



Hybrid Cloud - Adding Cloud Services to Your Enterprise PBX



Chris Clauss

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ConvergeOne



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ConvergeOne Presentations at Avaya Engage 2023

Presenter	Session	Date	Time
David Lover	Putting the Customer's Experience Back into Customer Experience	Monday 6/19	1:15-2:00
Chris Clauss	Hybrid Cloud- Adding Cloud Services to Your Enterprise PBX	Tuesday 6/20	10:15-11:00
Chris Clauss, David Lover	Password Management and SSO/SMAL for Remote Worker, Avaya Sets, and Soft Clients	Tuesday 6/20	11:15-12:00
Kathy Sobus	Self-Service Journey to the Future	Tuesday 6/20	11:15-12:00
Joel Haist	The Non-Zero Sum Game: Maximizing the Value of Your Business Partner	Tuesday 6/20	2:15-3:00
David Lover	C1 Consolidation, Modernization, and Automation- A Real Life Model	Tuesday 6/20	9:00-10:00
Dwight Reifsnyder	Next Gen Experience Center Building Blocks 101	Wednesday 6/21	10:45-11:45
Carmen Piunno	Avaya Aura Guide to Security: Confidentiality, Integrity, Access Control	Wednesday 6/21	2:30-3:15
Chris Clauss	Deploying Avaya Workplace for UC and call Center Users, Mobile Users, and VDI Environments	Wednesday 6/21	2:30-3:15
Chris Clauss	Security, Certificates, and the System Administrator	Wednesday 6/21	3:30-4:15
David Lover	How Will I Know When it's Time to Migrate to the Cloud?	Wednesday 6/21	3:30-4:15

Everyone is talking about cloud...

Many great reasons to move...

- Ease of implementation
- Adding new services
- Exciting features
- Subscription based

Many reasons not to move...

- Transition is difficult
- Need enterprise features
- Call Center



Avaya provides cloud services for “On Prem Customers”

Avaya Spaces

- Included in subscriptions
- Replaces on-prem systems for Conferencing
- Adds Collaboration Capabilities

Avaya Spaces Calling

- Bundled into Avaya Spaces
- Offers a quick and easy way to add remote workers.

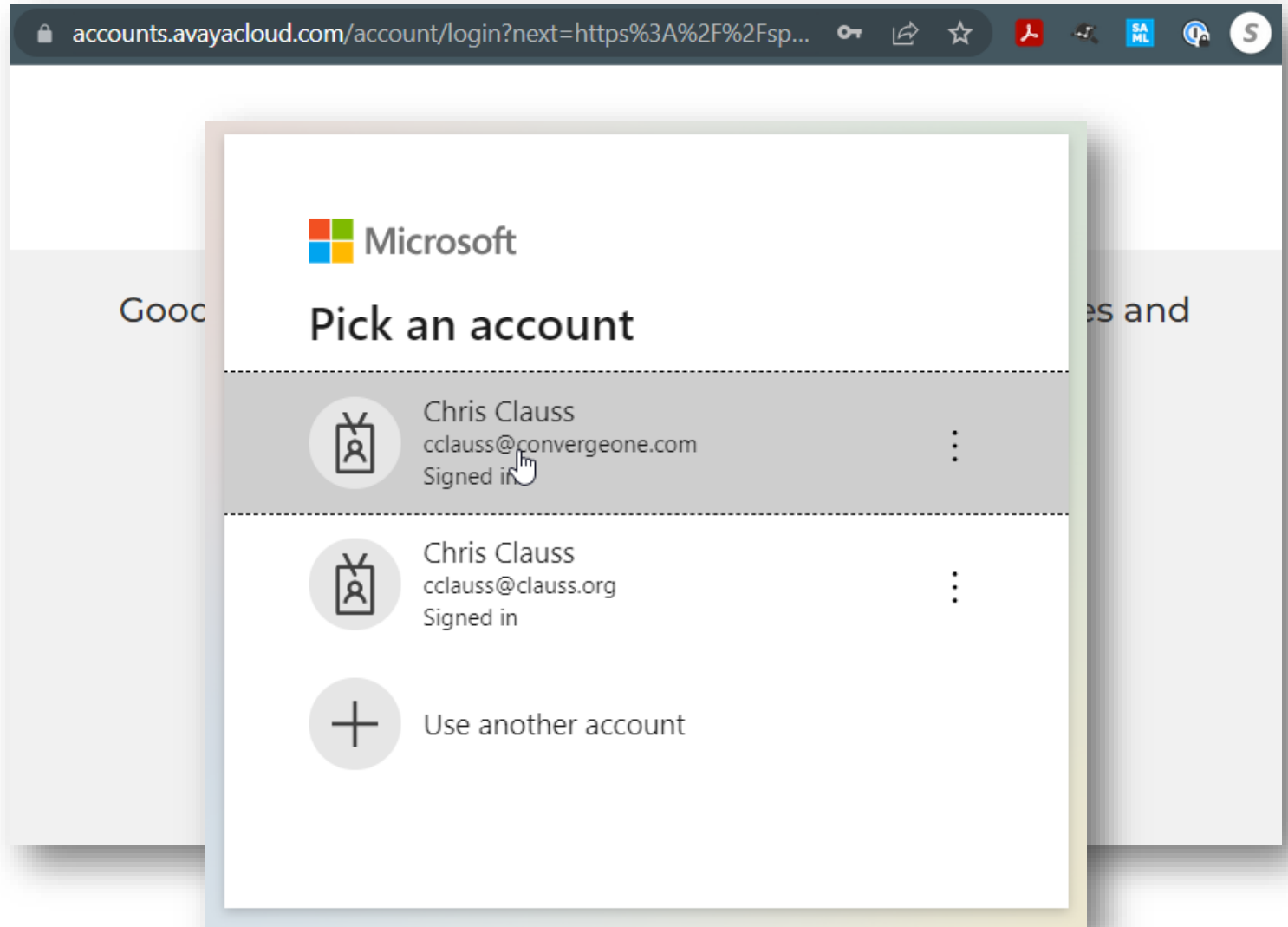




Avaya Spaces – Conferencing – Let’s take a tour...

spaces.avayacloud.com

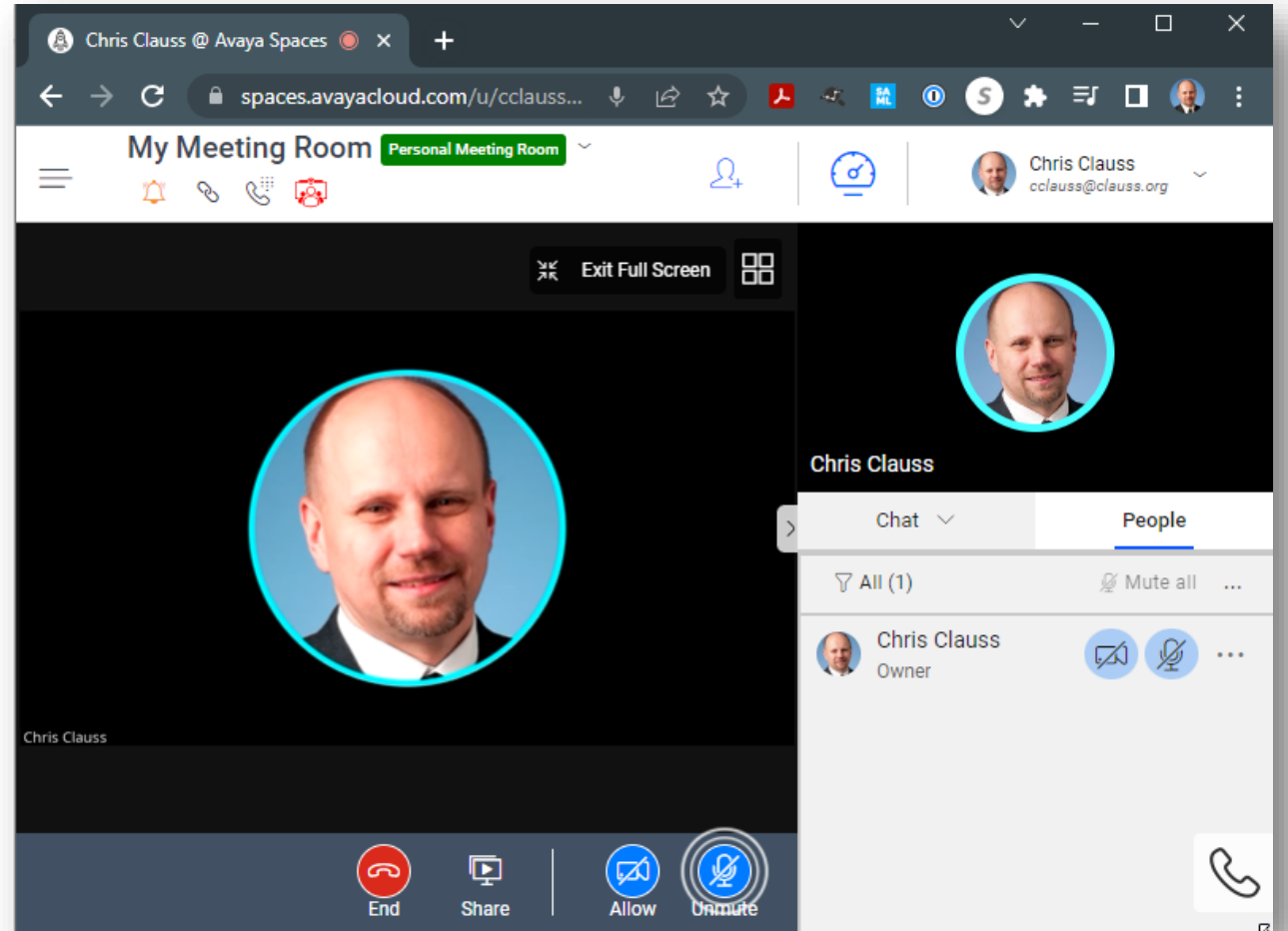
Good news – Avaya SSO supports linking to Enterprise SAML providers...



My Meeting Room

A personal meeting room for every user.

- Unique Room ID
- Can join from browser phone
- Can join from an Avaya Room System
- Persistent Chat History & Posts
- Task List
- List of previous meetings and recordings



My Meeting Room

- Meetings can auto start.
- Entry / Exit Tones
- Waiting Room
- Prevent Unmuting
- AI Noise Removal (VERY COOL)
- Remote Control (NEW at last)
- Live Caption (English / Spanish)

Settings for **Chris Clauss**

General

Meeting

Permissions

Video Layout

Video Options

Security

Message Retention

Entry/Exit tones

Play an audio cue when someone enters or leaves the meeting.

Waiting Room Off >

Only Guests admitted by admin or member can join the meeting.
Note: Recommended waiting room limit is up to 200 participants.

IN MEETING

Prevent unmute

When activated, the Raise Hand feature is used to request to unmute by an Admin.

AI Noise Removal*

All Members / Guests can turn noise removal on.

Remote Control

Allow participants to control the presenter's mouse and keyboard upon request during screen sharing.

Live Caption*

Members will be able to turn Captions on.

My Meeting Room

- Very Large Meetings (250 / 1000)
- 3rd Party Room Systems (SIP)
 - sip:xxxxxx@spacesip.net
- Create Content – Post / Tasks
- Video Layouts / Lecture
- Video 360p to 1080p
- Security – waiting room / password
- Virtual background blur
- Toll free access numbers

Settings for **Chris Clauss**

- General
- Meeting
- Permissions
- Video Layout
- Video Options
- Security**
- Message Retention

Entry into meeting

None
Participants may enter the meeting right away.

Waiting Room
Only Guests admitted by admin or member can join the meeting

Play Music for Dial-in Guests
Your guests will hear music while dialed into the waiting room via phone.

Password entry
Participants must enter a password to gain entry to the Space.

Password

Your password must be between 6 and 10 digits (numbers only).

Required for all Guests
Password entry will be required from all Guests who connect to this Space via any method (i.e. mobile, browser, and phone).

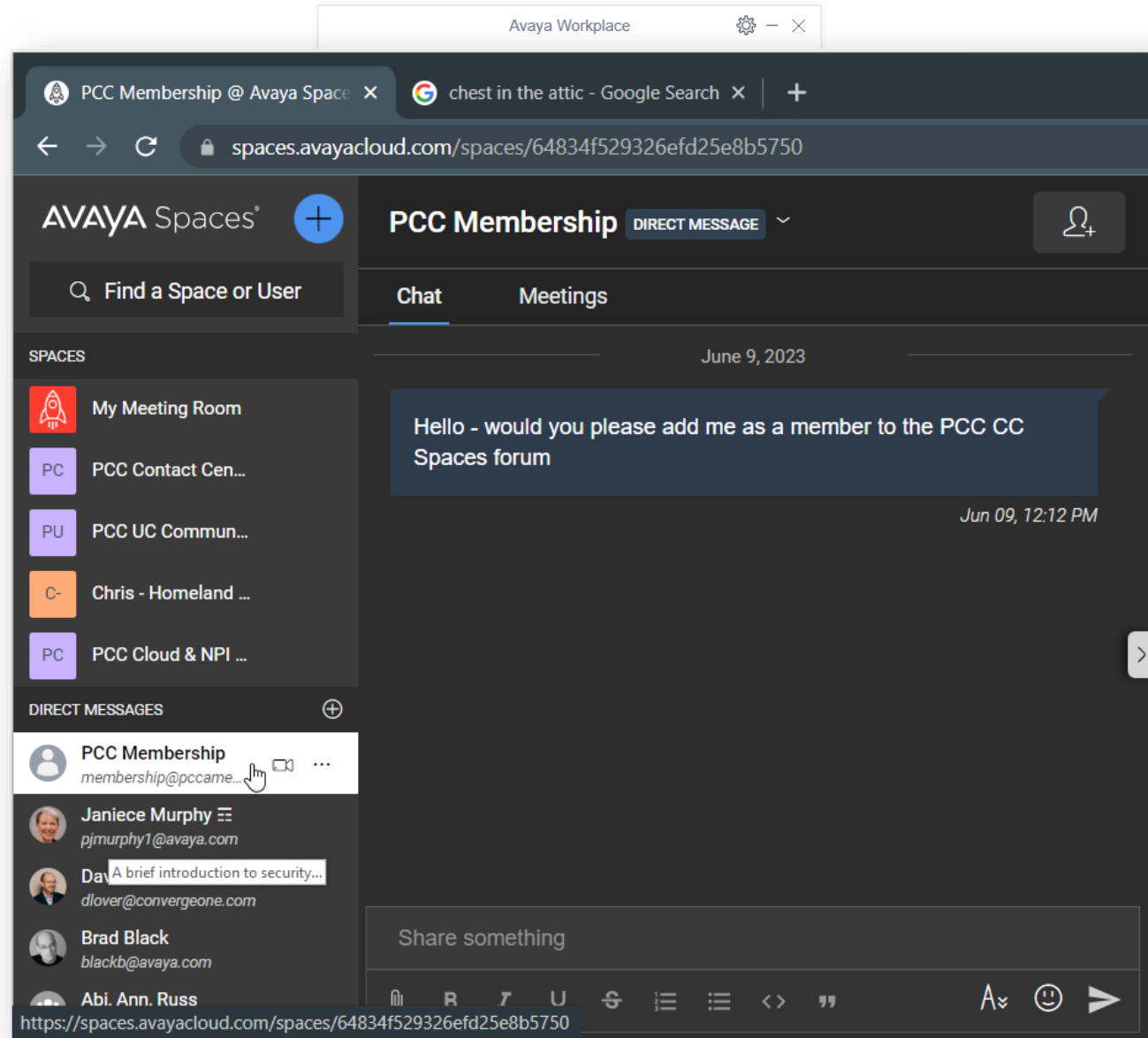
Required for participants joining by phone or third party room device

What's the point?

Feature parity with WebEx / Zoom

But some additional features...

- I/M direct from Workplace app or Spaces Web interface – no Presence Server required.
- Easy enterprise integration with Aura and Enterprise Directory
- Office 365 Integration for Calendar

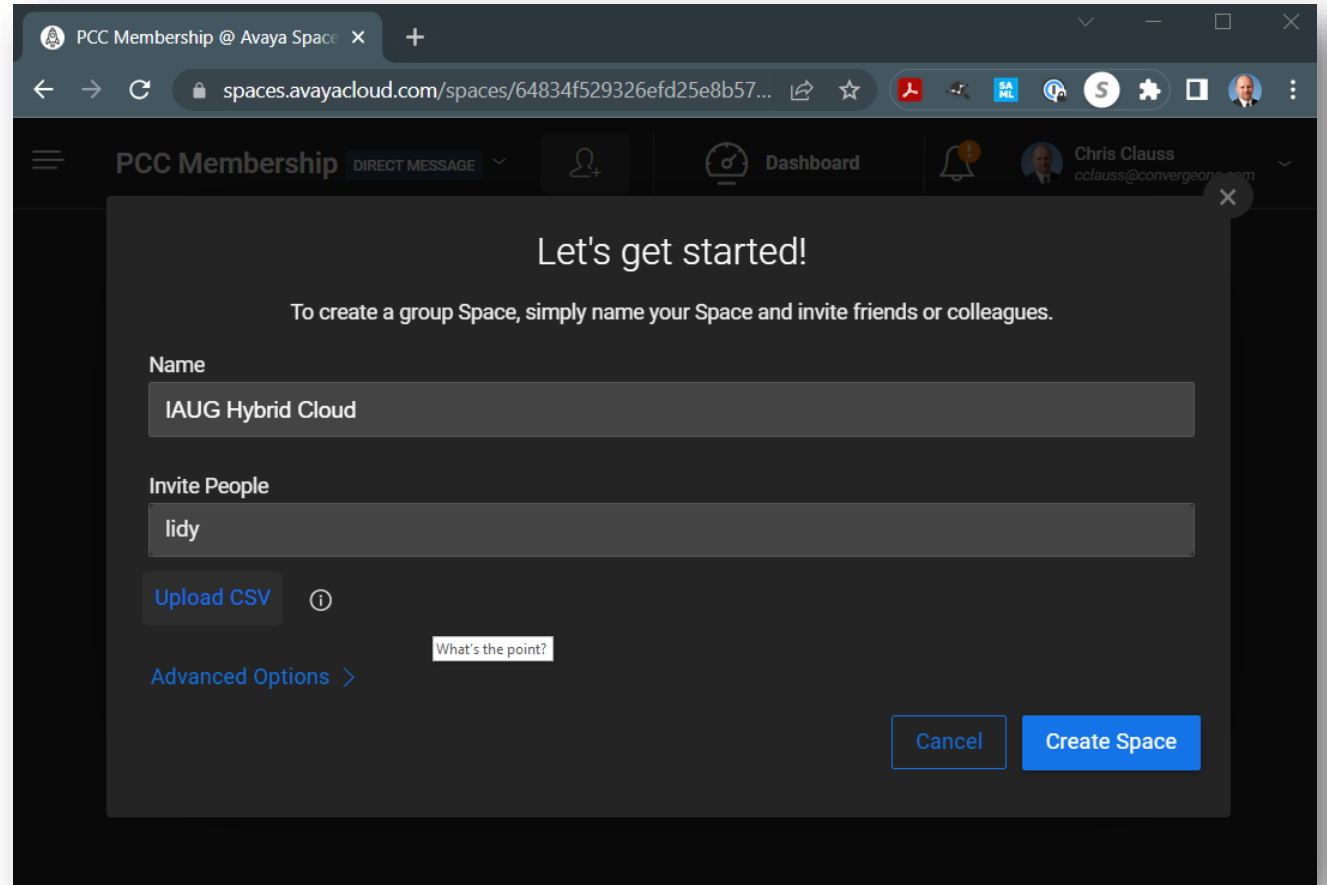


And more...

A user can create additional spaces – each with all the same features.

Meetings can run on any browser.

Spaces also has a mobile and desktop client.

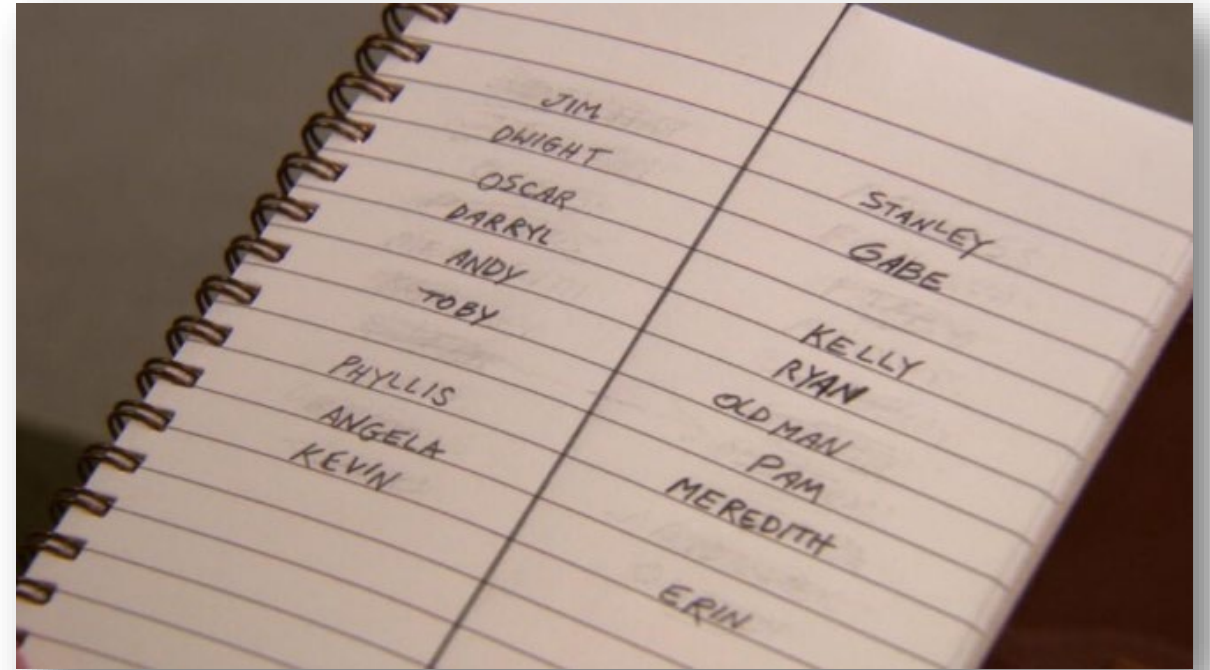


Spaces is easy to manage

Users can be added via admin web interface, but let's make a hybrid environment.

Manage Spaces from AADS.

Users will automatically be added based on LDAP (Active Directory) group management.



But first – let's associate our company so people can sign on...

<https://accounts.avayacloud.com>

- Manage Companies
- Add New Company
- Add a domain
- Verify the domain

Add DNS record so Avaya can confirm you control the domain.

The screenshot shows the Google Admin Toolbox interface for configuring DNS records. The main window displays the domain 'mycompany.com' and a grid of record types: A, AAAA, ANY, CAA, CNAME, SRV, TLSA, TSIG, and TXT. The 'TXT' record type is highlighted with a green button. Below the grid, the 'TTL' is set to '1 hour' and the 'VALUE' is 'ZA=iTuWtoCuUhoQubxIaWpT7A=='. A 'Verify' button is visible at the bottom right of the configuration window.

Type	Record Type
1.	A
2.	AAAA
3.	ANY
4.	CAA
5.	CNAME
	SRV
	TLSA
	TSIG
	TXT

TTL: 1 hour
VALUE: "ZA=iTuWtoCuUhoQubxIaWpT7A=="

Now let's configure AADS to add users automatically...

What is Device Services?

- Provides auto configuration on Avaya Devices (Workplace and Phones)
- Supports Single Sign on / SAML
- Enterprise Directory
- Updates clients
- Auto configures Spaces users / Spaces SSO



Space AADS Integration

The screenshot shows the Avaya Aura Device Services administration interface. The browser address bar indicates the URL is `v-aads.clauss.org:8445/admin/#Spaces_SSO_Settings`. The user is logged in as `cclauss@clauss.org`. The left sidebar contains a navigation menu with categories like Service Control, System Information, Backup Settings, System Parameters, Client Administration, Server Connections, Cluster Configuration, External Access, Logs Management, Security Settings, Dynamic Configuration, Web Deployment, Contact Integrity, Data Security, and Spaces. The Spaces section is expanded to show `Spaces SSO Configuration` and `Users and License`. The main content area is titled `Spaces SSO` and includes the following configuration options:

- Enable SSO:** A checked checkbox.
- Spaces Accounts address:** A text input field containing `accounts.avayacloud.com`.
- Allowed domains:** A table with a header `Domains` and one entry `clauss.org`. Below the table is a `Domain:` input field and `Add` and `Remove` buttons.
- Applications client id:** A table with a header `Client ID` and three entries, each with a blurred client ID value. Below the table is a `Client ID:` input field and `Add` and `Remove` buttons.

At the bottom right of the configuration area, there are `Save` and `Cancel` buttons. The top right of the page shows a refresh rate of 30 seconds and links for `About` and `Log`.

AADS Space Integration

The screenshot shows the Avaya Aura Device Services configuration interface. The left sidebar contains a navigation menu with categories like Service Control, System Information, Backup Settings, System Parameters, Client Administration, Server Connections, Cluster Configuration, External Access, Logs Management, Security Settings, Dynamic Configuration, Web Deployment, Contact Integrity, Data Security, Spaces, and Users and License. The 'Spaces' category is expanded, showing 'Spaces SSO Configuration' and 'Users and License'. The main content area is titled 'Configuration' and contains the following fields:

- Enable Spaces Integration
- *Spaces URI**: accounts.avayacloud.com
- *Spaces API Key**: [Redacted]
- *Spaces API key secret**: [Redacted]
- Company Name: clauss.org
- Domain: clauss.org

A red arrow points from the 'Spaces API key secret' field to a modal window titled 'View/Edit API Secrets'. The modal displays an API Key and a Secret, both redacted. The Secret is shown with a 'Created' date of 1/8/2021. At the bottom of the modal are buttons for 'Download secret' and 'Add another secret'.

Below the configuration fields is a 'License Info' table:

License	Expiration Date	Available Count
Power	1/5/2026, 1:00:00 PM	3
Business	1/5/2026, 1:00:00 PM	10

At the bottom, there is a section for 'LDAP Phone Number Sync' with a radio button selected for 'All (Work and Mobile)'.

AADS Space Integration

LDAP Group Auto Assign

This page can be used to perform following actions:

- Search and Register LDAP group users to Spaces.
- Assign License to all users of the LDAP groups.
- Update and Unregister LDAP groups.

Company Name: **clauss.org**

Search and Register Groups

Please type 5 characters to start the search or hit ENTER button to test the group name

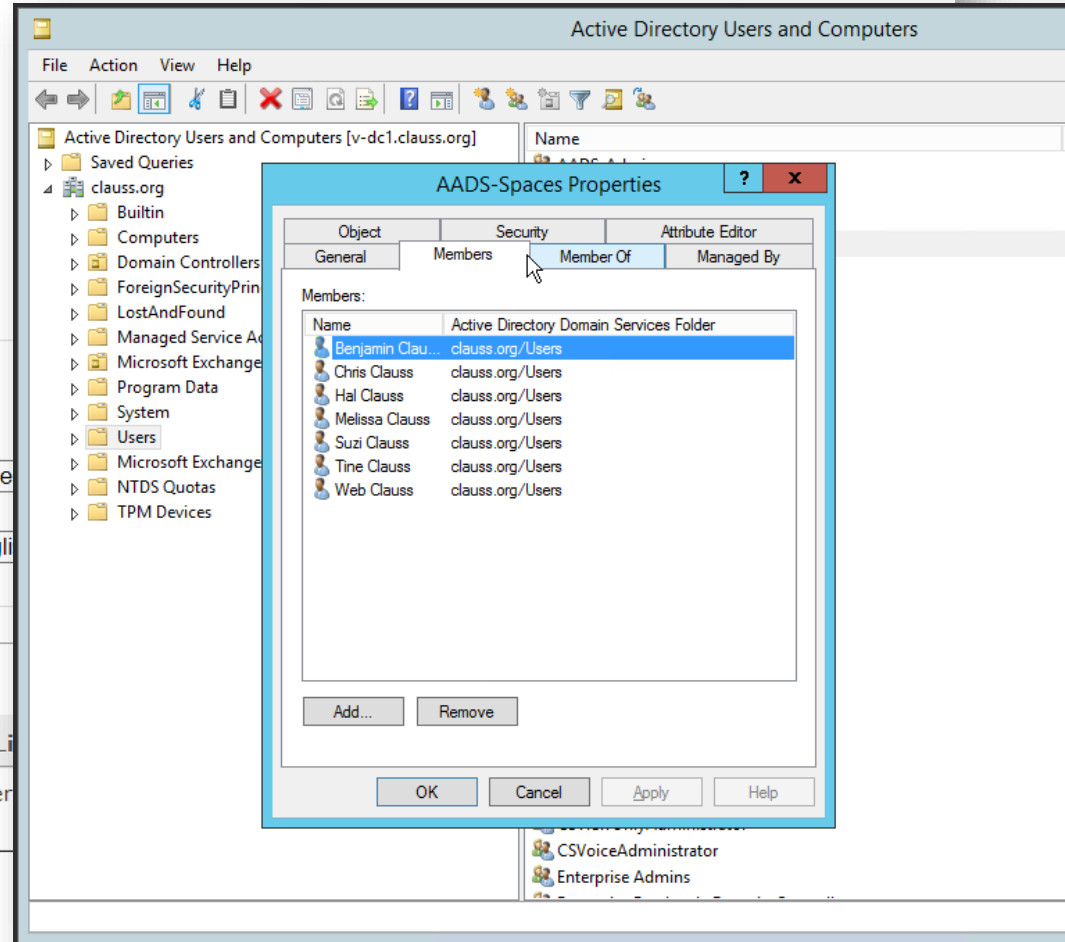
AADS-Spaces [CN=AADS-Spaces,CN=Users,DC=clauss,DC=org] License:

Time Zone: Language:

Show entries

<input type="checkbox"/>	LDAP Group	Directory	Assigned License
<input type="checkbox"/>	CN=AADS-Spaces,CN=Users,DC=clauss,DC=org	ActiveDirectory_2012(P-P-1)	Power

Showing 1 to 1 of 1 entries

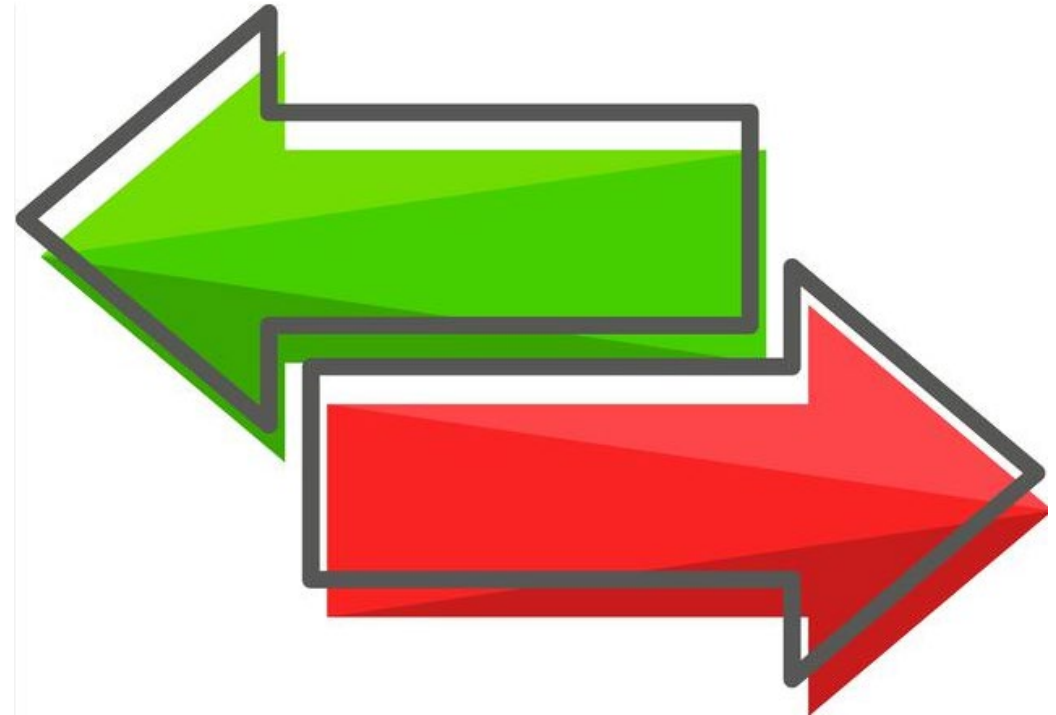


AADS Spaces Integration

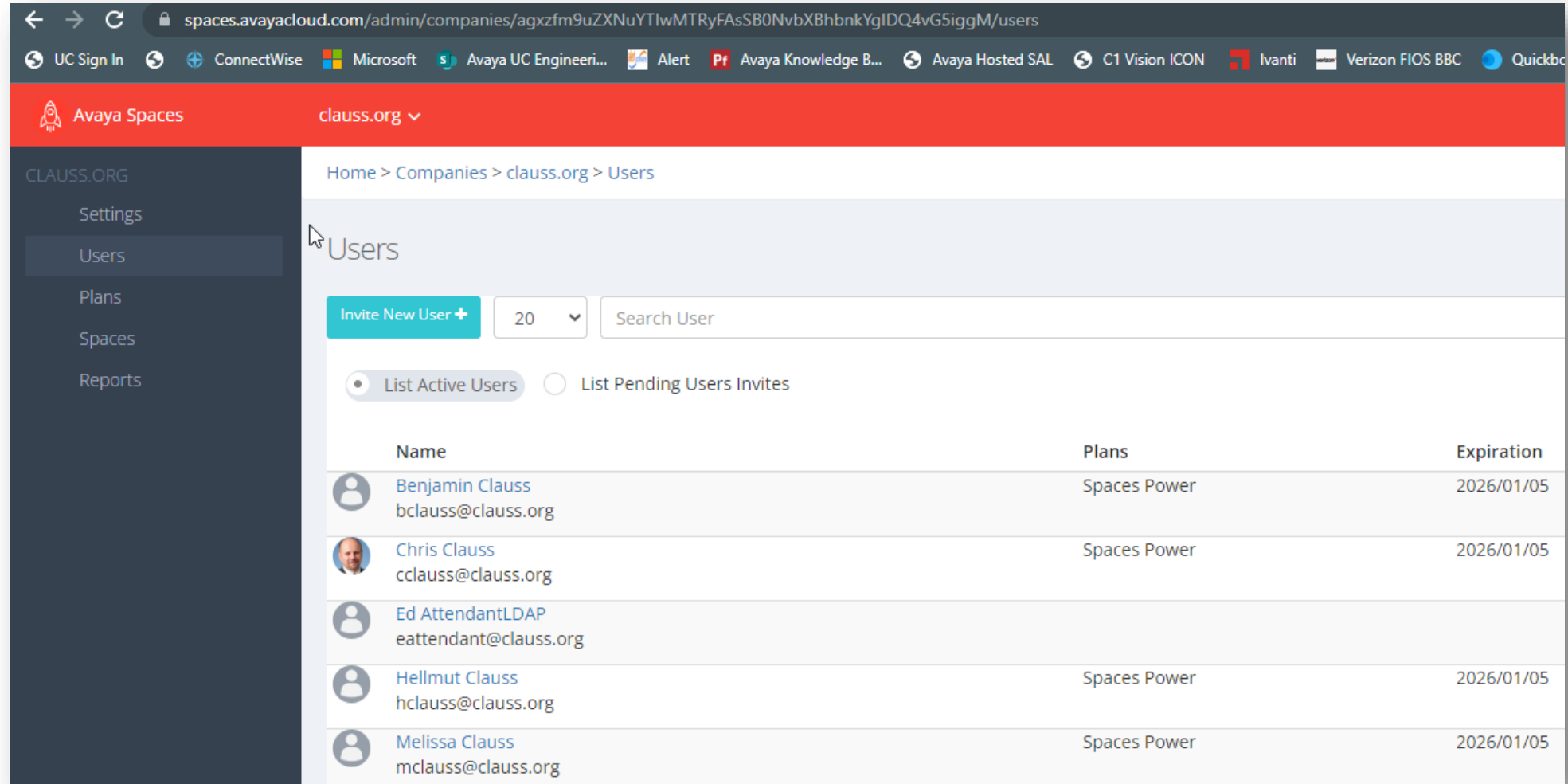
Any users that are a member of the A/D (LDAP) group will automatically get a Spaces account.

Upon creation of a new account, email will be sent to a user to complete login.






Since Spaces supports enterprise login / SAML, end user admin is self service.



Users automatically added to Spaces admin portal.



The screenshot shows the Avaya Spaces admin portal for the company clauss.org. The breadcrumb trail is Home > Companies > clauss.org > Users. The page title is "Users". There is a button to "Invite New User +" and a dropdown menu showing "20". A search bar labeled "Search User" is present. Below the search bar are two radio buttons: "List Active Users" (selected) and "List Pending Users Invites". A table lists the active users with columns for Name, Plans, and Expiration.

Name	Plans	Expiration
 Benjamin Clauss bclauss@clauss.org	Spaces Power	2026/01/05
 Chris Clauss cclauss@clauss.org	Spaces Power	2026/01/05
 Ed AttendantLDAP eattendant@clauss.org		
 Hellmut Clauss hclauss@clauss.org	Spaces Power	2026/01/05
 Melissa Clauss mclauss@clauss.org	Spaces Power	2026/01/05

Users can also be manually added

spaces.avayacloud.com/admin/companies/agxzf9uZXNuYTIwMTRyFAsSB0NvbXB...

UC Sign In ConnectWise Microsoft Avaya UC Engineeri... Alert Avaya Knowle

Avaya Spaces Invite Users

CLAUSS.ORG

- Settings
- Users
- Plans
- Spaces
- Reports

Changes to this page may be overwritten by the user profile synchronization running in the background.

john@clauss.org x
Type an email address ⓘ

Press the enter key or use tab to add more email addresses. Enter or paste multiple addresses separated by a comma. For example:: john@yourdomain.com, Jon Doe <johnd@yourdomain.com>

All emails must be within following company domain(s):
clauss.org

Invite Import from CSV

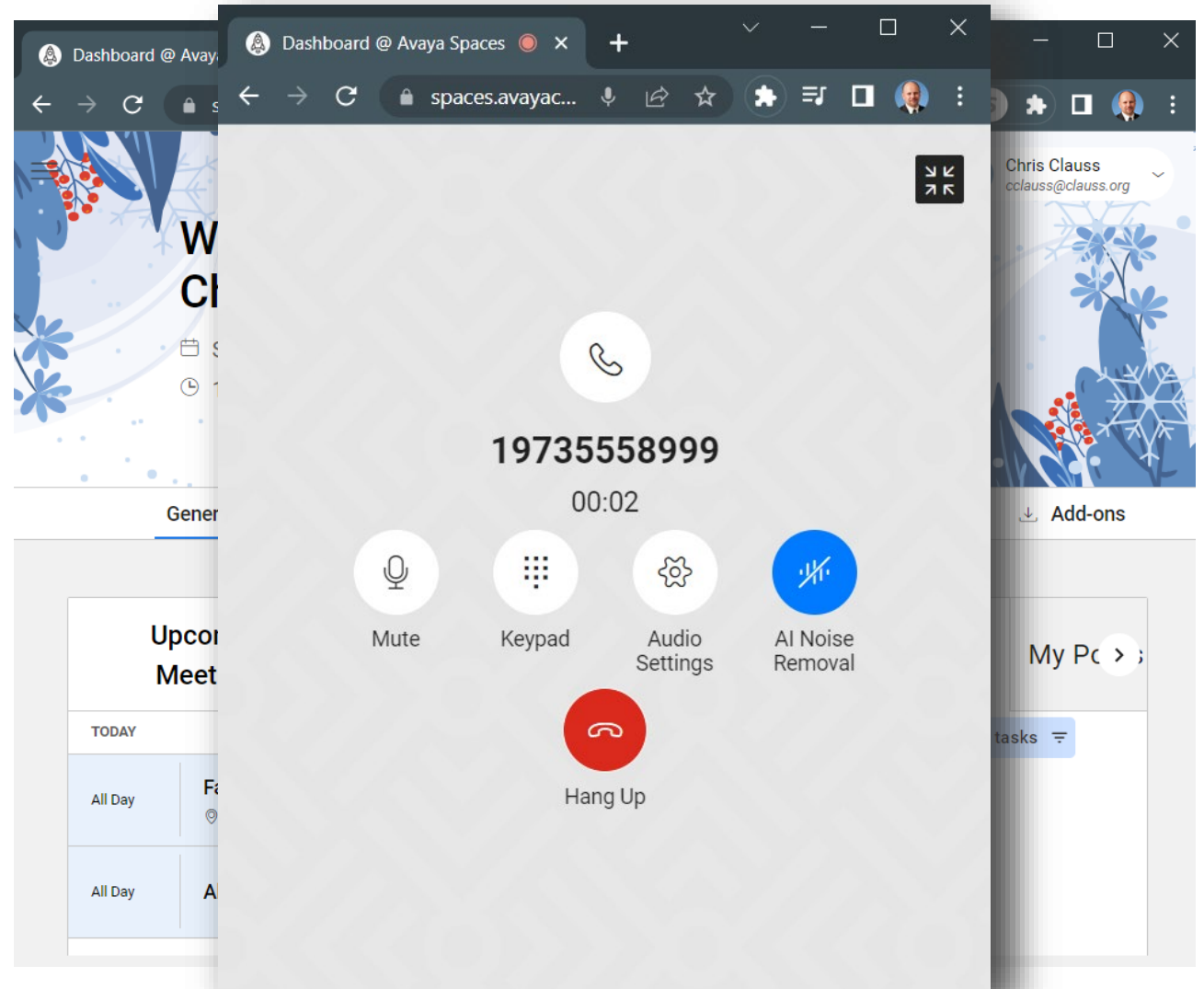
How much more hybrid can we make it?

Spaces includes Spaces Calling.

Pure web based soft phone that works from browser.

Supports basic calling features.

Leverages Avaya Cloud Media Server – includes AI Noise Removal



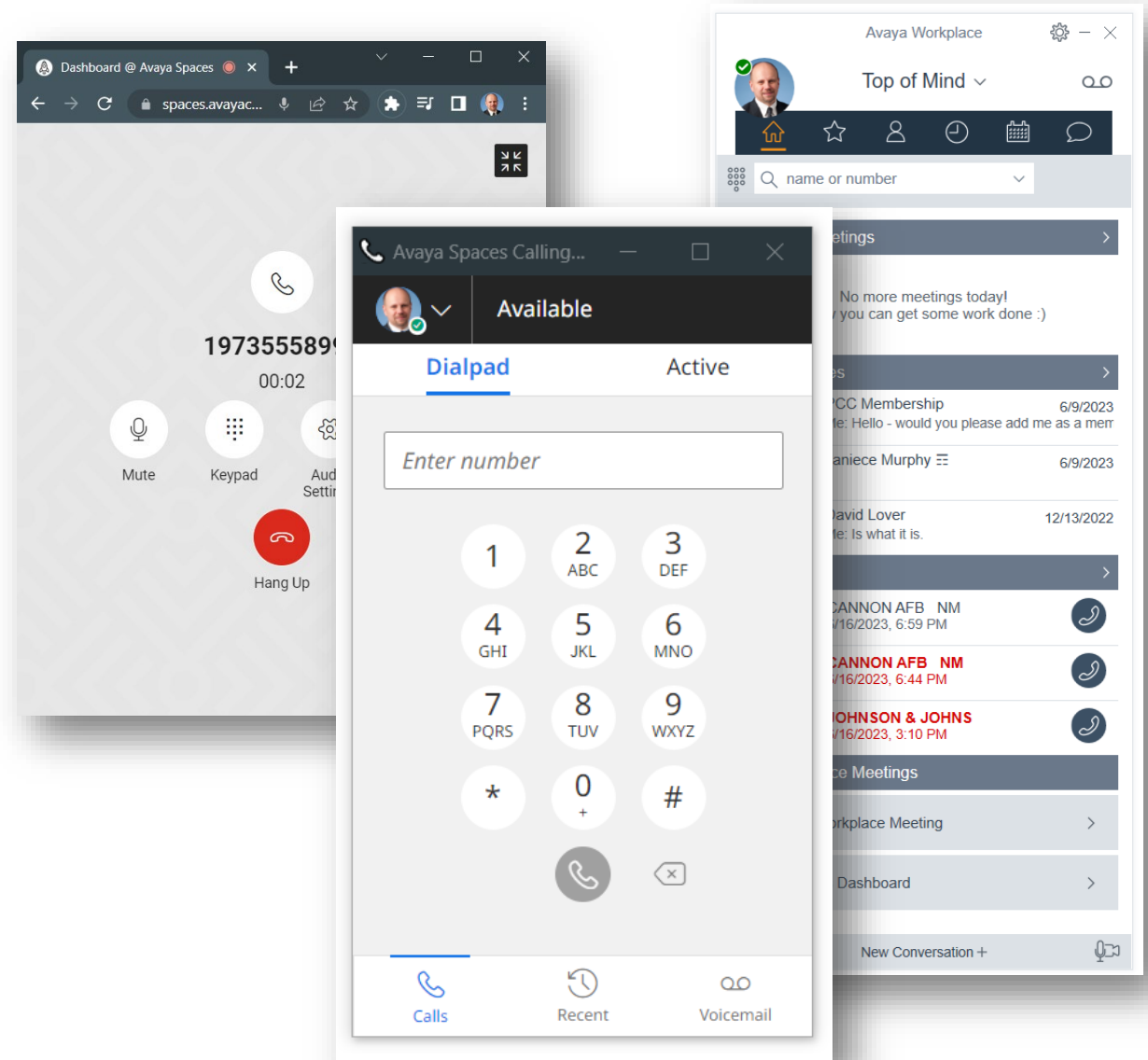
Spaces Calling

3 Options for Spaces Calling

Web Based Client – Browser based from Spaces Web Interface.

Chrome add on.

Workplace Client



Spaces Web Client

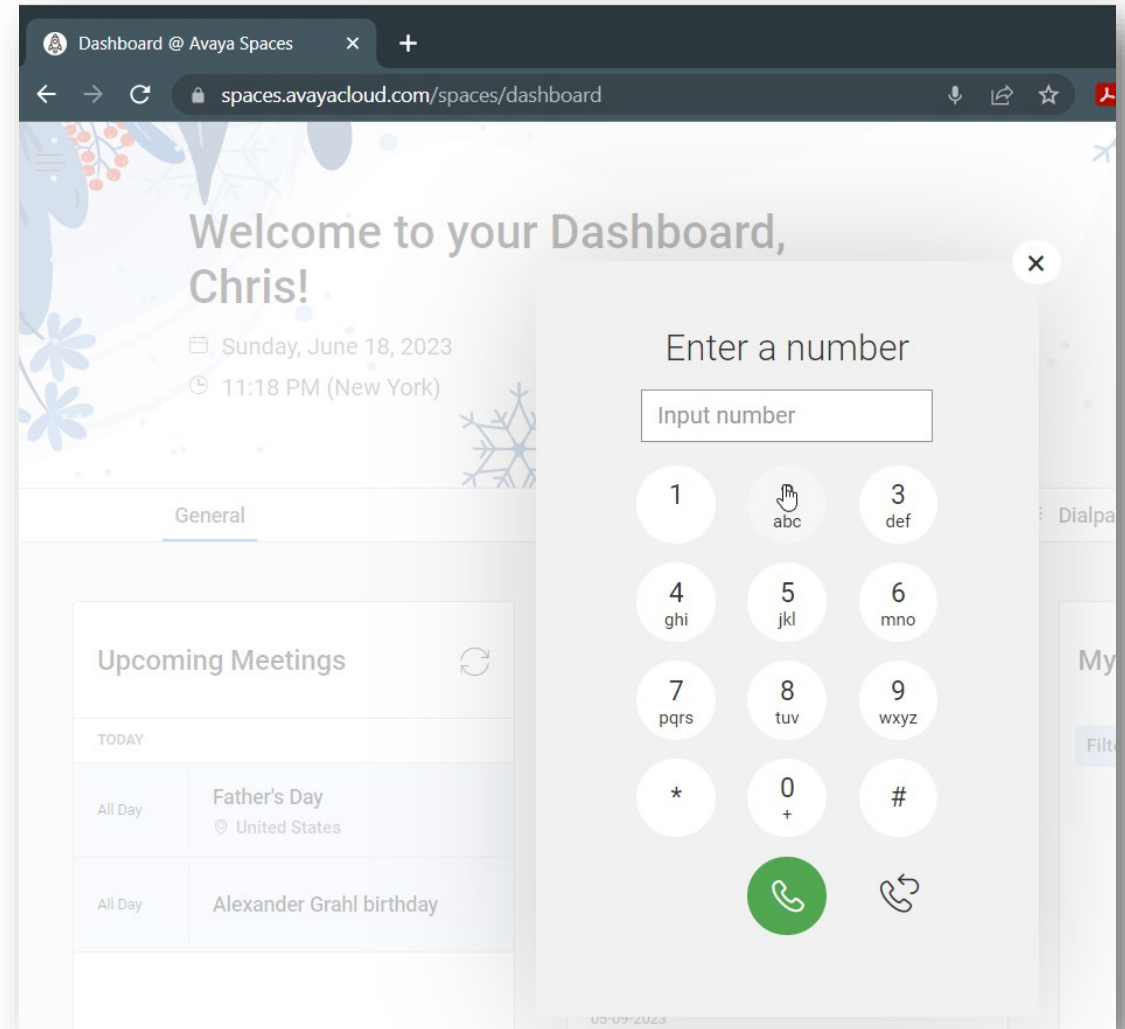
Calls directly from web browser interface of Space.

Requires and additional component

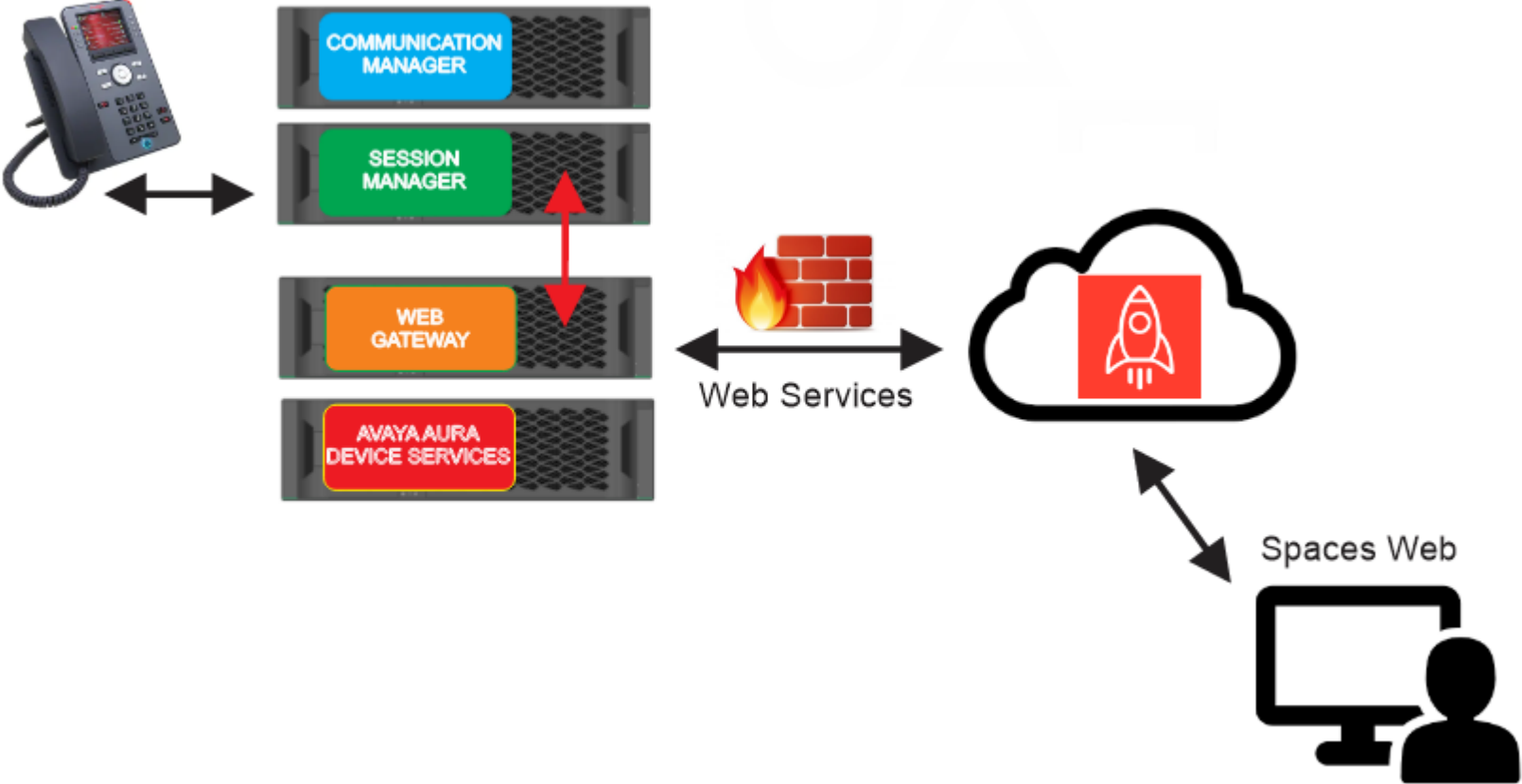
- **Avaya Aura Web Gateway**
- **Avaya Aura Media Server**

Can leverage existing media server used for CM.

Does not require an SBC. Magic!
Leverages Avaya Cloud Media Services



Spaces Web Client – no SBC needed!



Spaces Chrome Add In

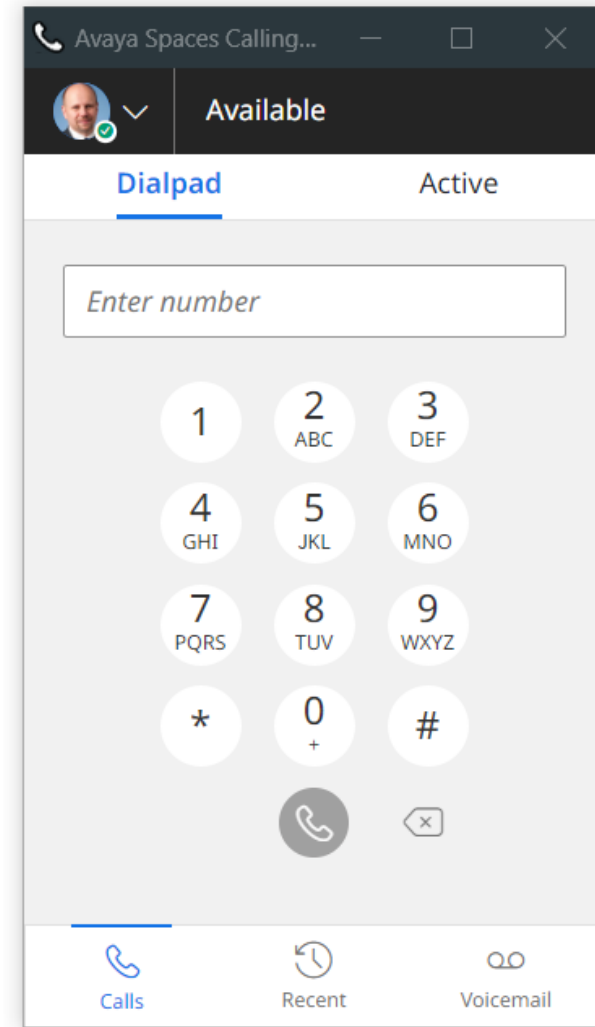
Zero client installer – can be added as a Chrome Extension.

Runs on and machine that Chrome runs on.

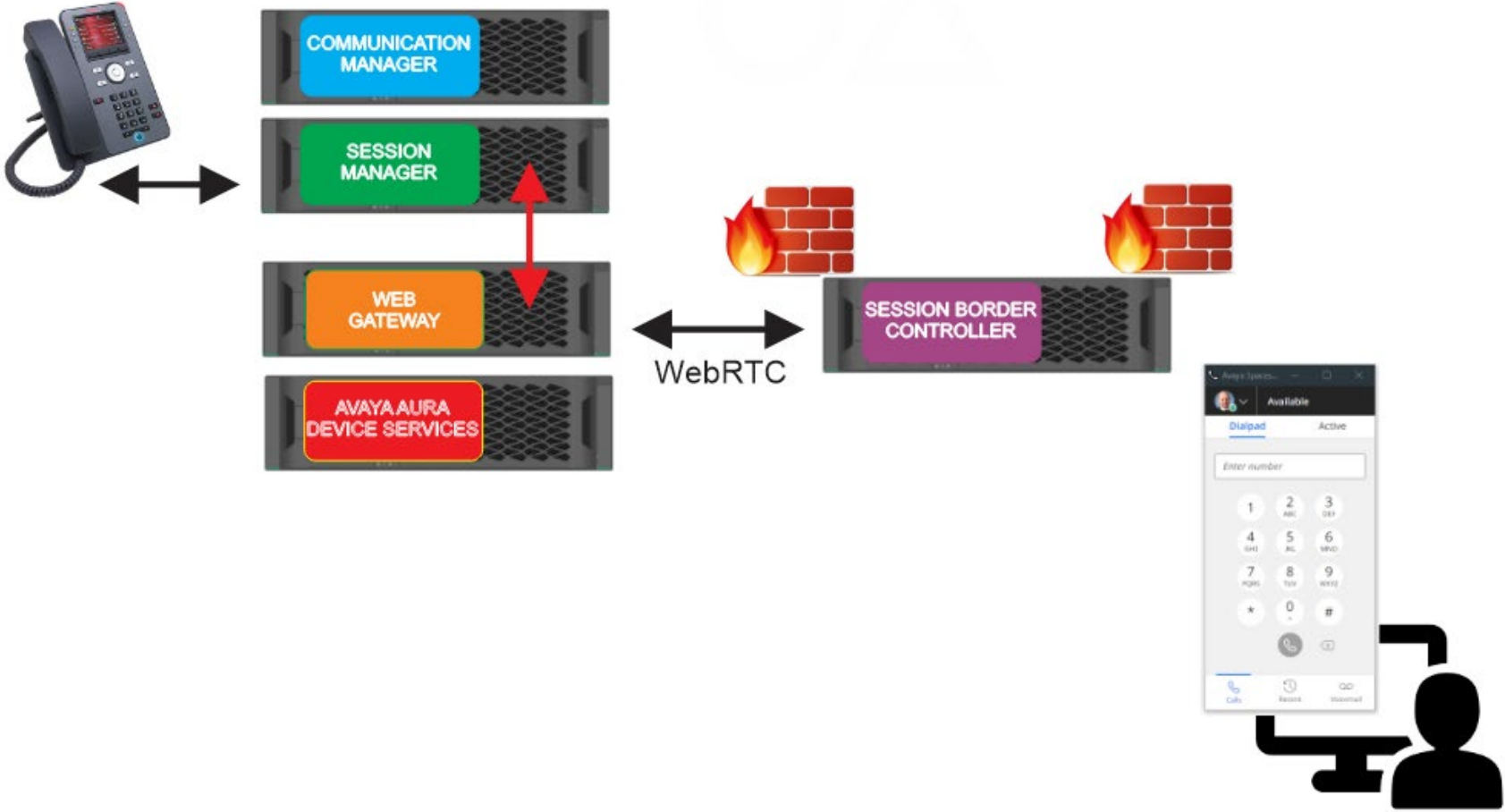
Requires and additional component

- Avaya Aura Web Gateway
- Avaya Aura Media Server
- Does require Avaya SBC for remote worker.

Can leverage existing media server used for CM.



Spaces Chrome Add In – SBC required for STUN/TURN/WebRTC Proxy



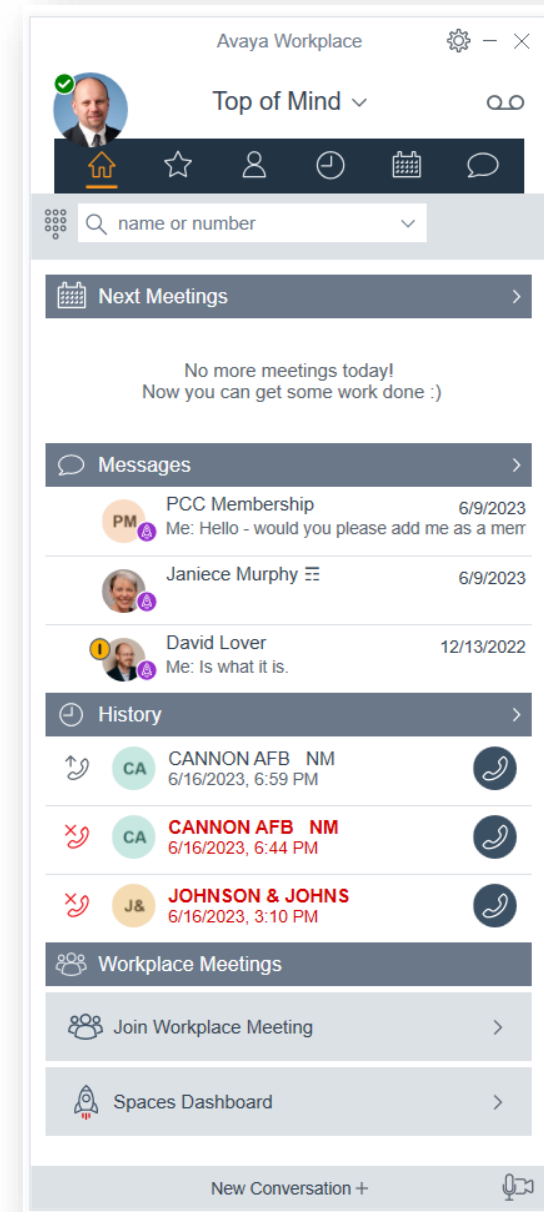
Spaces Using Avaya Workplace

Full client for Windows / Mac / Mobile

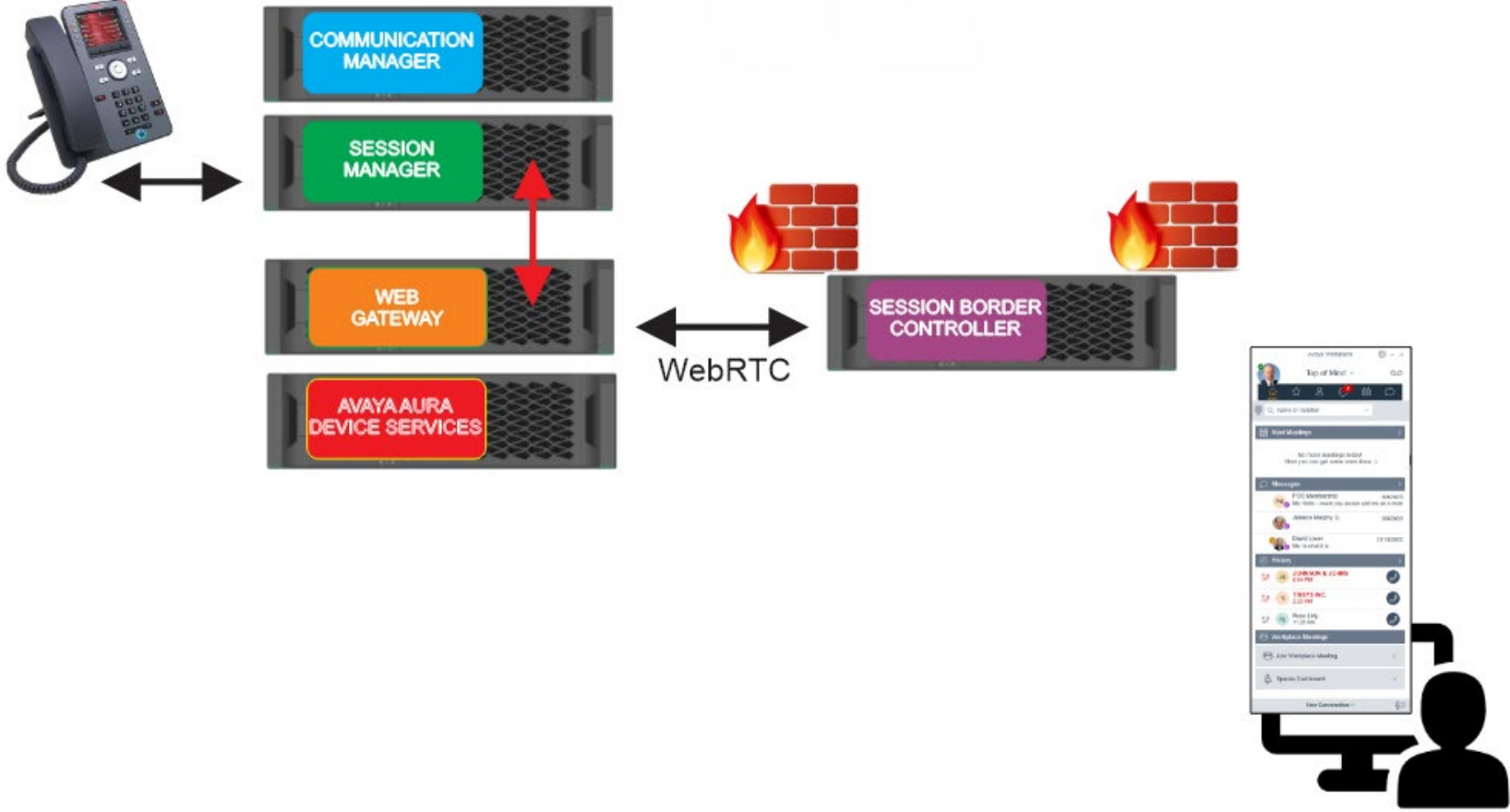
Requires and additional component

- Does require Avaya SBC for remote worker.
- Spaces “pops” Workplace

Can leverage existing media server used for CM.



Spaces using Avaya Workplace – Requires SBC



Configuring Avaya Aura Web Gateway

What is the Web Gateway?

- Swiss Army Knife for Avaya web-based applications.
- Provided several legacy services for Apple Push Notification / Conferencing
- Now provides Spaces Calling integration to Aura Enterprise
- WebRTC to SIP gateway.



Configuring Avaya Aura Web Gateway

AVAYA

Avaya Aura Web Gateway Services

System Overview

- General Network Settings
 - System Manager
 - Device Services
 - Location
 - LDAP Configuration
 - Media Services
- Avaya Meetings Server
- External Access
- Logs Management
- Licensing
- Security Settings
- System Information
- Automatic Backup Configuration
- Spaces Configuration
 - Spaces SSO
 - Spaces Calling
- Advanced

System Overview

Deployment Type
Team Engagement

Solution Servers

Required Server	Status
LDAP Configuration	✓ Connected
Device Services	✓ Connected
System Manager	✓ Connected
Media Services	✓ Connected
Spaces Calling	✓ Connected

Service Control

172.30.0.117

Node Status

IP Address	FQDN	Service Status
172.30.0.117	v-aawg.clauss.org	✓ STARTED

Copy configuration to Spaces Admin Portal

spaces.avayacloud.com/admin/companies/agxzf9uZXNuYTIwMTRyFAsSB0NvbXBhbnkYgIDQ4vG5iggM/settings

Add / Edit an Aura system

Paste the Avaya Aura Web Gateway's public key JSON settings in the box:

```
{
  "systemId": "d7[REDACTED]7ae8",
  "publicKey": "-----BEGIN PUBLIC KEY-----\nMF[REDACTED]ed",
  "alg": "ES256",
  "description": "clauss.org Lab"
}
```

- Auto assign all "unassigned" users to this Aura system
- Enable this Aura system for user to select

Save

Configure user settings.

The screenshot shows the Avaya Spaces dashboard interface. At the top, there is a notification: "Your desktop notifications are blocked for this device. [Enable them here.](#)". Below this, the dashboard header includes the "AVAYA Spaces" logo and a search bar labeled "Find a Space or User". A sidebar on the left lists "SPACES" (My Meeting Room, PCC UC Commun...) and "DIRECT MESSAGES" (Paul Leatherman, David Lover, Gary Damp, Benjamin Claus, Melissa Claus). The main content area displays a "Welcome to your Dashboard, Chris" message with a date and time. A "User preferences" modal window is open, showing a menu with options: General, Notifications, Theme, Meetings, Calls, Calendar, and Desktop app. The "Calls" option is selected. The "Calls" settings include "AVAYA SPACES® CALLING" and "Use Avaya Spaces® Calling with the following application". The "Ask me" option is unselected, and "Avaya Cloud Calling" is selected. Below this, there are two input fields: "You are assigned to:" with a dropdown menu showing "clauss.org Lab", and "Your Aura extension is:" with a text input field containing "19735558001". At the bottom of the modal, there is an unselected option for "Avaya Spaces Calling Chrome Extension" with a "View" link. The background of the dashboard shows a calendar view with "Upcoming Meetings" for "TODAY", including "Father's Day" and "Alexander".

If using Space Calling extension for Chrome add App accounts.avayacloud.com

```
{  
  "Aura_Web_Gateway_Server_Profile": [  
    {  
      "Name": "Internal clauss.org",  
      "Address": "v-aawg.clauss.org",  
      "AccountsToken": true,  
      "LogDownload": true,  
      "DialRule": false  
    },  
    {  
      "Name": "External clauss.org",  
      "Address": "sbc.clauss.org",  
      "AccountsToken": true,  
      "LogDownload": true,  
      "DialRule": false  
    }  
  ]  
}
```

The screenshot shows the Avaya accounts.avayacloud.com interface. The page title is "clauss.org Company Profile". The navigation menu includes Home, User Settings, and Manage Companies. The main content area shows the "Avaya Spaces Calling Extension Application Settings" page. The "General" tab is selected, and the "Data Configuration" section is visible. The "Settings" section contains a JSON configuration object for the "Aura_Web_Gateway_Server_Profile". The JSON configuration is as follows:

```
{  
  "Aura_Web_Gateway_Server_Profile": [  
    {  
      "Name": "Internal clauss.org",  
      "Address": "v-aawg.clauss.org",  
      "AccountsToken": true,  
      "LogDownload": true,  
      "DialRule": false  
    }  
  ]  
}
```

Server Roles

Avaya Aura Device Services

- Ties together user configuration / LDAP services / System Manager.
- Matches enterprise users to Avaya users in System Manager.

AAWG

- Provides Web Services for Spaces Calling.

Media Server

- Anchors media from Spaces Calling to Aura



Tips and Pitfalls

Configuration is a bit scattered..

Spaces Calling Settings

spaces.avayacloud.com – admin portal – Settings – Avaya Spaces Calling

Company Settings – Adding a company

accounts.avayacloud.com – Manage Companies – Add

Company DNS configuration

accounts.avayacloud.com – select company / domains

Manual User

accounts.avayacloud.com – select company / manage users

Spaces Calling for Chrome

accounts.avayacloud.com – select company / Apps / add Avaya Spaces Calling

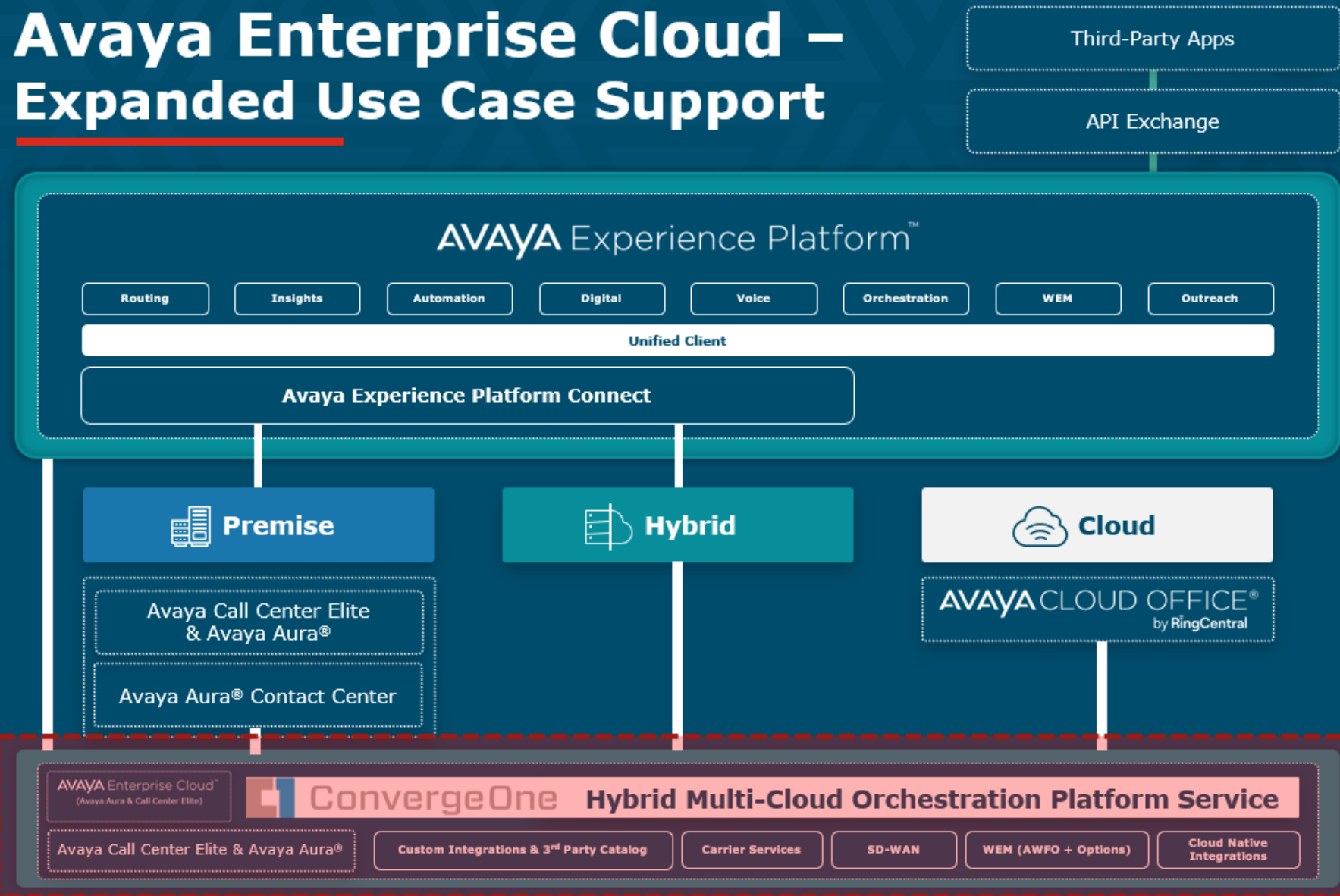
Other options for cloud migration for enterprise customers

Avaya Enterprise Cloud hosted on Microsoft Azure. Moves enterprise Aura to an Avaya hosted solution.

Avaya Enterprise Cloud with C1. Avaya Aura hosted by ConvergeOne. Great scale and flexibility in customization.



Avaya Enterprise Cloud – Expanded Use Case Support



Continuous Innovation

Flexible Deployment

Avaya Customer Experience Services

ConvergeOne Connected Cloud Services



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Questions / Comments / Applause / Boos...



What's the best way for you to get help settings all this up?

Find the best partner – here at the show!

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Please tweet about the presentation if you liked it - @clauss



- Come ask us questions
- Call us – 888-777-7280
- Check us out online – www.convergeone.com
- Thanks for attending!



Chris Clauss

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