

Oracle® Web Conferencing

Sizing Guide

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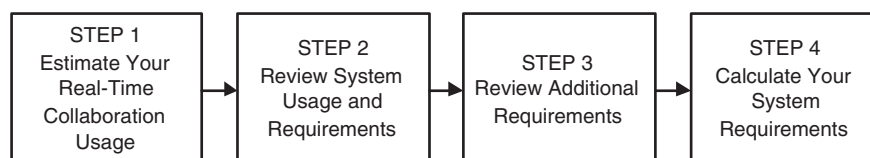
This guide helps you plan and size your Oracle Web Conferencing deployment. The metrics provided here are for a single installation of Oracle Web Conferencing.

This document contains the following sections:

- Section 1, "Estimating Your Oracle Web Conferencing Usage"
- Section 2, "Oracle Web Conferencing Usage Statistics"
- Section 3, "Other Requirements"
- Section 4, "Calculating Your System Requirements"

This document will guide you through the following steps to determine your system's sizing needs.

Figure 1 Steps to Determine System Sizing



1 Estimating Your Oracle Web Conferencing Usage

To determine your company's sizing requirements, you need to estimate how Oracle Web Conferencing will be used. The key questions are:

- What is the maximum number of concurrent users?
- What is the maximum number of concurrent conferences?

Complete the following table to find the answers to these key questions.

Table 1 Estimating Maximum Concurrent Users and Conferences

Question	Answer
1. What time of day do most conferences occur?	_____

Table 1 (Cont.) Estimating Maximum Concurrent Users and Conferences

Question	Answer	
2. How many conferences occur at the time in item #1?	_____	<i>Maximum number of concurrent conferences</i>
3. How many users participate in the largest conference at the time in item #1?	_____	
4. Multiply #2 x #3 and enter the result here.	_____	
5. At what time of day does your largest conference occur?	_____	
6. How many users participate in the conference at the time in item #5?	_____	
7. How many other conferences occur at the time in item #5?	_____	
8. How many users participate in the largest conference at the time in item #5?	_____	
9. Multiply #7 x #8, then add #6 and enter the result here.	_____	
10. Compare item #4 to #9 and enter the larger number here.	_____	<i>Maximum number of concurrent users</i>

2 Oracle Web Conferencing Usage Statistics

The following sections contain Oracle Web Conferencing usage statistics and minimum requirements.

2.1 Oracle Web Conferencing Server Hardware Usage

The first column of each of the tables below shows hardware usage for one conference on the Oracle Web Conferencing Server. In this example, the server machine contains:

- The Oracle9i Application Server
- Oracle Web Conferencing core components:
 - Web Conferencing server (imt-collab)
 - OC4J application for Web Conferencing (OC4J_imeting)
 - Oracle Web Conferencing process monitor (imt-pm)
 - Oracle Web Conferencing multiplexer (imt-mx)

The second column shows usage for a conference in which 20 clients participate. These metrics were obtained with content containing minimal graphics. System usage increases for video and other graphically-rich content.

Table 2 shows system usage for a Solaris platform. These data were obtained using a Sun Ultra 60 with two UltraSPARC-II 450MHz CPUs, 2 GB RAM, Solaris Operating System 5.8. The table shows usage for one conference, plus additional usage for 20 clients.

Table 2 System Usage for Solaris

Hardware	Hardware Usage for One Conference	Hardware Usage for 20 Clients
Physical Memory	7 MB	6 MB
Virtual Memory	12 MB	10 MB
CPU Usage (%)	0.8%	1%
CPU Usage with SSL Encryption	2.4% – 3.2%	3% – 4%
Network In	10 kB/s	10 kB/s
Network Out	8 kB/s	100 kB/s

Table 3 shows system usage for a Linux platform. These data were obtained using a Dell 2650 with two Intel Pentium 4 2.8 GHz CPUs, 6 GB RAM, Linux Red Hat Advanced Server 2.1. The table shows usage for one conference, plus additional usage for 20 clients.

Table 3 System Usage for Linux

Hardware	Hardware Usage for One Conference	Hardware Usage for 20 Clients
Physical Memory	14 MB	6 MB
Virtual Memory	15 MB	6 MB
CPU Usage (%)	0.5%	0.8%
CPU Usage with SSL Encryption	1.5% – 2%	2.6% – 3.8%
Network In	15 kB/sec	15 kB/sec
Network Out	8 kB/sec	100 kB/sec

Table 4 shows system usage for a Windows platform. These data were obtained using a Dell OptiPlex G270 with one Intel Pentium 4 2.6 GHz CPU (with hyperthreading), 2 GB RAM, Windows Advanced Server 2003. The table shows usage for one conference, plus additional usage for 20 clients.

Table 4 System Usage for Windows

Hardware	Hardware Usage for One Conference	Hardware Usage for 20 Clients
Physical Memory	14 MB	6 MB
Virtual Memory	15 MB	6 MB
CPU Usage (%)	1%	1.6%
CPU Usage with SSL Encryption	3% – 4 %	4.7% – 6.5%
Network In	15 kB/sec	15 kB/sec
Network Out	8 kB/sec	100 kB/sec

2.2 Voice Conversion Server Hardware Usage

Oracle Web Conferencing uses a Voice Conversion Server to support streaming voice data during conferences or playback of recorded conferences with voice

data. The Voice Conversion server must be installed on a computer with the following required software:

- Windows 2000 Server SP4 and above
- Intel Dialogic System Software 5.1.1 SP1 and above

The server machine should include the following basic configuration:

- 2.4 GHz Intel Processor
- 512 MB SDRAM
- 20 GB disk

In addition, you need specialized telephony hardware. You need a T1 or E1 trunk, and a media processing board from Intel / Dialogic to support the trunk. The T1/E1 protocol supported by Oracle Web Conferencing is robbed-bit /CAS (Channel Associated Signaling). The following tables list hardware and sizing recommendations depending on the the number of concurrent voice conferences, the type of and number of trunk lines, and the number of Voice Conversion Servers.

Table 5 Sizing Recommendations for Voice Conversion Using T1

Concurrent Voice Conferences	T1 Lines	Voice Servers	Dialogic Hardware Needed per Voice Server
12	1	1	D/240JCT-T1
24	1	1	D/480JCT-T1
48	2	1	2 x D/480JCT-T1
96	4	2	2 x D/480JCT-T1
192	8	4	2 x D/480JCT-T1

Table 6 Sizing Recommendations for Voice Conversion Using E1

Concurrent Voice Conferences	E1 Lines	Voice Servers	Dialogic Hardware Needed per Voice Server
15	1	1	D/300JCT-E1
30	1	1	D/300JCT-E1
60	2	1	2 x D/600JCT-E1
120	4	2	2 x D/600JCT-E1
240	8	4	2 x D/600JCT-E1

The following questions are frequently asked regarding Voice Conversion server setup:

- Can the Voice Conversion Server be co-hosted along with the Oracle Collaboration Suite Voicemail server on the same hardware machine?

Due to telephony resource contention, in Oracle Collaboration Suite Release 2 the Web Conferencing Voice Conversion Server cannot be co-hosted with the Oracle Collaboration Suite Voicemail server.

- Is the Voice Conversion Server supported for Linux?

Although the Dialogic platform is supported on Linux, the Voice Conversion Server has not yet been certified for Linux. Linux support might be offered in a future release.

- Can the Voice Conversion Server be shared across multiple Oracle Web Conferencing middle tiers?

Yes, you can configure the Voice Conversion Server to serve multiple middle tiers, which could potentially be at different locations. For example, a single global deployment could have mid-tiers in the United Kingdom and in the United States. Each of these locations could have its own Voice Conversion Server instance (to save on long-distance phone charges) or share a common instance.

See Also: *Oracle Web Conferencing Administrator's Guide* for details about configuration and deployment.

2.3 Document Conversion Server Hardware Usage

Oracle Web Conferencing uses a Document Conversion Server to convert Microsoft Office documents into HTML or other compatible formats for sharing during conferences. The server must reside on a separate computer from the middle tier, and it must have Microsoft Windows NT and Microsoft Office 2000 or Microsoft Office XP.

Unlike the other Oracle Web Conferencing servers, Document Conversion Server tasks are CPU-intensive, usually reaching 100% CPU usage for most conversion tasks. Oracle Web Conferencing currently supports only one Document Conversion Server, so for faster conversion, you must scale up.

The sizing of document conversion hardware depends on the load on the Document Conversion Server. The load is determined by the nature of the conversion tasks, for example, size of document and amount of graphics.

The following table lists document conversion times for various types of documents. These results were obtained using a Pentium III, 866 MHz, 256 MB, Windows 2000 machine with a 100 Mbps ethernet connection and 15 GB EIDE disk.

Table 7 Document Conversion Time

Document Type	Length	Size	Complexity	Conversion Time
PowerPoint	11 pages	267 KB	Simple graphics	12 seconds
PowerPoint	35 pages	1.1 MB	Complex graphics	35 seconds
PowerPoint	29 pages	8.2 MB	Moderate graphics	41 seconds
Excel	3 sheets	19 KB	Text only	2 seconds
Word	40	150 KB	Text only	8 seconds
Word	11 pages	1 MB	Complex graphics	24 seconds
Word	10	2.8	Simple graphics	5 seconds

For best results, Oracle Corporation recommends using a fast CPU (such as 2.4 GHz) and a reasonable amount of memory (such as 512 MB).

3 Other Requirements

Oracle Web Conferencing also relies on Oracle9iAS Infrastructure and the Oracle9i Database. Please consult the documentation for these products for hardware requirements.

Oracle Web Conferencing requires at least 30 GB of disk space in the machine on which the database is located, so add this requirement to the Oracle9i Database requirements. When calculating database disk space, consider the number and size of materials that will be stored in the Materials and Archives tabs.

4 Calculating Your System Requirements

You can calculate your system requirements using the previous tables:

- Table 2, Table 3, OR Table 4 from Section 2, "Oracle Web Conferencing Usage Statistics" depending on your platform
- The answers to Table 1, "Estimating Maximum Concurrent Users and Conferences"

Table 8 shows an example of how you use the data from the previous tables to calculate CPU requirements.

Table 8 Example: Estimating CPU Requirements

Question	Answer
1. Enter the answer to Table 1, item #10.	_____
2. Divide #1 above by 20.	_____
3. Multiply #2 by the "Hardware Usage for 20 Clients" column of the CPU row in the appropriate table from Section 2.	_____
4. Enter the answer to Table 1, item #11.	_____
5. Multiply #4 above by the "Hardware Usage for 1 Client" column of the CPU row in the appropriate table from Section 2.	_____
6. Add items #3 and #5 above.	_____
7. Divide #6 by 100. This is the number of CPUs needed.	_____

You can use the same questions above, but substitute the virtual memory, physical memory, network in, or network out values for items 3 and 5 to determine your memory and network requirements.

Note: There are several variables that apply when determining system usage, not all of which are accounted for in this document. For example, the type of content that is presented influences system usage. Graphically-rich content and video use more system resources than PowerPoint slides with minimal graphics.

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