

Compatibility and Performance with Arc Premium

Version 5.1.4



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This document provides a comprehensive overview of Arc Premium version 5.1.4 and compatibility with operating environments, software, hardware and the utilization of bandwidth.

You can access the most current Arc Premium documentation at this URL:

<http://www.arcsolutions.com/uk/services/technicaldocumententerprise.aspx>

http://www.arcsolutions.com/middle_east_africa/services/technicaldocumententerprise.aspx

<http://www.arcsolutions.com/europe/services/technicaldocumententerprise.aspx>

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Definitions and links

Definitions and useful links for this document

<p>* Definition of Limited Support</p>	<p><i>If a problem is diagnosed as being a fault in Arc software and <u>not relating to the server platform itself</u>, Arc will investigate the problem via the normal process and consider the option of providing bug fixes for the software. However, if the problem is diagnosed as being directly related to the server platform, Arc Solutions reserves the right to request that the server platform is upgraded to one fully supported before further diagnosis and be completed and any bug fixes considered.</i></p>
<p>** Windows 2008 support</p>	<p><i>Supported by Arc Solutions and Cisco Systems. Refer to Cisco TSP documentation at http://developer.cisco.com/web/tapi/docs</i></p>
<p>*** Support for Windows 2003 ended 13/07/2010</p>	<p><i>Windows 2003: http://support.microsoft.com/lifecycle/search/default.aspx?sort=P&N&alpha=windows+server+2003&Filter=FilterNO</i></p> <p><i>Windows 2003 R2: http://support.microsoft.com/lifecycle/search/default.aspx?sort=P&N&alpha=windows+server+2003+R2&Filter=FilterNO</i></p>

Important related Arc documents

When using this document please also consult the following:-

- (1) **Arc Compatibility Matrix** for the Cisco Unified Communications Manager supported by Arc software versions
- (2) **Arc Design Guide** for a wealth of best practices and detail on planning your deployment
- (3) **Arc Enterprise Premium Edition Installation Manual** (Arc 5.1.4) or for older versions of Arc, the individual installation documents for your server component or client applications
- (4) **Arc Enterprise Premium Configuration Manual** (Arc 5.1.4) provides a comprehensive overview of the configuration of the server component.
- (5) **CUCM Configuration Manual for Arc Premium Enterprise v5.1.4** provides description on the configuration requirements within the Cisco Unified Communication Manager software for versions 6.x, 7.x and 8.x. (These are also provided as three separate documents)

1. Compatibility

1.1 CUCM and Operating System Compatibility

CUCM	Server 2003 R1	Server 2003 R2	Server 2008 R1 (32bit only)	Server 2008 R2 (supports 64bit only)
6.1	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Limited Support *	Not Supported by Arc or Cisco Systems
7.0	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Limited Support *	Not Supported by Arc or Cisco Systems
7.1	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Supported by Arc Solutions and Cisco Systems **	Not Supported by Arc or Cisco Systems
8.0	Not Supported by Arc or Cisco Systems	Not Supported by Arc or Cisco Systems	Supported by Arc Solutions and Cisco Systems **	Not Supported by Arc or Cisco Systems
8.5	Not Supported by Arc or Cisco Systems	Not Supported by Arc or Cisco Systems	Supported by Arc Solutions and Cisco Systems **	Not Supported by Arc or Cisco Systems
8.6	Not Supported by Arc or Cisco Systems	Not Supported by Arc or Cisco Systems	Supported by Arc Solutions and Cisco Systems **	Not Supported by Arc Solutions

Important Information

No Support for Windows Domain Controllers

Installation of Arc Server software on a Windows server machine configured as a domain controller is not supported.

Support for Windows 2008 Server/CUCM Telephony Service Provider 7.1

Products affected:-

- Arc Enterprise Premium 5.x | Standard 5.x | Arc Call Connect 5.x

The products listed above plus CUCM 7.1.x TSP with Windows Server 2008 R1 32bit have successfully passed several courses of extensive testing in-house at Arc Solutions. Arc Solutions assures customers and partners of its full support for Windows Server 2008 Release 1 (R1) 32bit. Support for Windows Server in 64bit mode is not available. Furthermore, Cisco Unified Communications Manager (CUCM) Telephony Service Provider (TSP) is compatible only with 32bit installations of the Windows Server at this time.

The Cisco's TSP 7.1 Developer Guide confirms that the Cisco TSP 7.1 is supported with the attendant console products listed above.

The developer guide can be found here:

<http://developer.cisco.com/web/tapi/docs>

Customers or partners with any questions regarding this are advised to contact Cisco Systems directly.

1.2 Virtual Environment – VMWare (ESX4 / ESXi4)

CUCM	Server 2003 R1	Server 2003 R2	Server 2008 R1 (32bit only)	Server 2008 R2 (supports 64bit only)
6.1	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Limited Support *	Not Supported by Arc or Cisco Systems
7.0	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Limited Support *	Not Supported by Arc or Cisco Systems
7.1	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Supported by Arc Solutions and Cisco Systems	Not Supported by Arc or Cisco Systems
8.0	Not Supported by Arc or Cisco Systems	Not Supported by Arc or Cisco Systems	Supported by Arc Solutions and Cisco Systems	Not Supported by Arc or Cisco Systems
8.5	Not Supported by Arc or Cisco Systems	Not Supported by Arc or Cisco Systems	Supported by Arc Solutions and Cisco Systems	Not Supported by Arc Solutions
8.6	Not Supported by Arc or Cisco Systems	Not Supported by Arc or Cisco Systems	Supported by Arc Solutions and Cisco Systems	Not Supported by Arc Solutions

Important Information

VMWare Platform Support

The Arc Server is not supported in Remote Desktop (RDP) and Terminal Services (TS) environments as these applications can cause problems with the required Wave Driver operation.

Arc does offer support for VMWare virtual server environments. Arc Enterprise Premium is only supported in a live environment on VMWare ESX and ESXi version 4.0 and above. VMWare VMotion (high availability solutions) are NOT supported.

Arc Enterprise Premium is not supported in a live environment on HyperV or any other virtual based operating system.

Arc Enterprise Premium does not support High Availability (HA) using VMWare VMotion Features\Services\Tools or Applications.

1.3 Cisco Unified Communications Manager Compatibility

Arc Premium version 5.1.4 is compatible with the following Cisco Unified Communication Managers (CUCM) and the respective Cisco TAPI TSP.

A full compatibility matrix can be found on the website (see page 1 for web links)

CUCM	6.1a*	6.1.2	6.1.3	6.1.5	6.1.4	7.0.1	7.0.2	7.1.3 a & b	7.1.5
Cisco TAPI TSP	6.1 (0.10)	6.1 (2.4)	6.1 (3.2)	6.1 (5.1)	6.1 (4.2)	7.0 (1.6)	7.0 (1.6)	7.1 (3.4)	7.1 (5.2)

CUCM	8.0.0 **	8.0.2 **	8.0.3	8.5.1	8.6.1	8.6.2 ***
Cisco TAPI TSP	8.0 (1.6)	8.0 (1.6)	8.0 (3.5)	8.5 (1.1)	8.6 (1.3)	8.6 (2.2)

* Several issues with Extension Mobility and TAPI, raised with Cisco.

** See the section **Cisco Unified Call Manager 8.x Compatibility**.

*** See the section **Known issue in Cisco Unified Communications Manager 8.6.2**.

1.4 Cisco Unified Call Manager 8.x Compatibility

Support for Cisco Unified Call Manager 8.x will only be supported via the old TSP Wave Driver. When installing the TSP for this range of Call Manager versions, the end user is asked which version of Wave Driver they would like to install. At this stage the user must select the old version in order to provide compatibility with the Arc Suite.

1.5 Known issue in Cisco Unified Communications Manager 8.6.2

(Updated January 20th, 2012)

Installers, engineers and customers are advised that an issue exists in version 8.6.2 of Cisco Unified Communications Manager whereby CTI ports fail to register in certain circumstances, causing significant problems with call control within the Arc Premium server.

This issue is observed on CUCM build version 8.6.2.20000-2 with TSP version 8.6(2.2) on Windows 2008 Service Pack 2 32 bit.

The Cisco ticket reference is CSCtw79059.

Since this is solely a CUCM issue and is outside of Arc Solutions domain, you are advised to contact Cisco for updated status on this issue.

1.6 SQL Server Support

SQL	Windows 2003 R1	Windows 2003 R2	Server 2008 R1 (32bit only)	Server 2008 R2 (supports 64bit only)
2005 32bit	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Supported	Not Supported
2008 32bit	Limited Support * Microsoft Support Ended ***	Limited Support * Microsoft Support Ended ***	Supported	Not Supported

Important Information

Microsoft SQL 64bit Support

Arc Solutions advises customers and partners that support for Microsoft SQL Server (2005 and 2008) is offered for 32bit versions of the operating system only. Arc cannot offer support for 64bit SQL at this time, either in an on-box or off-box configuration.

There are two significant areas of functionality dependent upon 32bit files that are incompatible with 64bit mode, and that cannot be removed from the Arc system. These features rely on several DLL files* that need to be placed on the SQL server machine itself. Since the files have been compiled in 32bit mode they will not run on a 64bit SQL machine.

Arc Solutions has reviewed the work to provide the files in 64bit mode and is unable to offer timescales on doing so in the short to medium term. This is because not all of the files are in a development language that lends itself to being simply 'recompiled' in 64bit mode, and they would need to be rewritten. Arc's development roadmap is resource-committed and we are unable at this time to insert a project of this magnitude into the schedule as it would jeopardise other customer commitments. Arc is, however, committed to move to a 64bit architecture and plans to do so in 2012.

For more information please contact support@arcsolutions.com

****Technical detail***

The following files are 32bit and so are not compatible with 64bit SQL server: -

The following files are required for phonetic searching

MetaphoneCOM.dll	XPMetaphone.dll
Stemminglib.config	Stemminglib.dll

The following files are required for Resilient Server operation

ASR.dll	AXPR.dll
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2 System Requirements

2.1 Console Server and Client (Console) Computer

The following specification is given as a guide only. It is recommended as a base specification to allow Arc Premium to run at its optimum. You should try to supply this specification of machine or better.

2.2 Arc Premium Server

PC Server – Arc Premium Connect is a client server application. The server side will need to run on a dedicated PC Server. No other applications must run on this server.

The tables in this section detail the minimum specification required by the Arc Premium Server application.

Applies to	PC Specification
<p>Arc Premium Connect Server</p>	<p>Core Duo CPU 2.8 GHz or better</p> <p>4 GB RAM or better</p> <p>100 GB Hard Drive or better</p> <p>CD-ROM/DVD-Rom</p> <p>100mbps Network Card</p> <p>SVGA (1024x768) display card or better</p> <p>Windows 2003 Server SP2/Windows 2008 R1 (32bit only) Server</p> <p>.Net Framework v3.5</p> <p>SQL Server Standard or Enterprise 2005 with SP3, or SQL 2005 Express with SP3 for smaller installations where resilience is not required.*</p> <p>OR</p> <p>SQL Server Standard or Enterprise 2008 (32bit only), or SQL 2008 Express for smaller installations where resilience is not required.*</p> <p>Microsoft Excel for Directory Exporting.</p> <p>Microsoft Internet Information Services (IIS) v6.0 (or Later) for running Arc Presence</p> <p>Microsoft Office Communication Server 2007 R2, Core Components for running Arc OCS Server. (Note: Microsoft OCS R1 is not supported).</p> <p>If an Off-box (remote) SQL server is used within your configuration then it must have .Net Framework v3.5 installed.</p> <p><i>Please consult your Microsoft representative if you are looking to license managed or hosted solutions</i></p>
<p>SQL Server 2005/2008 Licensing</p>	<p>There are two methods of licensing:</p> <p>“Per Processor” license or “SQL Server & CALS” license</p> <p>It is at the Partners discretion as to which SQL license option is selected. The URL below details the SQL Server licensing requirements.</p> <p>http://www.microsoft.com/sql/howtobuy/default.aspx</p>

	<p>CAL requirements:</p> <ul style="list-style-type: none"> • The Arc Server uses 2 SQL CALS, and each Arc application client uses 1 SQL CAL per instance. • If in any doubt when designing your Arc installation, simply ensure you have a SQL processor license in place. • <i>Please consult your Microsoft representative if you are looking to license managed or hosted solutions</i>
<p>SQL Scalability</p>	<p>The performance limitation that SQL Server Express possesses is that it can access only a single CPU and 1 GB of RAM with a maximum database size of 4Gb.</p> <p>In sites where one or more of the following are expected;-</p> <ul style="list-style-type: none"> -A large number of operators - more than 10, -A high call volume - greater than 500 calls per operator per day, -A Large Directory - greater than 10,000 contacts; <p>The use of SQL Server Standard or Enterprise should be strongly considered. Where a system outgrows the SQL Express deployment, or issues are experienced that are related to the use of SQL Express, the Standard or Enterprise versions of SQL can be used to upgrade the existing implementation with minimal effort.</p> <p>Note: For future versions of Arc Premium to benefit from some features, SQL Express will not be an option and SQL Standard or Enterprise (32bit) will be required.</p> <p><i>Please consult your Microsoft representative if you are looking to license managed or hosted solutions</i></p>
<p>The Server should be connected to the network via the TCP/IP protocol.</p>	
<p>The Arc Server will require the appropriate Operating System Licenses.</p>	
<p>The Arc Server is not supported on a domain controller.</p>	
<p>The Arc Server is not supported within a 64 bit Operating System.</p>	
<p>With Windows 2008 Server, the Admin, CT Server Manager & LDAP Server Manager must be run as an Administrator to enable them to read and write to the configuration files/registry.</p>	
<p>If the report functionality is required then it is advisable to disable the User Account Control when operating the Arc Enterprise Connect Server is running on Windows 2003 / 2008 and Windows 7.</p>	

2.3 Anti-Virus Compatibility

There are many different Anti-Virus products that are supported on an Arc Premium system server. Typically, the most commonly used products are *McAfee VirusScan* and *Norton AntiVirus*

Both of these products are supported, although *any* AntiVirus program is supported on an Arc Premium Server, as long as it is configured as below:-

2.3.1 Exclusions

It is important that the AntiVirus product supports “Exclusions”. This is the ability for the user to specify specific files and/or folders that will NOT be scanned by the AntiVirus program.

The following exclusions should be set when using AntiVirus on an Arc Premium Server

File Location	Use
\\ArcData	This folder is where the System Configuration Databases are located
\\Program files\\Arc\\Arc Connect\\Logging	This is where all the system log files are stored.
\\Temp\\Cisco\\Trace	This is where the Cisco TSP Trace files are located

N.B. The “File Locations” and “File Names” may be changed by your System Administrator.

The files in the above table are constantly being written to and updated during standard operation of the Arc Premium system.

Due to this, these files are permanently being accessed – an Anti-Virus “Scan on access” policy for these files will mean that the files are constantly being scanned for Viruses. This will in turn slow down the operation of the Server. Therefore, excluding these files from being continuously scanned will allow the Server to function as expected.

2.4 Arc Premium Client Software

The tables in this section detail the minimum specification required by the Arc Premium Client applications.

Applies To the following applications	PC Specification
Supervisor	<p>Pentium 4 CPU or better</p> <p>2 GB RAM</p> <p>10GB available Hard Drive space (<i>this is not required by the app, but should be unused for healthy running of the system</i>)</p> <p>CD-ROM/DVD-ROM</p> <p>100mbps Network Card</p> <p>Connected to Network via TCP/IP</p> <p>19” widescreen monitor highly recommended</p> <p>SVGA (1024x768) or better display card (<i>higher resolution recommended for best results</i>)</p> <p>Windows XP Professional SP3 / Windows Vista Business / Windows 7 *</p> <p>Note:</p> <p>(1) Windows 7 32 bit and 64bit clients are supported</p> <p>(2) The console Calendar integration requires a Microsoft Exchange</p>

	<p>Server 2007 or better. For users calendars to be available to Arc Premium, users' Calendars must be set as public folders.</p> <p>(3) If the report functionality is required then it is advisable to disable the User Account Control when operating Supervisor on Windows 2003, 2008, Vista and Windows 7</p>
<p>Console Operator Arc Wallboard</p>	<p>Pentium 4 CPU or better (Core Duo recommended) 2GB RAM 10GB available Hard Drive space (<i>this is not required by the app, but should be unused for healthy running of the system</i>) CD-ROM/DVD-ROM 100mbps Network Card Connected to Network via TCP/IP SVGA (1024x768) display card or better (<i>for Arc Premium attendant console we recommend that the resolution is at least 1600 x 1200</i>) 19" widescreen monitor highly recommended for Arc Premium console Windows XP Professional SP3 / Windows Vista Business / Windows 7 USB 1.0/2.0 Port for Arc Console Keyboard (if purchased) Sound card and speakers are required for the Console Operator and Arc Wallboard.</p>
<p>Arc Agent</p>	<p>Pentium 4 CPU or better (Core Duo recommended) 2GB RAM 10GB available Hard Drive space (<i>this is not required by the app, but should be unused for healthy running of the system</i>) CD-ROM/DVD-ROM Network Card Connected to Network via TCP/IP SVGA (1024x768) display card or better (<i>higher resolution recommended for best results</i>) Windows XP Professional SP3 / Windows Vista Business / Windows 7 Internet Explorer 7.0 or higher</p>
<p>XML Agent</p>	<p>Compatible with the following Cisco Unified IP phones running Skinny Call Control Protocol (SCCP) 7940G / 7941G / 7960G / 7961G / 7970G / 7971G</p> <p>Phone MUST be set to Headset mode as this module requires "Auto Answer" to be configured on the device.</p> <p>With Windows 2008 running IIS7, the following roles must be added:</p> <ul style="list-style-type: none"> • IIS6 Management Compatibility • ASP Extensions

* The Arc Premium client software is supported in 32 bit and 64 bit (running under WOW64 emulation mode) environments. **The Arc Server is not supported in a 64bit Operating System environment.**

3. Performance and utilisation

This section is an extract from Arc Premium Design Guide June 2011

3.1 General bandwidth recommendations

Location-based Call Admission Control may be implemented to control the bandwidth usage across the WAN. A maximum amount of bandwidth may be configured for calls to and from each remote location.

When an Arc controlled CTI Route Point or CTI Port is created, the location should be set to *None*. This will effectively ensure that no bandwidth limits will apply to that device, however

Locations MAY be implemented which will account for bandwidth ACCORDING to Region settings, to define the codec used between two endpoints.

3.1.1 Codec Considerations

Call type	Bandwidth
Calls routed across a LAN typically use the G711 codec	64 Kbps
Calls routed across the WAN may use the G729 codec	8 Kbps

If different compression types are to be used to reduce the amount of bandwidth needed across the WAN, then a transcoder will be needed (See *Codec Considerations* - above)

In addition, further bandwidth is used by IP communications between the Arc Server and the Console Attendant as described in the following sections.

3.2 Attendant console

3.2.1 General

The following log-in tests used a directory of 250 contacts. The console by default pulls back a maximum of a 1000 contacts with any one SQL search therefore the recorded values represent the maximum log-in bandwidth required regardless of directory size.

Activity as measured from the Client	Download Bandwidth (KB)	Upload Bandwidth (KB)
Client login (Operator – direct access mode)	1,092	12.7
With 1000 Contacts	287.67	6.55
	-37%	+3%
Client login (Operator – memory mode)	2,134	8.4
With 1000 Contacts	NA	NA
	NA	NA

3.2.2 Directory and Busy Lamp

Every search made of the Contact Directory will return a number of matches within the SQL database. The bandwidth requirements will depend on the number of contacts being returned and the amount of data within each contact.

Activity as measured from the Client	Download Bandwidth (KB)	Upload Bandwidth (KB)
20 contact SQL search using attendant console	8.7	4.5
	17.25	7.19
	+67.31%	+28%
20 contact SQL search using attendant console with Scalable Busy Lamp Enabled (New subscriptions)	33.2	8.3
	59.42	8.54
	+19.42%	-68%
20 contact SQL search using attendant console with Scalable Busy Lamp Enabled (Cached subscriptions)	9.41	5.59
	-17%	0%

3.2.3 Presence integration

Activity as measured from the Client	Download Bandwidth (KB)	Upload Bandwidth (KB)
CUPS searching 'get' for typical directory view of 20 contacts (New subscriptions)	8.9	4.5
	34.57	8.73
	+25%	+17.75%
CUPS searching 'get' for typical directory view of 20 contacts (Cached subscriptions)	15.34	5.29
	-17.35%	-26.32%
OCS presence 'get' for typical directory view of 20 contacts with a short note (New subscriptions)	26.2	7.3
	21.33	8.93
	-13%	+5.7%
OCS presence 'get' for typical directory view of 20 contacts with a short note (Cached subscriptions)	23.47	7.59
	-15.66%	-5.6%
Calendar (using Outlook interface) 'get' for typical directory view of 20 contacts	NA (Data obtained from outlook session)	NA (Data obtained from outlook session)

3.3 Server

3.3.1 Database Synchronisation with CUCM (Arc 5.1.1 onwards)

The other major requirement for Arc attendant console outside of the call handling requirements is the initial synchronizing of the Contacts DB. This is undertaken via an LDAP synch with CUCM. Again the amount of bandwidth required depends on the amount of contacts and the amount of data within each contact.

Activity as measured from the Arc Server	Download Bandwidth (KB)	Upload Bandwidth (KB)
Initial synchronisation of the Arc directory contacts database using LDAP synchronisation with a CUCM source of 50 basic contacts (3x fields).	376.4 258.97 -70%	461 385.75 +63%
Initial synchronisation of the Arc directory contacts database using LDAP synchronisation with a AD source of 50 basic contacts (8x fields).	103.2 388.01 +70%	135 593.80 -60%
Initial synchronisation of the Arc directory contacts database using LDAP synchronisation with a AD source of 20,000 basic contacts (8x fields).	33,596 33,110 -3.57%	49,918 111,192 +2.34%

3.3.2 Server Resilience (Replication with SQL 2008 Enterprise)

Activity as measured from the Subscriber	Download Bandwidth (KB)	Upload Bandwidth (KB)
Initial Full Sync based on the following :- 50 Agents (Each agent has 1 skill assigned) 50 Operators (Each operator has 1 queue assigned) 10 Supervisors 1 Wallboard user 1 Community	7,144 2696.05 -60%	3,494 95.29 +14%

2 Permission Groups 25 Agent Skills 25 Agent Queues 10 Console Queues Directory containing 1000 contacts		
Typical bandwidth per individual change in this example adding a new console queue.	214 189 -2%	9.5 7.86 +5%

3.3.3 LDAP or equivalent integration

Activity as measured from the Arc Server	Download Bandwidth (KB)	Upload Bandwidth (KB)
Initial connection	20	10
	11.74	4.84
	-37%	-19%
Maintaining (contact update in AD source in this example a phone number edit)	4.3	7.4
	3.22	5.96
	-22%	-6%

3.4 Voice Connect

Activity as measured from the Arc Voice Server	Download Bandwidth (KB)	Upload Bandwidth (KB)
Service start-up with all waves locally cached	13	3.6
	13.19	3.86
	+13%	+0.25%
Server start-up with all waves locally cached	2,916	39
	2,715	39.77
	+7%	+1.9%

Streaming of WAV files per queue/call, based on our standard messages:-

Voice Connect activity (playing of prompts)	Download Bandwidth (KB)	Upload Bandwidth (KB)
Default voice messages (all of the canned voice messages produce very much the same bandwidth results, the recorded result is for	25 N/A	38 N/A

"Your call will be answered shortly, thank you for holding")	N/A	N/A
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3.5 Supervisor

Activity as measured from the Client	Download Bandwidth (KB)	Upload Bandwidth (KB)
Client login	340.7	6.6
	390.37	10.37
	+4%	-9.5%
System Monitor, per client, per broadcast	35	0
	35	0
	0%	0%
Reporting	<i>Typically <100 per report dependent to the type of the report and the amount of data it contains</i>	<i>Typically <5</i>
Online updates, per change	<1	<i>Typically <5</i>

3.6 Wallboard (tests based on the 1.4.2 example configuration)

Activity as measured from the Client	Download Bandwidth (KB)	Upload Bandwidth (KB)
Client login	301.7	0.33
	229.18	0.33
	-0.3%	0%
Updates -per broadcast per Wallboard	35	0
	35	0
	0%	0%

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