AVAYA

Avaya Call Reporting 4.4 Linux
Installation Guide

Notice

While reasonable efforts have been made to ensure that the information in this document is complete and accurate at the time of printing, Avaya assumes no liability for any errors. Avaya reserves the right to make changes and corrections to the information in this document without the obligation to notify any person or organization of such changes.

Documentation disclaimer

"Documentation" means information published in varying mediums which may include product information, operating instructions and performance specifications that are generally made available to users of products. Documentation does not include marketing materials. Avaya shall not be responsible for any modifications, additions, or deletions to the original published version of Documentation unless such modifications, additions, or deletions were performed by or on the express behalf of Avaya. End User agrees to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation, to the extent made by End User.

Link disclaimer

Avaya is not responsible for the contents or reliability of any linked websites referenced within this site or Documentation provided by Avaya. Avaya is not responsible for the accuracy of any information, statement or content provided on these sites and does not necessarily endorse the products, services, or information described or offered within them. Avaya does not guarantee that these links will work all the time and has no control over the availability of the linked pages.

Warranty

Avaya provides a limited warranty on Avaya hardware and software. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language, as well as information regarding support for this product while under warranty is available to Avaya customers and other parties through the Avaya Support website: https://support.avaya.com/helpcenter/getGenericDetails?detailId=C20091120112456651010 under the link "Warranty & Product Lifecycle" or such successor site as designated by Avaya. Please note that if You acquired the product(s) from an authorized Avaya Channel Partner outside of the United States and Canada, the warranty is provided to You by said Avaya Channel Partner and not by Avaya.

"Hosted Service" means an Avaya hosted service subscription that You acquire from either Avaya or an authorized Avaya Channel Partner (as applicable) and which is described further in Hosted SAS or other service description documentation regarding the applicable hosted service. If You purchase a Hosted Service subscription, the foregoing limited warranty may not apply but You may be entitled to support services in connection with the Hosted Service as described further in your service description documents for the applicable Hosted Service. Contact Avaya or Avaya Channel Partner (as applicable) for more information.

Hosted Service

THE FOLLOWING APPLIES ONLY IF YOU PURCHASE AN AVAYA HOSTED SERVICE SUBSCRIPTION FROM AVAYA OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE), THE TERMS OF USE FOR HOSTED SERVICES ARE AVAILABLE ON THE AVAYA WEBSITE, HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO UNDER THE LINK "Avaya Terms of Use for Hosted Services" OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, AND ARE APPLICABLE TO ANYONE WHO ACCESSES OR USES THE HOSTED SERVICE. BY ACCESSING OR USING THE HOSTED SERVICE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE DOING SO (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THE TERMS OF USE. IF YOU ARE ACCEPTING THE TERMS OF USE ON BEHALF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND SUCH ENTITY TO THESE TERMS OF USE. IF YOU DO NOT HAVE SUCH AUTHORITY, OR IF

YOU DO NOT WISH TO ACCEPT THESE TERMS OF USE, YOU MUST NOT ACCESS OR USE THE HOSTED SERVICE OR AUTHORIZE ANYONE TO ACCESS OR USE THE HOSTED SERVICE.

Licenses

THE SOFTWARE LICENSE TERMS AVAILABLE ON THE AVAYA WEBSITE, HTTPS://SUPPORT.AVAYA.COM/LICENSEINFO, UNDER THE LINK "AVAYA SOFTWARE LICENSE TERMS (Avaya Products)" OR SUCH SUCCESSOR SITE AS DESIGNATED BY AVAYA, ARE APPLICABLE TO ANYONE WHO DOWNLOADS, USES AND/OR INSTALLS AVAYA SOFTWARE, PURCHASED FROM AVAYA INC., ANY AVAYA AFFILIATE, OR AN AVAYA CHANNEL PARTNER (AS APPLICABLE) UNDER A COMMERCIAL AGREEMENT WITH AVAYA OR AN AVAYA CHANNEL PARTNER. UNLESS OTHERWISE AGREED TO BY AVAYA IN WRITING, AVAYA DOES NOT EXTEND THIS LICENSE IF THE SOFTWARE WAS OBTAINED FROM ANYONE OTHER THAN AVAYA, AN AVAYA AFFILIATE OR AN AVAYA CHANNEL PARTNER; AVAYA RESERVES THE RIGHT TO TAKE LEGAL ACTION AGAINST YOU AND ANYONE ELSE USING OR SELLING THE SOFTWARE WITHOUT A LICENSE. BY INSTALLING, DOWNLOADING OR USING THE SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE INSTALLING, DOWNLOADING OR USING THE SOFTWARE (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THESE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE ("AVAYA").

Avaya grants You a license within the scope of the license types described below, with the exception of Heritage Nortel Software, for which the scope of the license is detailed below. Where the order documentation does not expressly identify a license type, the applicable license will be a Designated System License as set forth below in the Designated System(s) License (DS) section as applicable. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the documentation or other materials available to You. "Software" means computer programs in object code, provided by Avaya or an Avaya Channel Partner, whether as stand-alone products, pre-installed on hardware products, and any upgrades, updates, patches, bug fixes, or modified versions thereto. "Designated Processor" means a single stand-alone computing device. "Server" means a set of Designated Processors that hosts (physically or virtually) a software application to be accessed by multiple users. "Instance" means a single copy of the Software executing at a particular time: (i) on one physical machine; or (ii) on one deployed software virtual machine ("VM") or similar deployment.

License type(s)

Designated System(s) License (DS). End User may install and use each copy or an Instance of the Software only: 1) on a number of Designated Processors up to the number indicated in the order; or 2) up to the number of Instances of the Software as indicated in the order, Documentation, or as authorized by Avaya in writing. Avaya may require the Designated Processor(s) to be identified in the order by type, serial number, feature key, Instance, location or other specific designation, or to be provided by End User to Avaya through electronic means established by Avaya specifically for this purpose.

Concurrent User License (CU). End User may install and use the Software on multiple Designated Processors or one or more Servers, so long as only the licensed number of Units are accessing and using the Software at any given time. A "Unit" means the unit on which Avaya, at its sole discretion, bases the pricing of its licenses and can be, without limitation, an agent, port or user, an e-mail or voice mail account in the name of a person or corporate function (e.g., webmaster or helpdesk), or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software. Units may be linked to a specific, identified Server or an Instance of the Software.

Cluster License (CL). End User may install and use each copy or an Instance of the Software only up to the number of Clusters as indicated on the order with a default of one (1) Cluster if not stated. "Cluster" means a group of Servers and other resources that act as a single system.

Enterprise License (EN). End User may install and use each copy or an Instance of the Software only for enterprise-wide use of an unlimited number of Instances of the Software as indicated on the order or as authorized by Avaya in writing.

Named User License (NU). You may: (i) install and use each copy or Instance of the Software on a single Designated Processor or Server per authorized Named User (defined below); or (ii) install and use each copy or Instance of the Software on a Server so long as only authorized Named Users access and use the Software. "Named User", means a user or device that has been expressly authorized by Avaya to access and use the Software. At Avaya's sole discretion, a "Named User" may be, without limitation, designated by name, corporate function (e.g., webmaster or helpdesk), an e-mail or voice mail account in the name of a person or corporate function, or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software.

Shrinkwrap License (SR). You may install and use the Software in accordance with the terms and conditions of the applicable license agreements, such as "shrinkwrap" or "clickthrough" license accompanying or applicable to the Software ("Shrinkwrap License").

Heritage Nortel Software

"Heritage Nortel Software" means the software that was acquired by Avaya as part of its purchase of the Nortel Enterprise Solutions Business in December 2009. The Heritage Nortel Software is the software contained within the list of Heritage Nortel Products located at https://support.avaya.com/LicenseInfo under the link "Heritage Nortel Products" or such successor site as designated by Avaya. For Heritage Nortel Software, Avaya grants Customer a license to use Heritage Nortel Software provided hereunder solely to the extent of the authorized activation or authorized usage level, solely for the purpose specified in the Documentation, and solely as embedded in, for execution on, or for communication with Avaya equipment. Charges for Heritage Nortel Software may be based on extent of activation or use authorized as specified in an order or invoice.

Copyright

Except where expressly stated otherwise, no use should be made of materials on this site, the Documentation, Software, Hosted Service, or hardware provided by Avaya. All content on this site, the documentation, Hosted Service, and the product provided by Avaya including the selection, arrangement and design of the content is owned either by Avaya or its licensors and is protected by copyright and other intellectual property laws including the sui generis rights relating to the protection of databases. You may not modify, copy, reproduce, republish, upload, post, transmit or distribute in any way any content, in whole or in part, including any code and software unless expressly authorized by Avaya. Unauthorized reproduction, transmission, dissemination, storage, and or use without the express written consent of Avaya can be a criminal, as well as a civil offense under the applicable law.

Virtualization

The following applies if the product is deployed on a virtual machine. Each product has its own ordering code and license types. Unless otherwise stated, each Instance of a product must be separately licensed and ordered. For example, if the end user customer or Avaya Channel Partner would like to install two Instances of the same type of products, then two products of that type must be ordered.

Third Party Components

"Third Party Components" mean certain software programs or portions thereof included in the Software or Hosted Service may contain software (including open source software) distributed under third party agreements ("Third Party Components"), which contain terms regarding the rights to use certain portions of the Software ("Third Party Terms"). As required, information regarding distributed Linux OS source code (for those products that have distributed Linux OS source code) and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply is available in the products, Documentation or on Avaya's website at: https://support.avaya.com/Copyright or such successor site as designated by Avaya. The open source software license terms provided as Third Party Terms are consistent with the license rights granted in these Software License Terms, and may contain additional rights benefiting You, such as modification and distribution of the open source

software. The Third Party Terms shall take precedence over these Software License Terms, solely with respect to the applicable Third Party Components to the extent that these Software License Terms impose greater restrictions on You than the applicable Third Party Terms.

The following applies only if the H.264 (AVC) codec is distributed with the product. THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM.

Service Provider

THE FOLLOWING APPLIES TO AVAYA CHANNEL PARTNER'S HOSTING OF AVAYA PRODUCTS OR SERVICES. THE PRODUCT OR HOSTED SERVICE MAY USE THIRD PARTY COMPONENTS SUBJECT TO THIRD PARTY TERMS AND REQUIRE A SERVICE PROVIDER TO BE INDEPENDENTLY LICENSED DIRECTLY FROM THE THIRD PARTY SUPPLIER. AN AVAYA CHANNEL PARTNER'S HOSTING OF AVAYA PRODUCTS MUST BE AUTHORIZED IN WRITING BY AVAYA AND IF THOSE HOSTED PRODUCTS USE OR EMBED CERTAIN THIRD PARTY SOFTWARE, INCLUDING BUT NOT LIMITED TO MICROSOFT SOFTWARE OR CODECS, THE AVAYA CHANNEL PARTNER IS REQUIRED TO INDEPENDENTLY OBTAIN ANY APPLICABLE LICENSE AGREEMENTS, AT THE AVAYA CHANNEL PARTNER'S EXPENSE, DIRECTLY FROM THE APPLICABLE THIRD PARTY SUPPLIER.

WITH RESPECT TO CODECS, IF THE AVAYA CHANNEL PARTNER IS HOSTING ANY PRODUCTS THAT USE OR EMBED THE H.264 CODEC OR H.265 CODEC, THE AVAYA CHANNEL PARTNER ACKNOWLEDGES AND AGREES THE AVAYA CHANNEL PARTNER IS RESPONSIBLE FOR ANY AND ALL RELATED FEES AND/OR ROYALTIES. THE H.264 (AVC) CODEC IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO: (I) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (II) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION FOR H.264 (AVC) AND H.265 (HEVC) CODECS MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM.

Compliance with Laws

You acknowledge and agree that it is Your responsibility for complying with any applicable laws and regulations, including, but not limited to laws and regulations related to call recording, data privacy, intellectual property, trade secret, fraud, and music performance rights, in the country or territory where the Avaya product is used.

Preventing Toll Fraud

"Toll Fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there can be a risk of Toll Fraud associated with your system and that, if Toll Fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Toll Fraud intervention

If You suspect that You are being victimized by Toll Fraud and You need technical assistance or support, call Technical Service Center Toll Fraud Intervention Hotline at +1-800-643-2353 for the United States and Canada. For additional support telephone numbers, see the Avaya Support website: https://support.avaya.com or such successor site as designated by Avaya.

Table of Contents

1.0 Avaya Call Reporting Specs

AVAYA IP OFFICE SUPPORTED VERSIONS:	10.0 or higher
IP OFFICE CONNECTION:	Release 10.0 and above Devlink3
VIRTUAL MACHINE SUPPORT:	Yes
AVAYA LICENSES:	IP Office 10.0+ (No CTI link license required)
USER COMPUTER REQUIREMENTS (WEB INTERFACE):	Chrome, Firefox, Safari, Edge, or Opera 1280 x 720 or higher screen resolution
USER COMPUTER REQUIREMENTS (ACR DESKTOP):	Windows 7+ (64 bit) Mac OS X 10.7.3+ (Intel-based)

1.1. ACR Server Requirements

The following metrics and specifications assume the server is dedicated to hosting ACR and that no other resource-intensive software is running. Virus and security scanning software should be configured to not actively scan the ACR database, otherwise disk IOPS requirements will be higher than what is listed.

Baseline Server Requirements			
System Type	Architecture	CPU Speed	Network Requirements
Server Linux* (CentOS 7+ or Ubuntu 14+)	64-bit	2+ GHz	reliable, low-latency

Other Linux distributions may work, but Chronicall/ACR is only validated on CentOS and Ubuntu.

Reporting Only System Requirements								
User Counts								
Reporting Users	1-250	251 - 1000	1001 - 2000	2001 - 3000	3001 - 4000	4001 - 5000	5001 - 6000	6001 - 7000
System Specs								
Physical Server RAM (GB)	1	2	2	3	4	5	6	7
Configured Java Heap Max Size (GB)	0.4	0.6	0.9	1.2	1.5	1.8	2.4	3
Total CPU Cores	1	2	2	3	4	4	6	8
Disk Size (GB)* [can last for about three years]	3.5	8.75	16.25	27.5	41.25	57.5	76.25	95
Disk IOPS Write	68.75	77.5	87.5	125	175	212.5	250	375
Disk IOPS Read	1.25	50	57.5	65	87.5	125	187.5	250
Total **Minimum** IOPS	70	127.5	145	190	262.5	337.5	437.5	625
Disk IOPS Write Burst**	75	85	100	140	195	238	288	425
Disk IOPS Read Burst**	375	625	1,125	1,625	2,125	2,625	3,125	3,625
Total **Recommended** IOPS (to support burst operations without degradation of performance)	450	710	1,225	1,765	2,320	2,863	3,413	4,050

The listed disk size is a starting point only. Over time more disk space will be needed. Please see "Additional Database Storage."

** *Burst IOPS refers to the total disk operations required when using disk-intensive functionality (e.g., running reports and loading Realtime wallboards)*

All Realtime System Requirements

Agent Counts								
Realtime, Desktop, or Contact Center Agents	1-25	26-50	51-100	101-300	301-600	601-1000	1001-1500	1501-2000
System Specs								
Physical Server RAM (GB)	2	3	4	5	6	7	8	10
Configured Java Heap Max Size (GB)	0.5	0.8	1.2	1.6	2	2.4	3.2	4
Total CPU Cores	1	2	2	3	4	4	6	8
Disk Size (GB)* [can last for about three years]	7	17.5	32.5	55	82.5	115	152.5	190
Disk IOPS Write	247.5	279	315	450	630	765	900	1350
Disk IOPS Read	4.5	180	207	234	315	450	675	900
Total **Minimum** IOPS	252	459	522	684	945	1215	1575	2250
Disk IOPS Write Burst**	270	306	360	504	702	855	1,035	1,530
Disk IOPS Read Burst**	1,350	2,250	4,050	5,850	7,650	9,450	11,250	13,050
Total **Recommended** IOPS (to support burst operations without degredation of performance)	1,620	2,556	4,410	6,354	8,352	10,305	12,285	14,580

*The listed disk size is a starting point only. Over time more disk space will be needed. Please see "Additional Database Storage."

** Burst IOPS refers to the total disk operations required when using disk-intensive functionality (e.g., running reports and loading Realtime wallboards)

Realtime and Reporting Combined System Requirements

User/Agent Counts								
Reporting Users *	1-250	251-1000	1001-2000	2001-3000	3001-4000	4001-5000	5001-6000	6001-7000
Realtime, Desktop, or Contact Center Agents *	1-25	26-50	51-100	101-300	301-600	601-1000	1001-1500	1501-2000
System Specs								
Physical Server RAM (GB)	2	3	4	5	6	7	9	11
Configured Java Heap Max Size (GB)	0.5	1	1.5	2	2.5	3	4	5
Total CPU Cores	1	2	2	3	4	4	6	8
Disk Size (GB)** [can last for about three years]	14	35	65	110	165	230	305	380
Disk IOPS Write	275	310	350	500	700	850	1,000	1,500
Disk IOPS Read	5	200	230	260	350	500	750	1,000
Total **Minimum** IOPS	280	510	580	760	1,050	1,350	1,750	2,500
Disk IOPS Write Burst***	300	340	400	560	780	950	1,150	1,700
Disk IOPS Read Burst***	1,500	2,500	4,500	6,500	8,500	10,500	12,500	14,500
Total **Recommended** IOPS (to support burst operations without degredation of performance)	1,800	2,840	4,900	7,060	9,280	11,450	13,650	16,200

* If there is misalignment between user quantities, the highest profile that meets all requirements should be used.

** The listed disk size is a starting point only. Over time more disk space will be needed. Please see "Additional Database Storage."

*** Burst IOPS refers to the total disk operations required when using disk-intensive functionality (e.g., running reports and loading Realtime wallboards)

1.2 Additional Database Storage

Reporting Users				
Number of years to fill additional database storage (assumes six calls per hour, eight hours per working day)				
Additional Database Storage	100 Users	500 Users	1,000 Users	2,000 Users
10 GB	10	2	1	0.5
100 GB	100	20	10	5
500 GB	500	100	50	25
1,000 GB	1,000	200	100	50

Realtime Agents				
Number of years to fill additional database storage (assumes six calls per hour, eight hours per working day)				
Additional Database Storage	100 Users	500 Users	1,000 Users	2,000 Users
20 GB	5	1	0.5	0.25
200 GB	50	10	5	2.5
1,000 GB	250	50	25	12.5
2,000 GB	500	100	50	25

1.3 Recording Library Server Requirements

Baseline Server Requirements			
System Type	Architecture	CPU Speed	Network Requirements
Windows* 7+ or Server 2008+	64-bit	2+ GHz	reliable, low-latency
Server Linux** (CentOS 7+ or Ubuntu 14+)	64-bit	2+ GHz	reliable, low-latency

Must be a genuine copy of Windows and activated by Microsoft

** Other Linux distributions may work, but Chronicall/ACR is only validated on CentOS and Ubuntu.*

Variable System Requirements				
Recording Port Counts				
Recording Ports (Simultaneous Recordings)	1-10	11-24	25-45	46-69	70-120
System Specs				
Physical Server RAM (GB)	4	5	6	8	16
Configured Java Heap Max Size (GB)	1	2	3	4	8
Total CPU Cores	2	4	6	8	10
Disk Size (GB)* [can last for about three years]	175	365	700	1,220	2,000

The listed disk size is a starting point only. Over time more disk space will be needed. Please see "Additional Recording Storage."

Additional Recording Storage Number of days to fill additional recording storage (assumes eight hours per recording port, per day)				
Additional Recording Storage	1 Port	10 Ports	50 Ports	100 Ports
32 GB	700	70	14	7
250 GB	5,461	546	109	55
500 GB	10,922	1,092	218	109
1,000 GB	21,845	2,185	437	218

1.4 Maximum Recording Port Capacity:

Maximum Recording Ports By IP Office Platform Type			
Platform	Active Recording	VM Pro	VRTX
IP Office Server Edition running on Dell R230	80	150	256
IP Office Server Edition running on Dell R360	80	150	512
IP Office Server Edition running on ACP110 (Dell R640)	80	150	512
IP Office Server Edition OVA	80	150	512
Select running on ACP 110 (Dell R640)	160	500	1024
Select OVA	160	500	1024
IP500 V2 Control Unit	40	40	184

1.5 Other Installation and Service Information

INSTALLATION FORMAT:	Downloadable setup file
INSTALLATION LOCATION:	ACR cannot be installed on the same PC/server as IP Office Server Edition or the Application Server. Recording Library and ACR can be installed on the same PC/server as long as the combined resource usage does not exceed the server resource limits.
LISTENING NETWORK PORTS:	80, 443, 8443, 9443 (SSL nginx proxy)
DATABASE:	BlueDB
WEB SERVER:	Apache Tomcat
USER INTERFACE:	Web Interface and Avaya Call Reporting Desktop Application
ACR OVA:	ftp://media.ximasoftware.com/ova/acr406.ova OS Username: acradmin OS Password acrpass1! Contains Centos 7 and ACR 4.2

2.0. IP Office Configuration

Prior to installing and configuring the Avaya Call Reporting software, the IP Office configuration settings will need to be changed in order for Avaya Call Reporting to perform at its highest level.

2.1. Enable Devlink3

The Devlink3 protocol is available for TCP or TLS. The IP Office Ports for TCP is 50797 and for TLS is 50796.

    1. From the IP Office Configuration tree in the left pane, select File -> Advanced -> Security Settings.

    2. Select System -> the Unsecured Interfaces tab and check the TAPI/Devlink 3 box.

2.2. Administer Group Rights in Devlink 3

    1. From the IP Office Security Administration menu, select "Right Groups."

    2. Create a new Rights Group and enter a descriptive name in the New Rights Group Details Window. For
       example, "Devlink3."

    3. Go to the Rights Groups menu and select the group created in step two.

    4. Open the Telephony API's tab in the right window.

    5. Check the DevLink3 option and press OK.

2.3. Administer Service Users

    1. From the IP Office Security Administration menu, select "Service Users."

    2. Create a new Service User and enter the desired name and password in the New Service User
       Details window.

    3. Go to the Service User menu and select the new User Name created in step two.

    4. Select the Rights Group Membership in the bottom right pane and check the newly added rights groups.

    5. Press OK.

2.4. IP Office System Settings

    1. Go to IP Office Manager -> System -> Telephony and ensure that Show Account Code is checked.

      a. For each Group do the following:

         I. Ensure the group isn't excluded from directory (uncheck Exclude From Directory)

         II. Set each group to Longest Waiting, Sequential, or Rotary for accurate reporting.

         IIII. If Queuing is enabled under the Queuing tab, then set the queue type to Assign Call on Agent Alert.

      b. In User Settings, do the following:

         I. Ensure that the user isn't excluded from the directory (uncheck Exclude From Directory).

         II. Go to the Telephony -> Supervisor Settings tab and check Force Login.

2.5. Voicemail Pro Settings

For each Transfer action, ensure that the "Source of transfer (displayed on phone)" field under the Specific tab is blank.

3.0. Avaya Call Reporting Standard Installation

Avaya Call Reporting is a call reporting software that offers a revolutionary set of features designed to overcome the limitations of traditional call history and reporting software. With a thin-client web interface, Avaya Call Reporting provides detailed and accurate information by connecting directly to your phone system.

Follow the steps through this installation guide in order to set up, install, and configure Avaya Call Reporting and Recording Library. Please note that the instructions here are based off of a debian install. The commands below are simply examples and may need to be changed based off of your Linux OS, file names, etc.

3.1. Avaya Call Reporting

1. Open the command terminal and navigate to the directory where the setup file was downloaded. Extract the downloaded file.

```
tar -xzf Chronicall_Setup_4_0_6_IP_Office_deb_64_bit.tar.gz
```

2. Navigate into the new directory.

```
cd Chronicall_Setup_4_0_6_IP_Office_deb_64_bit
```

3. Run the setup by executing the install.sh file with administrative (root) privileges.
    a. Use -serial to specify your serial key.
    b. Additional options may be seen by using -help.

```
sudo ./install.sh -serial SERIALKEY1234567890ABCDEFGHIJKLM
```

SETUP

1. Once the install is finished, open Internet Explorer and enter the given web address.*
2. Use the default username and password to login. This should be "Administrator" and "password"; both are case sensitive. You will be prompted to change the password once you log in.

4.0. Assigning Licenses

When you first log in to Avaya Call Reporting after installation, it will ask you to add IP Office Connections and assign licenses.

4.1. Assigning IP Office Connections

he first window that you see after you login into Avaya Call Reporting will provide the opportunity to add your IP Office Connections. To add IP Office connections, do the following:

1. Select the "Add" button in the bottom right-hand corner.
2. API: Select Devlink 3 (Recommended)
3. Site Name: The default site name will be IP Office. Change this if desired (recommended if you are on a SCN or Server Edition).
4. IP address of IP Office: Put in the proper IP address for your IP Office connection.
5. DevLink3 Use TLS: Set to "True" if using TLS.
6. DevLink3 Username: Enter the correct username to your DevLink3.
7. DevLink3 Password: Enter the correct password to your DevLink3.
8. External Trunks: Leave default.
9. Hit "OK."
10. If you are on an SCN or Server Edition, you can add each additional site by repeating steps 1–9. In order for Avaya Call Reporting to be accurate, each IP Office within the solution should be added.
11. Once you are finished adding the IP Office connections, click "Next."

4.2. Assigning Licenses

After the IP Office connections are configured, you will now be able to assign Avaya Call Reporting licenses. Dependent on the licenses you have purchased, you will be prompted to configure additional settings and can assign user licenses to the desired users. The following windows that are presented will coincide with the modules that you have purchased:

DEFAULT USER
You will be prompted to update the password for the Administrator account.

LICENSED USERS
The base licenses are static per-user licenses. They are assigned to a specific user and cannot be shared. This is necessary for basic reporting and other software functionality.* The base licenses can be transferred to other users as needed. To assign base licenses, do the following:

1. Select the desired agents to monitor in Avaya Call Reporting.
2. Hit "Finish."

RECORDING RETENTION POLICY
A Recording Retention Policy should be created if desired. Fill out the options as needed. If a Recording Retention Policy is not needed, uncheck the option to "Delete old recordings to make room for new recordings" and click "Finish."

*Deselected users will appear as Unlicensed in Avaya Call Reporting in Cradle to Grave. Meaning, their calls will still show in Cradle to Grave, but in place of an "Agent Name" it will be "Unlicensed".

SCHEDULED BACKUPS

A Scheduled Backup should be created. Choose the frequency, add a backup path, and limit the total backups retained as you desire. Once completed, press "Finish.

AGENT REALTIME

Agent Realtime licenses are static per-user licenses. They are assigned to a specific user and cannot be shared. The Realtime Agent license can be transferred to another user as needed. To assign Realtime Licenses, do the following:

1. Select the desired agent(s) to monitor in Realtime
2. Hit "Finish."

AGENT DASHBOARD

Agent Dashboards licenses are concurrent licenses, meaning that they can be shared as long as two users are not utilizing it simultaneously. The licenses can be prioritized, listing agents based on high/low priority.

1. In the left-hand column, select the desired user and select the center arrow pointing to the right.
2. Repeat with each desired user.
3. Users will be prioritized from top to bottom. To prioritize the users, use the "Up" and "Down"
   buttons on the right to change a user's position.
4. Hit "Finish."

5.0. Recording Library Installation for Active Recording

When installing Recording Library, there are two standard choices: Devlink Active Recording and Voicemail Pro. Follow the steps under the specific section that matches your needs. This section covers the steps to install and configure Active Recording. Note that Active Recording requires Avaya Call Reporting Recording Library licenses.

5.1. Recording Library Installation

1. Download the Avaya Call Reporting Apps Setup
2. Navigate to the directory where the file was downloaded. Extract the downloaded file.

```
tar -xzf Chronicall_Apps_Setup_4_0_6_IP_Office_deb_64_bit.tar.gz
```

3. Navigate into the new directory.

```
cd Chronicall_Apps_4_0_6_IP_Office_deb_64_bit
```

4. Run the setup by executing the install.sh file with administrative (root) privileges.

    a. Use -chron_docbase to specify your Avaya Call Reporting server IP address and port. For example, if you installed Avaya Call Reporting on a server with IP address 10.20.30.40, then enter http://10.20.30.40:9080. Do not use localhost:9080 or 127.0.0.1:9080 if you are installing the Recording Library on the same server as Avaya Call Reporting. The exact IP address and port must be specified.

    b. Use -recording_library to specify if you wish to install Recording Library.

    c. Use -rec_sys_id to specify the Recording System ID (normally 1).

    d. Additional options may be seen by using -help.

```
sudo ./install.sh -chron_docbase http://10.20.30.40:9080 -recording_library -rec_sys_id 1
```

5.2. Active Recording Configuration

1. Open Avaya Call Reporting once you have installed Recording Library.
2. Go to System Settings > Recording Libraries.
3. Click on the ellipsis next to "Recording Libraries."
4. Select Devlink Recording - Recording Library 1.

    a. If no recording library exists, click "Add."

    b. Click on the drop-down and select "DevLink Active Recording."

5. Review the following settings.

    a. Recording Library IP Address: Enter the IP address of the server that the Recording Library is installed on.

    b. Recording Library Public IP Address:

        I. If using On Premise Avaya Call Reporting, leave blank.

        II. If using Powered by Avaya and Recording Library is on a separate server from Avaya Call Reporting, the Recording Library will require a public IP. Please enter the public IP address for the Recording Library server.

5.2. Active Recording Configuration (Continued)

    c. IP Office Private IP Address:

        I. If using On Premise Avaya Call Reporting, leave blank

        II. If using Powered by Avaya and Recording Library is on a separate server from Avaya Call Reporting, the Recording Library will require a private IP. Please enter the private IP address for the Recording Library server.

    d. Recording Storage Locations: Configure where the recordings will be stored. The default will be the recording library directory where the Recording Library was installed. You will also be able to manage your retention policies here.

6. Press OK and Save.

5.3 Recording Rules

1. Go to System Settings > Recording Libraries.
2. Click on the ellipsis next to "Recording Rules."
3. Click "Add."
4. Select the Recording Rule template that is desired and enter the desired settings. The most common Recording Rule template is Agent. For example:

    a. Select the agents you wish to record.

    b. Choose the percentage of calls you wish to record.

    c. Give the Recording Rule a title.
5. Press OK and Save.

6.0. Recording Library Installation for Voicemail Pro on Linux

When installing Recording Library, there are two standard choices: Devlink Active Recording and Voicemail Pro. Follow the steps under the specific section that matches your needs. This section covers the steps to install and configure Recording Library for Voicemail Pro when the Voicemail Pro is installed on a Linux server. You will be installing Recording Library on a Linux server and then utilizing the Voicemail Pro's built in FTP service to retrieve the recordings. Note that Call Recording with Voicemail Pro requires Avaya Voicemail Pro software licenses and Avaya Call Reporting Recording Library licenses.

6.1. Recording Library Installation

1. Download the Avaya Call Reporting Apps Setup
2. Navigate to the directory where the file was downloaded. Extract the downloaded file.

```
tar -xzf Chronicall_Apps_Setup_4_0_6_IP_Office_deb_64_bit.tar.gz
```

3. Navigate into the new directory.

```
cd Chronicall_Apps_4_0_6_IP_Office_deb_64_bit
```

4. Run the setup by executing the install.sh file with administrative (root) privileges.

   a. Use -chron_docbase to specify your Avaya Call Reporting server IP address and port. For example, if you installed Avaya Call Reporting on a server with IP address 10.20.30.40, then enter http://10.20.30.40:9080. Do not use localhost:9080 or 127.0.0.1:9080 if you are installing the Recording Library on the same server as Avaya Call Reporting. The exact IP address and port must be specified.
   b. Use -recording_library to specify you wish to install Recording Library.
   c. Use -rec_sys_id to specify the Recording System ID (normally 1).
   d. Additional options may be seen by using -help.

```
sudo ./install.sh -chron_docbase http://10.20.30.40:9080 -recording_library -rec_sys_id 1
```

6.2. Prepare a New Directory

1. Next, we need to prepare the server so that the Voicemail Pro can connect with FTP and deposit recordings. Identify or create a user account that can be used by the Voicemail Pro to connect. For example, you may have a user account called Admin.
2. Make a directory on the Recording Library server within the identified user accounts home profile. For example, you could create the following directory /home/Admin/VmProVRL. This is where the recordings will be sent by the Voicemail Pro.

```
mkdir /home/Admin/VmProVRL
```

3. Give the directory full permissions.

```
chmod -R 777 /home/Admin/VmProVRL
```

6.2. Prepare a New Directory (Continued)

4. Lastly, we need to ensure the sshd service is running. Most Linux distributions by default come with OpenSSH, which provides the needed SFTP functionality and is how PuTTY and other SSH/SFTP clients are able to connect.

```
service sshd status
```

6.3. Voicemail Pro FTP Configuration

1. Connect to the Voicemail Pro via Command Line.
   a. Log in to the root level of the Voicemail Pro.
   b. Enter a SFTP command to connect to the Recording Library.
      i. For example, if the username I use to log in to the Linux server with Recording Library installed was Admin and my Recording Library server IP address was 10.11.12.13, I would enter "sftp Admin@10.11.12.13".
      ii. When prompted "Are you sure you want to continue connecting (yes/no)?" type "yes."
      iii. Enter your password (the password for the Recording Library server user) when prompted.
   c. Once connected, you can enter "exit."
2. Open the Voicemail Pro Client.
3. Click the Administration option at the top of the screen, then hover over Preferences and select General.
4. Go to the Voicemail Recording tab and enter the following settings.
   a. FTP Username: Enter the username from the Recording Library server.
   b. FTP Password: Enter the password from the Recording Library server.
   c. Remote FTP Location: Enter the name of the shared directory on the Recording Library server (in our example we used VmProVRL).
   d. Remote FTP Host: Enter the IP address of the Recording Library server.
5. Press "Test Connection" to confirm the connection can be established.
6. Save and Make Live the settings.
7. Reboot the Voicemail Pro.

6.4. Recording Library Configuration for Voicemail Pro on Linux

1. Open Avaya Call Reporting once you have installed Recording Library.
2. Go to System Settings > Recording Libraries.
3. Click on the ellipsis next to "Recording Libraries."
4. Select VMPro - Recording Library 1.
   a. If no recording library exists, click "Add."
   b. Click on the drop-down and select "VM Pro."
5. Review the following settings.
   a. Recording Library IP Address: Enter the IP address of the server that the Recording Library is installed on.
   b. Server Address: Enter the IP address of the server that the Avaya Call Reporting is installed on.
   c. Monitored Recording Directory: Enter the directory path used in Section 6.2. For example, /home/Admin/VmProVRL
   d. Recording Storage Locations: Configure where the recordings will be stored. The default will be the recording library directory where the Recording Library was installed. You will also be able to manage your retention policies here.
6. Press OK and Save.
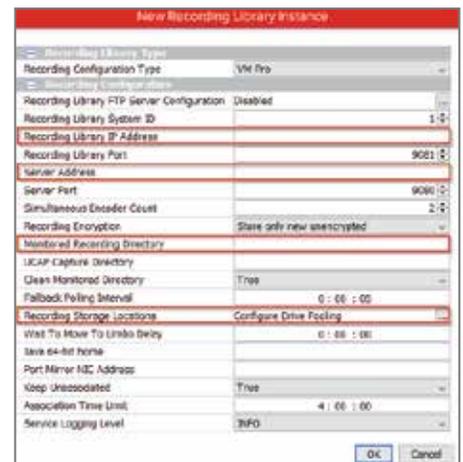
6.5. IP Office Configuration

Decide how you'd like the recordings to be created, either at the User, Group, Incoming Call Route, or Account Code. The most common configuration uses User-Level.

USER-LEVEL CALL RECORDING

1. Open Avaya's IP Office -> Manager -> IP Office Configuration.
2. Select "User" from the middle bar.
3. Select a user whose calls you would like to record.
4. In the individual user's window, select the "Voice Recording" tab.
5. Select the percentage of outbound and inbound calls to record in the Recording Outbound and Recording Inbound fields. Select "On" to record all calls. You may also change the External field to External & Internal if you wish to record internal agent calls as well.
6. Select Voice Recording Library in the Destination field for both the Recording (Auto) and Recording (Manual) menus.
7. Press OK -> Save -> and Merge.

GROUP LEVEL

1. Open Avaya's IP Office -> Manager -> IP Office Configuration.
2. Select "Group" from the left sidebar.
3. Select a group whose calls you would like to record.
4. In the specific group's menu, on the far right, select the "Voice Recording" tab.
5. Select the percentage of inbound calls to record in the Recording Inbound field. Select "On" to record all calls.
6. Select Voice Recording Library in the Recording (Auto) field.
7. If you wish to record internal group calls as well, set Auto Record Calls to External & Internal.
8. Press OK -> Save -> Merge

INCOMING CALL LEVEL

1. Open Avaya's IP Office -> Manager -> IP Office Configuration.
2. Select "Incoming Call Route" from the left sidebar.
3. Select an incoming call route you would like to record.
4. In the call route menu, navigate to the "Voice Recording" tab.
5. Select the percentage of inbound calls to record in the Recording Inbound field. Select "On" to record all calls.
6. Select Voice Recording Library in the Recording (Auto) field.
7. Press OK -> Save -> Merge.

ACCOUNT CODE LEVEL

1. Open Avaya's IP Office -> Manager -> IP Office Configuration.
2. Select "Account Code" from the left sidebar.
3. Select an account code whose associated calls you would like to record.
4. In the account code window, navigate to the "Voice Recording" tab.
5. Select the percentage of outbound calls to record in the Record Outbound field. Select "On" to record all calls.
6. Select Voice Recording Library in the Recording (Auto) field.
7. Press OK -> Save -> Merge.

7.0. Accessing HTML Avaya Call Reporting and Avaya Contact Center Agent (CCAC)

7.1. Accessing HTML version of Avaya Call Reporting through a web browser

1. Select the modern web browser of your choice. Google Chrome is recommended.
2. In the URL, type in the Avaya Call Reporting server IP address followed by a colon, then the Apache Tomcat port (typically 9080 by default), forward slash 'web'. Example: 12.3.4.567:9080/web

7.2. Accessing Avaya Call Reporting Contact Center Agent Client

1. Select the web browser of your choice. Please note that if you are going to use the CCAC as a softphone using WebRTC, you must use Google Chrome or Edge.
2. In the URL, type in the Avaya Call Reporting server IP address followed by a colon, then the Apache Tomcat port (typically 9080 by default), forward slash 'ccagent'. Example: 12.3.4.567:9080/ccagent
3. Select if you are going to run in a desktop mode where the CCAC connects to your desk phone or WebRTC mode where your CCAC will act as your phone.
4. If running in WebRTC mode, you must enter the phone password created in IP Office Manager User Settings.
5. Enable WebRTC mode is enabled within Avaya Call Reporting. This is found under System Settings > Voice Agent. Enable WebRTC and click "Save."

In order to use WebRTC, you must first enable https for Avaya Call Reporting. To do so:

1. Open Avaya Call Reporting
2. Go to Admin (System) -> System Settings -> Basic Settings
3. Click on the ellipses next to SSL Proxy Configuration
4. Switch "SSL Proxy Enabled" to "True"
5. Type in the Avaya Call Reporting Server IP address in the blank field
6. Copy the "DNS Record"
7. Hit "OK"
8. Hit "Save." This may take up to five minutes to go into effect.
9. Once in effect, the "DNS Record" will be the new URL you will use to access the Contact Center Agent Client. Paste the "DNS Record" in the URL followed by "/ccagent". Example: je9qt7cpd kathtuuqkdl.acr.ximasoftware.com/ccagent
10. Hit enter, and you will now be taken to the Contact Center Agent Client.