Dialogic® PowerMedia™ Web Media Server

Dialogic® PowerMedia™ Web Media Server enables service providers and web developers to add value and spur innovation by enhancing Web 2.0 applications with real-time multimedia communications capabilities.

PowerMedia WMS enables rapid development and deployment of voice- and video-enabled Web 2.0 social networking and other applications, such as click-to-call or click-to-conference, using an HTTP RESTful-based interface popular with web developers.

Features	Benefits
Adds real-time voice and video communications capabilities to web applications	Gives Web 2.0 developers opportunities to add value and attract more users to their websites
Software-only product with a flexible architecture that supports incremental capacity increases on standard server hardware	Allows easy scalability with low equipment costs
HTTP-based media control protocol	Can reduce time and expense by simplifying the deployment environment
RESTful interface with a choice of programming environments, including Java, C++, PHP, and Ruby	Can reduce startup costs because Web 2.0 developers are able to use familiar programming and deployment environments

Dialogic®
Making Innovation Thrive™

Solutions built with the PowerMedia WMS can be deployed in a variety of mobile, broadband, and wireline networks, providing a bridge between Web 2.0 applications and real-time multimedia communications.

Solution Configuration Example

Figure 1 shows a configuration for a click-to-conference social networking application that uses PowerMedia WMS in a Java environment and that can be created by a web developer without advanced telecommunications knowledge. Other Web 2.0 applications can be delivered with this configuration, including voice or video click-to-call.
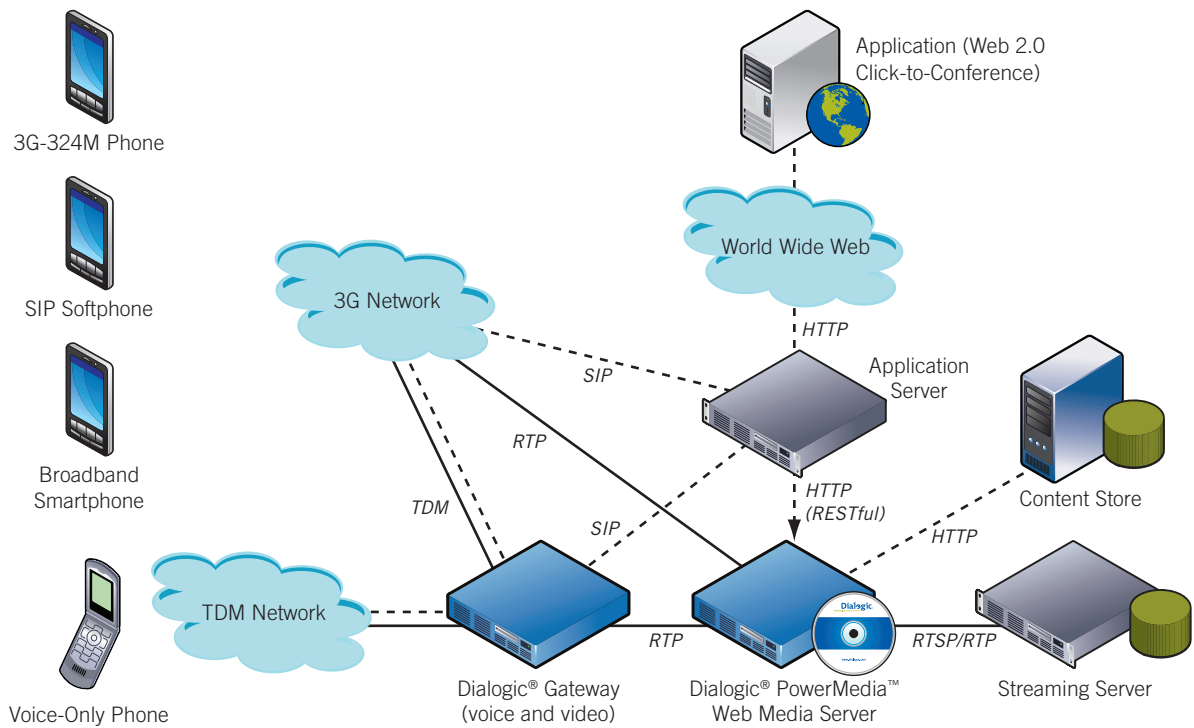

Figure 1. Dialogic® PowerMedia™ Web Media Server Used in a Web 2.0 Click-to-Conference Configuration

In this example, the Web 2.0 application gives users the option of establishing a live audio or video conference with online friends. When a user initiates a conference through the Web 2.0 application user interface, the Web 2.0 application sends HTTP commands to the application server, directing it to establish the calls and start the conference.

The following components are included in the configuration in Figure 1:

- **Web 2.0 application —** Includes its own GUI front-end, such as Facebook™

- **Application server —** Handles SIP call control and other aspects of real-time multimedia communications using a J2EE environment with JSR289 support

- **Dialogic® PowerMedia™ Web Media Server —** Performs the multimedia operations required to establish and maintain real-time communications while providing a high quality user experience

- **Dialogic® gateway —** Connects the Web 2.0 application to a TDM network; suitable gateways include the Dialogic® Integrated Media Gateways and the Dialogic® Vision™ 1000 Video Gateway.

- **External servers —** Used for storing and streaming multimedia content

The application server establishes the calls in the conference using the SIP protocol, and then controls the calls with PowerMedia WMS through a RESTful interface to perform the multimedia operations required to establish and maintain the conference in an easy and intuitive way. The multimedia operations include:

- Play voice and video prompts to conference participants, and use text overlay on video clips for ad insertion and other purposes

- Collect inputs via keystrokes from participants

- Add and remove participants from the conference in real time

- Mix and redistribute the audio among participants with active talker detection and other advanced conferencing features

- Stream multimedia content to the conference participants from an external source, such as a web streaming server, using the industry-standard RTSP protocol

Languages and environments other than Java may be used with PowerMedia WMS, and components may be geographically distributed, allowing remote access for operation and management.

Demo applications using the configuration in Figure 1 and other scenarios are provided as part of the PowerMedia WMS software distribution, along with documentation and source code.

Technical Specifications

Media and Coders

Audio

Voice play/record, tone generation/detection (DTMF, RFC2833); call progress analysis and PVD/PAMD are planned for a future release

Audio conferencing with active talker detection, DTMF clamping; coach-pupil mode and per party gain/volume control are planned for a future release

Audio codecs:
G.711 μ-Law, A-Law
G.726 @ 32 kbps
G.729AB
AMR-NB

Video

Video codecs:
H.263, H.263+, H.263++ Baseline Profile up to Level 30
H.264 Baseline Profile up to Level 1.3

Image size: CIF, QCIF
Frame rate: Up to 30 FPS
Bit rate: Up to 768 kbps
Video transcoding, transrating, transizing
Video Fast Update (VFU): Configurable dynamic responses to I-Frame Update requests from clients (planned for a future release)
Text overlay with scrolling, transparency and multi-language support
Image overlay for logo insertion (planned for a future release)
Video conferencing — based on switched active talker
Video conferencing — continuous presence with stream mixing (planned for a future release)

File containers: .3GP, 3G2, WAV
File operations: HTTP and/or NFS, RTSP/RTP

Signaling, Media, and Control Interfaces
IPv4 (IPv6 is planned for a future release)
RTP, RTCP
HTTP-based RESTful web services interface for media processing control operations
RTSP client support for streaming multimedia content from RTSP servers

Capacity
Typical media sessions per server:
Audio sessions — Up to 2200 sessions with G.711 or 1000 sessions with transcoding
Video transcoding — Up to 400 unidirectional sessions per system (also includes audio transcoding), depending on system capacity, codec, resolution, and frame rate.

Technical Specifications *(continued)*

System Management
WEB UI
Ethernet trace with packet capture

Interfaces Required
Media and signaling: 1000Base-TX Ethernet
Management: 1000Base-TX Ethernet

Hardware Support and Minimum System Requirements
Hardware: Intel Architecture-based server
Operating System: Red Hat Enterprise Linux 5 Update 2 (32-bit only)
Processor: Intel Dual Xeon 2.8 GHz or greater
Ethernet: Dual 1000Base-TX (RJ-45)
Memory: 2GB RAM minimum
Storage: 60GB HD minimum

Dialogic.
Making Innovation Thrive™

www.dialogic.com