



Avaya Workplace VDI Overview and Planning

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Chapter 1: Introduction

About this guide

This guide describes the Avaya Workplace VDI offer and its deployment options. It is written for anyone who is considering purchasing or using this offer.

This guide refers to other Avaya products in the context of how they integrate with Avaya Workplace VDI. You can get detailed information about these products from the Avaya Web site at <http://www.avaya.com/support>.

Avaya Workplace VDI overview

Corporations are increasingly using a hosted desktop model called Virtual Desktop Infrastructure (VDI) to effectively manage employee mobility and productivity. Using VDI, a corporate IT team can virtually deploy desktops to employees, whether the employees work from home, office, or any other location. The benefits in deploying VDI desktops compared to traditional desktops are centralized control over all end-user data, applications, preferences, and streamlined user provisioning. However, deploying real-time applications on virtual desktops pose unique challenges to corporations. For example, the challenge to provide real-time media management to improve call quality in a virtual environment.

Avaya Workplace VDI installed on thin clients or Personal Computers (PC) with Windows Operating Systems enhances the audio and video quality of calls by processing the audio and video at the end-user device. The controlling clients such as Avaya Workplace Client for Windows, Avaya one-X[®] Communicator, or Avaya Workplace Integration with Skype for Business are deployed on virtual desktops running in the data center and provides the user interface for unified communications. Users are required to use the controlling client through their virtual desktops. In normal operation, the user does not need to use the Avaya Workplace VDI user interface to make or handle calls.

Usage mode

Avaya Workplace Client for Windows, Avaya one-X[®] Communicator, or Avaya Workplace Integration with Skype for Business must be used in Desk Phone mode to enable shared control

between these clients and Avaya Workplace VDI. All Avaya Workplace Client for Windows, Avaya one-X[®] Communicator, or Avaya Workplace Integration with Skype for Business features are available to the users through virtualized desktop sessions while the audio is processed locally on the VDI endpoint to ensure high quality audio.

Security

For secure implementation, the following options are available with Avaya Workplace VDI:

Connections through TLS

Avaya Workplace Client for Windows, Avaya one-X[®] Communicator in Desk Phone, or Avaya Workplace Integration with Skype for Business (Shared Control) mode uses TLS only. Avaya Workplace VDI must use TLS as the Transport Type to share control with the Avaya clients.

User authentication

Avaya Workplace VDI uses SIP extensions and corresponding passwords administered on Avaya Aura[®] Communication Manager for authentication of users.

Related documents

Additional documentation includes:

Avaya Workplace VDI documents:

- *Implementing, administering, and troubleshooting Avaya Workplace VDI*
- *Using Avaya Workplace VDI*
- *Avaya Workplace VDI Online Help* (Integrated with the application)

Avaya Workplace Client documents:

- *Avaya Workplace Client Overview and Specification for Android, iOS, Mac, and Windows*
- *Planning for and Administering Avaya Workplace Client for Android, iOS, Mac, and Windows*
- *Using Avaya Workplace Client for Android, iOS, Mac, and Windows*

Avaya one-X[®] Communicator documents:

- *Avaya one-X[®] Communicator Overview and Planning*
- *Implementing one-X[®] Communicator*
- *Using Avaya one-X[®] Communicator*

- *Avaya one-X® Communicator Quick Start Guide*
- *Avaya one-X® Communicator Centralized Administration Tool Guide*
- *Avaya one-X® Communicator Online Help (Integrated with the application)*

Avaya Workplace Integration with Skype for Business documents:

- *Administering Avaya Communicator for Microsoft Lync on Avaya Aura®*
- *Using Avaya Communicator for Microsoft Lync 2010 on Avaya Aura®*
- *Using Avaya Communicator for Microsoft Lync 2013 on Avaya Aura®*

To obtain these documents and documents about other Avaya products mentioned in this guide, see the Avaya Web site at <http://www.avaya.com/support>.

Accessing Online Help

Procedure

1. Click the gear icon on the Avaya Workplace VDI user interface.
2. Select Help Contents.

Chapter 2: Features

Key features

Shared control with Avaya Workplace Client for Windows, Avaya one-X[®] Communicator, or Avaya Workplace Integration with Skype for Business

Avaya Workplace VDI leverages existing SIP shared control capability in Avaya Workplace Client for Windows, Avaya one-X[®] Communicator, or Avaya Workplace Integration with Skype for Business to provide enterprise users with enhanced audio and video quality in a virtual environment.

Paired signon with Avaya Workplace Client for Windows or Avaya one-X[®] Communicator

Avaya one-X[®] Communicator supports paired sign on with Avaya Workplace VDI in DeskPhone (Shared control) user mode. Avaya Workplace Client for Windows or Avaya one-X[®] Communicator sends user credentials to Avaya Workplace VDI that is running on a thin client connected virtually. Using these credentials, Avaya Workplace VDI logs on. Logging out from Avaya Workplace Client for Windows or Avaya one-X[®] Communicator also results in logging out from Avaya Workplace VDI even if the two were not connected using paired signon. In case of a connection failure at Avaya Workplace Client for Windows or Avaya one-X[®] Communicator, users can still use Avaya Workplace VDI to make and handle calls.

Note:

Avaya Workplace Integration with Skype for Business does not support Paired signon.

Avaya Workplace VDI user interface

Avaya Workplace VDI user interface helps administrators and end users in configuring Avaya Workplace VDI and logging in to the application. Users can also make and handle voice and video calls using the Avaya Workplace VDI user interface when Avaya Workplace Client for Windows or Avaya one-X[®] Communicator is not available for use through a virtual desktop session. The following voice call options are available through Avaya Workplace VDI user interface:

- Make a call
- Receive a call
- Ignore a call
- Hang up a call

USB headset support

Avaya Workplace VDI supports USB headsets with audio volume adjustments.

Supported on Linux and Windows OS

Avaya Workplace VDI can be installed on:

- elux OS-based thin clients (Supported elux RP 5.7, 6.2, 6.3, and 6.5)
- IGel OS-based thin clients (Supported on IGel OS 10 and IGel OS 11)
- Windows OS-based thin clients or PCs
- Dell Wyse enhanced SUSE Linux Enterprise Thin Clients (SLETC), Dell Wyse Ubuntu
- HP ThinPro OS-based thin clients (Supported on ThinPro 5.x, 6.x, and 7.x)

Quality of Service monitoring

Avaya Workplace VDI has provision for monitoring call quality through Quality of Service (QoS) that tracks the media stream and stores data for:

- Speech Metrics
- Noise Metrics
- Echo Level
- Dead and Alive connections
- Packet loss
- Jitter
- Differentiated Services (Diffserv)/Type of Service (TOS) for audio Per-Hop Behavior (PHB) value
- 802.1P parameters for audio

Avaya Aura Multiple Device Access and Dual Registration

Avaya Workplace VDI supports simultaneous registration and use with other Avaya SIP clients, and dual-registration with H.323 endpoints. In cases where the maximum endpoint limit has been exceeded and the Session Manager policy is to block new registration attempts, Avaya Workplace VDI displays appropriate dialog messages to the users.

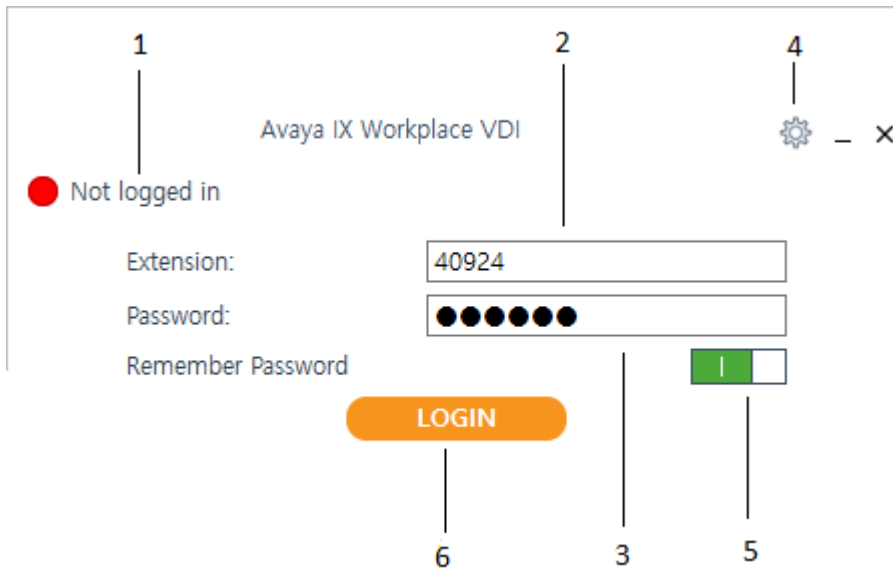
Certificate management and validation

Avaya Workplace VDI validates the server certificate on all secured connections against the platform trust store. Avaya Workplace VDI provides a mechanism to set a client identity certificate for the application. The client identity certificate is stored in the platform keystore. This identity certificate is presented during the TLS handshake process when requested by the server.

User interface

User interface before logging in

Following is an example of the user interface before a user logs in to the Avaya Workplace VDI application:

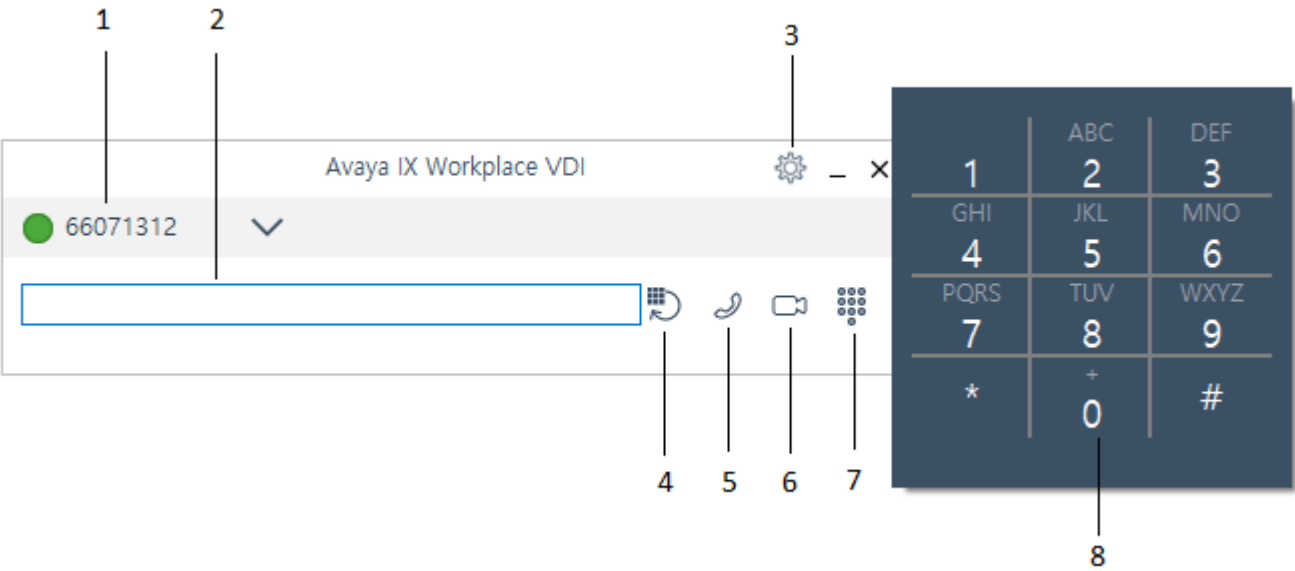


Number	Description
1	Login status
2	Extension
3	Password
4	Main Menu to select Settings page
5	Switch the slider to select for remembering a password
6	Login button

User interface after logging in

Following is an example of the user interface after a user logs in to the Avaya Workplace VDI application and the endpoint is connected:

Features



Number	Description
1	Extension number of the user
2	Display field for the dialed digits
3	Main Menu button to select the Settings page
4	Redial
5	Audio call icon
6	Video call icon
7	Dialpad icon
8	Key to add to '+' to a phone number

Chapter 3: Requirements

Hardware requirements

To set up and run Avaya Workplace VDI, you need a thin client or a Windows Personal Computer (PC). Using the thin client or the PC, you can access virtual desktops located on a remote central server at the data center using a Citrix Independent Computing Architecture (ICA) client, VMWare client, or other such clients.

Client hardware

You can install Avaya Workplace VDI on the following thin clients and PCs:

Linux OS-based thin clients

To install Avaya Workplace VDI on Linux OS-based thin clients, you need any one of the following thin clients:

- Dell Wyse Z50D
- HP t4xx series
- HP t5xx series
- HP t6xx series
- HP t7xx series
- Dell 3040
- Dell 5060
- Dell 5070
- IGel UD3 series
- IGel UD6 series
- Fujitsu FUTRO S740
- Fujitsu FUTRO S940

Windows 10 IoT OS-based thin clients

To install Avaya Workplace VDI on Windows OS-based thin clients, you need any one of the following thin clients:

- HP t4xx series

- HP t5xx series
- HP t6xx series
- HP t7xx series
- Dell 5060
- Dell 5070
- IGel UD3 series
- IGel UD6 series
- Fujitsu FUTRO S740
- Fujitsu FUTRO S940

Windows PCs

You can also use Windows PCs as clients to install Avaya Workplace VDI. PCs with the following Windows operating systems can be used as clients:

- Windows 7 (32-bit and 64-bit)
- Windows 8 (64-bit)
- Windows 10 (64-bit)

Other client hardware

You need the following hardware to use Avaya Workplace VDI:

- Monitor
- Keyboard
- Mouse
- A camera (Refer to the list of supported cameras provided in the Release Notes)
- USB Headset or handset with manual control (Refer to the list of supported headsets or handsets provided in the Release Notes)

Supported headsets

Avaya Workplace VDI supports the following USB headsets:

Client Operating System	Supported headsets
Windows 10 IoT	Blackwire C300 (C310 and C320)
	Blackwire C420
	Blackwire C435
	Blackwire C600 (C610 and C620)
	Blackwire C700 (C710 and C720)

Table continues...

Client Operating System	Supported headsets
	DA45/H-top
	Voyager Legend
	Savi 700 (Savi 710, Savi 720, Savi 730, Savi 740, and Savi 745)
	Savi 400 (Savi 430 and 440)
	Calisto P620-M
	Calisto P800 (P820, P825, P830, and P835)
	Blackwire C5210
	ENCOREPRO 515 (HW515)
	SAVI 410
	VOYAGER 5200 CC
	Jabra PRO 9465 Duo
	Engage 65
	Jabra Biz 2300
	Jabra Biz 2400 II
eLux RP	Blackwire C5210
	ENCOREPRO 515 (HW515)
	SAVI 410
	VOYAGER 5200 CC
	Jabra PRO 9465 Duo
	Engage 65
	Jabra Biz 2300
	Jabra Biz 2400 II
IGEL OS 10 IGEL OS 11	Blackwire C5210
	ENCOREPRO 515 (HW515)
	SAVI 410
	VOYAGER 5200 CC
	Jabra PRO 9465 Duo
	Engage 65
	Jabra Biz 2300
	Jabra Biz 2400 II
ThinPro 5.x ThinPro 6.x ThinPro 7.x	Blackwire C5210
	ENCOREPRO 515 (HW515)
	SAVI 410
	VOYAGER 5200 CC

Table continues...

Client Operating System	Supported headsets
	Jabra PRO 9465 Duo
	Engage 65
	Jabra Biz 2300
	Jabra Biz 2400 II
Dell ThinLinux	Blackwire C5210
	ENCOREPRO 515 (HW515)
	SAVI 410
	VOYAGER 5200 CC
	Jabra PRO 9465 Duo
	Engage 65
	Jabra Biz 2300
	Jabra Biz 2400 II
Dell Wyse SLETC Suse	Blackwire C300 (C310 and C320)
	Blackwire C420
	Blackwire C435
	Blackwire C600 (C610 and C620)
	DA45/H-top
	Voyager Legend
	Savi 700 (Savi 710, Savi 720, Savi 730, Savi 740, and Savi 745)
	Savi 400 (Savi 430 and 440)
	Calisto P620-M
	Calisto P800 (P820, P825, P830, and P835)

New Headsets:

1. Plantronics

- Blackwire C5210
- ENCOREPRO 515 (HW515)
- SAVI 410
- VOYAGER 5200 CC

2. Jabra

- Jabra PRO 9465 Duo
- Engage 65
- Jabra Biz 2300
- Jabra Biz 2400 II

Software requirements

The software required for setting up and running a virtual desktop infrastructure can be broadly classified into server software and client software. The server software refers to the software required at the data center while the client software is required on the thin clients.

Server software requirements

Operating system	Windows Server 2012 R2
	Windows Server 2012 R2 HyperV
	Windows 7 (32-bit and 64-bit)
	Windows 8 (64-bit)
	Windows 10 (64-bit)
Virtualization software	Citrix XenDesktop Release 6.x and 7.x
	HP Remote Graphics Software (RGS) 6.0 for HP ThinPro clients
	VMWare Horizon View 6.x and 7.x
	VMWare ESXi Hypervisor 5.1 and later
	Citrix XenApp 6.x and 7.x
	Microsoft Terminal Server 2012 R2 and 2016
	Microsoft RDS for Windows Server 2012 R2 and 2016

Client software requirements

The requirements are as follows:

- Avaya Workplace VDI Release 3.0.4
- Avaya Workplace Client Release 3.5 or later
- Avaya one-X® Communicator 6.2.10 or later
- Avaya Workplace Integration with Skype for Business 6.4.0.9 or later

Operating system	Windows 7
	Windows 8 and 8.1
	Windows 10
	Windows 10 IoT
	HP ThinPro 5.x, 6.x, and 7.x
	IGel OS 10 and 11
	elux RP 5.7, 6.2, 6.3, and 6.5

Dell Wyse enhanced Suse Linux Enterprise for Thin Clients (SLETC) 11 SP1 and SP2
Dell Wyse Ubuntu 16.4

Licenses

Avaya controls the use of Avaya Workplace VDI through licenses that customers must purchase. For each Avaya Workplace VDI, customers need a separate license.

For more information on licensing Avaya Workplace Client for Windows or Avaya one-X[®] Communicator, see the Avaya Workplace Client for Windows or *Avaya one-X[®] Communicator Overview and Planning* guide.

Avaya Workplace Client for Windows, Avaya one-X[®] Communicator or Avaya Workplace Integration with Skype for Business in SIP Mode

This deployment option requires a station form on Avaya Aura[®] Communication Manager and a user id and media extension on Avaya Aura[®] Session Manager for each user. The deployment does not require the use of the Avaya Workplace Client for Windows, Avaya one-X[®] Communicator, or Avaya Workplace Integration with Skype for Business registration limit in Communication Manager nor softclient licenses on either Session Manager or Communication Manager.

Other products

For licensing requirements of the products that you integrate with Avaya Workplace Client for Windows, Avaya one-X[®] Communicator, or Avaya Workplace Integration with Skype for Business, refer to the product documentation for the specific product.

Chapter 4: Deployment planning

Deployment overview

You can deploy Avaya Workplace VDI in VDI network environments that support the SIP protocol.

Planning for implementation

You must plan before implementing Avaya Workplace VDI. Use the following steps as a guide for your planning activities:

Procedure

1. Determine how your enterprise will deploy Avaya Workplace VDI. Deployment options follow:

Thin client	Operating system
Dell Wyse Z50D	WYSE enhanced Suse Linux Enterprise for Thin Clients (SLETC) 11 SP1 and SP2
Dell 50x0	Ubuntu 16.4
elux OS compatible devices (Example- Fujitsu S740, Fujitsu S940, HP series, Dell series)	elux RP 5.7, 6.2, and 6.3
IGel UD3, UD6	IGel OS 10 and 11
HP t4xx series HP t5xx series HP t6xx series HP t7xx series	HP ThinPro 5.x, 6.x, and 7.x

Table continues...

Thin client	Operating system
HP t4xx series HP t5xx series HP t6xx series HP t7xx series Dell 50x0 IGel UD3 IGel UD6 Fujitsu S740 Fujitsu S940	Windows 10 IoT
Personal Computer or Laptop	Windows 7 (32-bit and 64-bit) Windows 8 (64-bit) Windows 10 (64-bit)

2. Ensure that you have all the product licenses available.
3. Ensure that the end user and enterprise environments can support Avaya Workplace VDI. For your deployment option, consider the following:
 - Is the required hardware available with you?
 - Have all related Avaya software products been installed and administered?
 - Have all related third-party software products been installed and administered?
4. Determine how to install Avaya Workplace VDI software on the thin clients or PCs of your employees. You can:
 - Use HP Device Manager, Wyse Device Manager, or XLmanage to install Avaya Workplace VDI remotely from the data center.
 - Use a File Transfer Protocol (FTP) server to keep the Avaya Workplace VDI installer file and access the FTP server from the thin clients to install Avaya Workplace VDI.
 - Use a installation process that requires end users to manually install Avaya Workplace VDI.
 - Use HP Device Manager, Wyse Device Manager, XLmanage, IGEL Universal Management Suite, or Unicon Scout Enterprise Management Suite to install Avaya Workplace VDI remotely from the data center.
5. Ensure that end users can access the following Avaya Workplace VDI implementation and administration documents:
 - *Implementing, administering, and troubleshooting Avaya Workplace VDI* guide
 - *Using Avaya Workplace VDI* guide.

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