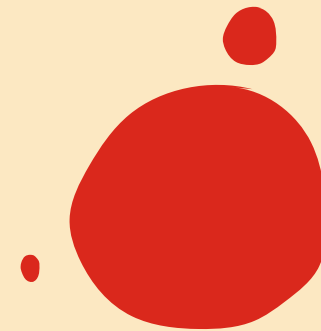


Deploying Avaya Workplace for UC and Call Center Users, Mobile Users, and VDI





Chris Clauss

Manager, Avaya UC Engineering
Collaboration
ConvergeOne



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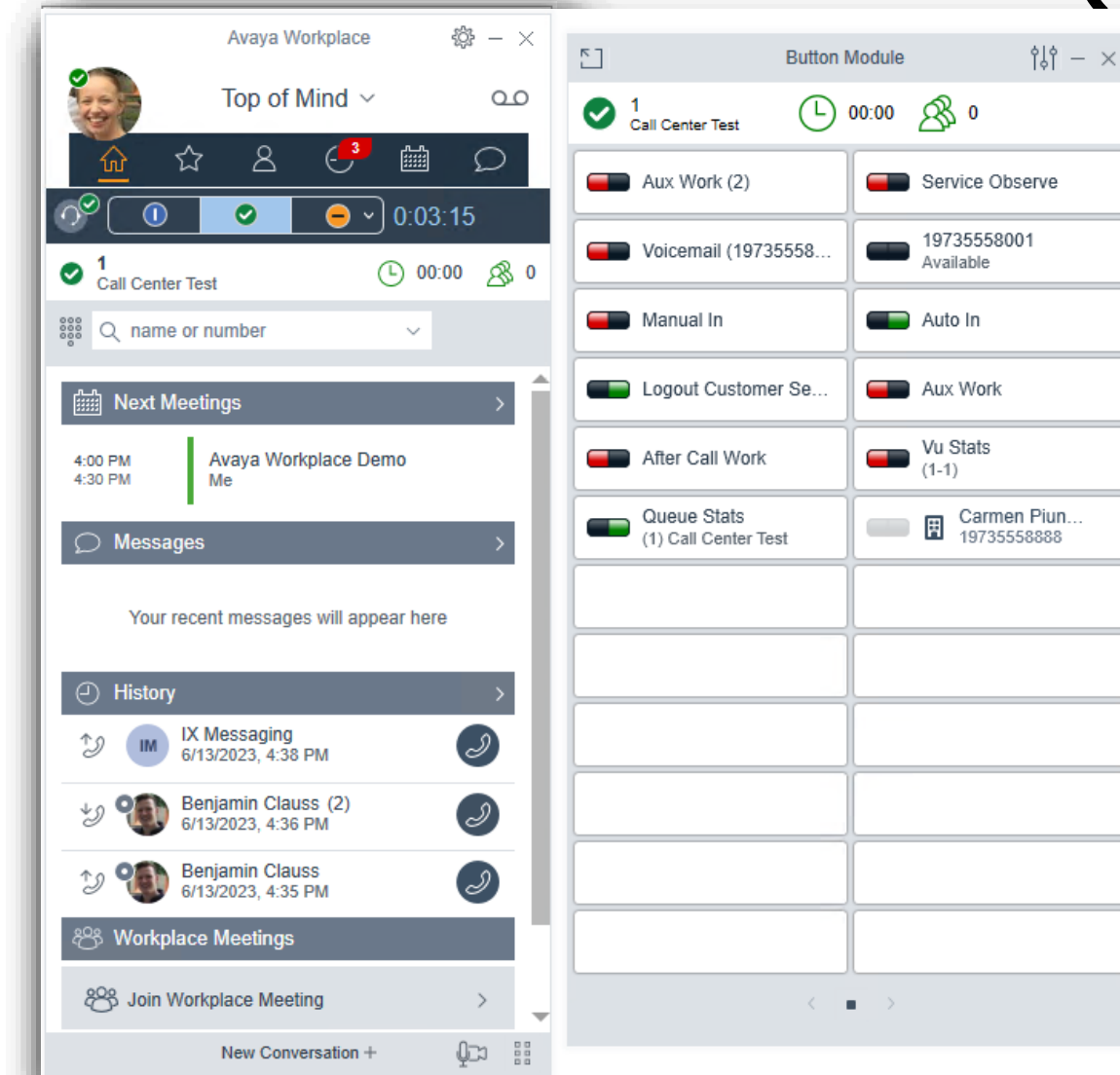
ConvergeOne Presentations at Avaya Engage 2023

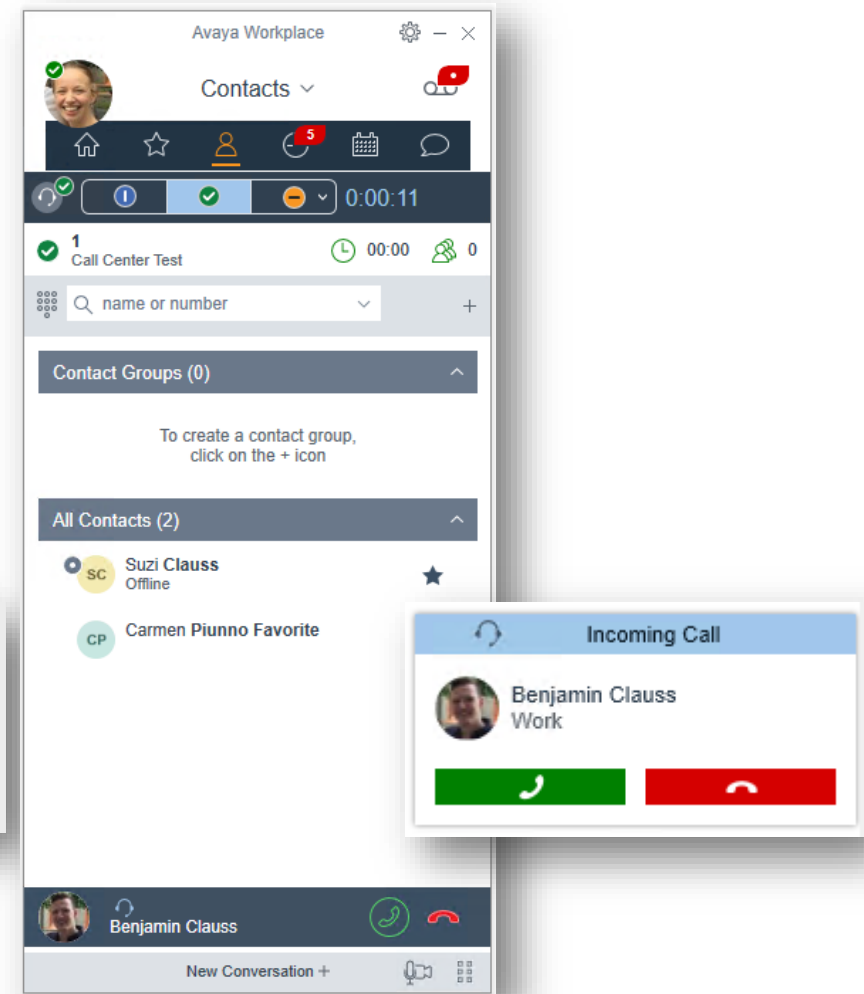
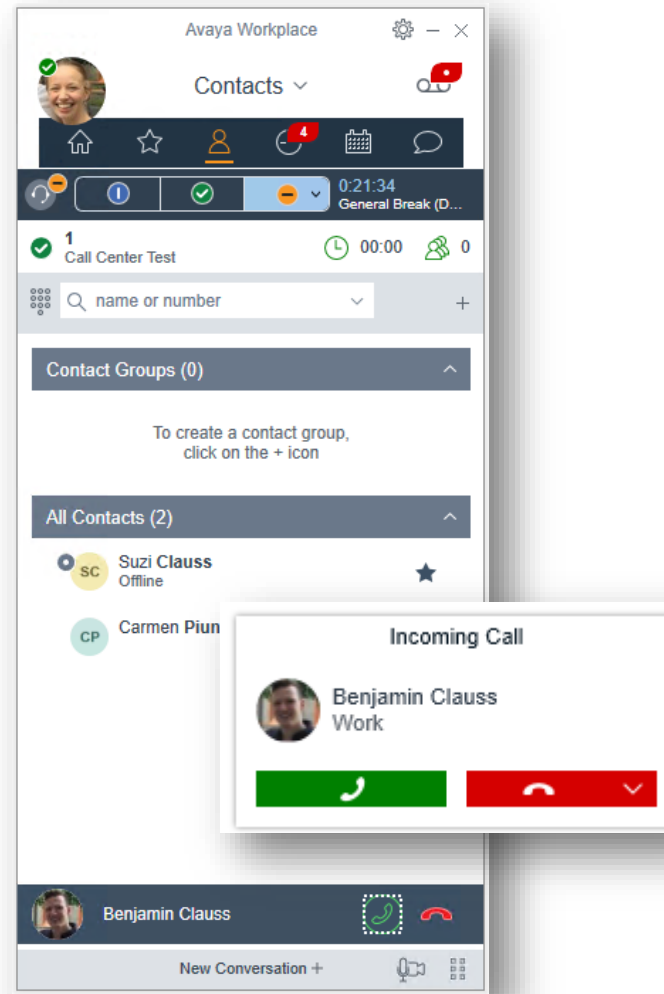
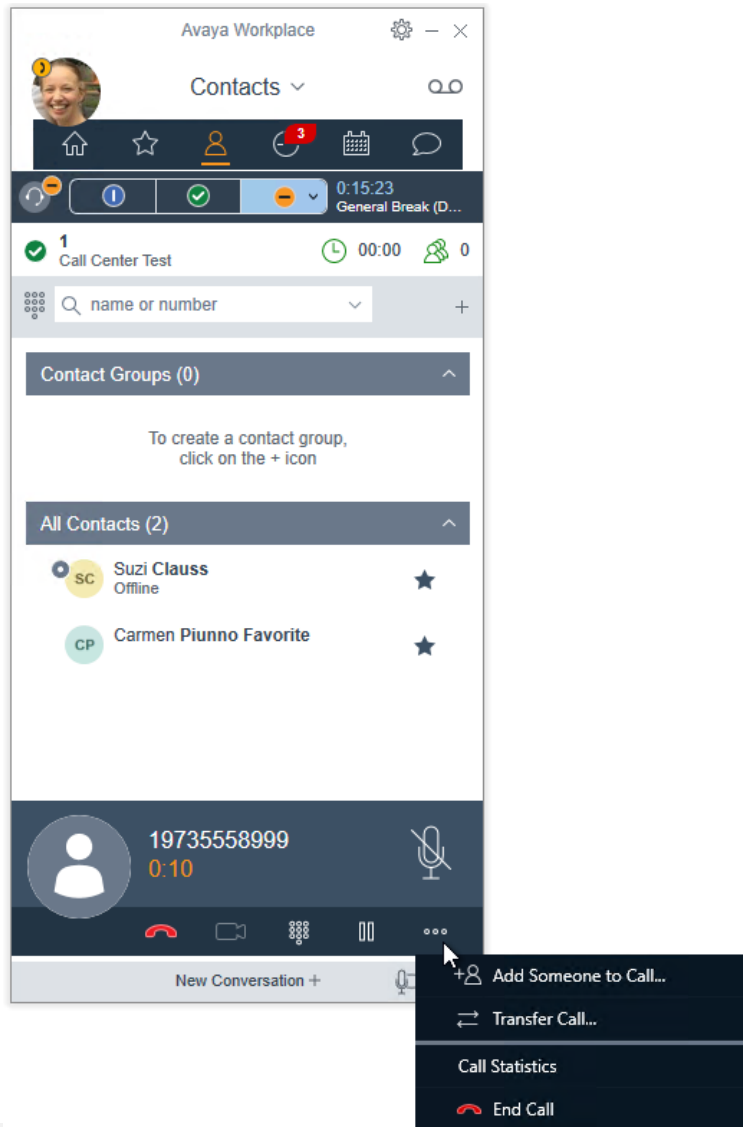
Presenter	Session	Date	Time
David Lover	Putting the Customer's Experience Back into Customer Experience	Monday 6/19	1:15-2:00
Chris Clauss	Hybrid Cloud- Adding Cloud Services to Your Enterprise PBX	Tuesday 6/20	10:15-11:00
Chris Clauss, David Lover	Password Management and SSO/SMAL for Remote Worker, 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

Workplace Drivers

- **Mobility**
 - Accessible anywhere, outside of secure enterprise network
 - SBCs enable app to server security using just username and password
- **Workplace works on**
 - Windows / IOS / Android (Chromebook)
 - MAC (but not for call center.

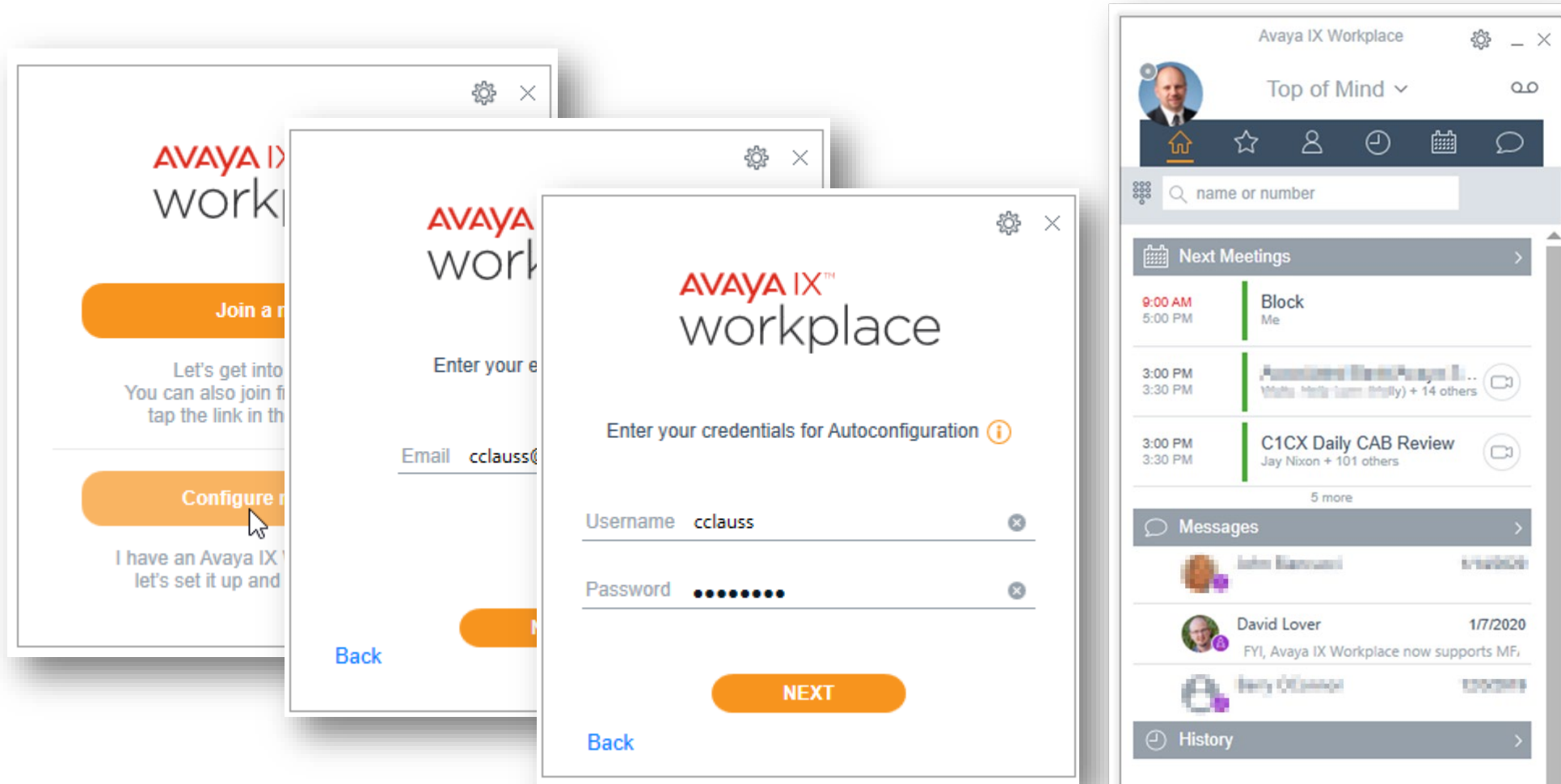
Workplace for UC Users and CC Users (demo?)





End user login / ease of configuration

No support needed to login! How?



Avaya Aura Device Services to the rescue!

Device services provides...

Single Sign on Support using LDAP or SAML Authentication

Dynamic Configuration of workplace clients, Agent for Desktop, and physical sets, matching users to customer LDAP and A/D groups to define features.

Provides enterprise directory services to soft clients.

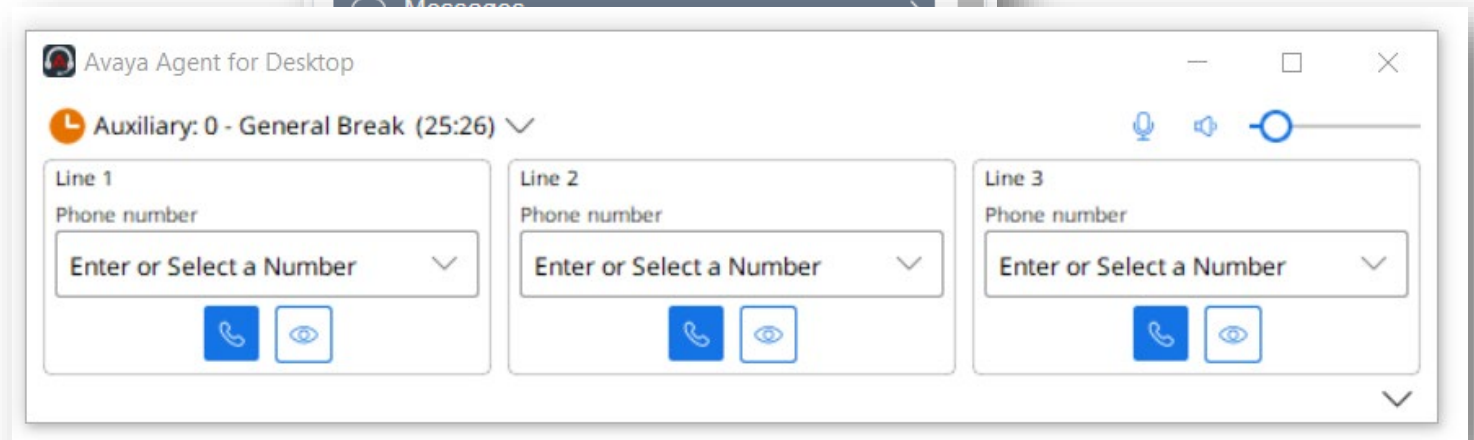
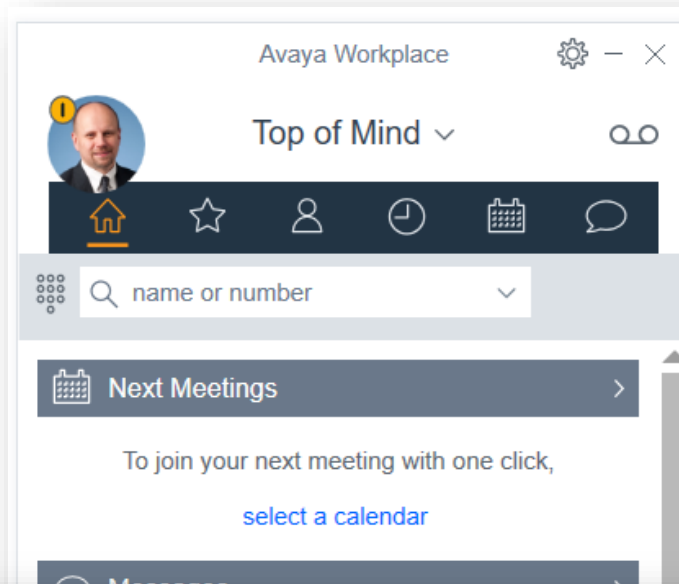
Administrators manage user configurations across the enterprise from a single pain of glass.

Synchronization of users between enterprise and Avaya Cloud services – Spaces.

What clients are supported by AADS?

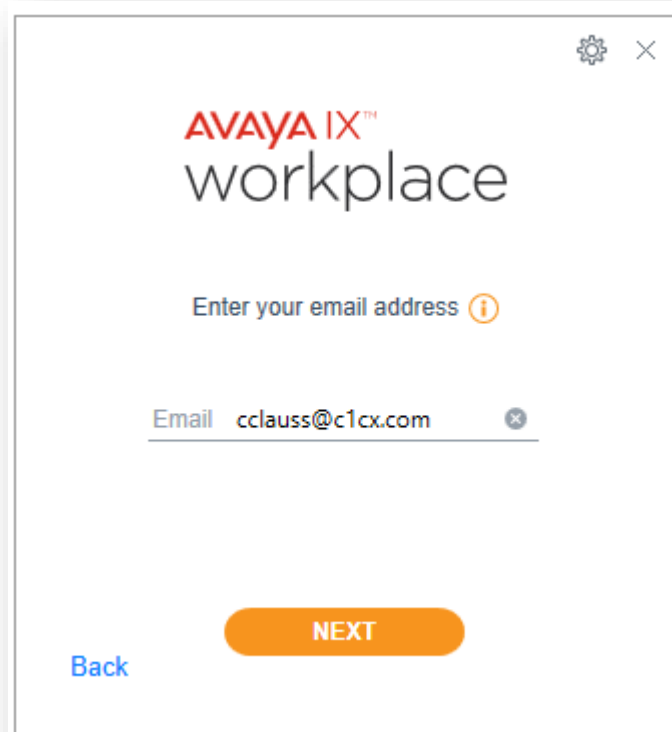
AADS send the config to the endpoint with SIP login

- Avaya Workplace
- Avaya Workplace (Call Center)
- Agent for Desktop
- J1XX physical endpoints



How do clients find AADS? DNS!

For autoconfiguration to work, the client needs to be able to find configuration servers based on DNS.



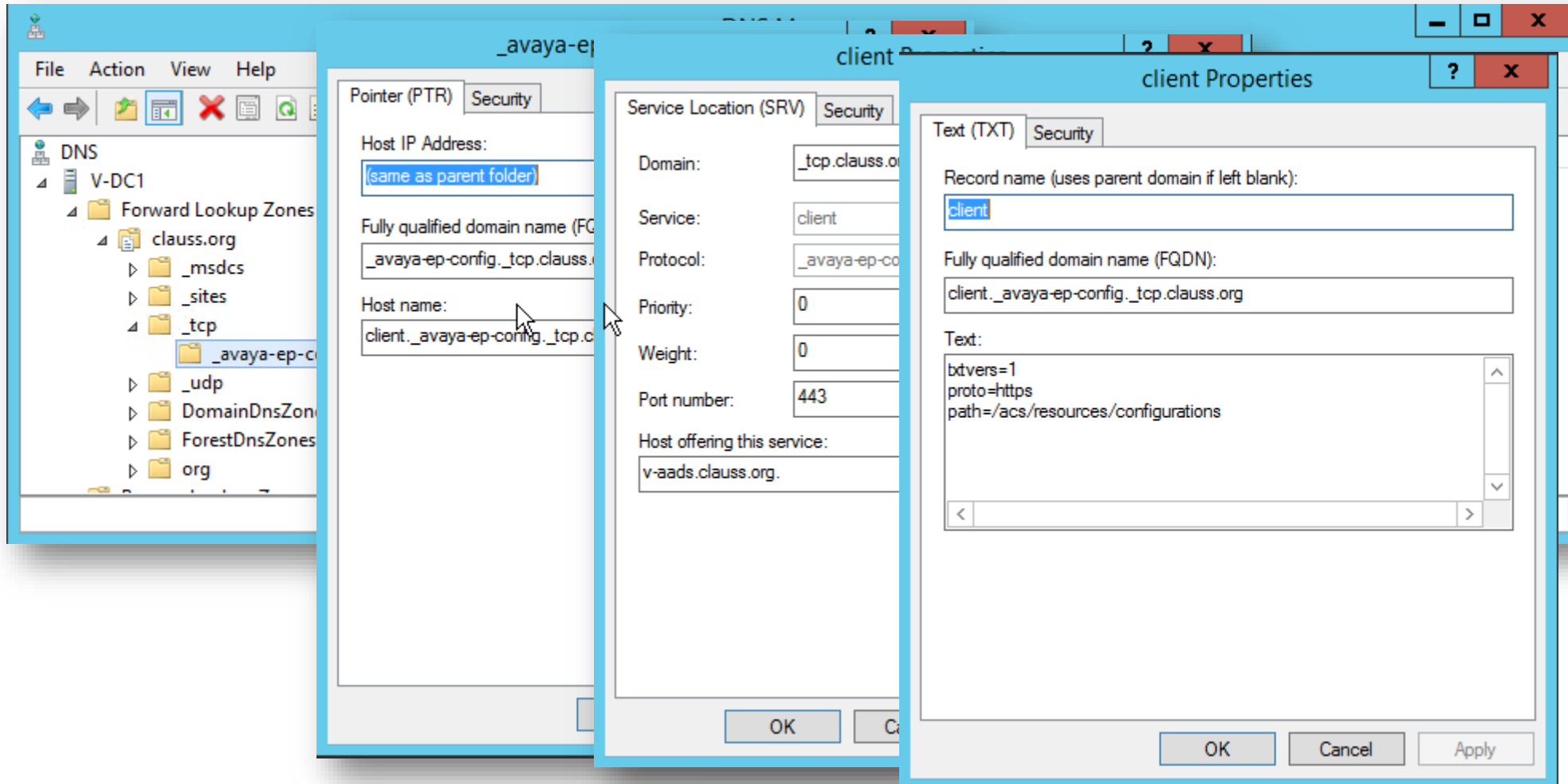
When the user enters their email address, client looks up DNS domain name and pulls a special DNS pointer (PTR) record

Pointer in the form of
`_avaya-ep-config._tcp.company.com`

For example `_avaya-ep-config._tcp.c1cx.com`

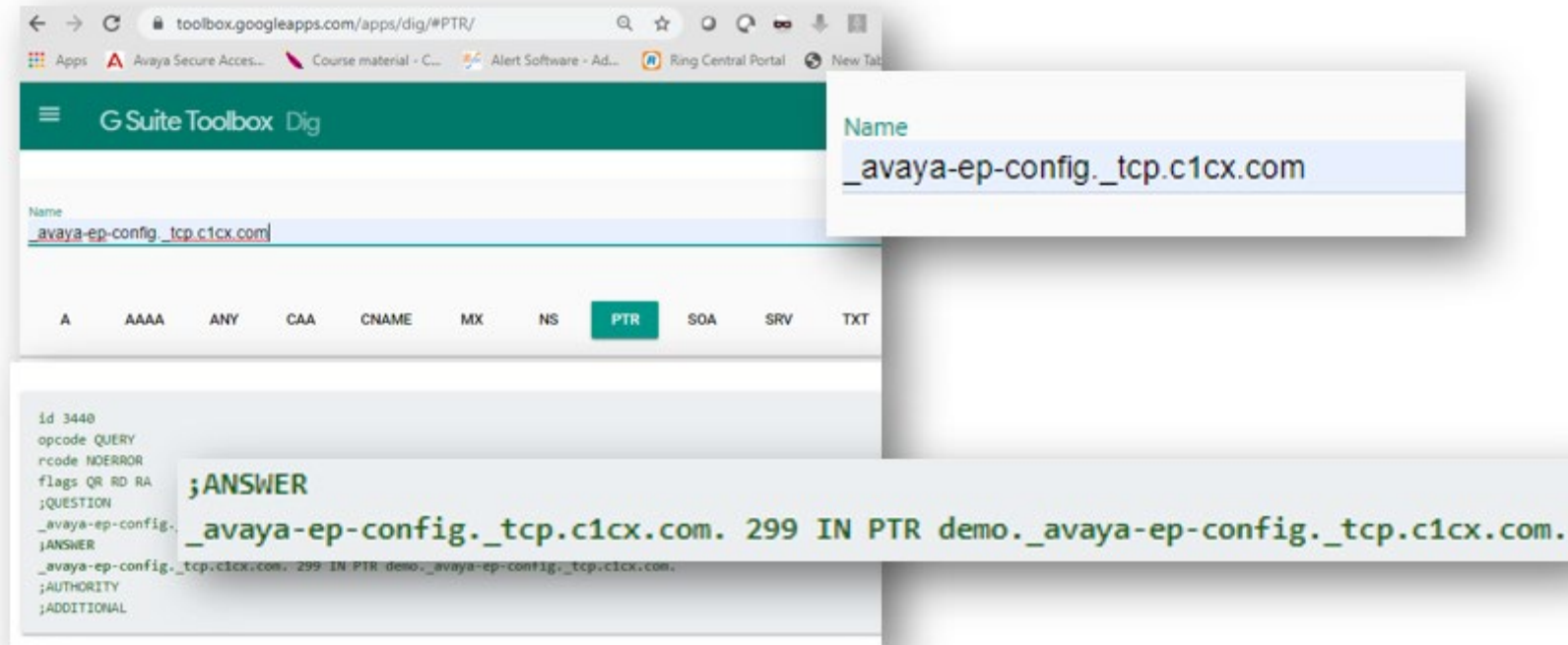
How do clients find AADS? DNS!

DNS Servers add information to find AADS



How do clients find AADS? DNS!

DNS DIG with G Suite Toolbox - <https://toolbox.googleapps.com/apps/dig/>



The screenshot shows the G Suite Toolbox Dig interface. The browser address bar displays `toolbox.googleapps.com/apps/dig/#PTR/`. The page title is "G Suite Toolbox Dig". The "Name" field contains `_avaya-ep-config._tcp.c1cx.com`. Below the field, there are tabs for different record types: A, AAAA, ANY, CAA, CNAME, MX, NS, PTR (selected), SOA, SRV, and TXT. The output area shows the following DNS query details:

```

id 3440
opcode QUERY
rcode NOERROR
flags QR RD RA
;QUESTION
_avaya-ep-config._tcp.c1cx.com.
;ANSWER
_avaya-ep-config._tcp.c1cx.com. 299 IN PTR demo._avaya-ep-config._tcp.c1cx.com.
;ANSWER
_avaya-ep-config._tcp.c1cx.com. 299 IN PTR demo._avaya-ep-config._tcp.c1cx.com.
;AUTHORITY
;ADDITIONAL
  
```

How do clients find AADS? DNS!

- If a record exists, the client will connect to the AADS server specified by the record.
- If multiple records exist, the client will be presented with a list of configuration servers – for example, USA / EMEA / APAC

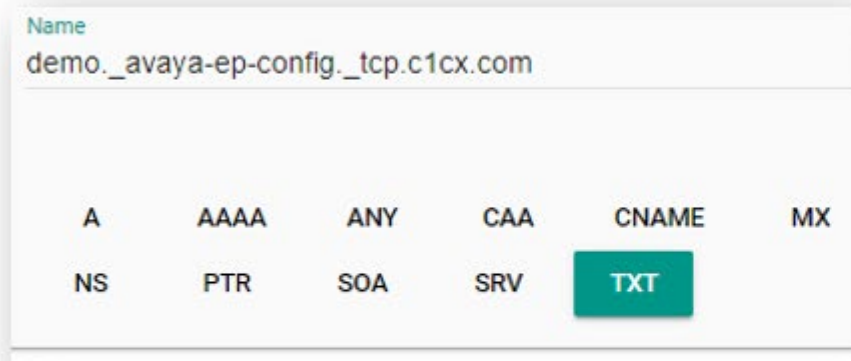
Client will then resolve the PTR record to Server Record (SRV) in DNS with port information

Name					
demo._avaya-ep-config._tcp.c1cx.com					
A	AAAA	ANY	CAA	CNAME	MX
NS	PTR	SOA	SRV	TXT	

```
;ANSWER
demo._avaya-ep-config._tcp.c1cx.com. 299 IN SRV 0 0 443 46xxdemo.c1cx.com.
```

How do clients find AADS? DNS!

- Client then will query DNS TXT record to obtain the path for configuration.



```
;ANSWER
demo._avaya-ep-config_tcp.c1cx.com. 299 IN TXT "txtvers=1" "proto=https" "path=/acs/resources/configurations"
```

Note – if customer has many email domains, several PTR records can point to the same TXT record.

Client will then put it all together to find the configuration file
<https://46xxdemo.c1cx.com:443/acs/resources/configurations>

Authentication

Who do we authenticate to?

- LDAP providers (generally MS Active Directory)
Lightweight Directory Access Protocol
- SAML providers (MS Azure / ADFD / Okta / etc.)
Security Assertion Markup Language



LDAP Authentication

Pros / Cons

- LDAP is great for on-prem authentication.
- Simple query against LDAP to validate login.
- Very easy to implement with compatibility across many applications.
- Applications pass logins / passwords to LDAP for authentication.
- Problem – the application knows the login / password?!?



SAML Authentication

Pros / Cons

- Designed for cloud.
- Logins are redirected to a trusted SAML identity provider via an external app (usually a web browser).
- Application never knows login / password.
- Provider sends a token back to application. The token indicates if login was successful and how long it is valid.
- Implies that trust must be configured between the application and the identity provider. Difficult to implement?!?



SAML Easily supports MFA (Multi Factor Authentication)

- Extends security beyond password.

Something you know...

- Your Login and Password

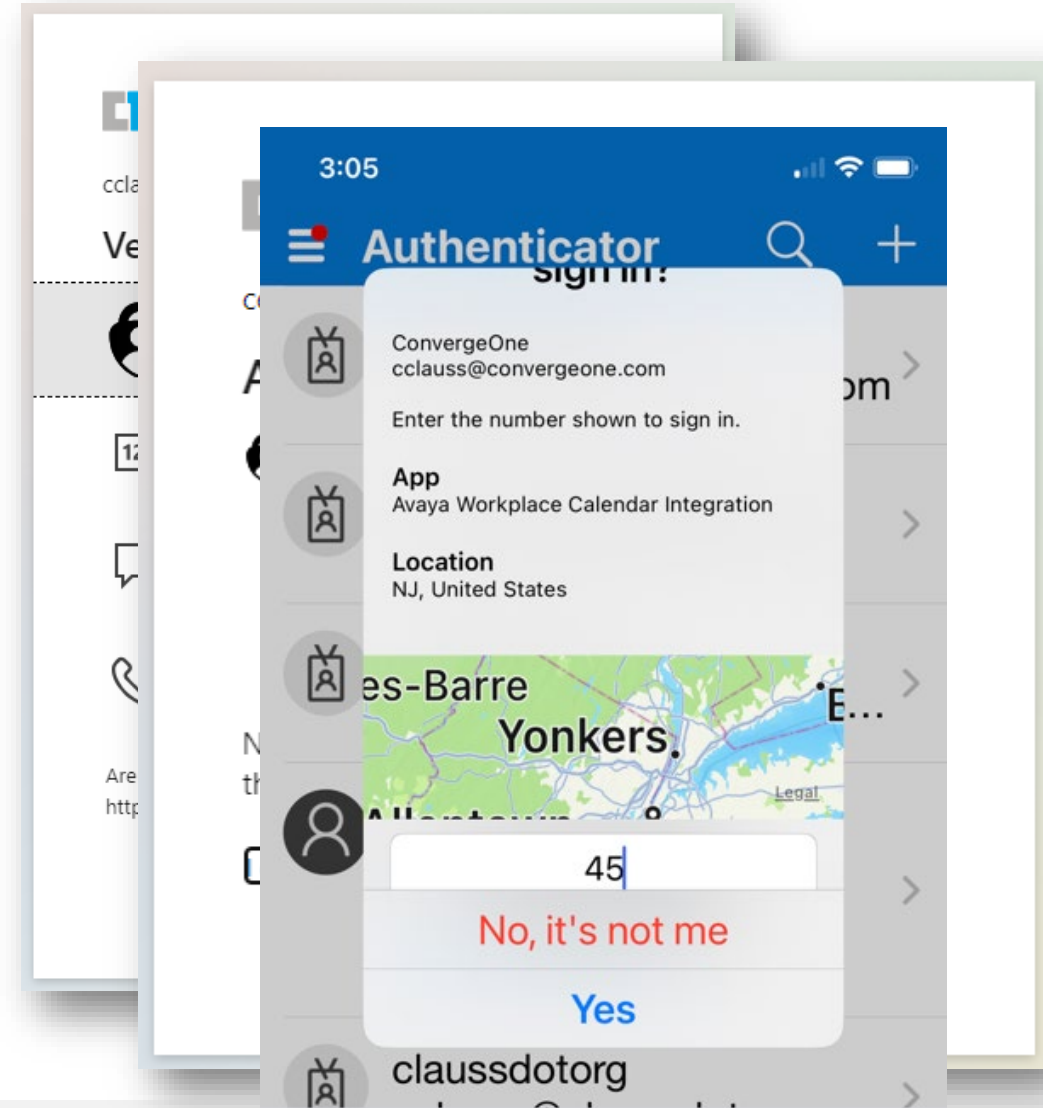
Something you have

- A cell phone app or token ID card

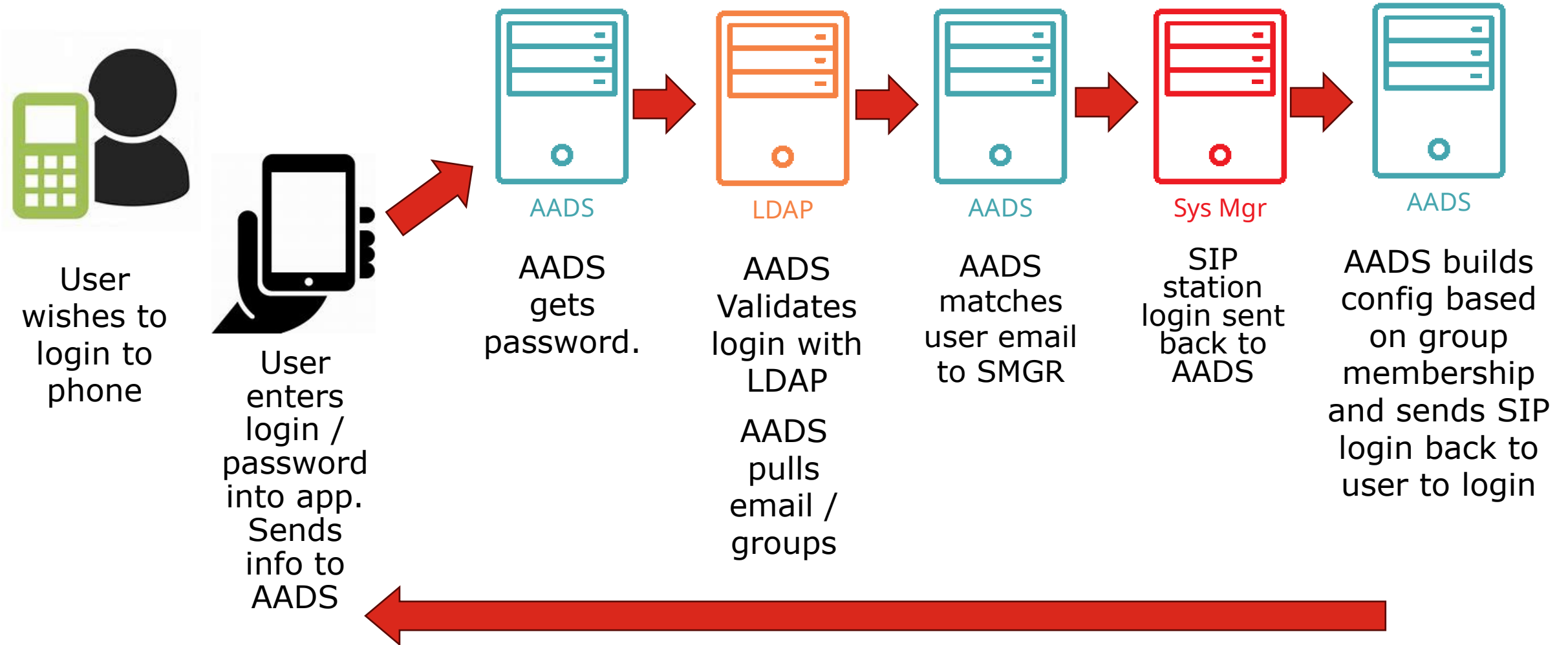
Something you are

- Face recognition on a cell phone

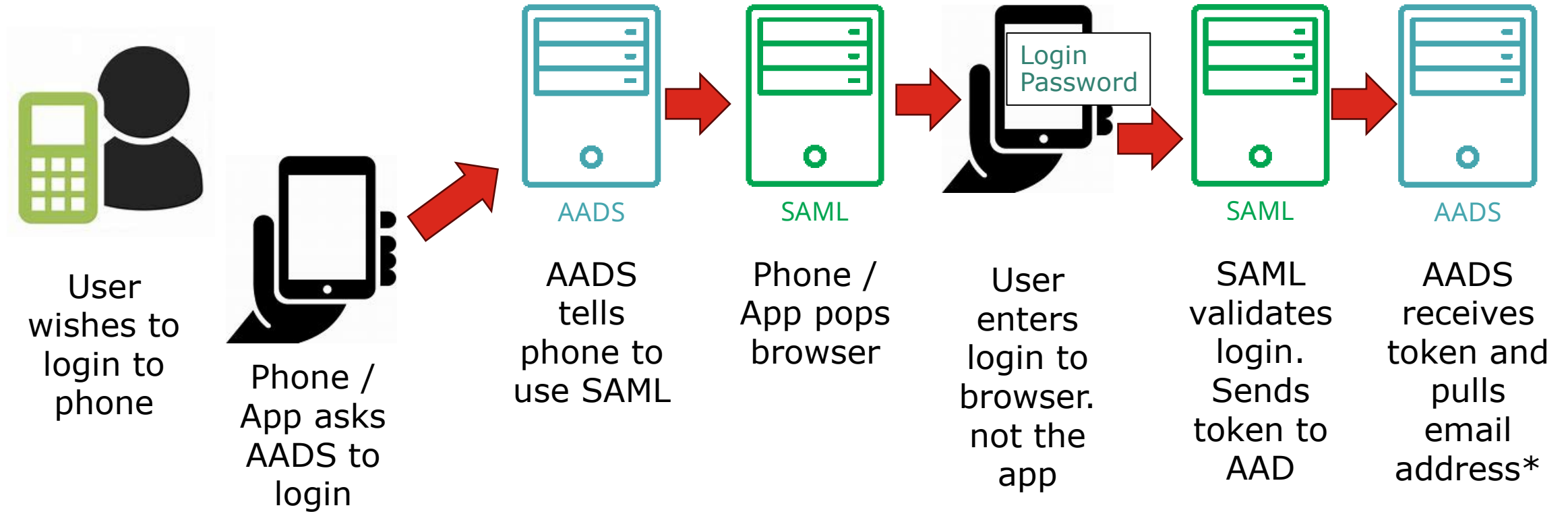
Successful login will send a token to AADS to validate the login.



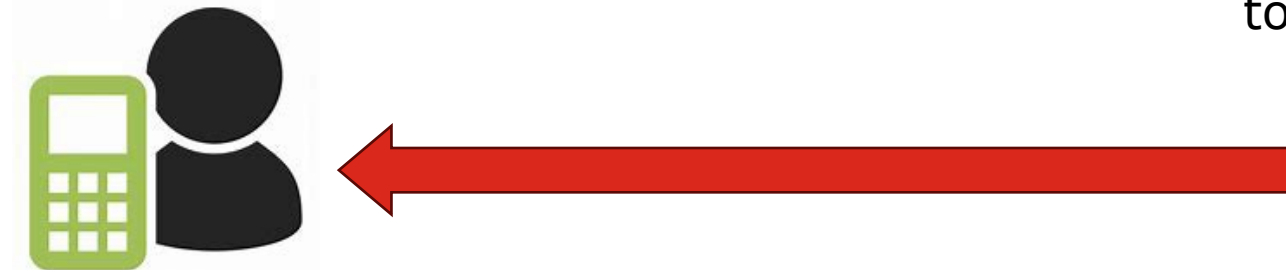
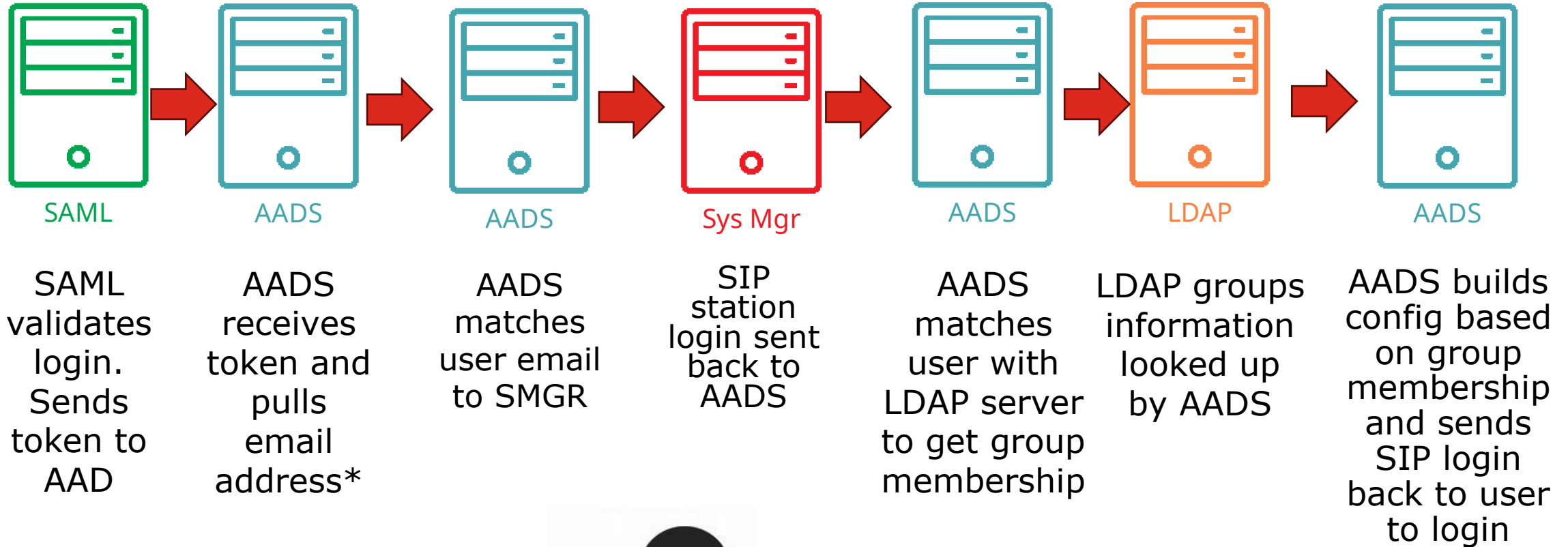
So now that we know where AADS is, how do we sign on?



Single Sign On - SAML



Single Sign On – SAML - Continued



Last step is that AADS finds the user in System Manager

The screenshot displays the Avaya Aura System Manager 10.1 interface. The top navigation bar includes the Avaya logo, navigation menus for Users, Elements, Services, Widgets, and Shortcuts, a search bar, and a user profile indicator (admin). The main content area is titled 'User Management' and shows the 'Manage Users' sub-section. The current view is the 'User Profile | Edit | cclauss@clauss.org' page. The 'Basic Info' tab is selected, showing the following fields:

- User Provisioning Rule: Staff
- Last Name: Clauss
- First Name: Chris
- Login Name: cclauss@clauss.org

A red arrow points to the 'First Name' field. Other fields like 'Last Name (in Latin alphabet characters)', 'First Name (in Latin alphabet characters)', and 'Middle Name' are also visible but not highlighted.

AADS uses this information to build a config...

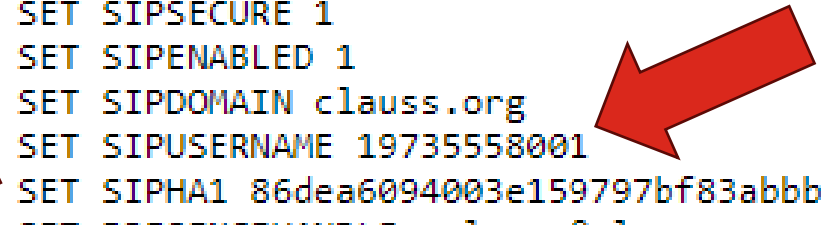
AADS grabs the SIP login, encrypts it, checks the group memberships, then builds a custom config (46xxsettings) file and sends it to the endpoint.

```

## File Generation Notes
## Avaya Dynamic Configuration Service does not recognize User-Agent - Moz
Chrome/114.0.0.0 Safari/537.36

SET SIP_CONTROLLER_LIST "172.30.0.133:5061;transport=TLS,172.30.0.133:5060
SET SIPPROXYSRVR 172.30.0.133
SET SIPPOR 5061
SET SIPSECURE 1
SET SIPENABLED 1
SET SIPDOMAIN clauss.org
SET SIPUSERNAME 19735558001
SET SIPHA1 86dea6094003e159797bf83abbb6161a
SET PRESENCEHANDLE cclauss@clauss.org
SET H323_SIGNALING H323
SET ADMIN_PASSWORD password
SET ENABLE_TUTORIAL 0
SET DIRTIMEOUT 100

```



AADS Dynamic Configuration Example (Demo?)

Search Criteria

Configuration: Platform:

User: Platform:

Group: i Please type 5 characters to start the search or hit ENTER button to test the group name Platform:

Phone Model:

Settings

Display settings per page Search:

The group specific settings. These LDAP groups will be ordered alphabetically. Please note they can be overridden by User, Platform, Exception and System Manager settings

Include	Category	Setting	Value
<input checked="" type="checkbox"/>		i ACSENABLED	1
<input checked="" type="checkbox"/>		i ACSPORT	8443
<input checked="" type="checkbox"/>		i ACSSECURE	1
<input checked="" type="checkbox"/>		i ACSSVR	v-aads.clauss.org
<input checked="" type="checkbox"/>		i ACSSSO	1
<input checked="" type="checkbox"/>		i ACTIVE_CSDK_BASED_PHONE_APP	com.avaya.android.flare
<input checked="" type="checkbox"/>		i APPCAST_CHECK_INTERVAL	1
<input checked="" type="checkbox"/>		i APPCAST_ENABLED	1
<input checked="" type="checkbox"/>		i APPCAST_URL	https://v-aads.clauss.org:8443/acs/resources/webdeployment
<input checked="" type="checkbox"/>		i APPLICATION_AUTO_START	0
<input checked="" type="checkbox"/>		i APPLICATION_CLOSE_WINDOW	1

Add all the lines needed for config...

```
SET SIP_CONTROLLER_LIST 172.30.0.133:5061;transport=tls
SET SIPDOMAIN clauss.org
SET SIPPORT 5061
SET TRUSTCERTS http://172.30.0.140/smgr.crt
SET ACSENABLED 1
SET ACSSRVR v-aads.clauss.org
SET ACSSSO 1
SET APPLICATION_AUTO_START 0
SET APPLICATION_CLOSE_WINDOW 1
SET AVAYA_CLOUD_SPACES_URI spaces.avayacloud.com
SET CELLULAR_DIRECT_ENABLED 1
SET CELLULAR_DIRECT_NUMBER_LIST 911
SET DIALPLANAREACODE ""
SET DIALPLANEXTENSIONLENGTHLIST 11
SET DIALPLANLOCALCALLPREFIX 0
SET DIALPLANNATIONALPHONENUMLENGTHLIST 10
SET ENABLE_VIDEO 1
SET ENHDIALSTAT 1
SET EWSDOMAIN clauss.org
SET EWSENABLED 0
SET FORCE_LOGOUT_AFTER 0
SET LICENSE_SERVER_URL https://v-smgr.clauss.org:52233/WebLM/LicenseServer
SET OBSCURE_PREFERENCES ""
SET PHNCC 1
SET PHNDPLENGTH 11
```

This is an example –
your system will be
different and have
other options

Then publish to AADS selecting LDAP/AD Group

Configuration

This page can be used to perform following actions:

- create new configuration that can be published to a user, a group, a platform, exceptions, phone model or all users/devices;
- import an existing configuration from 46xxsettings file
- view, edit and delete an existing configuration;
- test configuration settings;
- publish the configuration settings to a user, a group, a platform, exceptions, phone model or all users/devices;
- retrieve published settings categories by User, Group or Phone model search criteria;

Search Criteria

- Configuration
- User
- Group
- Phone Model

Settings

Global **Group**

Display 50 settings

The group specific settings. These LDAP groups will be ordered alphabetically. Please note they can be overridden by User, Platform, Exception and System Manager settings

Include	Category	Setting	Value
<input checked="" type="checkbox"/>		ENABLE_BUTTON_MODULE	1
<input checked="" type="checkbox"/>		AGTGREETINGSTAT	1

Publish/Delete Settings

User settings will be applied to user:

Group settings will be applied to group:

- Pick up an exact group from dropdown list
- AADS-Admin [CN=AADS-Admin,CN=Users,DC=clauss,DC=org]
- AADS-Call Center [CN=AADS-Call Center,CN=Users,DC=clauss,DC=org]
- AADS-Lab [CN=AADS-Lab,CN=Users,DC=clauss,DC=org]
- AADS-Spa [CN=AADS-Spaces,CN=Users,DC=clauss,DC=org]
- AADS-User [CN=AADS-User,CN=Users,DC=clauss,DC=org]
- J1XX

Platform settings will be applied to:

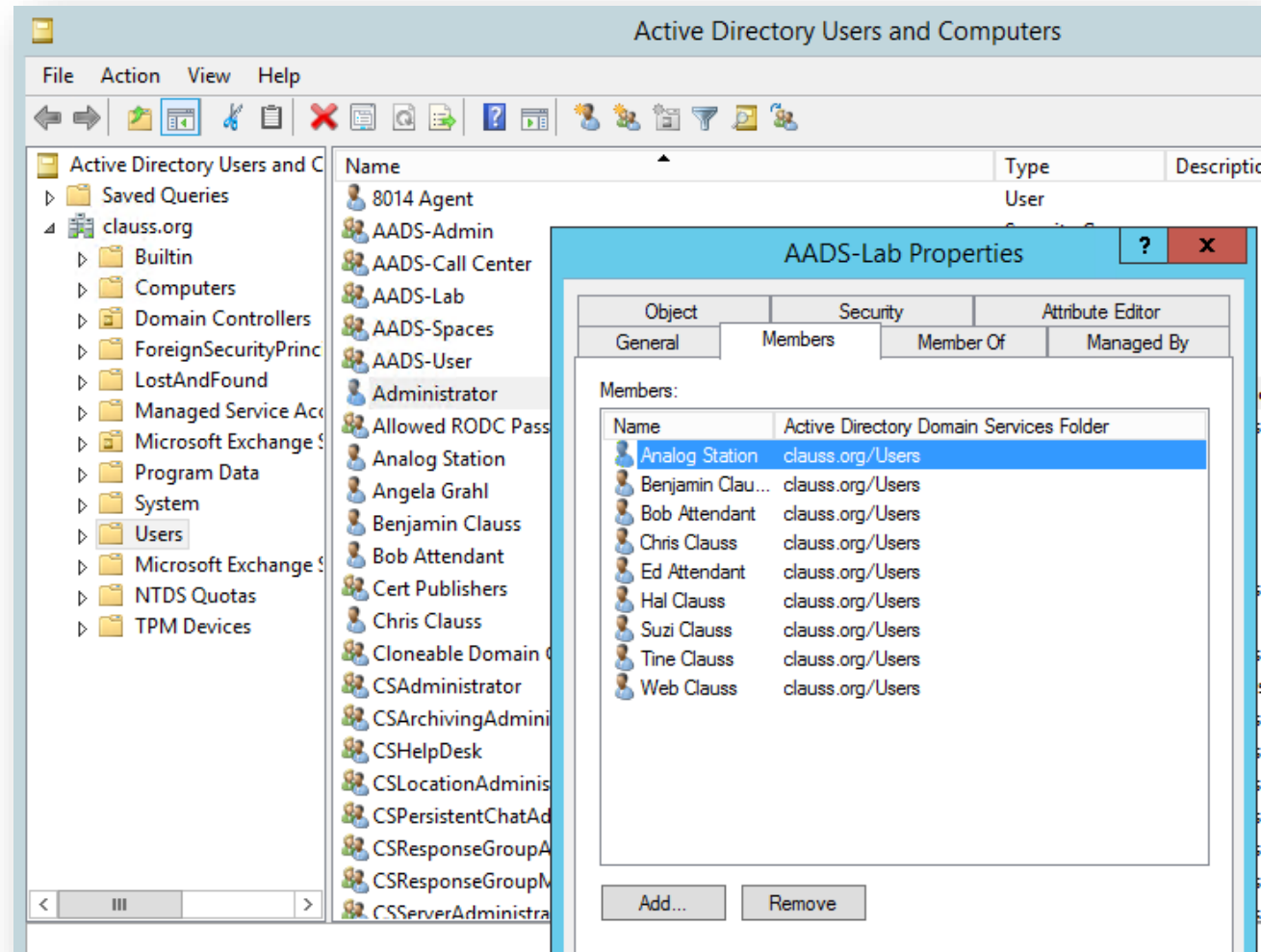
Exceptions will be applied to:

Global settings will be applied to all users/devices

Phone model settings will be applied to:

Publish Cancel

Add users to LDAP / Active Directory



Adding settings for Workplace Agent

```
SET SIP_CONTROLLER_LIST 172.30.0.133:5061;transport=tls
SET SIPDOMAIN clauss.org
SET SIPPORT 5061
SET TRUSTCERTS http://172.30.0.140/smgr.crt
SET ACSENABLED 1
```

```
SET AGENT_ENABLED 1
SET AGENT_ENABLED_WINDOWS 1
SET AGENT_SKILLS 1
SET AGENTGREETINGSTAT 1
SET AGTGREETINGSTAT 1
SET AUTO_LOGIN_AGENT 1
SET AUX_REASON_CODES "0:General Break,1:Coffee Break,2:Tea Break,3:Snack Break,4:Lunch code,5:Meeting,6:Demo"
```

```
SET DIALPLANNATIONALPHONENUMLENGTHLIST 10
SET ENABLE_VIDEO 1
SET ENHDIALSTAT 1
SET EWSDOMAIN clauss.org
SET EWSENABLED 0
SET FORCE_LOGOUT_AFTER 0
SET LICENSE_SERVER_URL https://v-smgr.clauss.org:52233/WebLM/LicenseServer
SET OBSCURE_PREFERENCES ""
SET PHNCC 1
SET PHNDPLENGTH 11
```

This is an example –
your system will be
different and have
other options

Publish Agent Settings to a different LDAP / AD Group

Configuration

This page can be used to perform following actions:

- create new configuration that can be published to a user, a group, a platform, exceptions, phone model or all users/devices;
- import an existing configuration from 46xxsettings file
- view, edit and delete an existing configuration;
- test configuration settings;
- publish the configuration settings to a user, a group, a platform, exceptions, phone model or all users/devices;
- retrieve published settings categories by User, Group or Phone model search criteria;

Search Criteria

- Configuration
- User
- Group
- Phone Model

Settings

Global **Group**

Display 50 settings

The group specific settings. These LDAP groups will be ordered alphabetically. Please note they can be overridden by User, Platform, Exception and System Manager settings

Include	Category	Setting	Value
<input checked="" type="checkbox"/>		ENABLE_BUTTON_MODULE	1
<input checked="" type="checkbox"/>		AGTGREETINGSTAT	1
<input checked="" type="checkbox"/>		ACSEENABLED	1

Publish/Delete Settings

User settings will be applied to user:

Group settings will be applied to group: Pick up an exact group from dropdown list

Platform settings will be applied to:

Exceptions will be applied to:

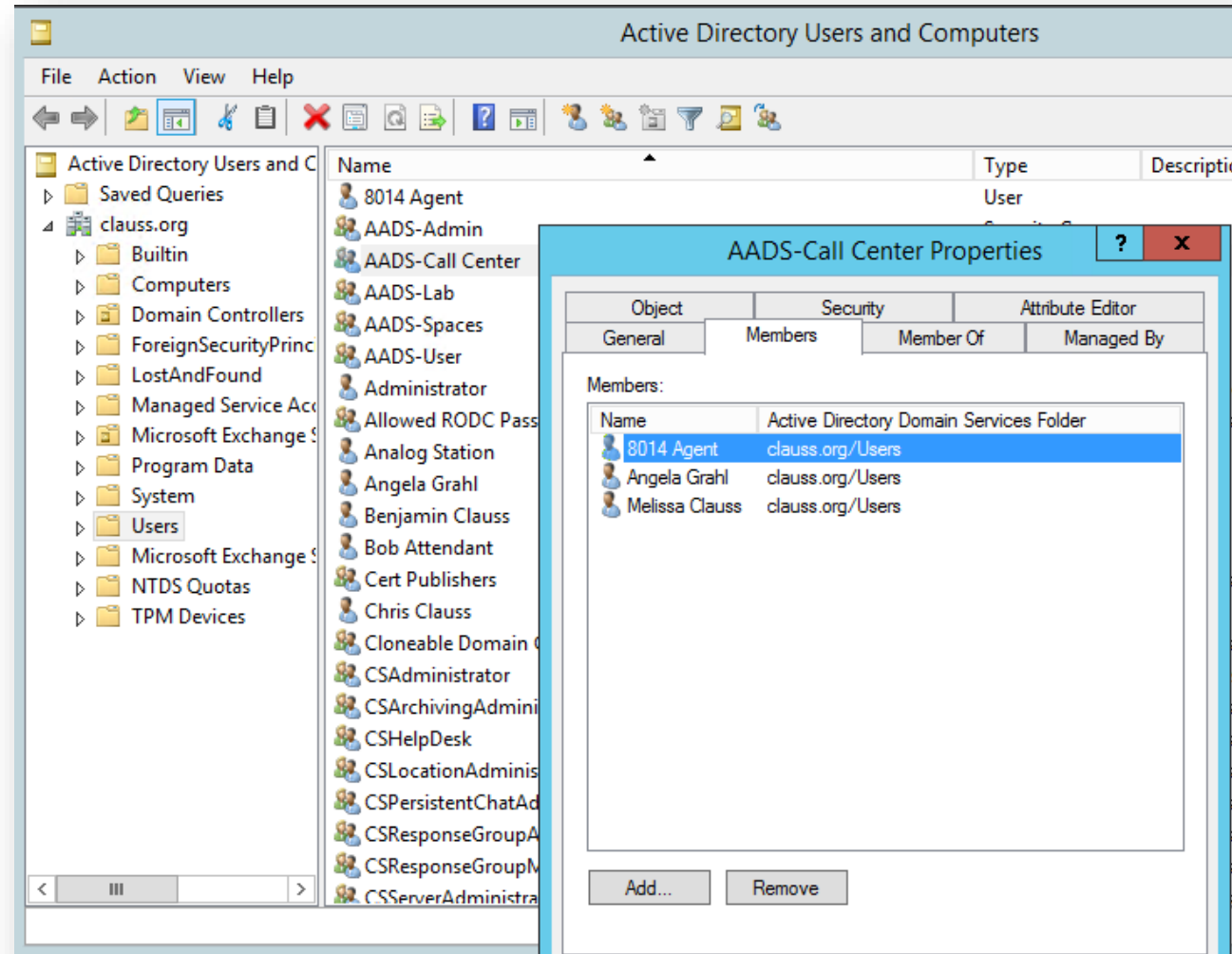
Global settings will be applied to all users/devices

Phone model settings will be applied to:

- AADS-Admin [CN=AADS-Admin,CN=Users,DC=clauss,DC=org]
- AADS-Call Center [CN=AADS-Call Center,CN=Users,DC=clauss,DC=org]
- AADS-Lab [CN=AADS-Lab,CN=Users,DC=clauss,DC=org]
- AADS-Spaces [CN=AADS-Spaces,CN=Users,DC=clauss,DC=org]
- AADS-User [CN=AADS-User,CN=Users,DC=clauss,DC=org]

J1XX

Add Agents to a different LDAP / AD Group



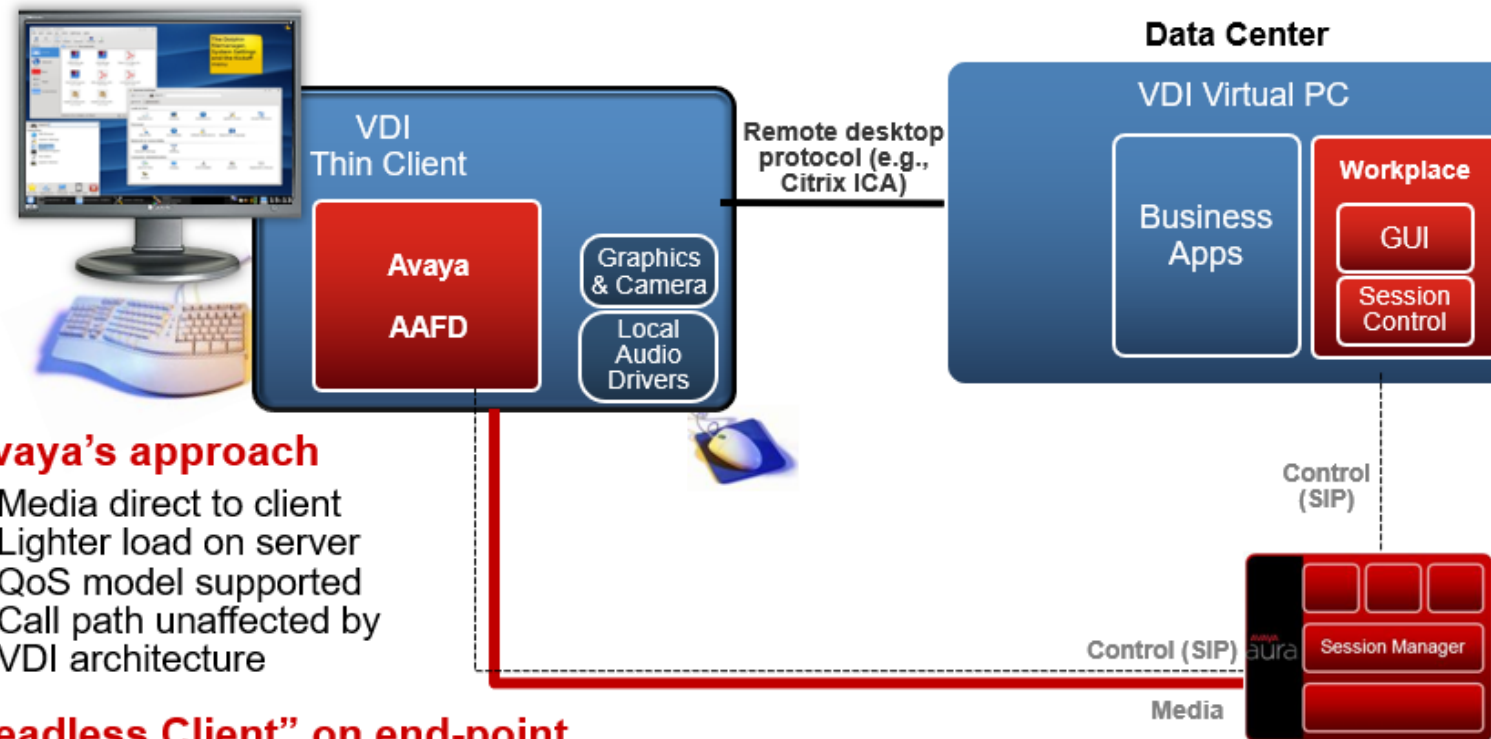
Deploying in VDI

For VDI deployments 2 instances of Workplace are installed.

First instance on local machine that is used to connect to VDI
Second instance within VDI session that the agent use.

The VDI instance remotely controls the local instance.

Deploying in VDI



Avaya's approach

- Media direct to client
- Lighter load on server
- QoS model supported
- Call path unaffected by VDI architecture

"Headless Client" on end-point

- Media terminated locally
- "Remote Control" of Real Time app is extended to 'local client' on the VDI end point
- Session Down UI for loss of connection scenarios

Deploying in VDI

Install Avaya Workplace Client with proper options

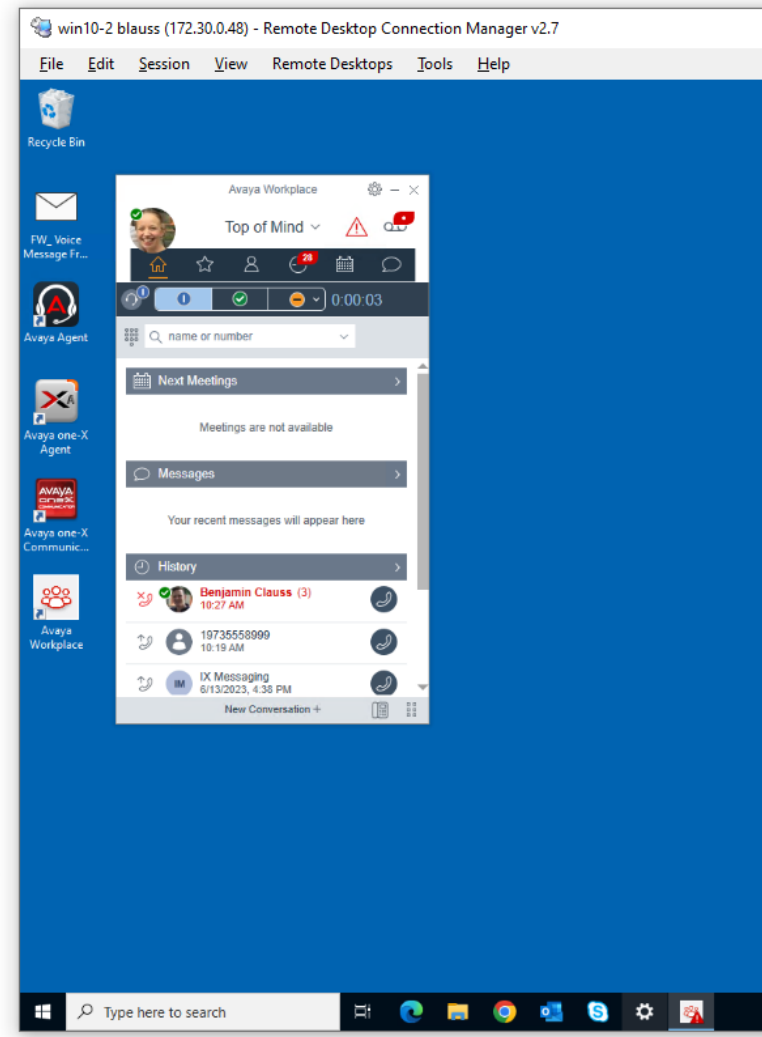
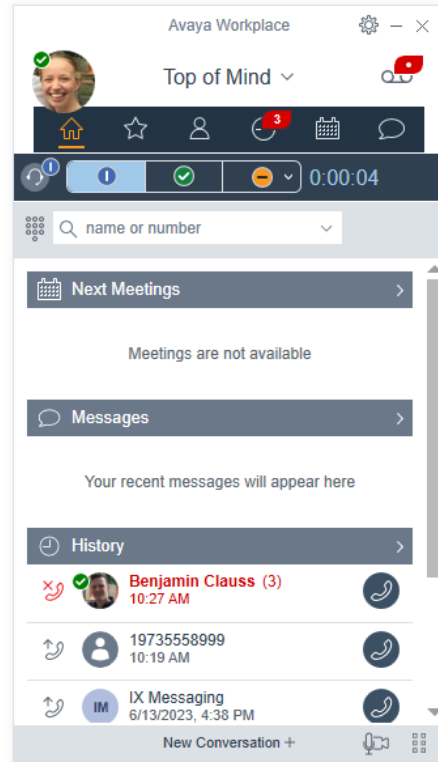
In the VDI Session (as a controlling client)

```
msiexec /i "Avaya Workplace Setup.msi" VDIENV=1
```

On the local computer (controlled client)

```
msiexec /i "Avaya Workplace Setup.msi" VDICONTROLLEDEP=1
```

VDI Control



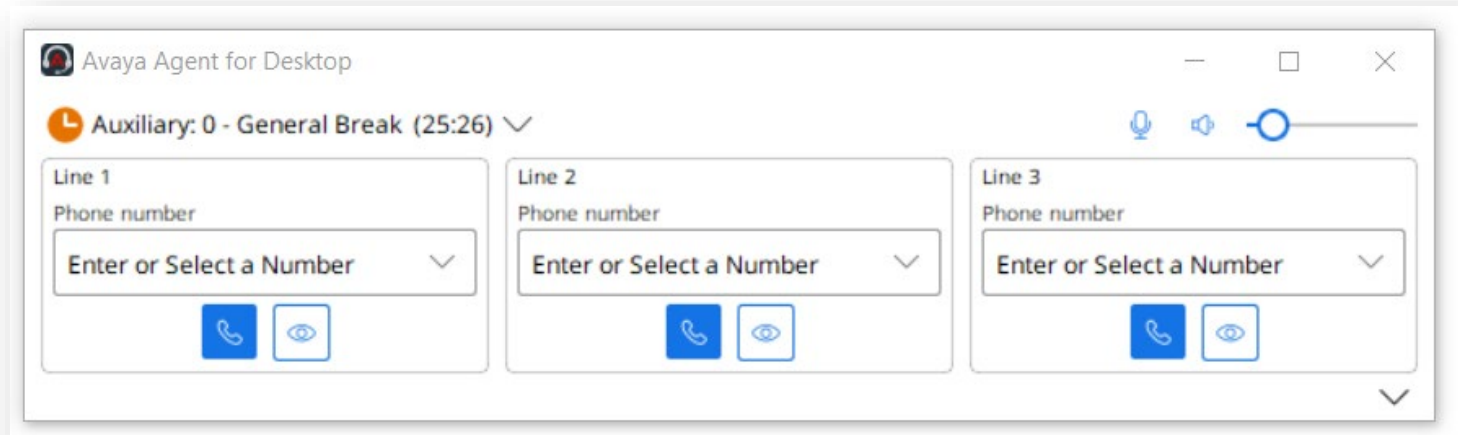
A quick note about Agent for Desktop

Agent for Desktop is an alternative to Workplace for Call Center

Configured using AADS / Supports Single Sign on / Supports VDI

Runs on Windows / MAC / Linux Thin Clients

If using VDI with Linux based thin clients, use Agent for Desktop as the “local” client



A quick not about licensing

Workplace with Call Center Features and Agent for Desktop require a license. The applications check for licensing on startup.

System Manager is not supported as the licensing server. A standalone WebLM must be used.

As an alternative, a license token based on the customer SIP domain can be requested from Avaya and added to the AADS config to avoid the need for a license server. Great for remote workers to avoid putting a license server on public web.

```
SET ALTERNATE_LICENSE_KEY "0864cecf41a4b1077454a...3b17ef2c21,5"
```

Questions / Comments / Applause / Boos...



What's the best way for you to get help with Workplace?

Find the best partner – here at the show!

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



Chris Clauss

cclauss@convergeone.com

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AT a time!



THANK

• **YOU**