.

Provisioning Examples

Common types of solutions in which PowerMedia HMP 4.1 is used include unified messaging servers, IP call centers, hybrid call centers, 3G-324M video portals, and 3G-324M-based video portals with RTSP server. Some examples for provisioning such solutions are provided in the following sections.

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Unified Messaging Server Example

Table 2 provides the requirements for a unified messaging server scenario and the required PowerMedia HMP 4.1 resources.

Scenario Requirements	Resource Required
A unified messaging server with 120 sessions: 60 using G.729 or G.723, and 60 using G.711	120 basic RTP streaming resources, 60 G.711/G.726 resources, and 60 G.729/G.723 resources
Global Call API	120 IP call control resources
A maximum of 30 users of voice applications, such as IVR and voice mail, 10 of which are speech enabled	30 voice resources and 10 speech resources
30 conference participants	30 conference resources
5 fax sessions	5 fax resources

Table 2. Unified Messaging Server Requirements and Resources

Figure 4 shows how these resources are grouped in this scenario.
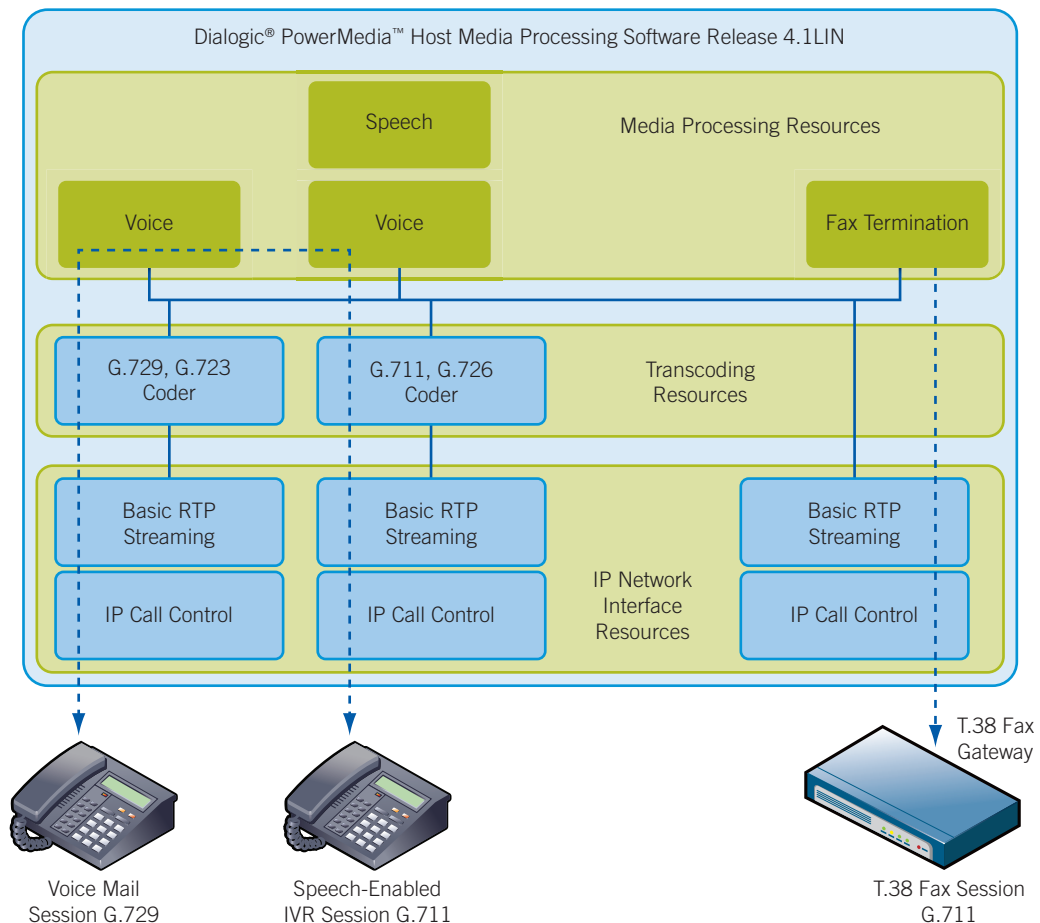

Figure 4. Resources for a Unified Messaging Server

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IP Call Center Example

Table 3 provides the requirements for an IP call center scenario and the required PowerMedia HMP 4.1 resources.

Scenario Requirements	Resources Required
An IP call center with 30 agents and 90 trunk lines for incoming calls. Agents use G.711 over the LAN; inbound callers use an even mix of G.729, G.723, G.711, and AMR-NB	120 basic RTP streaming licenses, 60 G.711/G.726 licenses, 30 G.729/G.723 licenses, and 30 AMR-NB licenses
Use of the Global Call API	120 IP call control resources
A maximum of 90 voice ports to enable playing of prompts or recording messages, with 30 possible speech-enabled sessions	90 voice resources and 30 speech resources
30 conferencing sessions for coaching and monitoring	30 conference resources

Table 3. IP Call Center Requirements

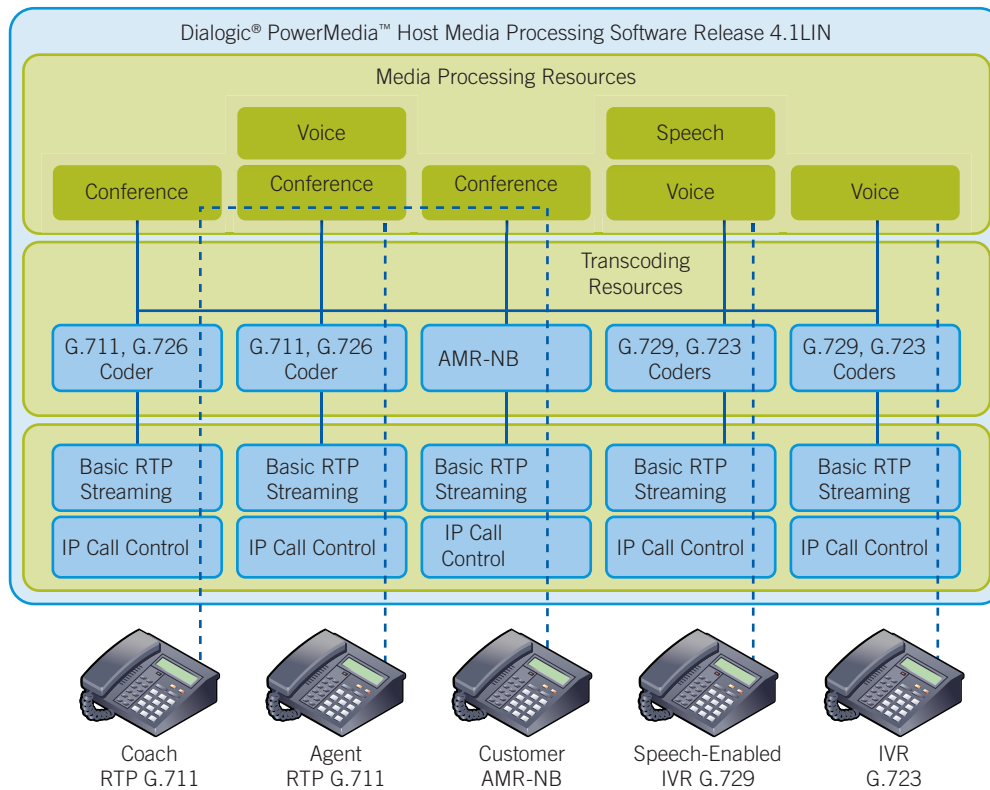Figure 5 shows how these resources are grouped in this scenario.

Figure 5. Resources for an IP Call Center

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HD Voice-Enabled IP Call Center Example

Table 4 provides the requirements for an HD Voice-enabled IP call center scenario and the required PowerMedia HMP 4.1 resources.

Scenario Requirements	Resources Required
An IP call center with 60 agents and 120 trunk lines for incoming calls. Agents use HD Voice G.722 over the LAN; inbound callers use an even mix of G.729, G.723, G.711, HD Voice G.722, and HD Voice AMR-WB	180 basic RTP streaming licenses, 90 G.722 licenses, 30 G.711/G.726 licenses, 30 G.729/G.723 licenses, 30 AMR-WB licenses
Global Call API	180 IP call control resources
A maximum of 120 audio only multimedia ports to enable playing of HD Voice prompts or recording messages	120 audio only multimedia resources
A maximum of 120 voice ports to enable in-band DTMF detection or playing of narrowband prompts, with 30 possible speech-enabled sessions	120 voice resources and 30 speech resources
60 HD Voice Conference sessions for coaching, monitoring, and recording	60 HD Voice Conference resources

Table 4. IP Call Center Requirements

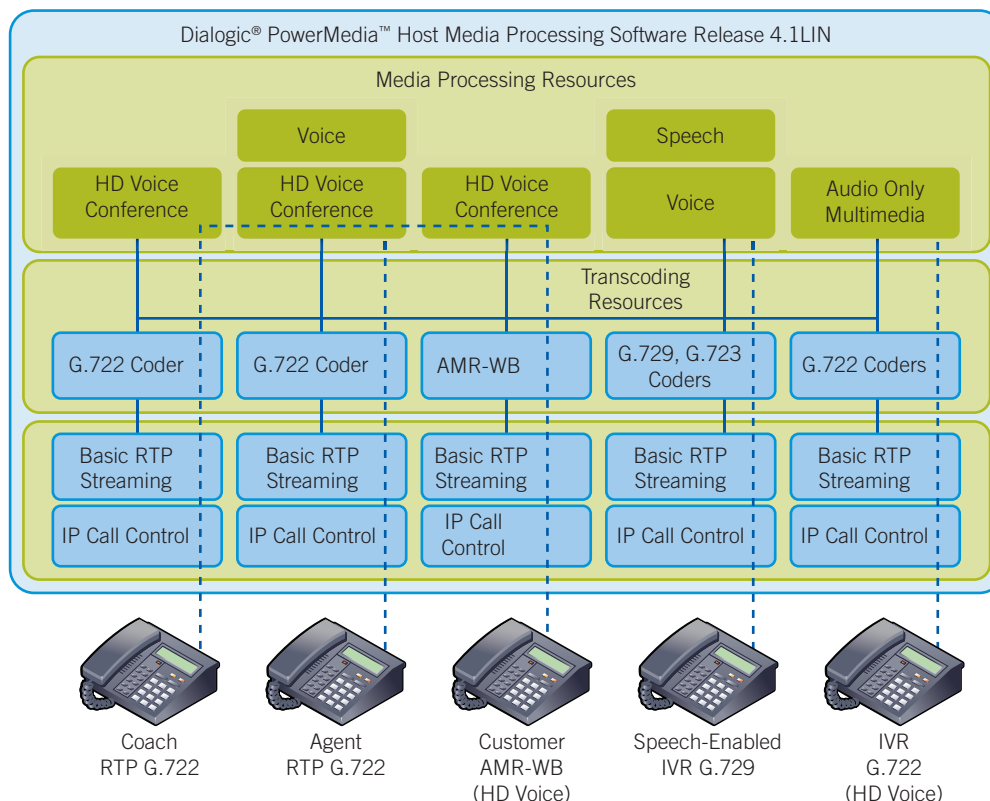Figure 6 shows how these resources are grouped in this scenario.

Figure 6. Resources for an HD Voice-Enabled IP Call Center

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Hybrid Call Center Example

Table 5 provides the requirements for a hybrid call center scenario and the required PowerMedia HMP 4.1 resources.

Scenario Requirements	Resource Required
A hybrid PBX supporting two E-1 lines for TDM traffic and 30 IP stations	30 basic RTP streaming resources, 30 G.711/G.726 coder resources
	Requires a Dialogic® DNI/610TEPEHMP Digital Network Interface Board to support the TDM traffic
Global Call API	30 IP call control resources
A maximum of 60 voice ports to enable playing of prompts or recording messages	60 voice resources
5 fax ports available for V.17/T.38 fax termination or gateway functionality	5 fax resources
A maximum of 20 conference ports for agent coaching and monitoring	20 conference resources

Table 5. Hybrid Call Center Requirements

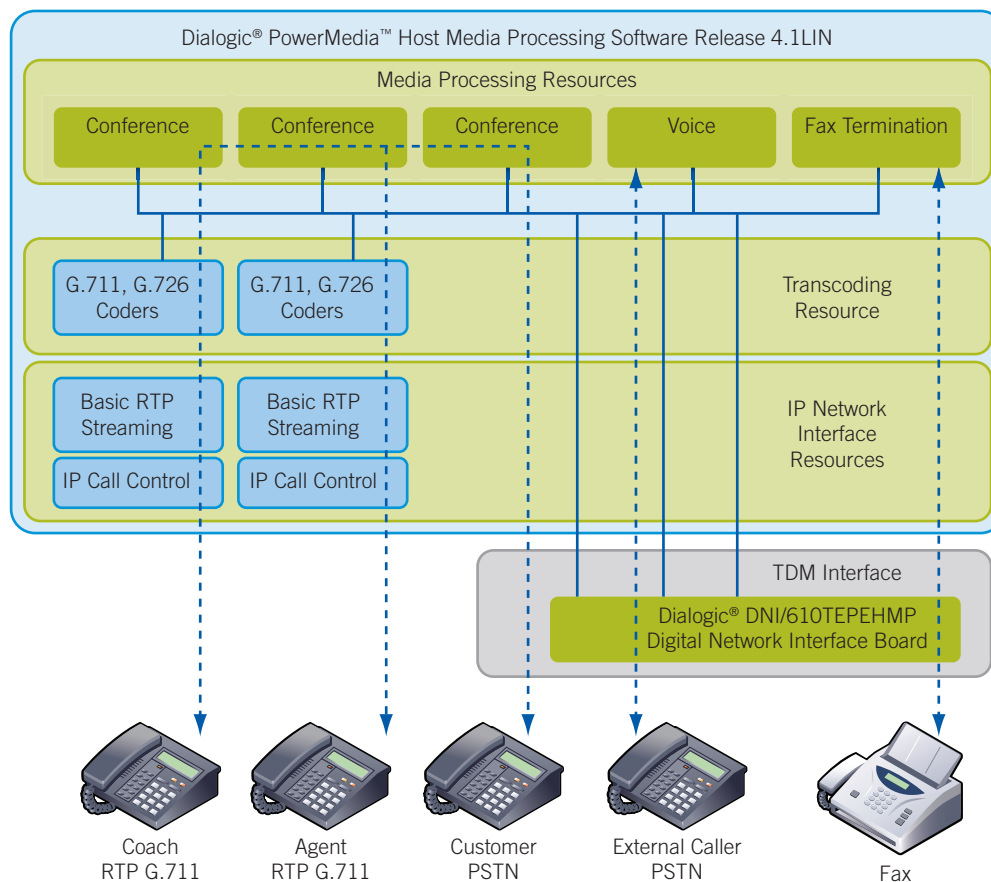Figure 7 shows how these resources are grouped in this scenario.

Figure 7. Resources for Hybrid Call Center

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3G-324M Native Video Portal Example

Table 6 provides the requirements for an IP call center scenario and the required PowerMedia HMP 4.1 resources. A 3G-324M portal on a 3G-324M network supporting 3GPP Release 99 includes the capability to select and stream videos from a menu. The 3G-324M protocol uses H.245 user Input Indication for DTMF menu selection.

Scenario Requirements	Resource Required
3G-324M portal on a 3G-324M network supporting 3GPP Release 99	120 3G-324M resources
Supports 120 simultaneous users	Dialogic® DNI/1210TEPEHMP Digital Network Interface Board for 4E1 connectivity to TDM
120 multimedia resources to play menu system	120 multimedia resources

Table 6. 3G-324M Portal Requirements

Figure 8 shows how these resources are grouped in this scenario.
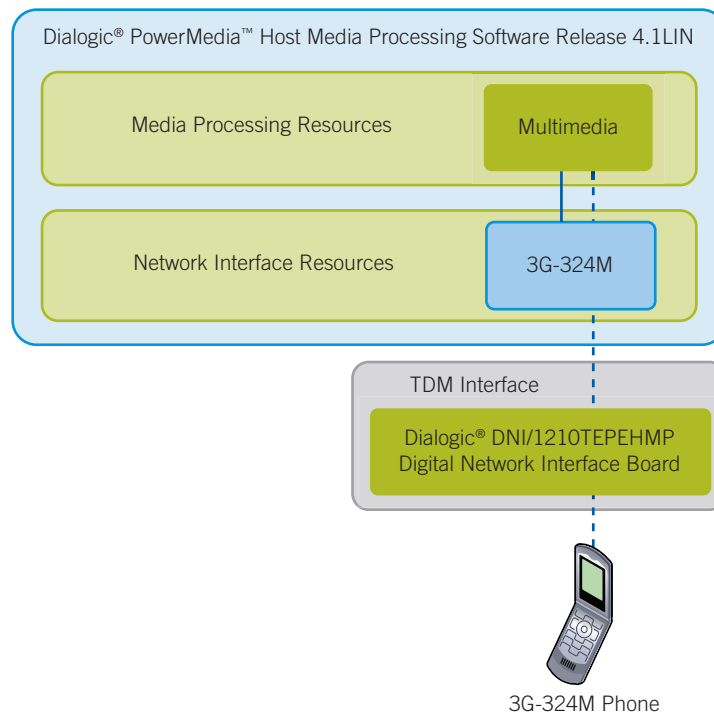
Figure 8. Resources for 3G-324M Portal

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3G-324M-Based Video Portal with RTSP Server Example

Table 7 provides the requirements for a 3G-324M gateway/streaming portal scenario. This type of system is used to provide a portal application to 3G-324M networks that allows users to select a program to watch from an external RTSP streaming server. PowerMedia HMP 4.1 in this case acts as a gateway between the streaming sever and the 3G-324M network.

Scenario Requirements	Resources Required
120 user 3G-324M portal providing a menu system to allow users to watch streaming video	120 3G-324M resources Dialogic® DNI/1210TEPEHMP Digital Network Interface Board for 4E1 connectivity to TDM
Ability to select (from a menu) a streaming video that is accessible to 50% of the channels	60 multimedia resources
Able to accept up to 120 streams of multimedia content from the RTSP server	120 basic RTP streaming resources

Table 7. 3G-324-Based Video Portal with RTSP Server Requirements

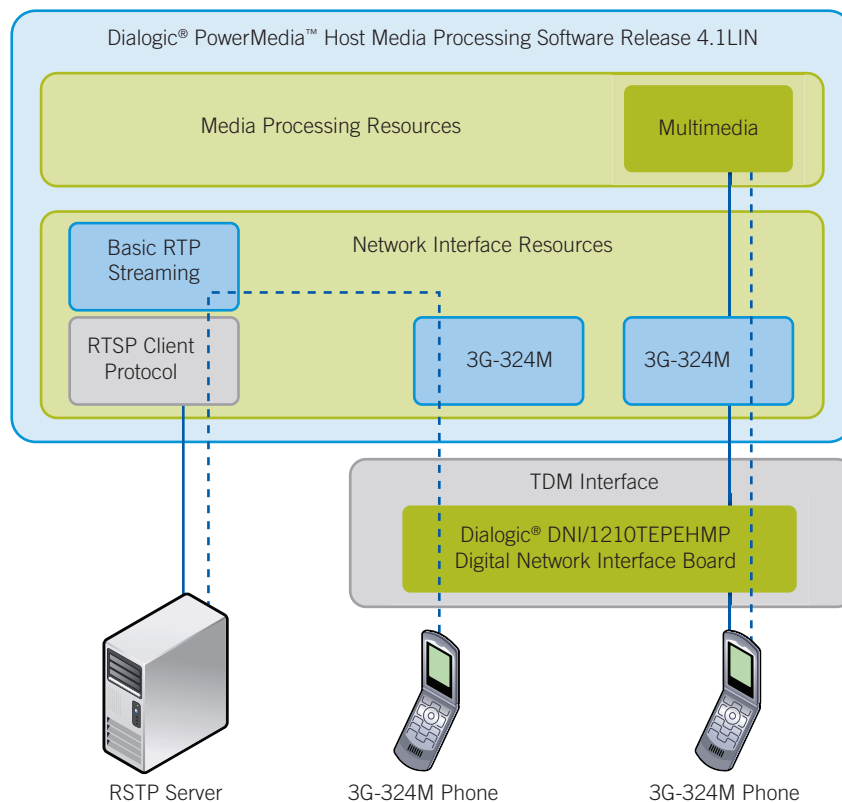Figure 9 shows how these resources are grouped in this scenario.

Figure 9. Resources for a 3G-324-Based Video Portal

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3G-324M to IP Gateway with Audio Transcoding Example

Table 8 provides the requirements for a 3G-324M to IP gateway with audio transcoding scenario. This type of system is used to provide conversion from a 3G-324M video call to a SIP IP video call that will land on a multimedia server or conference server in a separate box. In this example, PowerMedia HMP 4.1 acts as a gateway between the 3G-324M network and the IP network. Audio will be transcoded to G.711 and video will be native with no video transcoding or advanced video processing.

Scenario Requirements	Resources Required
240 user 3G-324M gateway providing transcoded audio and native video connection to IP network	240 3G-324M resources Dialogic® DNI/2410TEPEHMP Digital Network Interface Board for 8E1 connectivity to TDM
IP RTP streaming with audio transcoding from AMR-NB on 3G-324M network to G.711 on the IP network	240 basic RTP streaming resources, 240 AMR-NB coder resources, 240 G.711/G.726 coder resources
Call control	240 IP call control resources for SIP call control

Table 8. 3G-324-Based Video Portal with RTSP Server Requirements

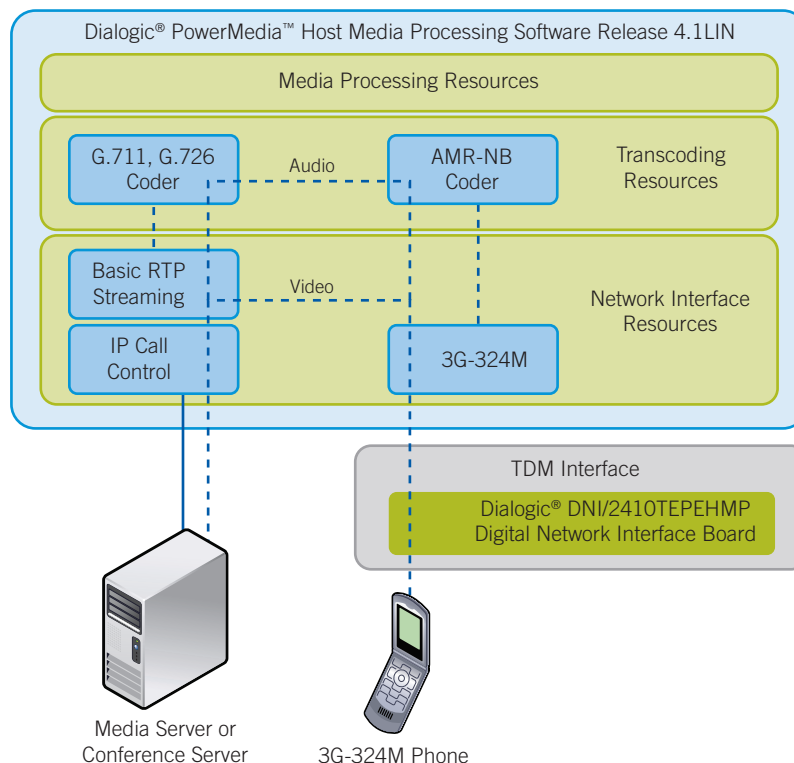Figure 10 shows how these resources are grouped in this scenario.

Figure 10. Requirements for 3G-324-Based Video Portal with Media or Conference Server

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Summary of Dialogic™ PowerMedia™ Host Media Processing Software Release 4.1LIN Resources

Table 9 provides a summary of the information required for configuring licenses for PowerMedia HMP 4.1, which has different licensing requirements based on which resources are in use; these requirements are also detailed in Table 9.

Note: PowerMedia HMP 4.1 software requirements are continually being updated as host processor capacity performance increases. Dialogic regularly tests the capacity of new processors and publishes the current density test results for Dialogic HMP Software on the Dialogic website.

Resource Type	PowerMedia HMP 4.1 Requirements	Notes
IP call control	5000 maximum	Select up to 5000 IP call control
		Supports IPCC or 3PCC, enabling one entity to create, modify, or terminate a media session between two or more endpoints
		3PCC signaling and media exchange are independently managed
		1PCC supports signaling and media integration
		An IP call control resource is required for the use of MSML for both PSTN and IP Media; therefore, the number of IP call control resources on an MSML deployment should be equal to the number of simultaneous IP and PSTN devices
Basic RTP streaming	1500 maximum	Total number of streaming IP sessions on a single server
G.711/G.726 coder	1500 maximum	Must be equal to or less than the number of basic RTP streaming resources
G.729/G.723 coder	750 maximum	Each resource can transcode one channel of G.729a, G.729b, or G.723.1
		A G.729ab channel requires a basic RTP streaming resource
		A G.723.1 channel requires either a 3G-324M resource or a basic RTP streaming resource
G.722 coder	500 maximum	Requires a basic RTP streaming license
AMR-NB coder	480 maximum	Requires a basic RTP streaming license or a 3G-324M license
AMR-WB (G.722.2) coder	150 maximum	Requires a basic RTP streaming license or a 3G-324M license
Voice	1500 maximum	Equal to the number of play or record sessions
		Requires use of a Dialogic® HMP Interface Board (DNI Board) or coder for recording a streaming function, or can record a conference by adding another conference resource
Speech	360 maximum	Equal to the number of voice sessions that can be speech-enabled; must be equal to or less than the number of voice resources
Fax	120 maximum	Requires a basic RTP streaming license for T.38 or a DNI Board for V.17
Audio only multimedia P/R	1000 maximum	Requires a basic RTP streaming license or a 3G-324M license
Multimedia	480 maximum	480 multimedia in half-duplex or 240 full duplex play/record
		Requires a basic RTP streaming license or a 3G-324M license

Configuring Dialogic® PowerMedia™ Host Media Processing Software Release 4.1LIN Software Licenses for Voice and Native Video Multimedia Applications

Resource Type	PowerMedia HMP 4.1 Requirements	Notes
Conference	1000 maximum	Requires the use of a DNI Board or coder
		To record a conference, include a voice resource and an additional conference resource
HD Voice Conference	500 maximum	Requires the use of a DNI Board or coder resource
		To record a conference, include an audio only multimedia resource or voice resource and an additional HD Voice Conference resource
3G-324M	250 maximum	Requires a basic RTP streaming or a DNI Board
Encryption (SRTP and/or SIP TLS)	yes/no	

Table 9. Summary Table for Configuring Licenses for Dialogic® PowerMedia™ Host Media Processing Software Release 4.1LIN

A Note on AMR-NB and AMR-WB

Using the AMR-NB and/or AMR-WB resource in connection with a Dialogic® product described herein does not grant the right to practice the standard(s). To seek a patent license agreement to practice the standard(s), contact the VoiceAge Corporation at http://www.voiceage.com/licensing.php.

For More Information

For documentation, including configuration guides and release updates, see
Dialogic® PowerMedia™ Host Media Processing Software Release 4.1LIN

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