

What You Make Possible



Understanding How to Deploy Multi-Party Video

BRKEVT-2663

Agenda

- Cisco TelePresence Architecture Overview
- Alternative Conference Types
- Cisco Multipoint Platform Deep-dive
- Deploying Conferencing

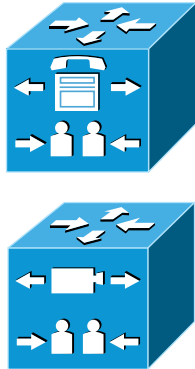
Agenda

- **Cisco TelePresence Architecture Overview**
- Alternative Conference Types
- Cisco Multipoint Platform Deep-dive
- Deploying Conferencing

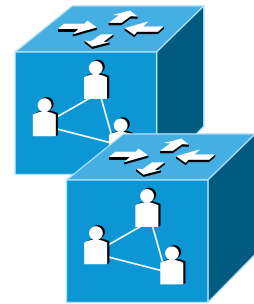
TelePresence Architecture Overview

Campus

Call Control



Conferencing



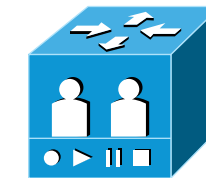
Scheduling and Management



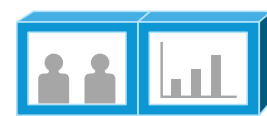
Monitoring



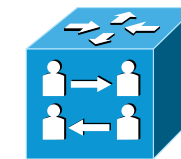
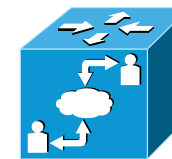
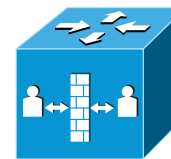
Recording and Streaming



Endpoints



B2B and Gateways

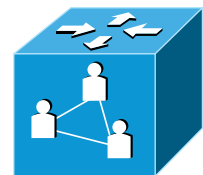


Branch

Endpoints



Conferencing



WAN

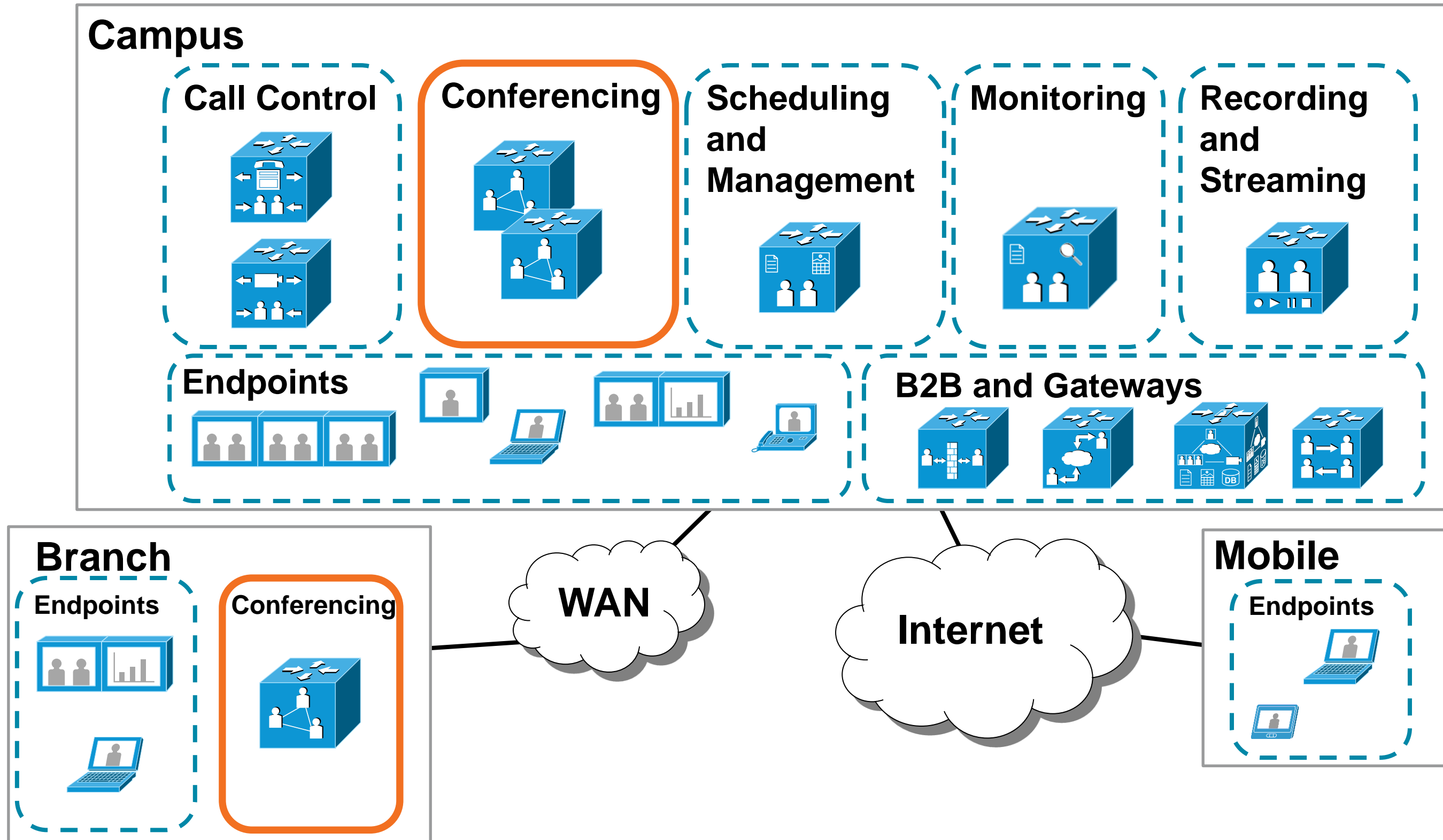
Internet

Mobile

Endpoints



TelePresence Architecture Overview



Cisco Multipoint Portfolio Overview



Cisco MCU 4200 Series

Cisco 4203
Cisco 4205
Cisco 4210
Cisco 4215
Cisco 4220



Cisco MCU 4500 Series

Cisco 4505
Cisco 4510
Cisco 4515
Cisco 4520



Cisco MCU 5300 Series

Cisco 5310
Cisco 5320



Cisco MSE 8000*

MSE 8420 SD MCU Blade
MSE 8510 HD MCU Blade
MSE 8710 TP Server Blade



Cisco 7010 TP Server



CTMS

Cisco
TelePresence
Multipoint
Switch

*MSE has more blades, we are only considering the multipoint enabled ones.

Cisco Multipoint Portfolio Overview

- Six role variations across the Cisco Multipoint family:
 - Standard Definition MCU's
 - High Definition MCU's
 - Stackable MCU's
 - Blade/Chassis MCU's
 - TelePresence Servers
 - Software Video Switch

Agenda

- Cisco TelePresence Architecture Overview
- **Alternative Conference Types**
- Cisco Multipoint Platform Deep-dive
- Deploying Conferencing

Alternative Conference Types

Ad-hoc Conferencing

- Impromptu meetings requiring user initiation
- Conference resources are requested and appropriated on the fly
- Typical examples:
 - CUCM Ad-hoc services;
 - Multiway on VCS; and
 - Auto-Attendant “Instant” meetings.

Alternative Conference Types

Rendezvous Conferencing

- Participants dial-in to predetermined multipoint conferences
- Conference parameters are preconfigured within multipoint resource pool.
- Typical examples:
 - Rendezvous meetings with Cisco TelePresence Conductor; and
 - Static conferences on Cisco TelePresence MCU.

Alternative Conference Types

Scheduled Conferencing

- Conference resources are pre-booked
- Resource availability is guaranteed for meetings
- Typical examples:
 - Direct conference scheduling from MCU web admin interface; and
 - Scheduling with TelePresence Management Suite

Agenda

- Cisco TelePresence Architecture Overview
- Alternative Conference Types
- **Cisco Multipoint Platform Deep-dive**
- Deploying Conferencing

Cisco Multipoint Platform Review

Cisco MCU 4200 Series

- **SD up to 480p30**
- Up to 40 video ports
- 50+ custom layouts
- Universal transcoding and transrating



Cisco Multipoint Platform Review

Cisco MCU 4200 Series

- Supports SIP and H.323
- Built in gatekeeper
- Built in streaming server
- Advanced Continuous Presence on all ports



Cisco Multipoint Platform Review

Cisco MCU 4500 Series



- **Full HD up to 1080p30**
- Up to 40 video ports
- 50+ custom layouts
- Universal transcoding and transrating

Cisco Multipoint Platform Review

Cisco MCU 4500 Series



- Supports SIP and H.323
- Built in gatekeeper
- Built in streaming server
- Advanced Continuous Presence on all ports

Cisco Multipoint Platform Review

Cisco MCU 5300 Series

- **Full HD up to 1080p30**
- **Stackable** MCU
- Up to 40 HD ports / Stack
- Up to 96 nHD ports / Stack



Cisco Multipoint Platform Review

Cisco MCU 5300 Series

- Supports SIP and H.323
- Advanced Continuous Presence on all ports
- 50+ custom layouts
- Universal transcoding and transrating



Cisco Multipoint Platform Review

Cisco TelePresence Server 7010



- Full HD up to 1080p30
- Up to 24 TelePresence Screens
- ActivePresence user experience
- Universal transcoding and transrating

Cisco Multipoint Platform Review

Cisco MSE 8000

- Supports MSE 8420 MCU (SD)
- Supports MSE 8510 MCU (HD)
- Supports MSE 8710 (TS)
- 10 slot hot-swappable chassis



Cisco Multipoint Platform Review

Cisco MSE 8000

- Up to 720 ports SD
- Up to 180 ports Full HD
- Up to 216 TelePresence screens
- Universal transcoding and transrating



Cisco Multipoint Platform Review

Cisco TelePresence Multipoint Switch



- Software Video Switch
- Full HD up to 1080p30
- Spatial Audio
- Ultra low latency <10 ms

Cisco Multipoint Platform Review

Cisco TelePresence Multipoint Switch



- Voice activated switching
- Site or Segment switching
- Up to 48 screens / CTMS
- Up to 440 screens with Network Multipoint

Agenda

- Cisco TelePresence Architecture Overview
- Alternative Conference Types
- Cisco Multipoint Platform Deep-dive
- **Deploying Conferencing**

Ad-hoc Conferencing



Ad-hoc Conferencing

- **Ad-hoc Conferencing on CUCM**
- Ad-hoc Conferencing on VCS – H.323 Service Prefix
- Ad-hoc Conferencing on VCS – Multiway

Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- CUCM conference bridge configuration


Conference Bridge Information

Conference Bridge : New

Software Conference Bridge Info

Conference Bridge Type*

Host Server*

 Device is not trusted

Conference Bridge Name*

Description

Device Pool*

Common Device Configuration

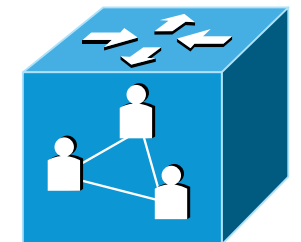
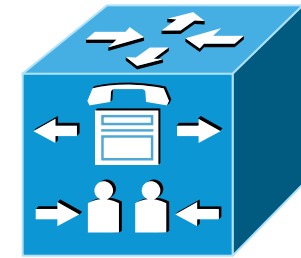
Location*

Use Trusted Relay Point*

Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- CUCM uses two interfaces to communicate with the MCU:



Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- CUCM uses two interfaces to communicate with the MCU:

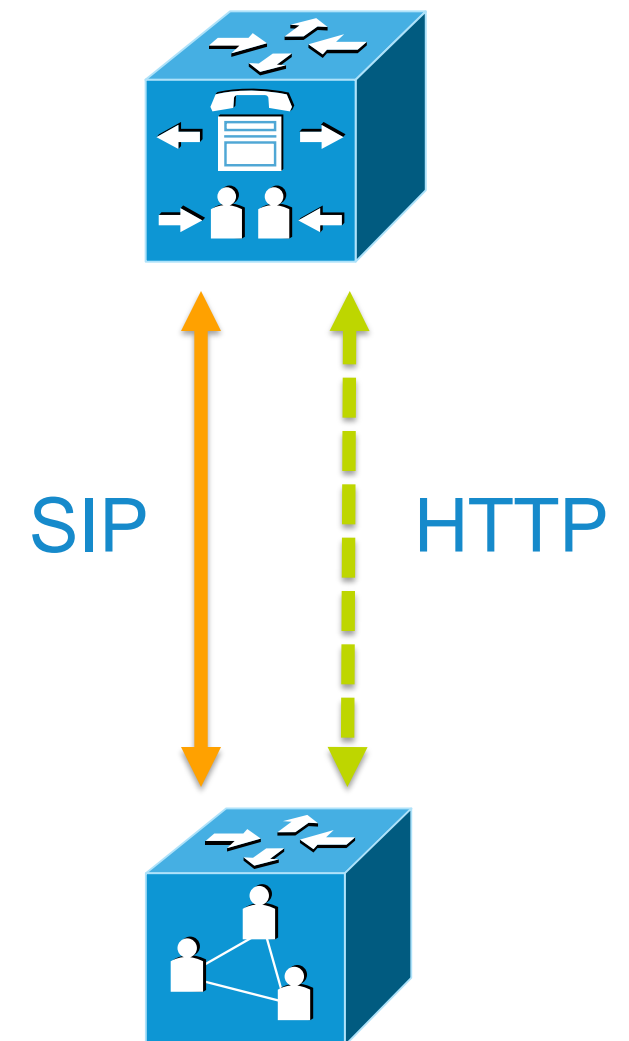
1 SIP for call control;



Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- CUCM uses two interfaces to communicate with the MCU:
 - 1 SIP for call control; and
 - 2 HTTP for resource management.



Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- CUCM conference bridge configuration

Conference Bridge Configuration

Save Delete Copy Reset Apply Config Add New

Device Pool* Default

Common Device Configuration < None >

Location* Hub_None

Use Trusted Relay Point* Default

SIP Interface Info

Unified CM SIP Port* 5060 **1**

MCU Conference Bridge SIP Port* 5060

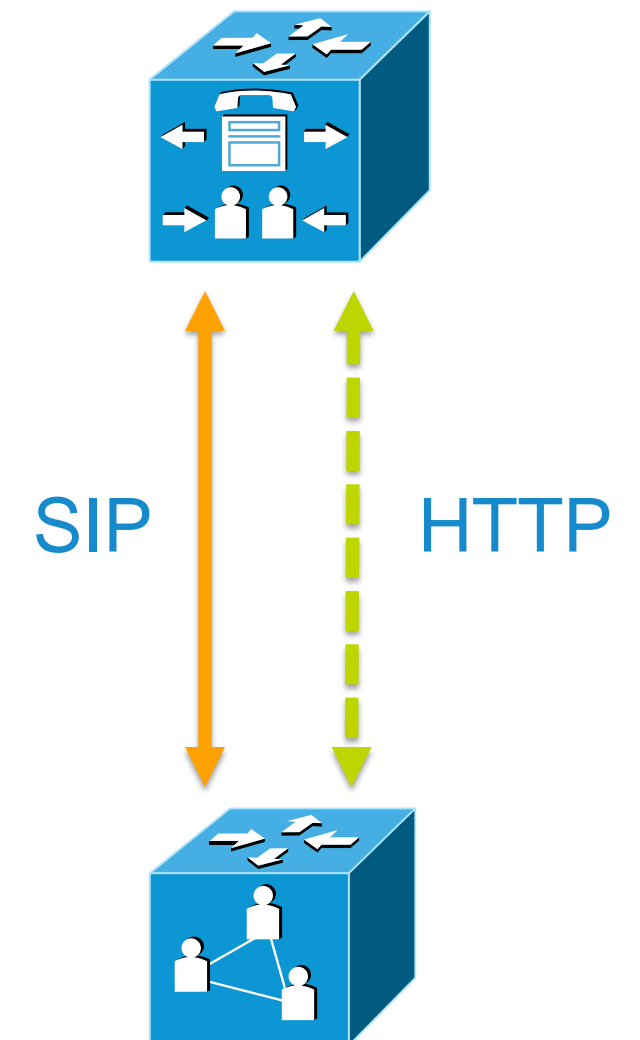
HTTP Interface Info

Username* admin

Password* **2**

Confirm Password*

HTTP Port* 80



Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- MCU configuration
 - Media port reservation set to “Enabled”

[Home](#) > [Settings](#) > [Conference settings](#)

The screenshot shows the CUCM configuration interface for Conference settings. The 'Media ports' tab is selected. The 'Media port reservation' setting is set to 'Enabled'. Other settings include: Maximum video size (Receive MAX, transmit MAX), Motion / sharpness tradeoff (Favor sharpness), Transmitted video resolutions (Allow all resolutions), Default bandwidth from MCU (4.00 Mbit/s), Default bandwidth to MCU (<same as transmit>), Default view family (2x2, 3x3, or 4x4 as appropriate), Use full screen view for two participants (Disabled), Active speaker display (Green border), Audio notifications (Enabled), and various checkboxes for features like Conference status, Join and leave, Important participant, Unsecured conferences, Tunneled camera control, and Layout changes.

Confere	H.323	SIP	Streaming	Content	Media ports	User interface	Ti
Conference settings							
Maximum video size	Receive MAX, transmit MAX						
Motion / sharpness tradeoff	Favor sharpness						
Transmitted video resolutions	Allow all resolutions						
Default bandwidth from MCU	4.00 Mbit/s						
Default bandwidth to MCU	<same as transmit>						
Default view family	2x2, 3x3, or 4x4 as appropriate						
Use full screen view for two participants	Disabled						
Active speaker display	Green border						
Media port reservation	Enabled						
Audio notifications	Enabled						
Timing	<input checked="" type="checkbox"/> Conference status <input checked="" type="checkbox"/> Join and le						
Important participant	<input checked="" type="checkbox"/> Unsecured conferences						
Overlaid icons	<input checked="" type="checkbox"/> Tunneled camera control <input checked="" type="checkbox"/> Layout changes <input checked="" type="checkbox"/> S						

Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- MCU configuration

- Incoming calls to auto-attendants set to “Disconnect Caller”

Voice switching sensitivity	50	%
Additional audio delay relative to video	0 ms	▼
Incoming calls to unknown conferences or auto attendants	Create new ad hoc conference	▼
Failed preconfigured participants redial behavior	Default auto attendant	▼
Redial limit	Disconnect caller	
	Create new ad hoc conference	
Conferences remain locked when empty	<input type="checkbox"/>	
Use conference name as caller ID	<input type="checkbox"/>	

Ad-hoc Conferencing on CUCM

Adding an MCU to CUCM

- MCU configuration

- Time to wait for ad hoc PIN set to “Never configure PIN”

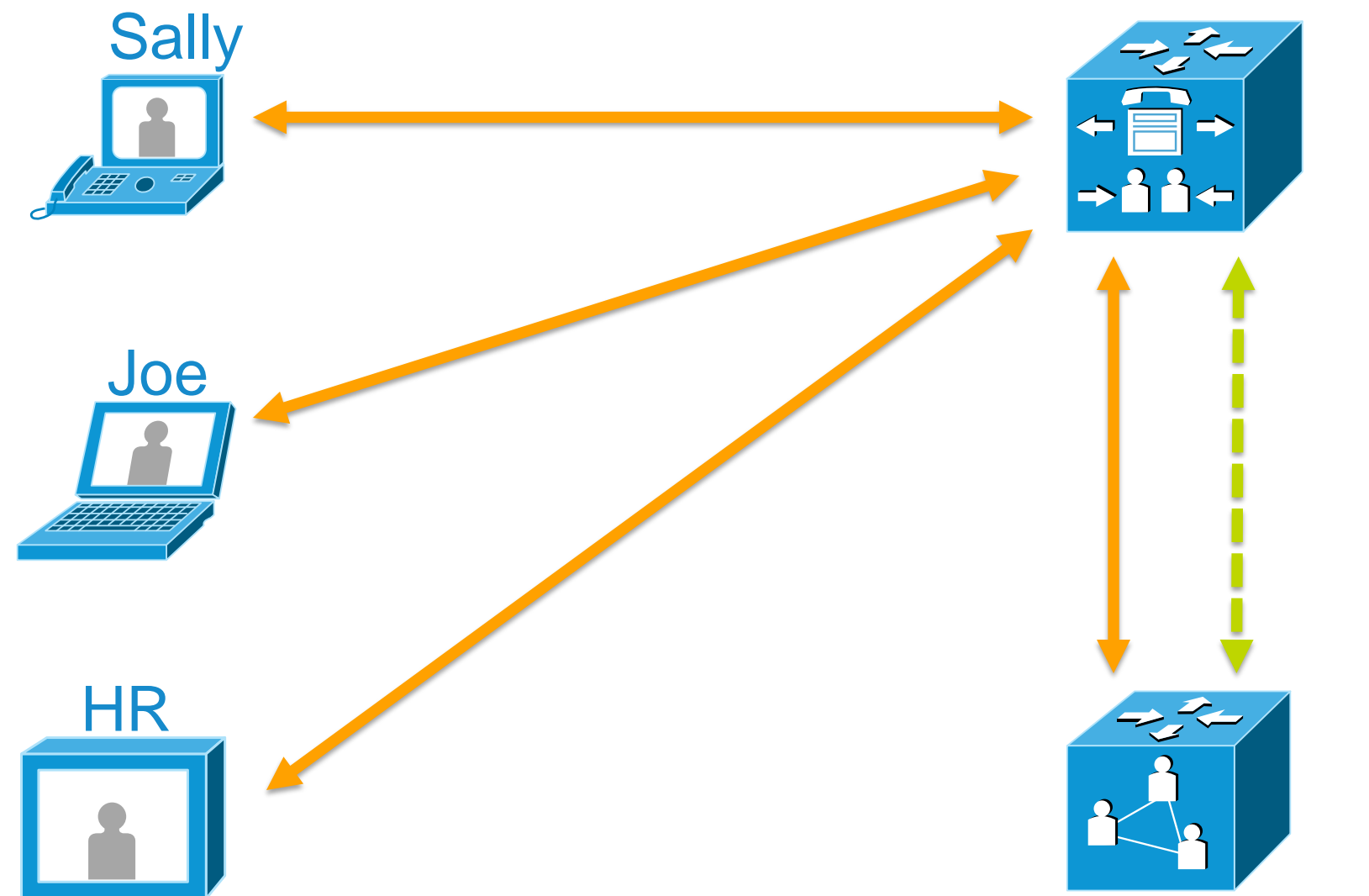
Time to wait when setting up ad hoc conference PIN	<never configure PIN> ▼
Advertise out of band DTMF	<never configure PIN>
Enable resolutions above CIF to be sent to Cisco Unified CM	5 seconds
Enable transmission of 60fps	10 seconds
	1 minute
	<wait forever>

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Ad-hoc Conferencing on CUCM

Conference setup and media flow

- All endpoints registered to CUCM via SIP
- MCU registered to CUCM via SIP
- MCU resources managed by CUCM via HTTP



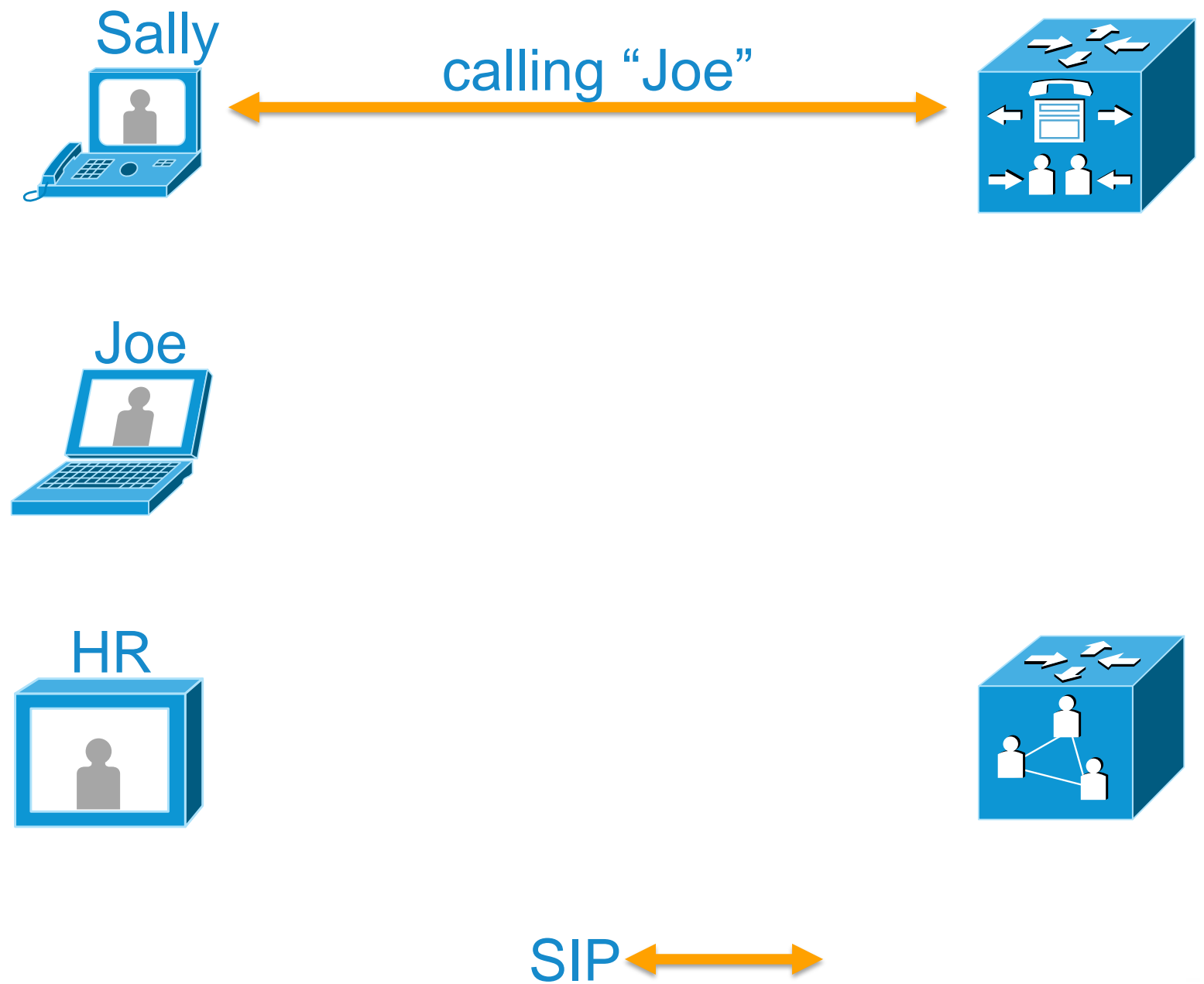
SIP ↔ HTTP

Cisco *live!*

Ad-hoc Conferencing on CUCM

Conference setup and media flow

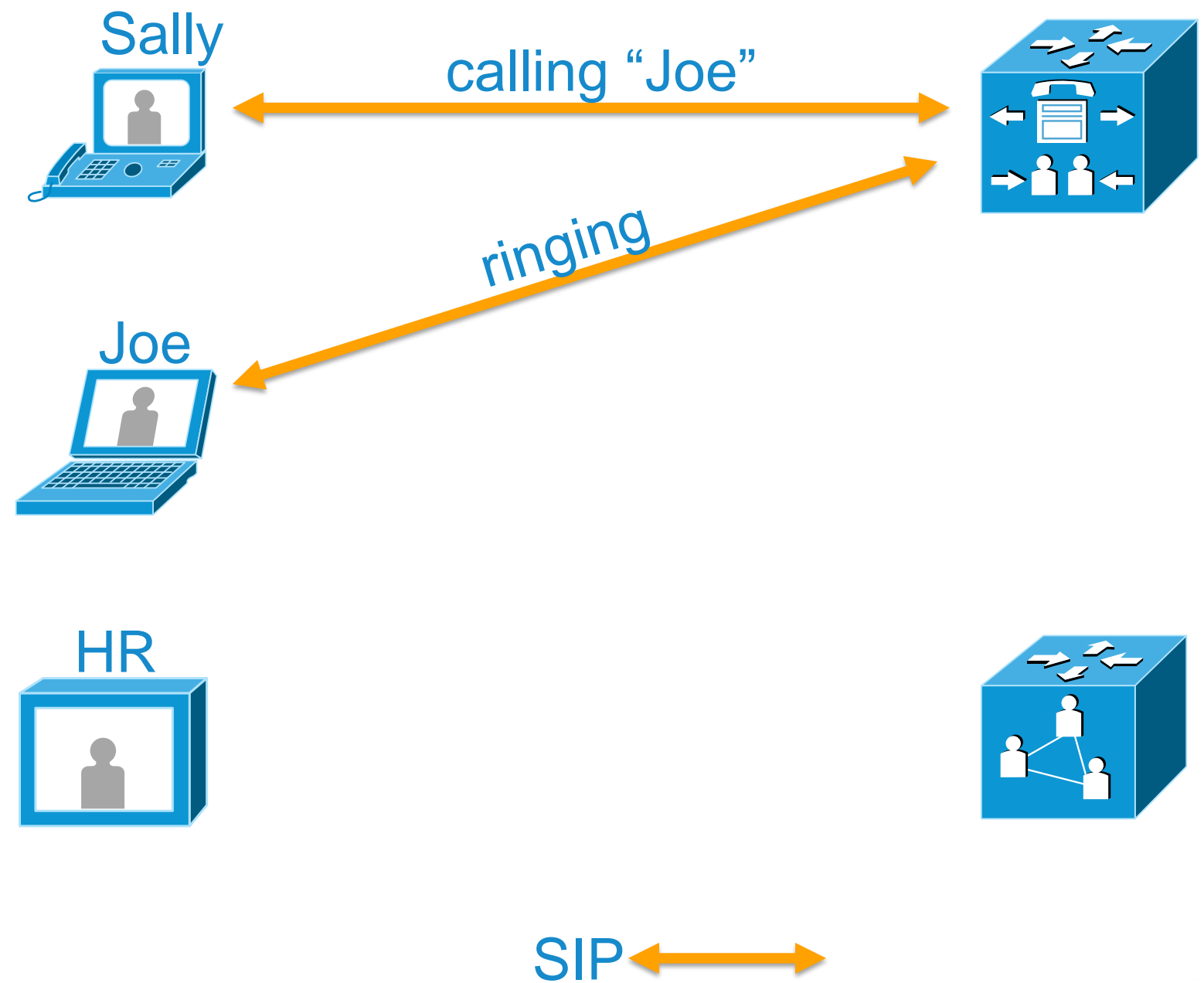
- **Sally dials Joe**



Ad-hoc Conferencing on CUCM

Conference setup and media flow

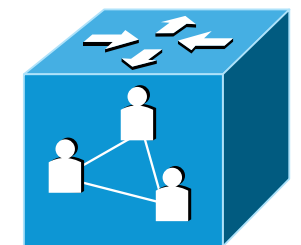
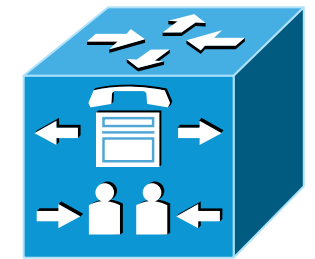
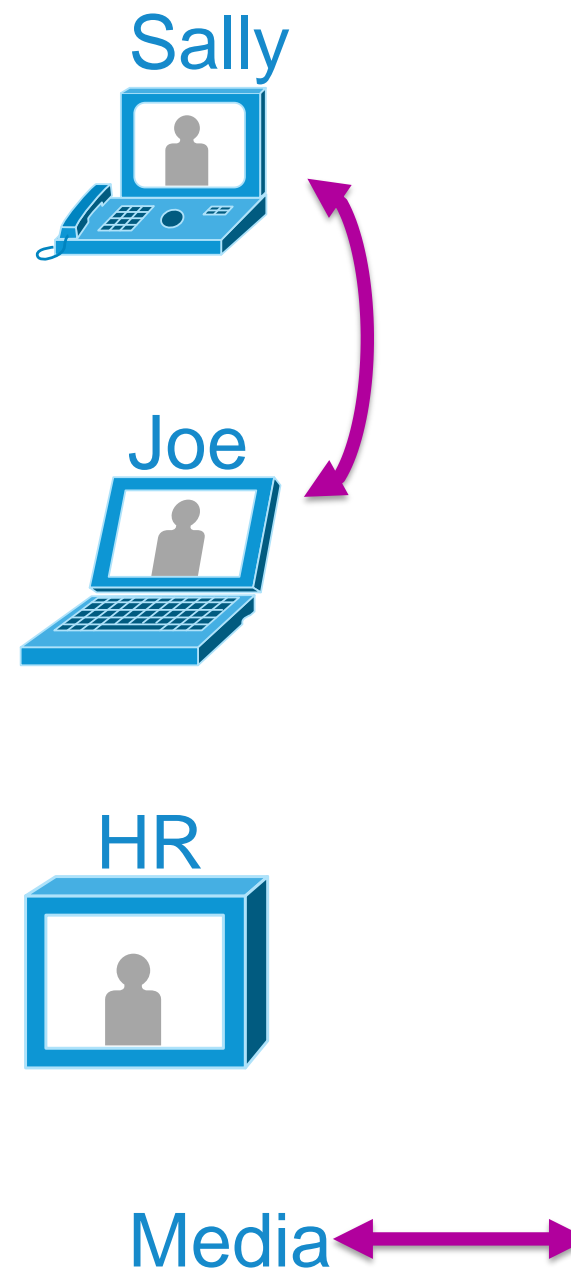
- Sally dials Joe
- **Call signalling via CUCM**



Ad-hoc Conferencing on CUCM

Conference setup and media flow

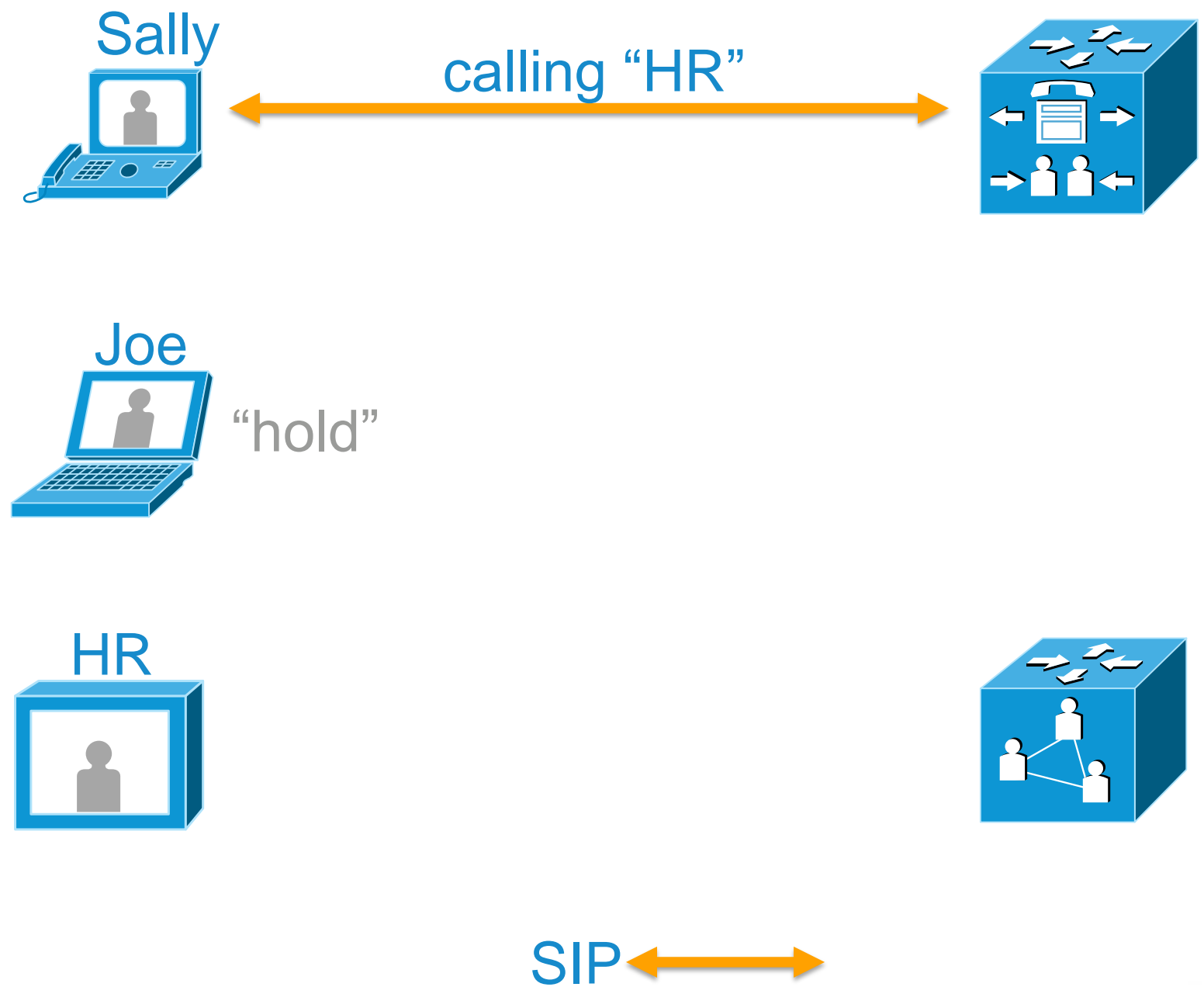
- Sally dials Joe
- Call signalling via CUCM
- **Media flows direct**



Ad-hoc Conferencing on CUCM

Conference setup and media flow

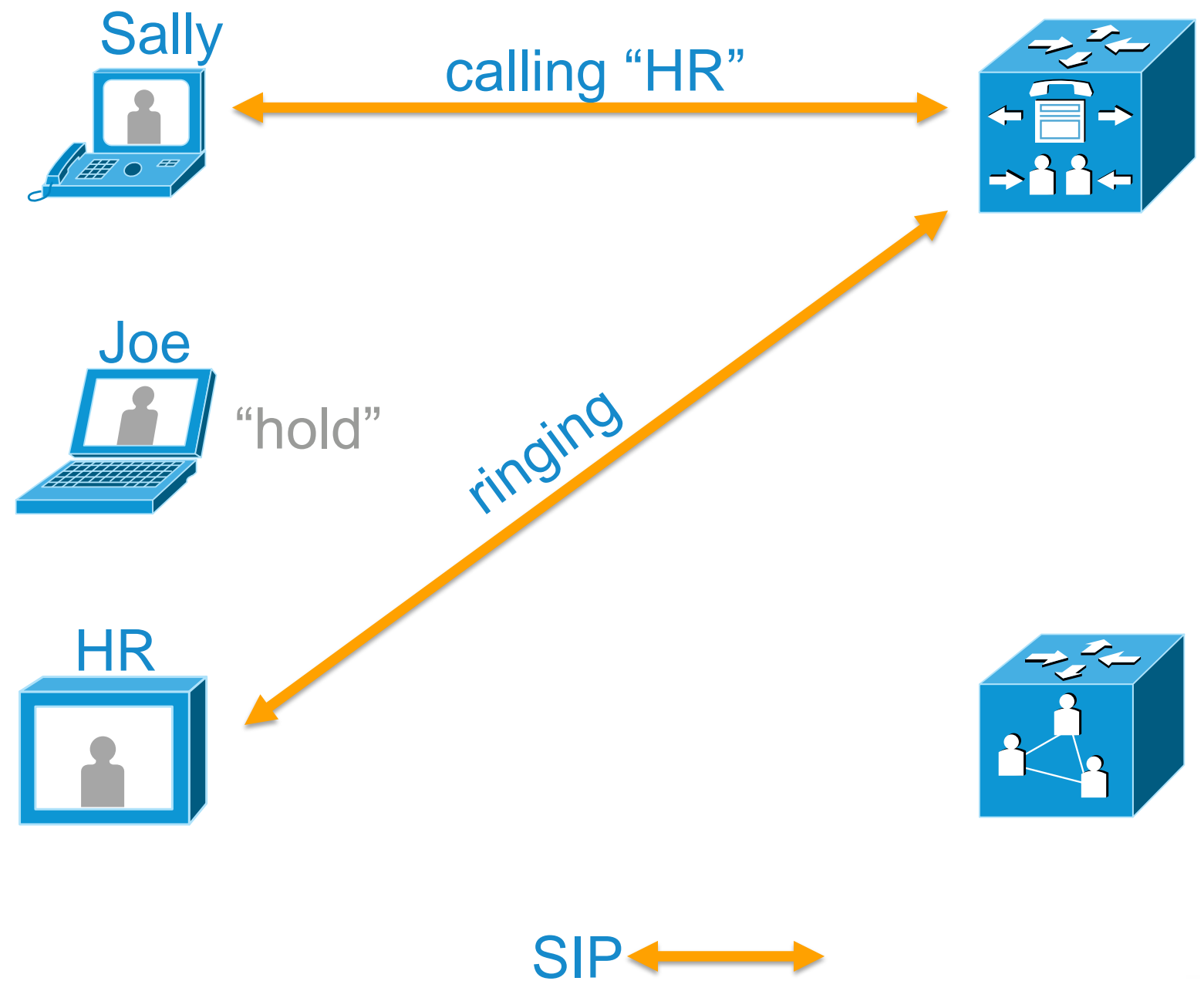
- **Sally places Joe on hold and dials HR**



Ad-hoc Conferencing on CUCM

Conference setup and media flow

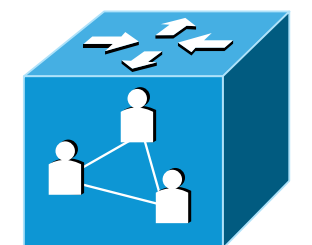
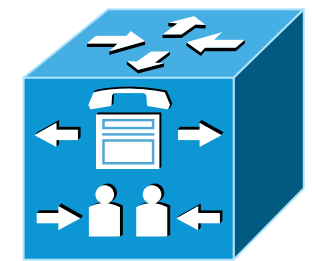
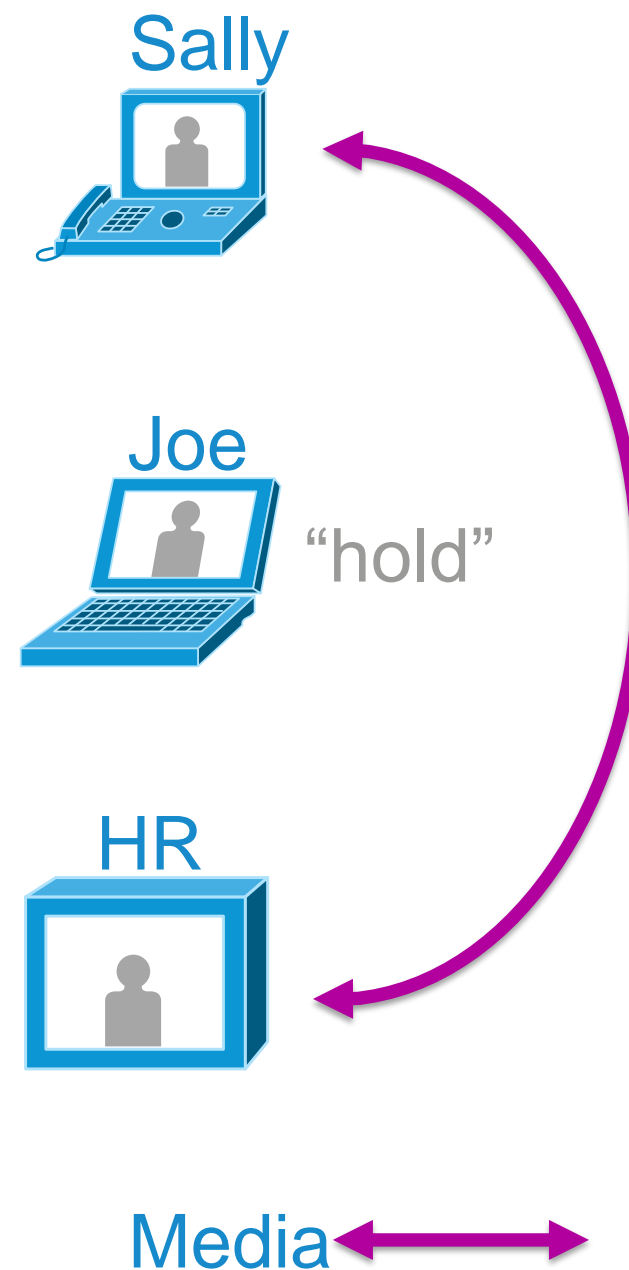
- Sally places Joe on hold and dials HR
- **Call signalling via CUCM**



Ad-hoc Conferencing on CUCM

Conference setup and media flow

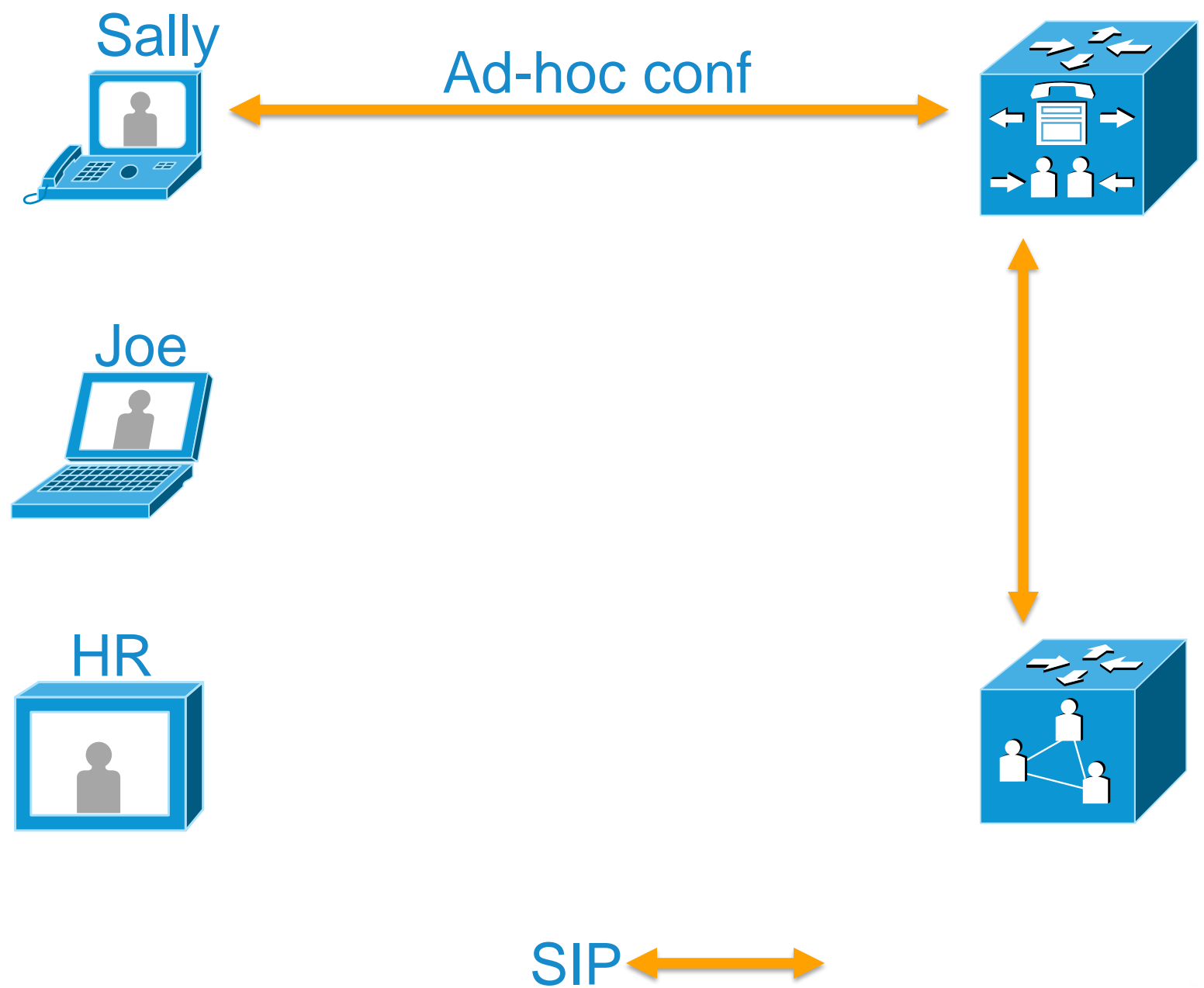
- Sally places Joe on hold and dials HR
- Call signalling via CUCM
- **Media flows direct**



Ad-hoc Conferencing on CUCM

Conference setup and media flow

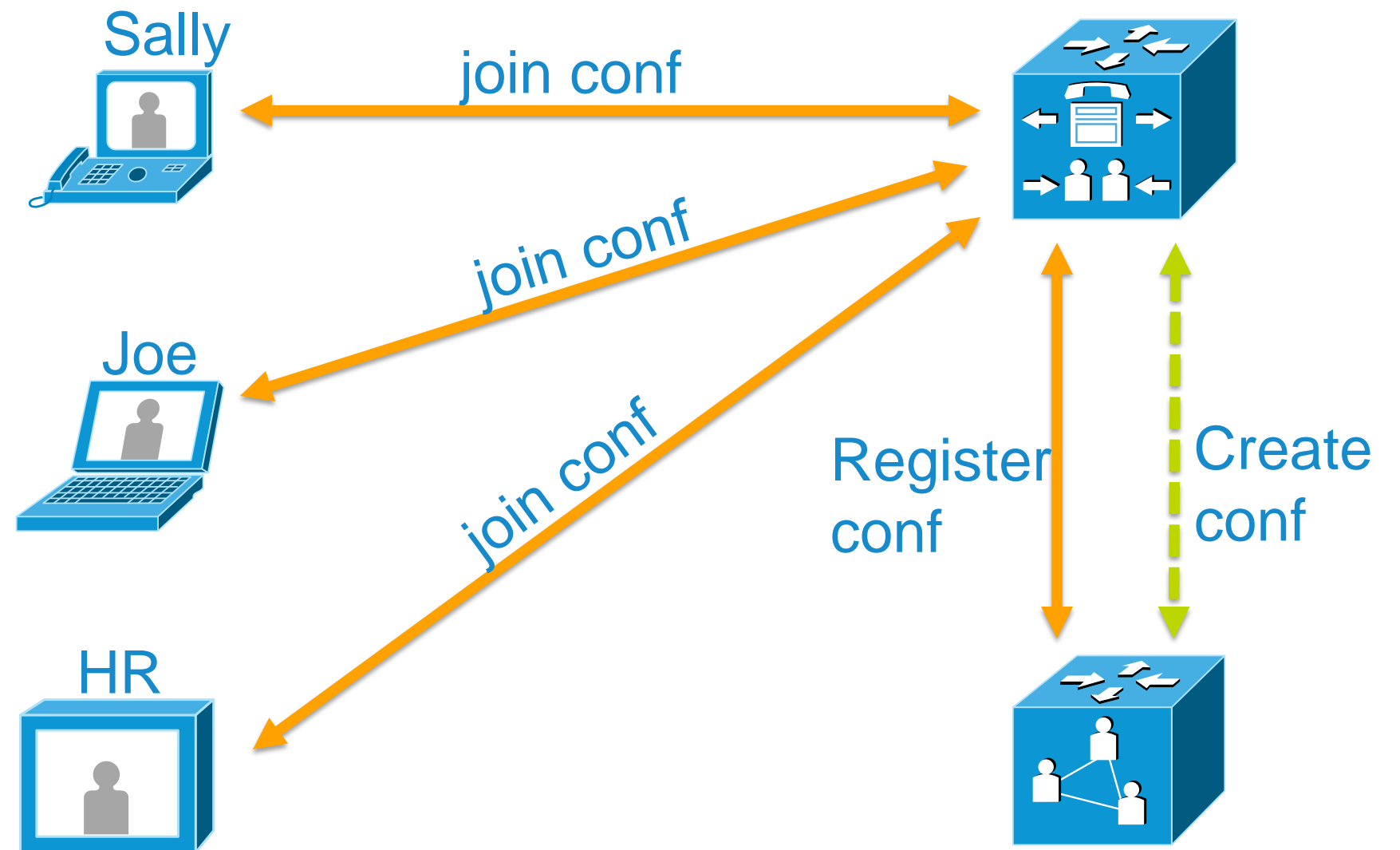
- **Sally initiates a conference to bridge called parties**



Ad-hoc Conferencing on CUCM

Conference setup and media flow

- Sally initiates a conference to bridge called parties
- **CUCM sets up the conference on the MCU and invites participants**



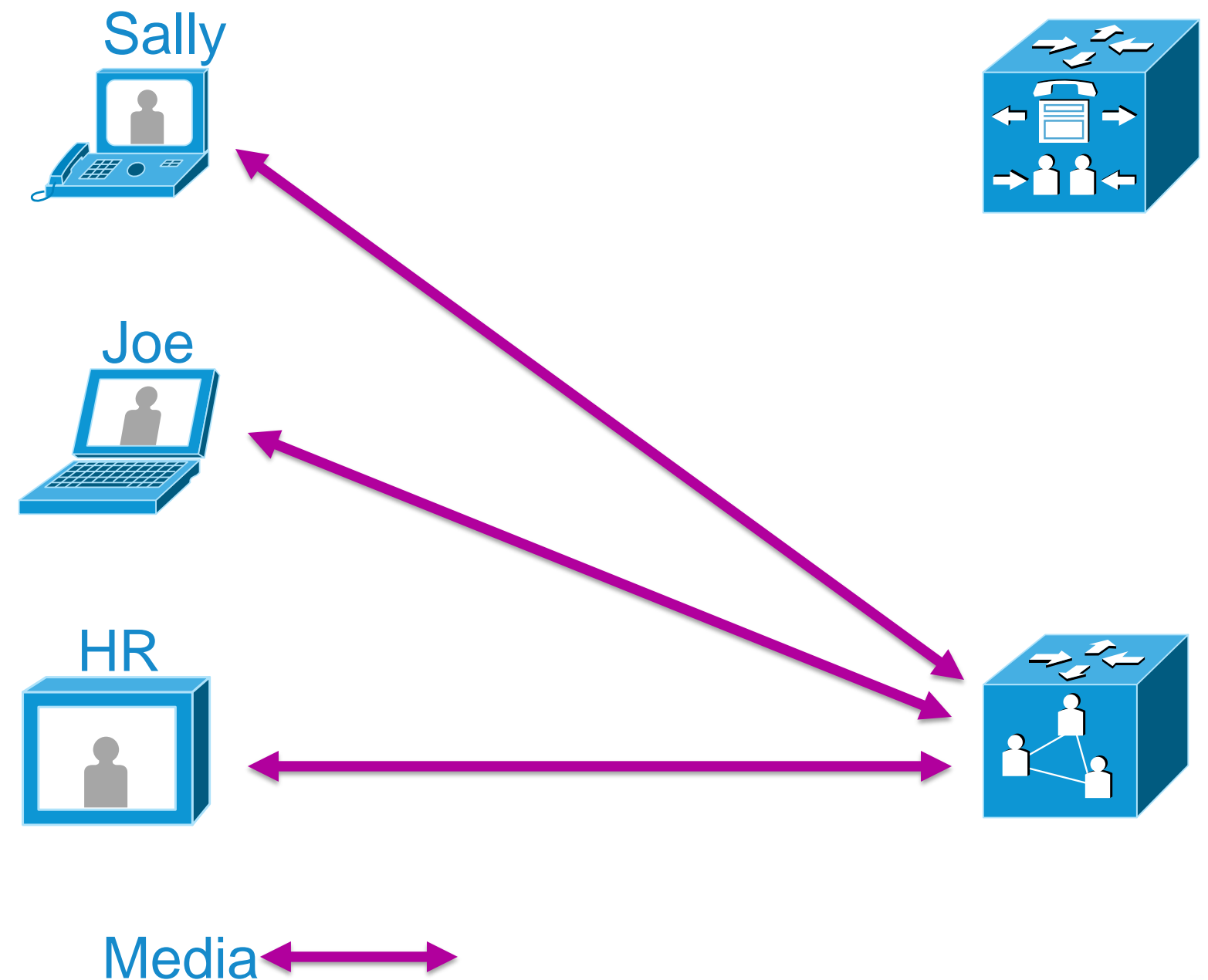
SIP ↔ HTTP

Cisco *live!*

Ad-hoc Conferencing on CUCM

Conference setup and media flow

- Sally initiates a conference to bridge called parties
- CUCM sets up the conference on the MCU and invites participants
- **Media flows direct**



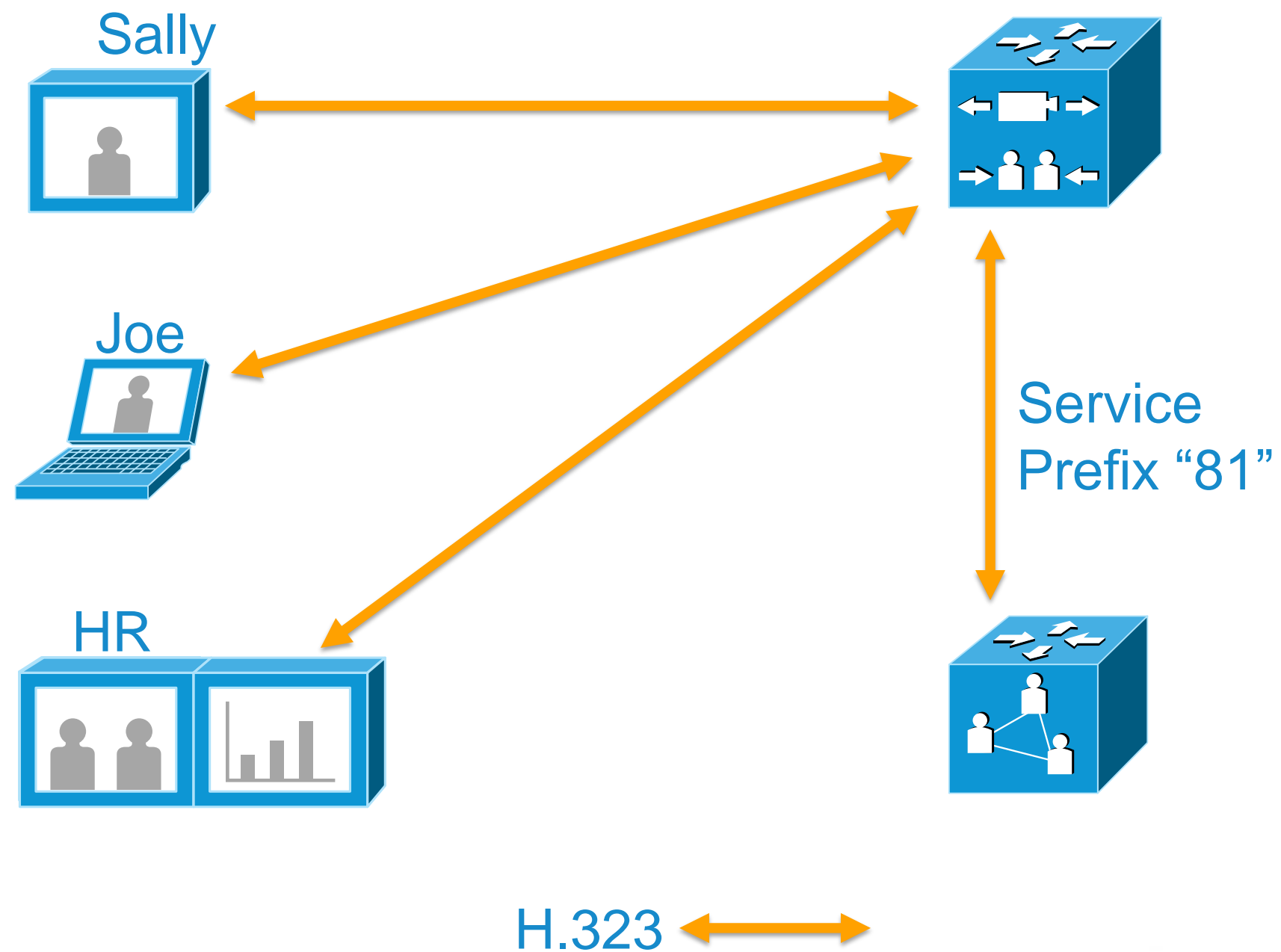
Ad-hoc Conferencing

- Ad-hoc Conferencing on CUCM
- **Ad-hoc Conferencing on VCS – H.323 Service Prefix**
- Ad-hoc Conferencing on VCS – Multiway

Ad-hoc Conferencing on VCS

Conference setup and media flow – MCU Service Prefix

- All endpoints registered to VCS via H.323
- MCU service prefix registered to VCS via H.323



Ad-hoc Conferencing on VCS

MCU Service Prefix registration

- MCU configuration

Prefix for MCU registrations

MCU service prefix (optional)

MCU ID registration for conferences

MCU resource availability indications Thresholds: conferences

Current status

H.323 gatekeeper status **registered with 10.1.1.202**

Registered address **10.1.1.200:1720**

Alternate gatekeepers available **0**

Resource availability status **<indications not configured>**

Number of active registrations **2** [details](#)

H.323 ID registration **syscomcu1 registered**

MCU service prefix **81 prefix registered**

Ad-hoc Conferencing on VCS

MCU Service Prefix registration

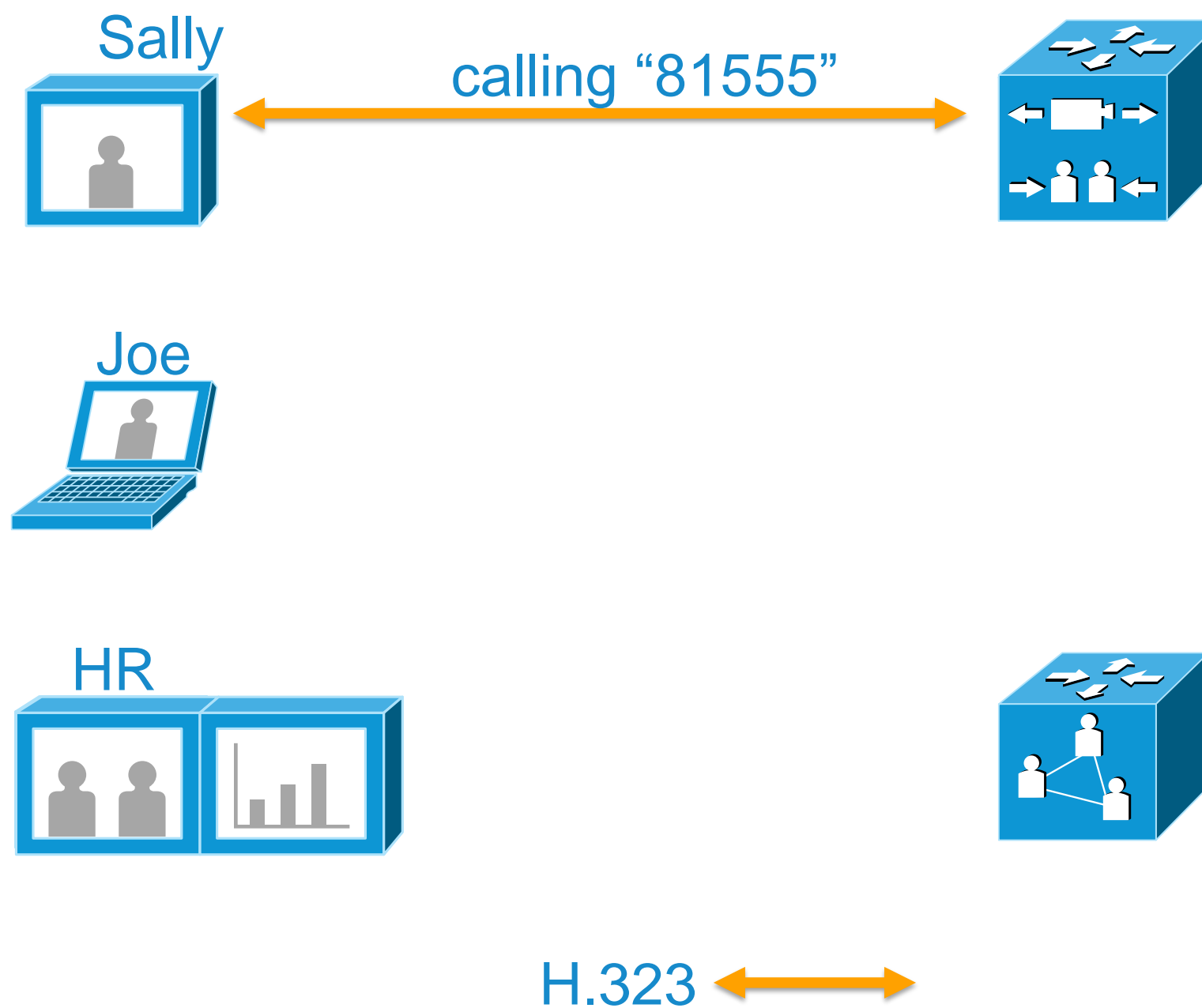
- VCS Registrations before conference begins

Alias	Alias type	Protocol
<u>81</u>	MCU Prefix	H323
<u>HR@xyzco.com</u>	AOR	SIP
<u>joe@xyzco.com</u>	AOR	SIP
<u>multiway@xyzco.com</u>	AOR	SIP
<u>sally@xyzco.com</u>	AOR	SIP
<u>xyzcomcu1</u>	H323Id	H323

Ad-hoc Conferencing on VCS

Conference setup and media flow – **MCU Service Prefix**

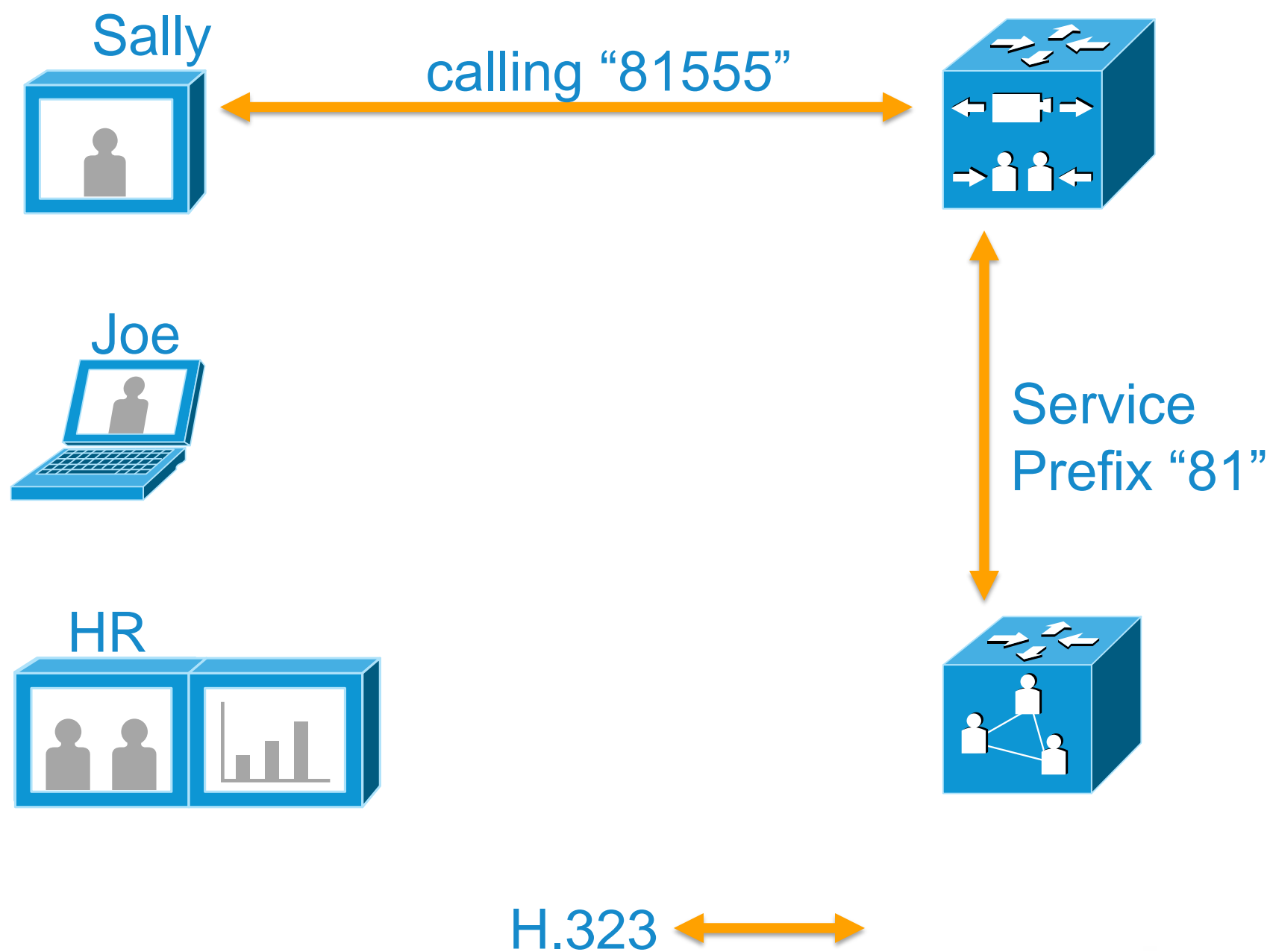
- **Sally dials “81555”**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **MCU Service Prefix**

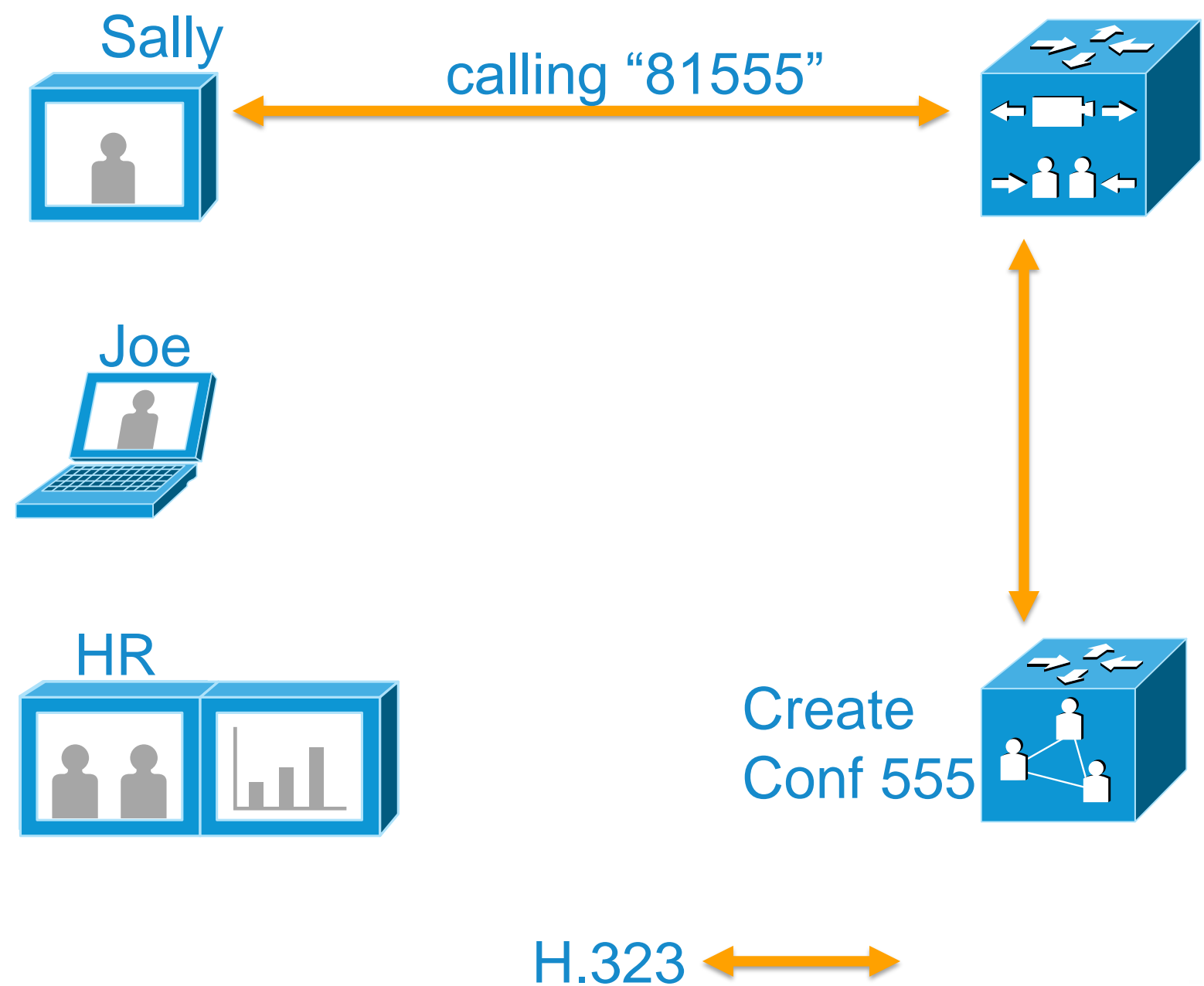
- Sally dials “81555”
- VCS matches “81” service prefix and sends to MCU



Ad-hoc Conferencing on VCS

Conference setup and media flow – **MCU Service Prefix**

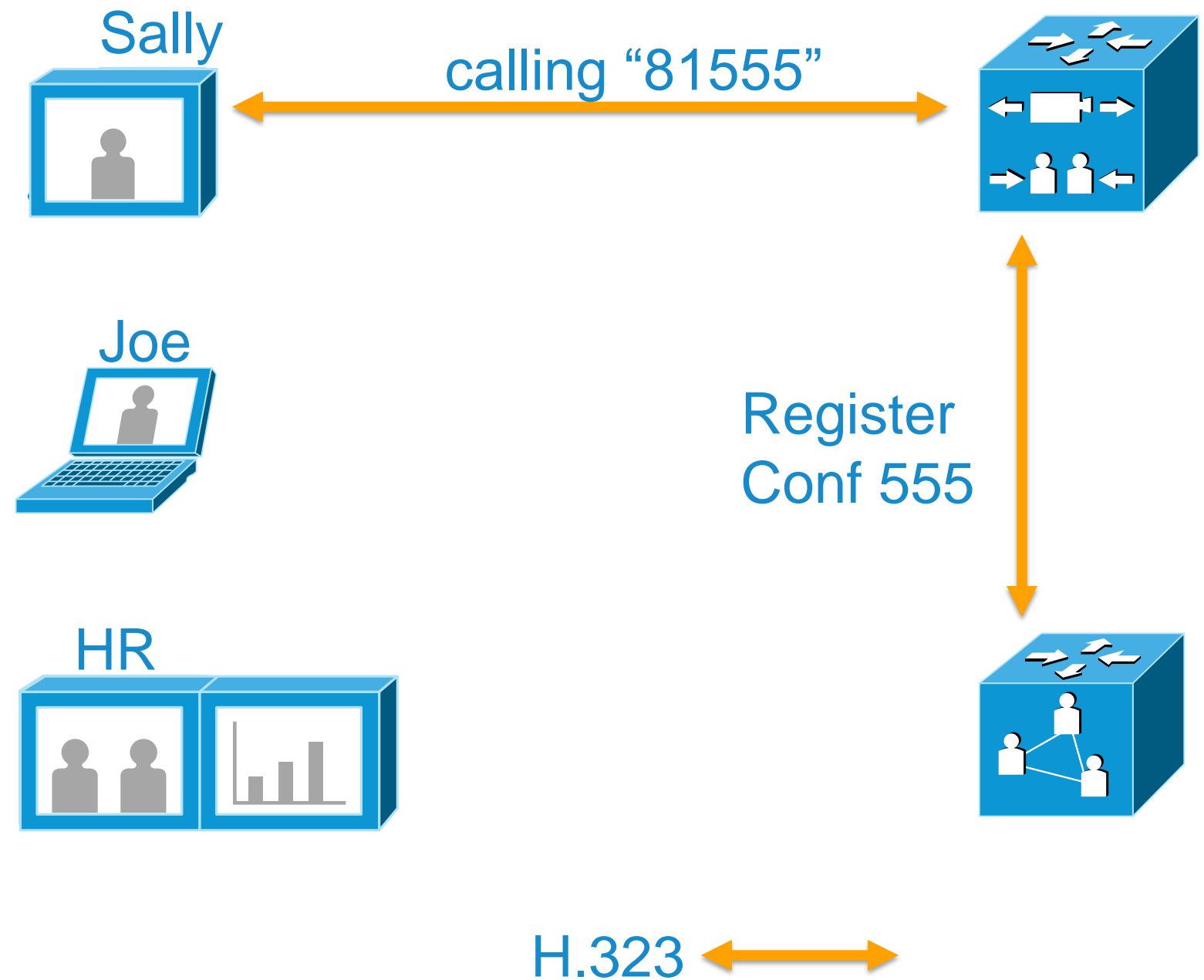
- Sally dials “81555”
- VCS matches “81” service prefix and sends to MCU
- **MCU receives call and creates conference “555”**



Ad-hoc Conferencing on VCS

Conference setup and media flow – MCU Service Prefix

- Sally dials “81555”
- VCS matches “81” service prefix and sends to MCU
- MCU receives call and creates conference “555”
- **Conference “555” is registered to VCS**



Ad-hoc Conferencing on VCS

MCU Service Prefix registration

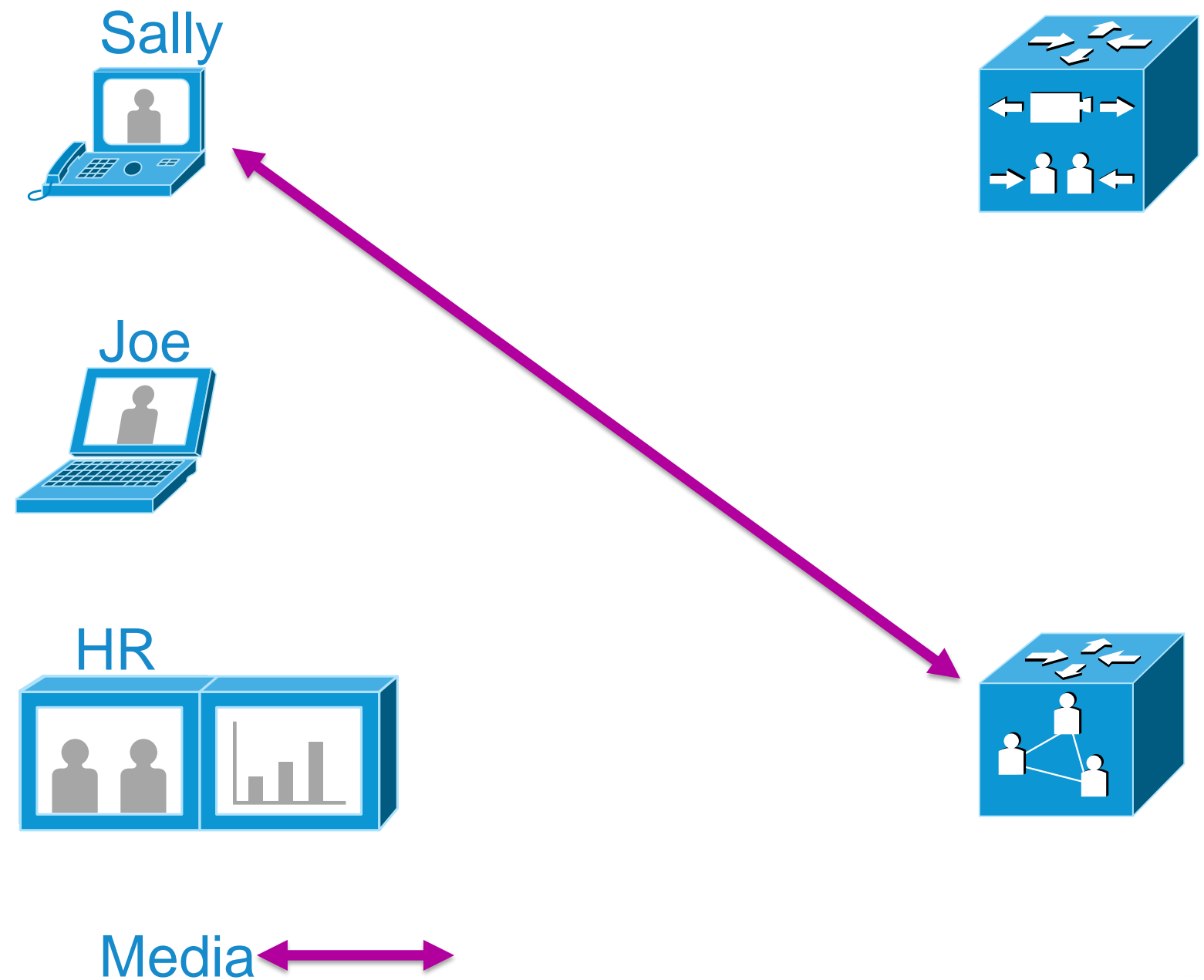
- VCS Registrations after conference begins

Alias	Alias type	Protocol
<u>555</u>	E164	H323
<u>81</u>	MCU Prefix	H323
<u>HR@xyzco.com</u>	AOR	SIP
<u>joe@xyzco.com</u>	AOR	SIP
<u>multiway@xyzco.com</u>	AOR	SIP
<u>sally@xyzco.com</u>	AOR	SIP
<u>xyzcomcu1</u>	H323Id	H323

Ad-hoc Conferencing on VCS

Conference setup and media flow – **MCU Service Prefix**

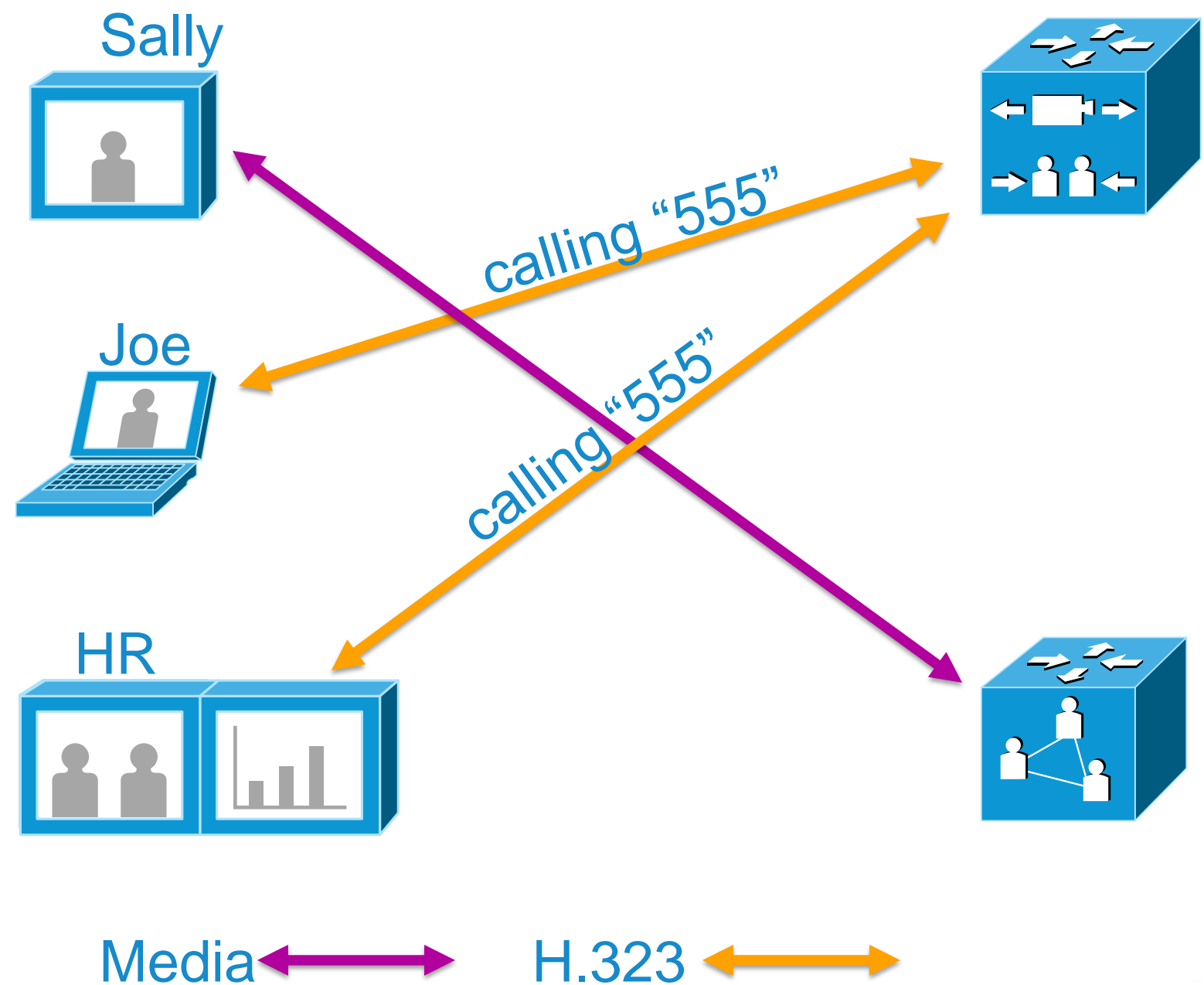
- **Sally is connected to conference “555”**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **MCU Service Prefix**

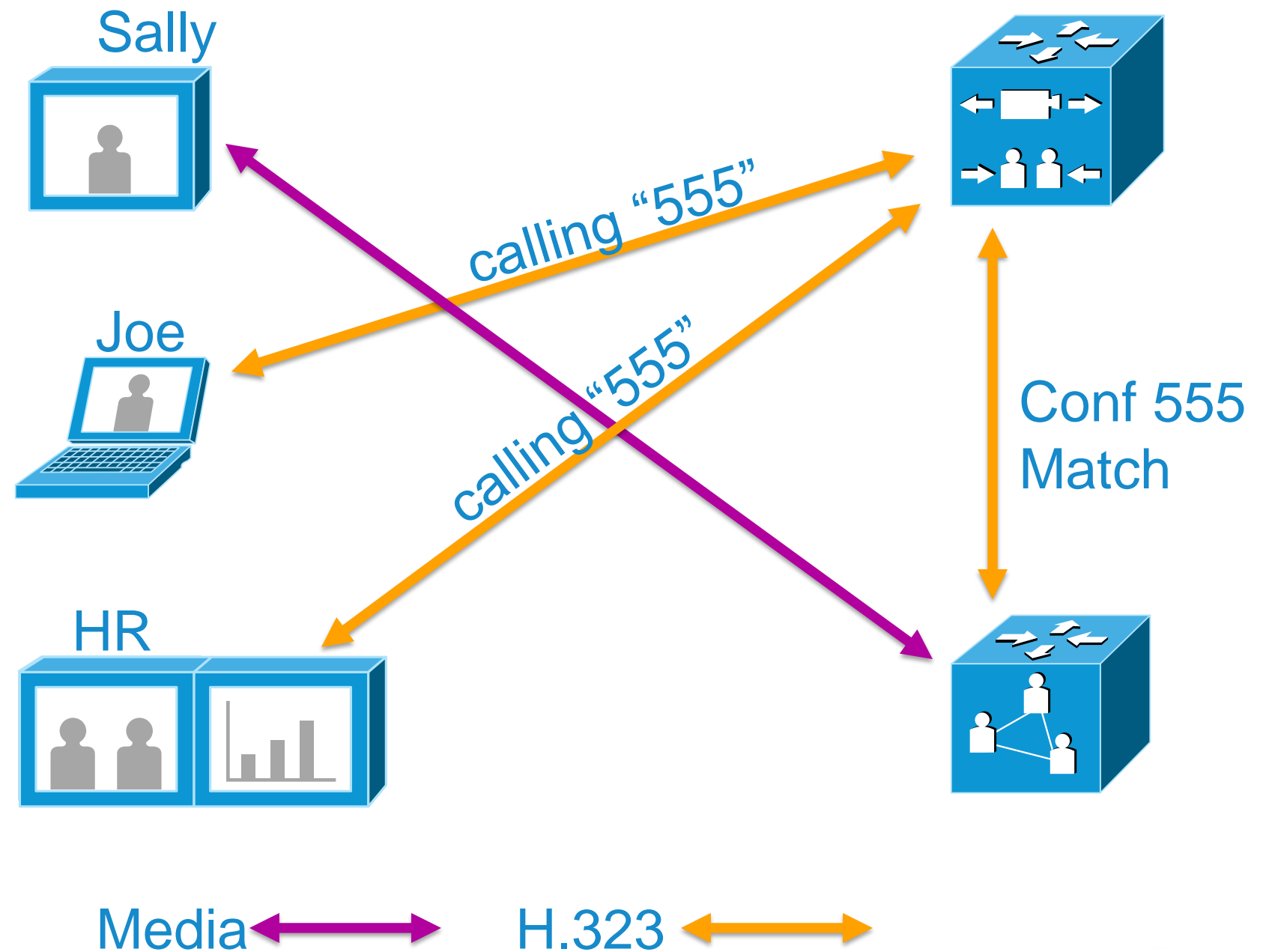
- Sally is connected to conference “555”
- Joe and HR dial “555”



Ad-hoc Conferencing on VCS

Conference setup and media flow – **MCU Service Prefix**

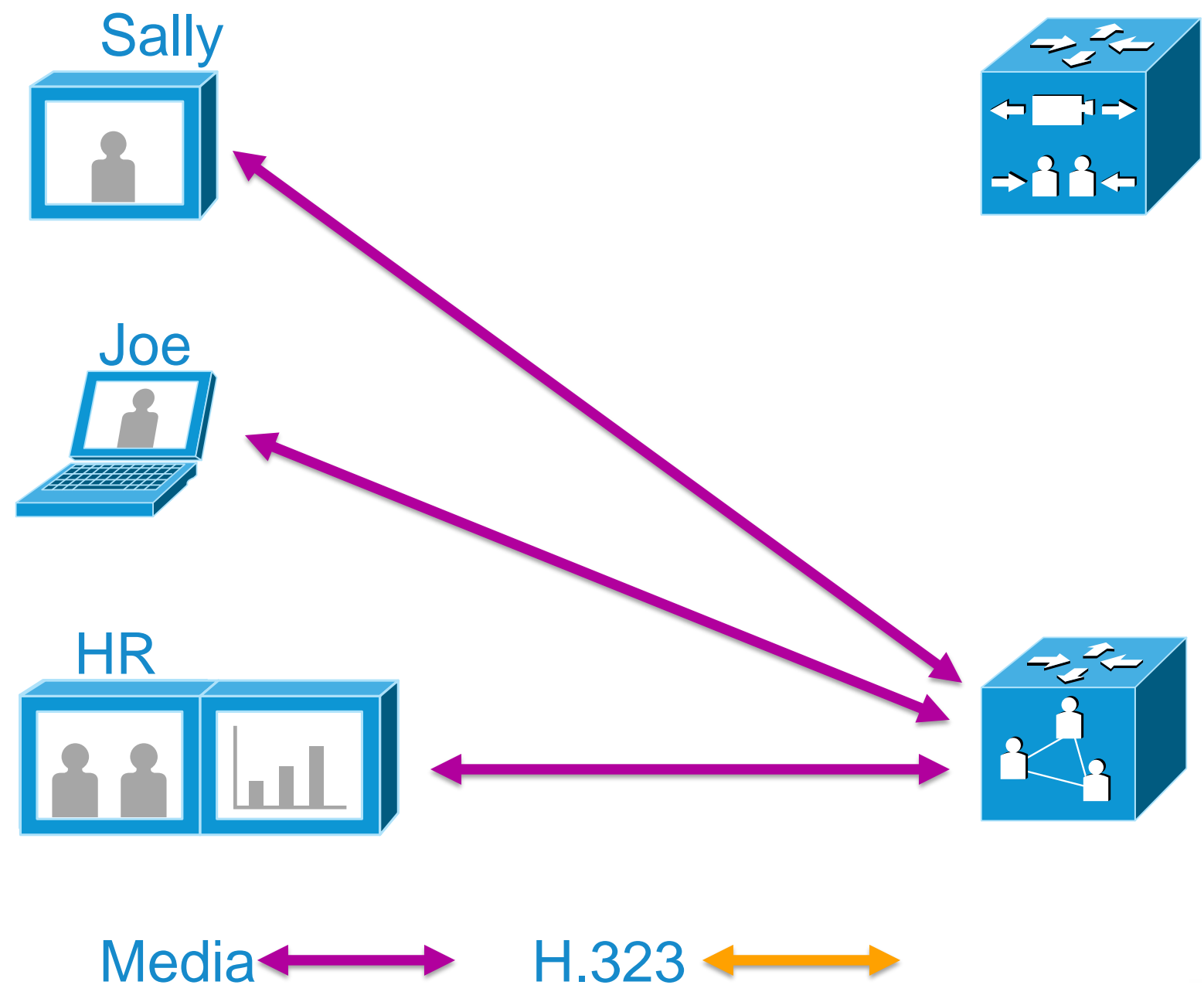
- Sally is connected to conference “555”
- Joe and HR dial “555”
- **VCS matches registered conference “555”**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **MCU Service Prefix**

- Sally is connected to conference “555”
- Joe and HR dial “555”
- VCS matches registered conference “555”
- **Media flows direct**



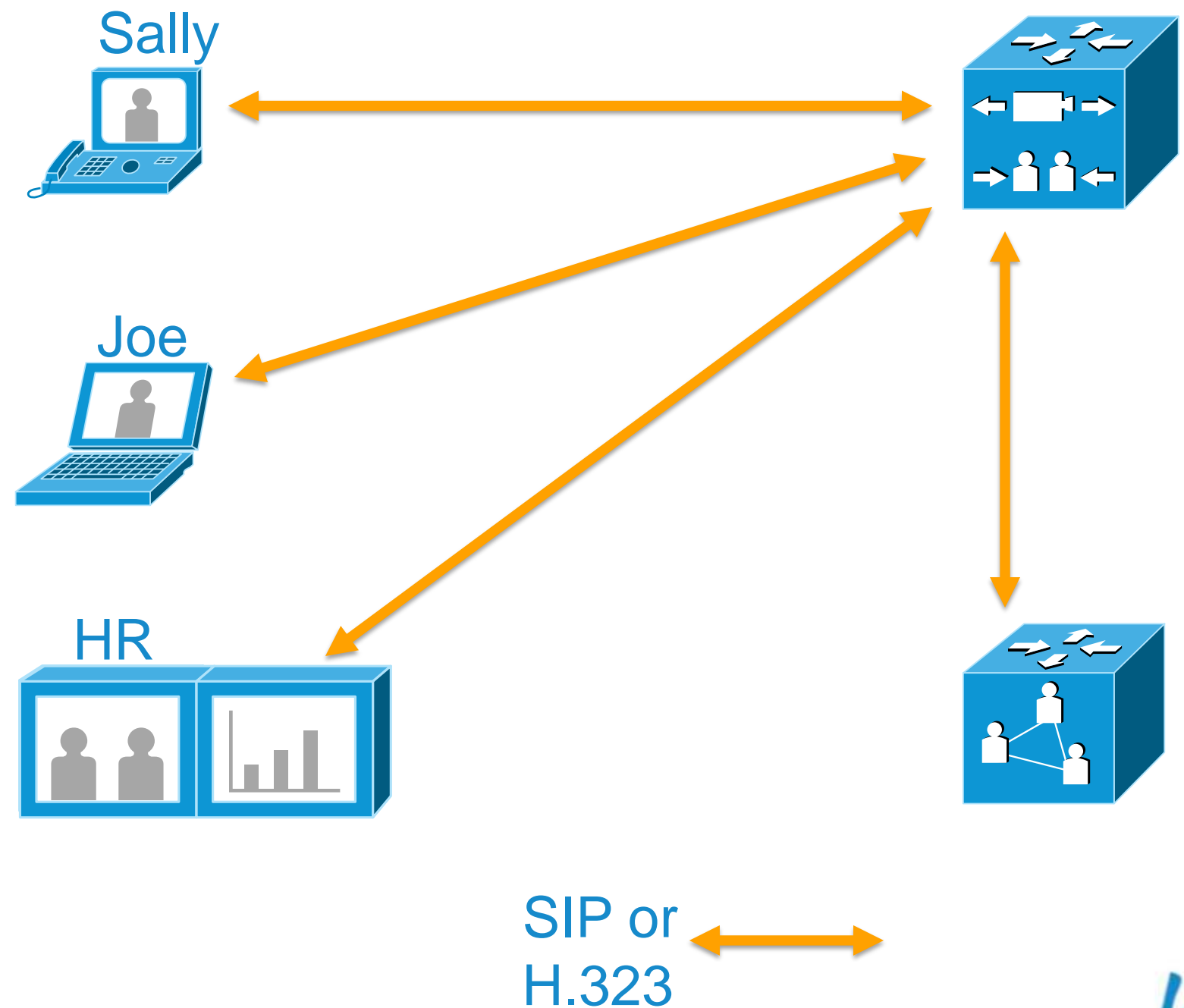
Ad-hoc Conferencing

- Ad-hoc Conferencing on CUCM
- Ad-hoc Conferencing on VCS – H.323 Service Prefix
- **Ad-hoc Conferencing on VCS – Multiway**

Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

- Endpoints registered to VCS
- MCU registered to VCS
- “Multiway” alias configured on VCS and endpoints



Ad-hoc Conferencing on VCS

Multiway conferencing configuration

- VCS Conference Factory setup

Conference Factory

Configuration

Mode	On	
Alias	multiway@xyzco.com	
Template	812%%@xyzco.com	
Number range start	* 1	
Number range end	* 65535	

Save

Status

Status	Active
Next conference alias	sip:81200001@xyzco.com

Ad-hoc Conferencing on VCS

Multiway conferencing configuration

- MCU configuration

- Time to wait for ad hoc PIN set to “Never configure PIN”

Time to wait when setting up ad hoc conference PIN	<never configure PIN>
Advertise out of band DTMF	<never configure PIN>
Enable resolutions above CIF to be sent to Cisco Unified CM	5 seconds
Enable transmission of 60fps	10 seconds
	1 minute
	<wait forever>

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Ad-hoc Conferencing on VCS

Multiway conferencing configuration

- MCU configuration

- Require H.323 callers to enter PIN set “unchecked”

Use conference name as caller ID

Require H.323 gatekeeper callers to enter PIN

Require a PIN for ad hoc conferences

Minimum required PIN length for ad hoc conferences

Ad-hoc Conferencing on VCS

Multiway conferencing configuration

- MCU configuration

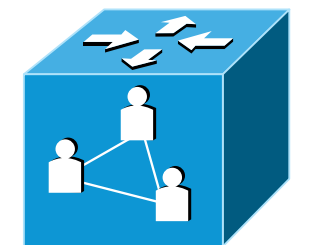
- Incoming calls to unknown conferences set to “Create new ad hoc conference”


Additional audio delay relative to video	0 ms	▼
Incoming calls to unknown conferences or auto attendants	Create new ad hoc conference	▼
Failed preconfigured participants redial behavior	Default auto attendant	▼
Redial limit	Disconnect caller	
	Create new ad hoc conference	
Conferences remain locked when empty	<input type="checkbox"/>	

Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

- **Sally dials Joe**



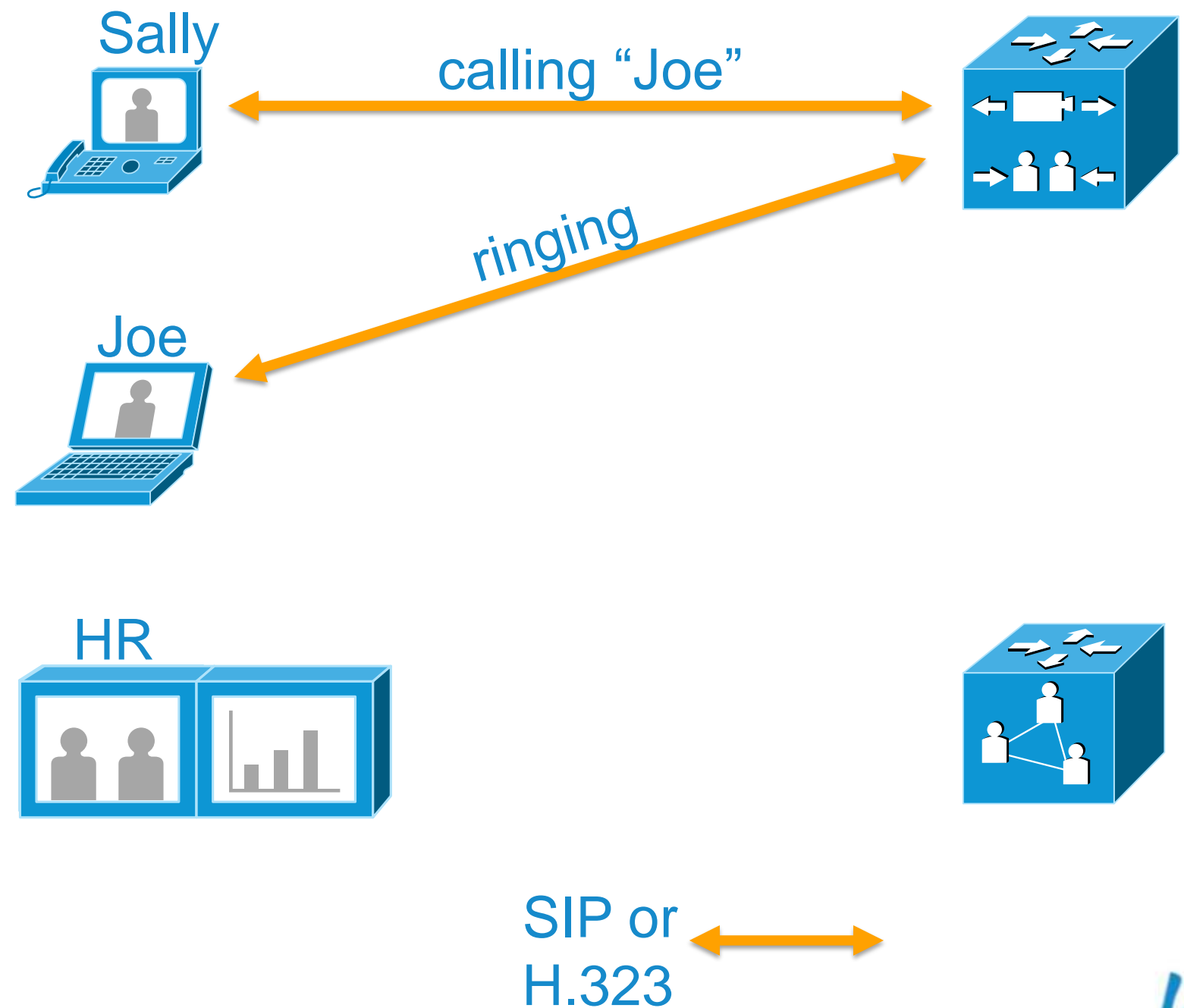
SIP or H.323 

Cisco *live!*

Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

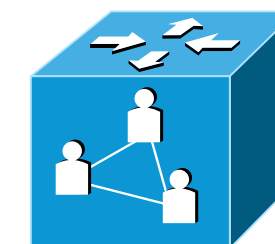
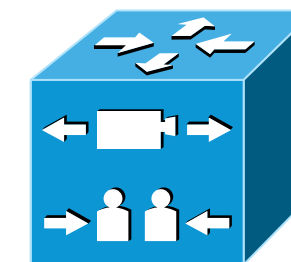
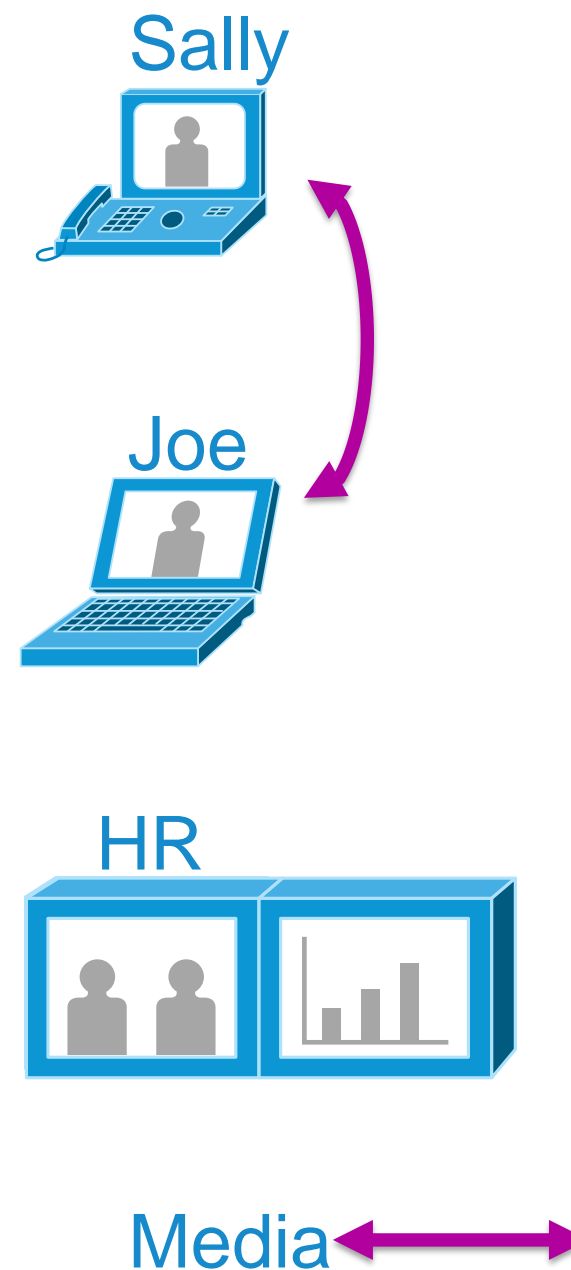
- Sally dials Joe
- **Call signalling via VCS**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

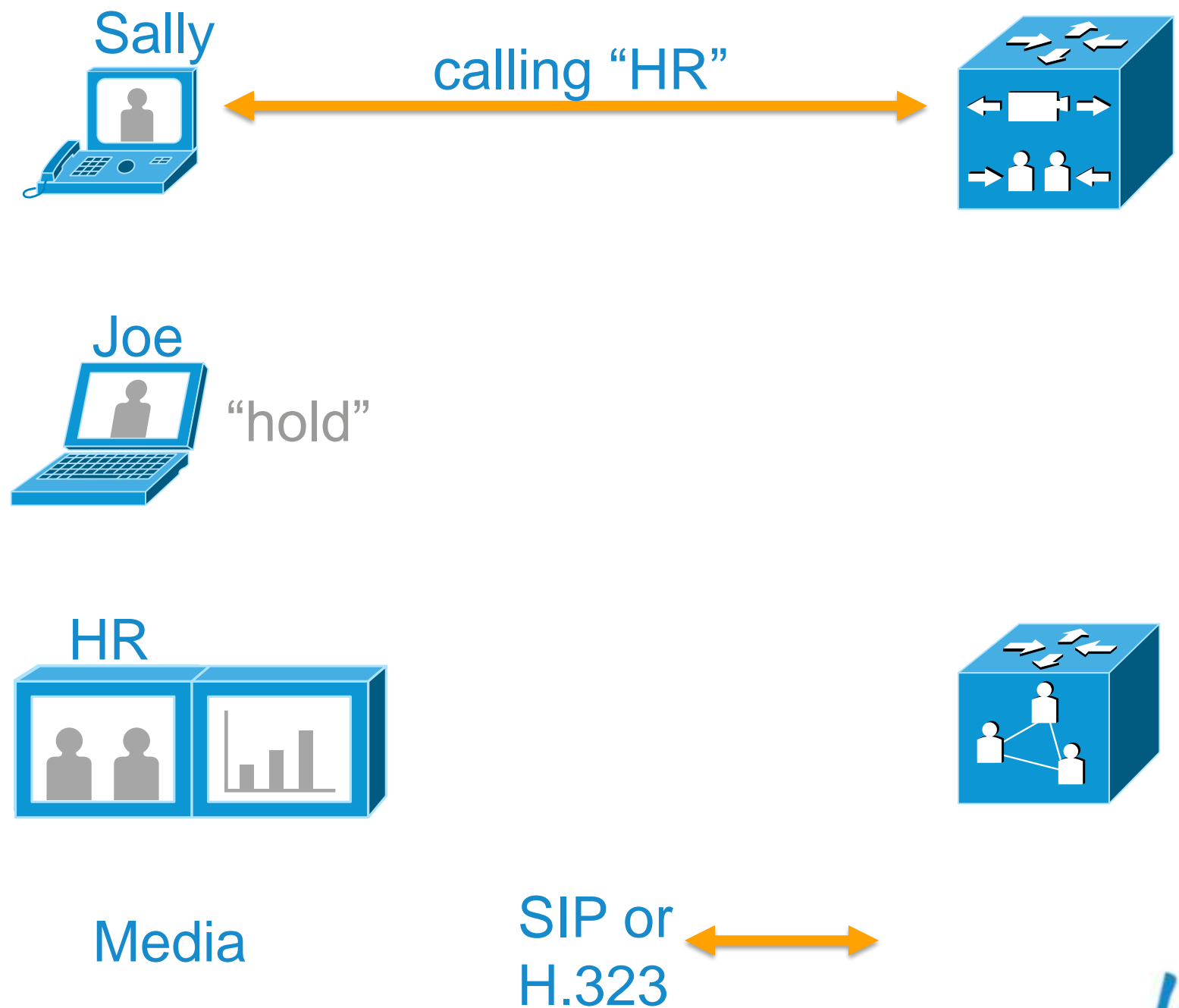
- Sally dials Joe
- Call signalling via VCS
- **Media flows direct**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multway**

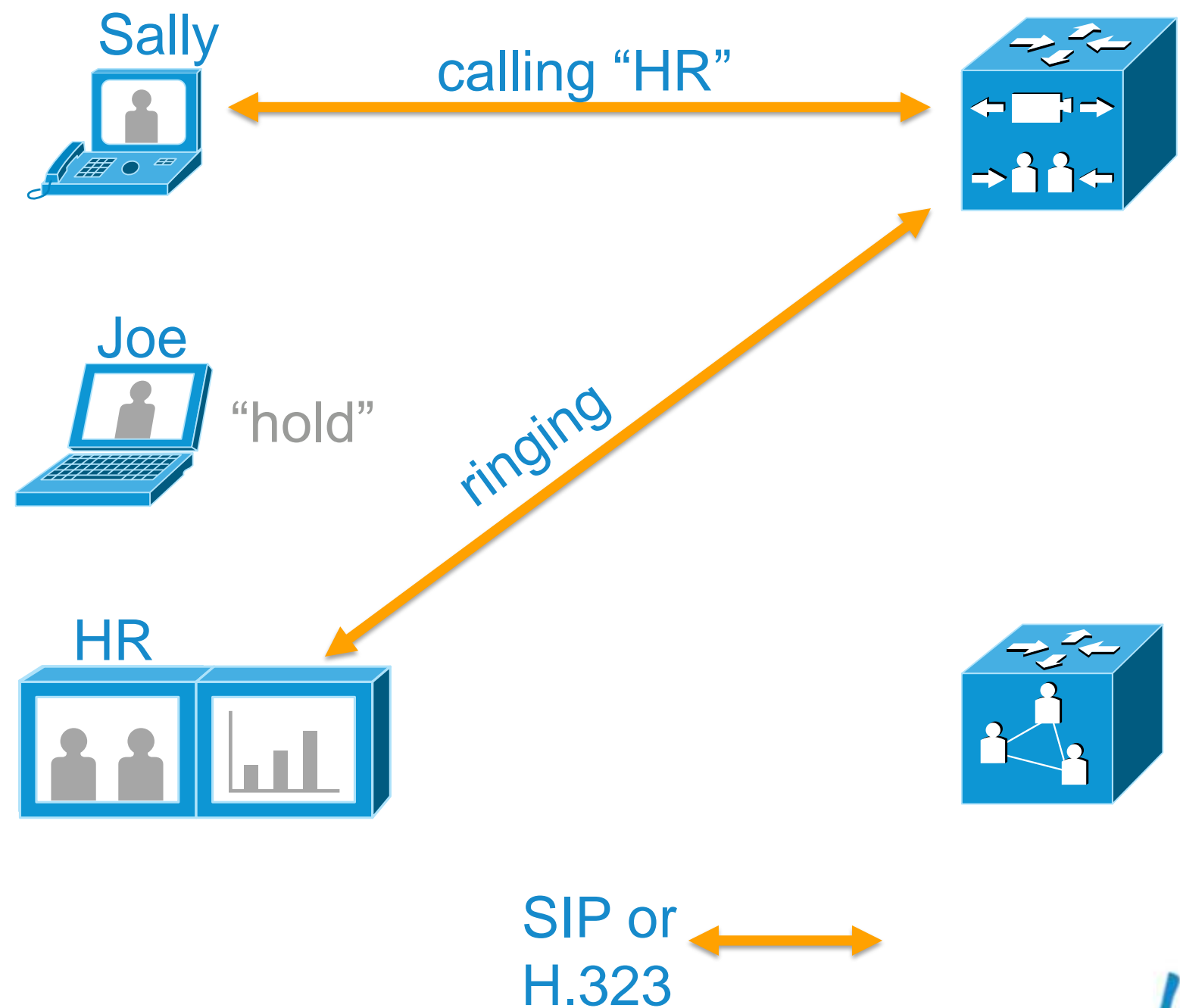
- **Sally dials HR using “add participant”**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

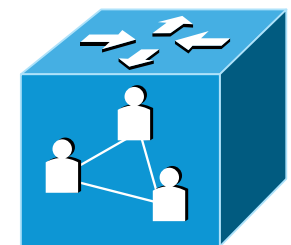
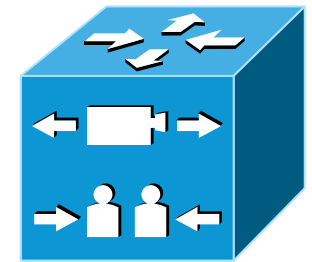
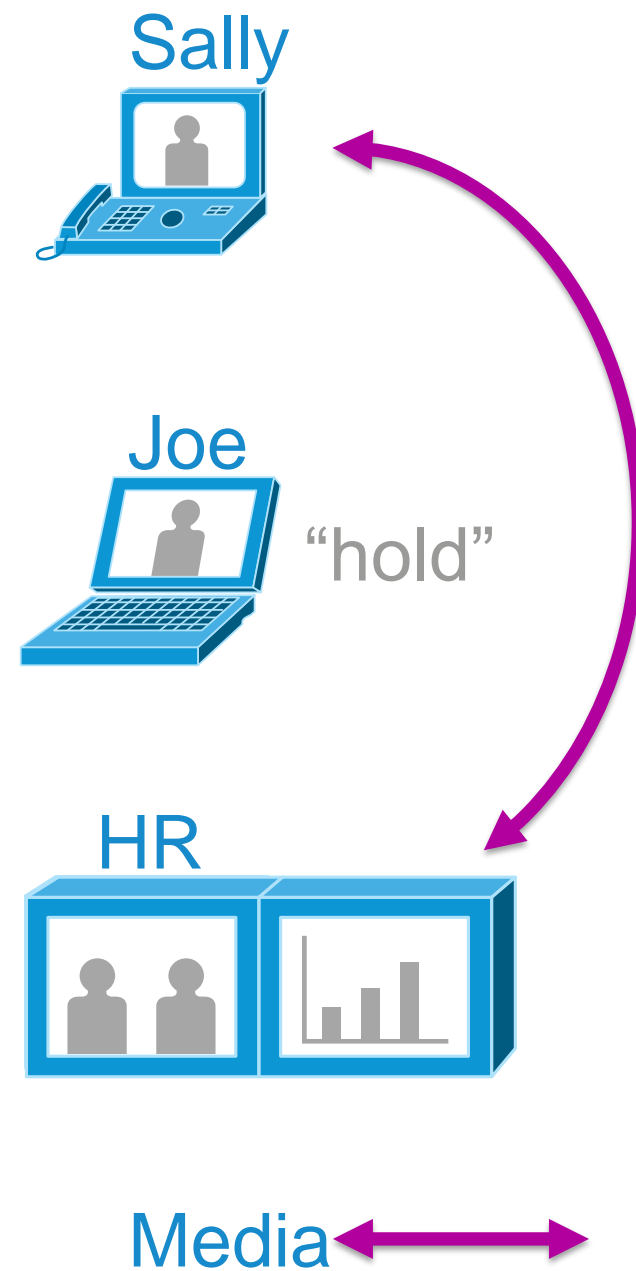
- Sally dials HR using “add participant”
- **Call signalling via VCS**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

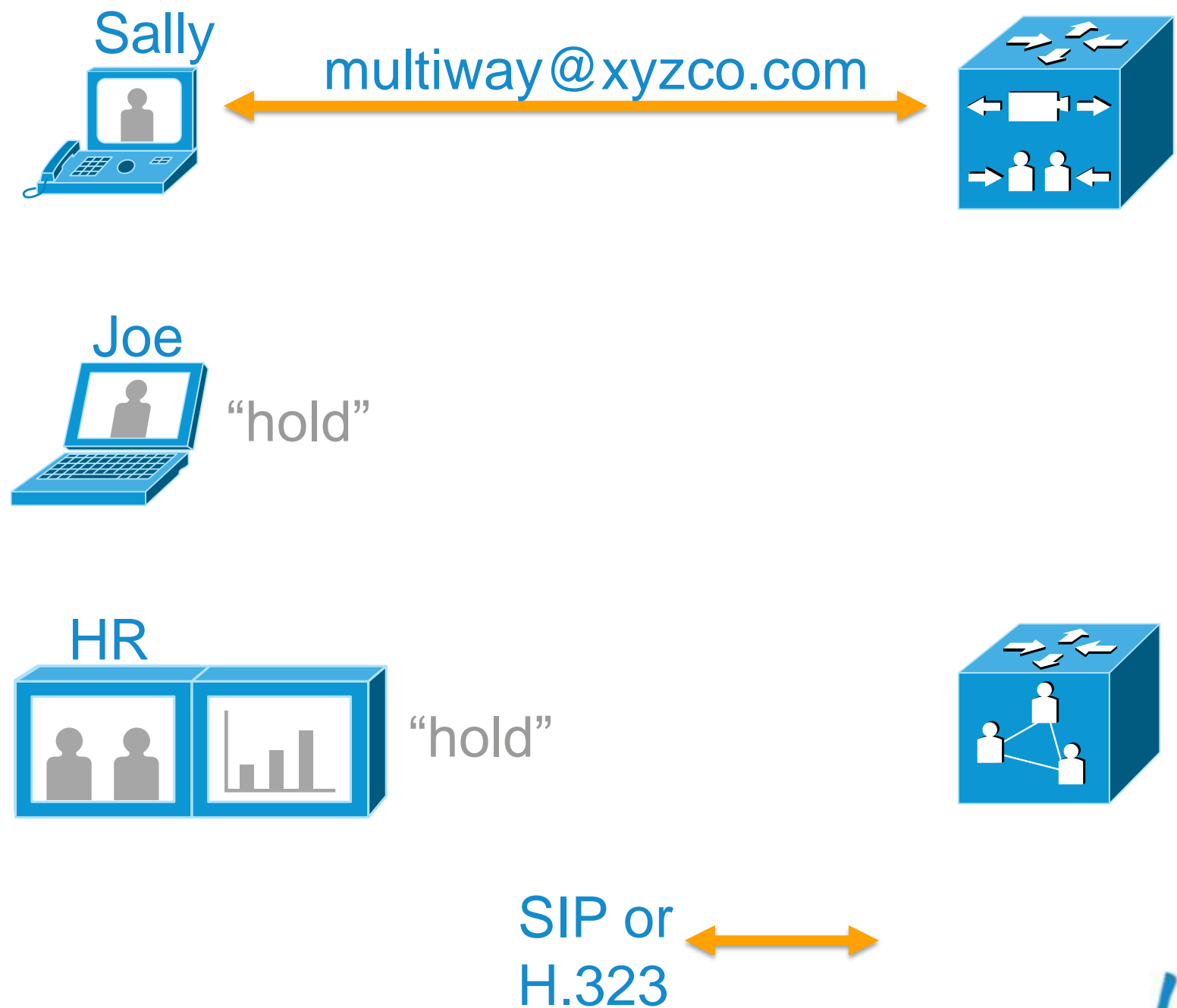
- Sally dials HR using “add participant”
- Call signalling via VCS
- **Media flows direct**



Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

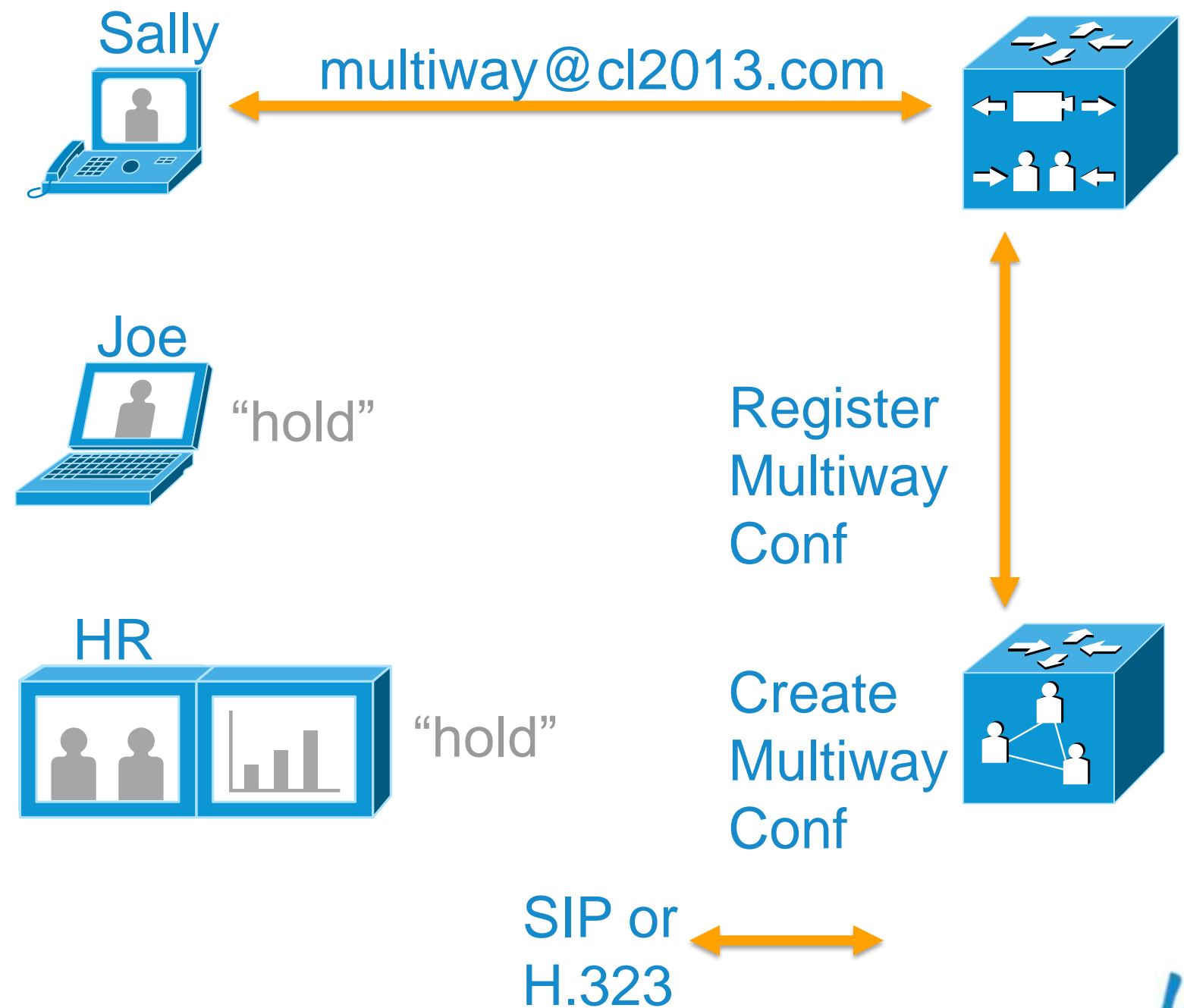
- **Sally presses “join”**
multiway alias sent to
VCS



Ad-hoc Conferencing on VCS

Conference setup and media flow – **Multiway**

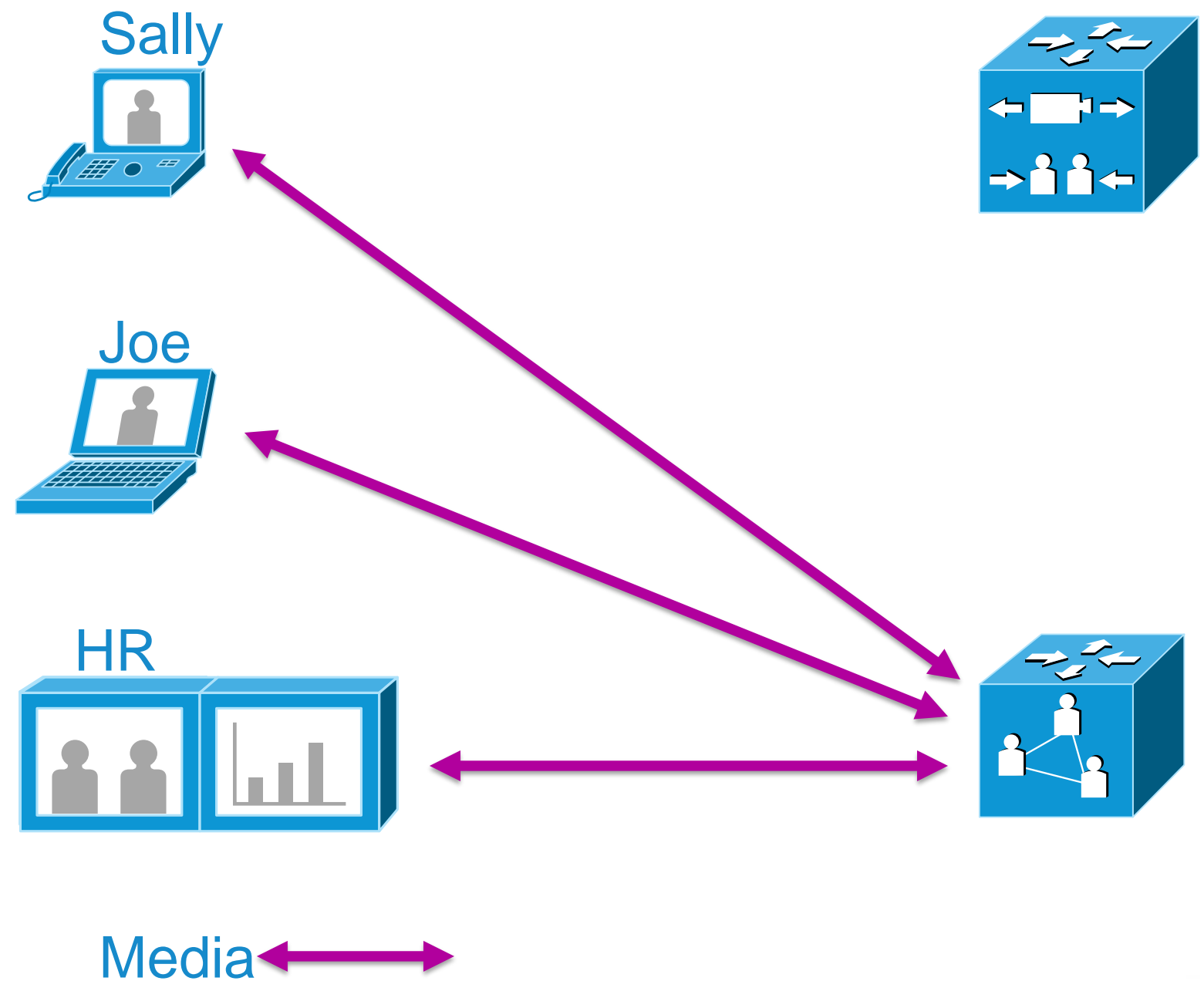
- Sally presses “join”
multiway sent to VCS
- **Multiway conference created on MCU and registered with VCS**



Ad-hoc Conferencing on VCS

Conference setup and media flow – Multiway

- Sally presses “join” multiway sent to VCS
- Multiway conference created on MCU and registered with VCS
- **Calls redirected to new alias – direct media**



Ad-hoc Conferencing

- Conf button on CUCM
- Instant Meetings on VCS with H.323 Service Prefix
- Multiway on VCS

Rendezvous Conferencing





Photo: Petr Novák, Wikipedia

Rendezvous Conferencing

- **Rendezvous meetings with TelePresence Conductor**
- Static meetings with TelePresence MCU

Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor

What is TelePresence Conductor?

Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor

*Separate Conference Alias
From Hardware*

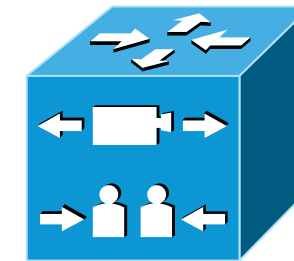
Resource Management
and
MCU Selection

Centralise Conference
Configuration

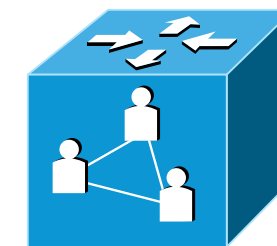
Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – MCU Pools

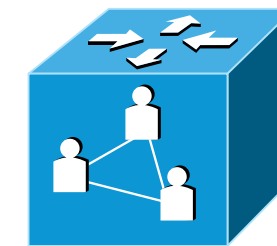
- **MCU's are added to the TelePresence Conductor**



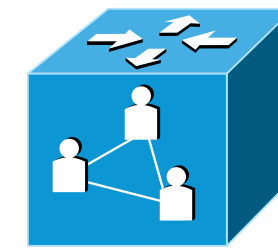
Conductor



MCU 1



MCU 2

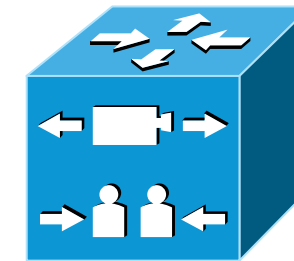


MCU 3

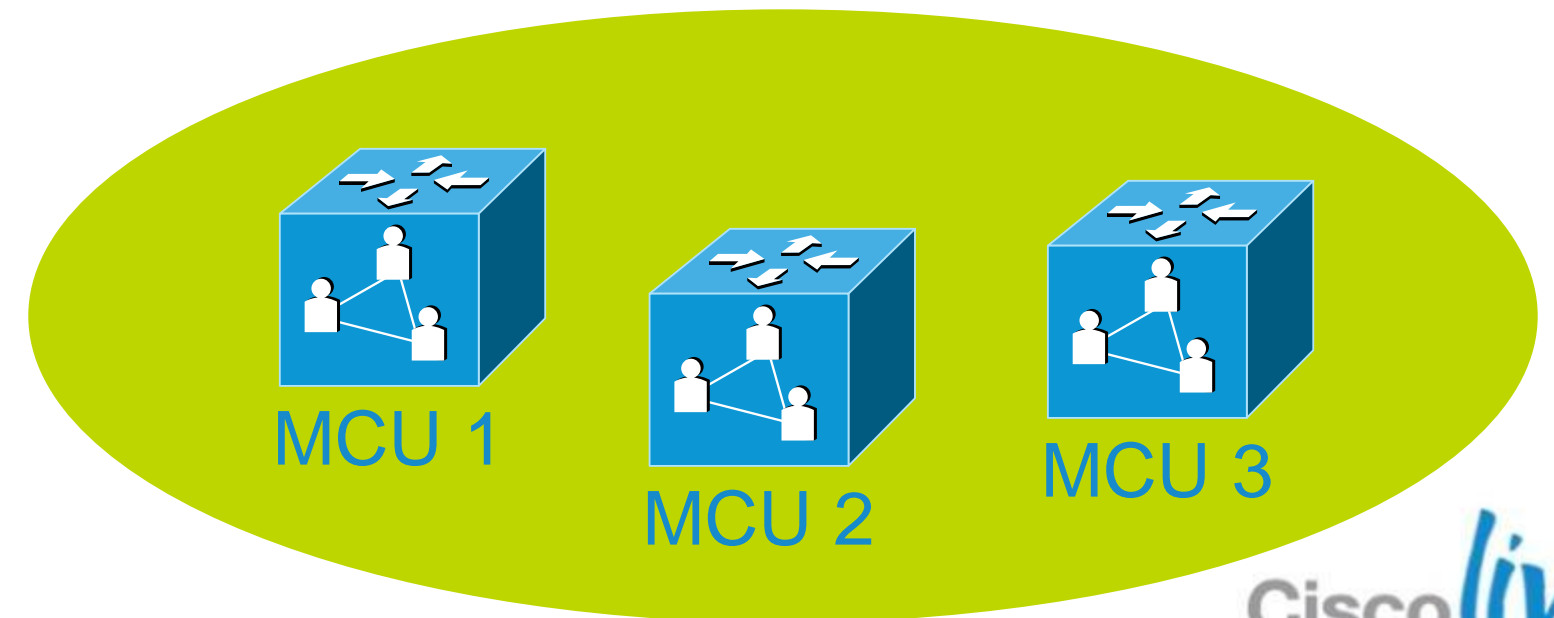
Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – MCU Pools

- MCU's are added to the TelePresence Conductor
- **MCU are grouped into resource pools**



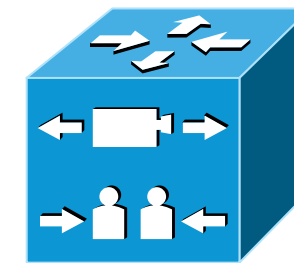
Conductor



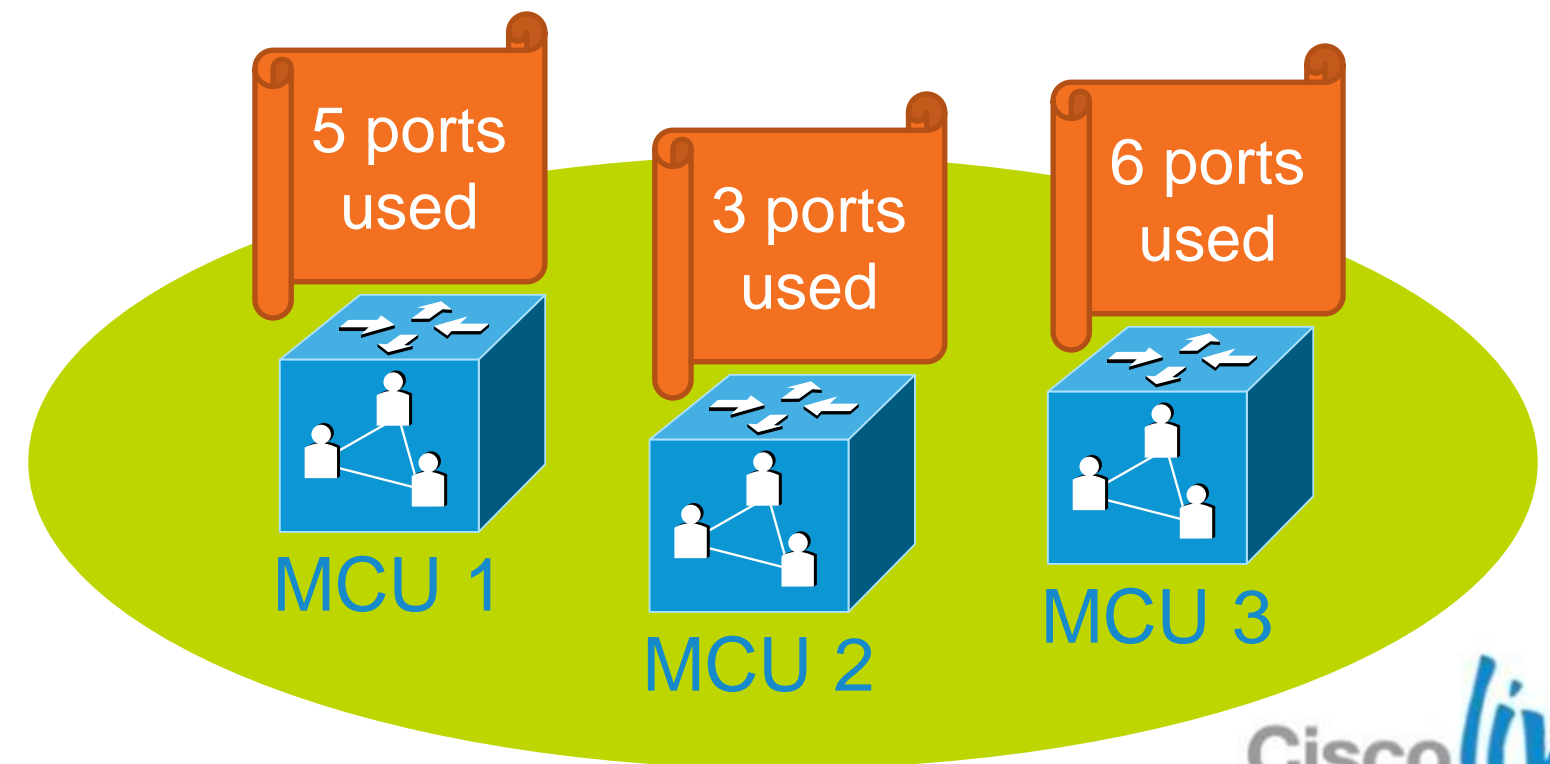
Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – MCU Pools

- **MCU's are chosen inside the pool based on their load**



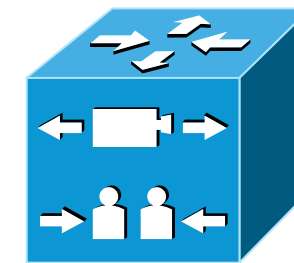
Conductor



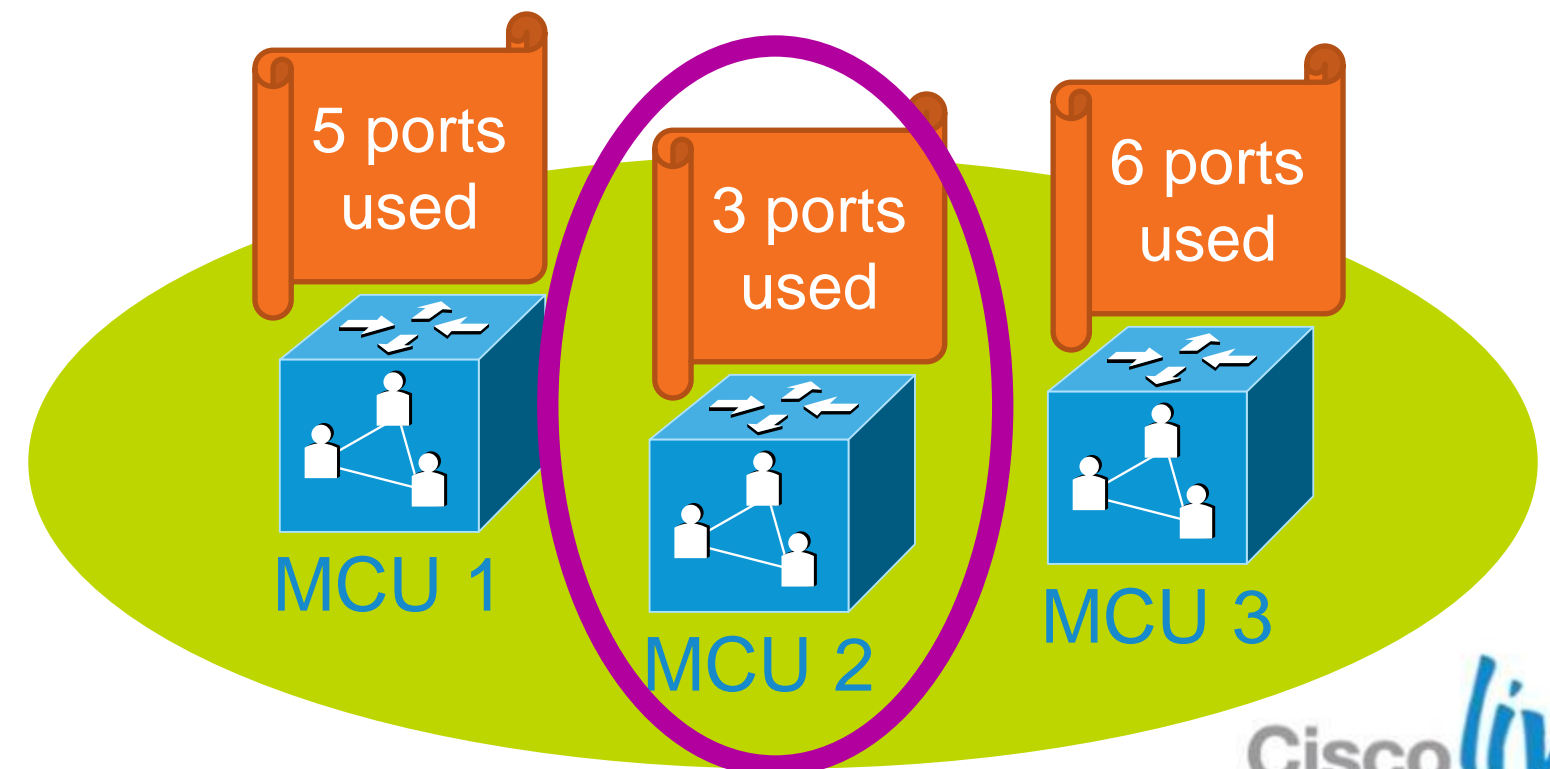
Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – MCU Pools

- MCU's are chosen inside the pool based on their load
- **MCU 2 is selected in this example because it has only 3 ports in use**



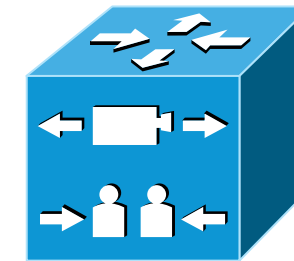
Conductor



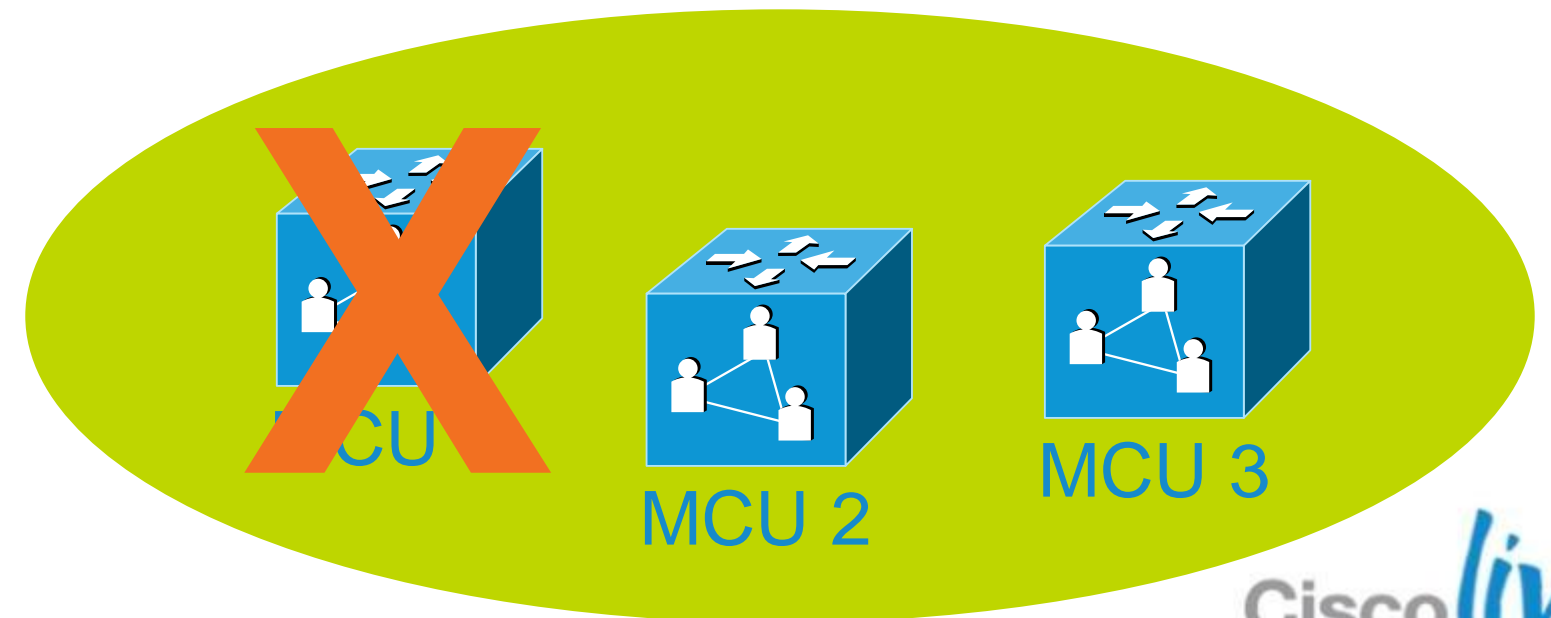
Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – MCU Pools

- **If an MCU is down it is removed from the selection process**



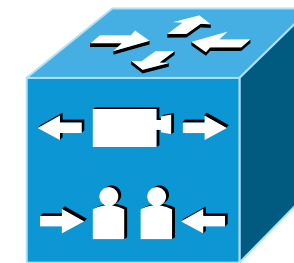
Conductor



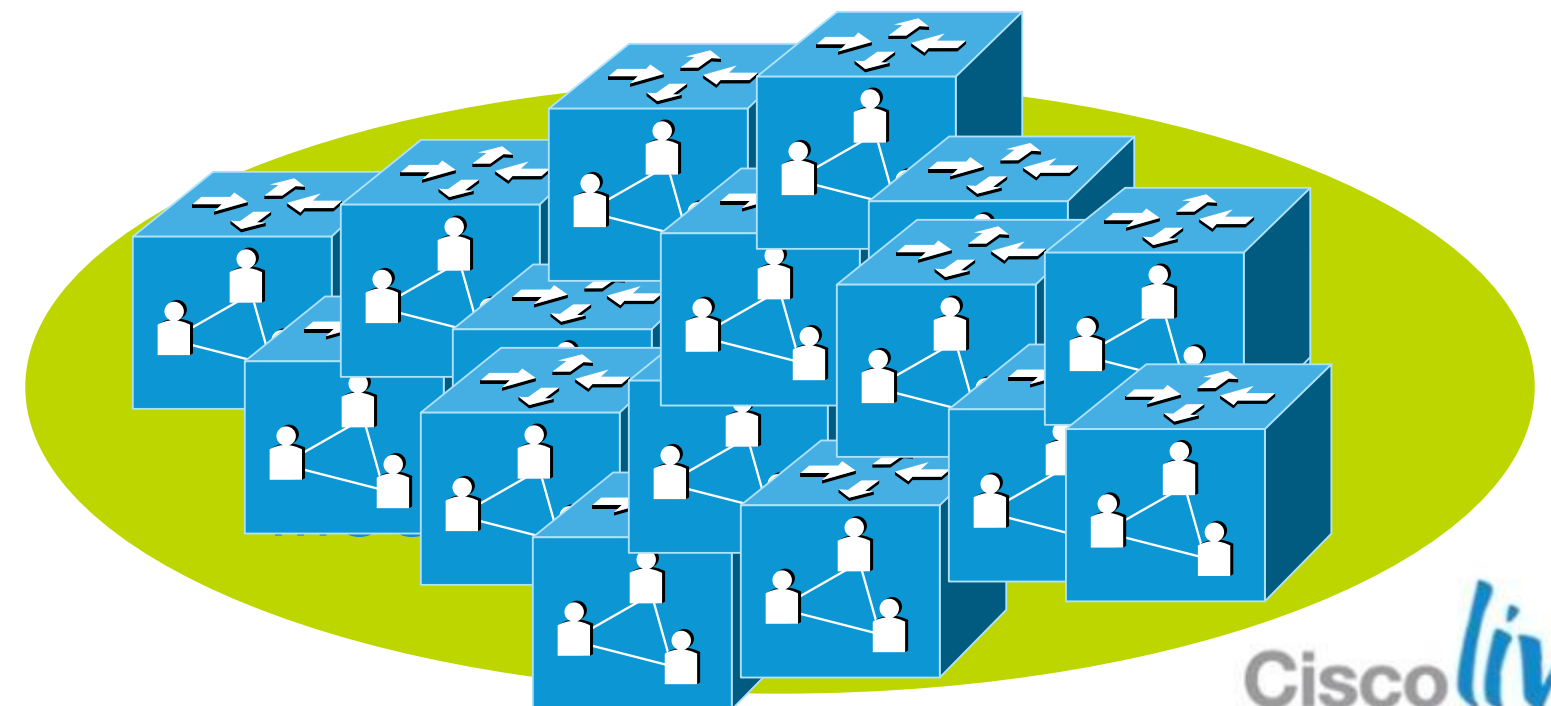
Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – MCU Pools

- If an MCU is down it is removed from the selection process
- **A single pool can contain up to 30 MCU's!**



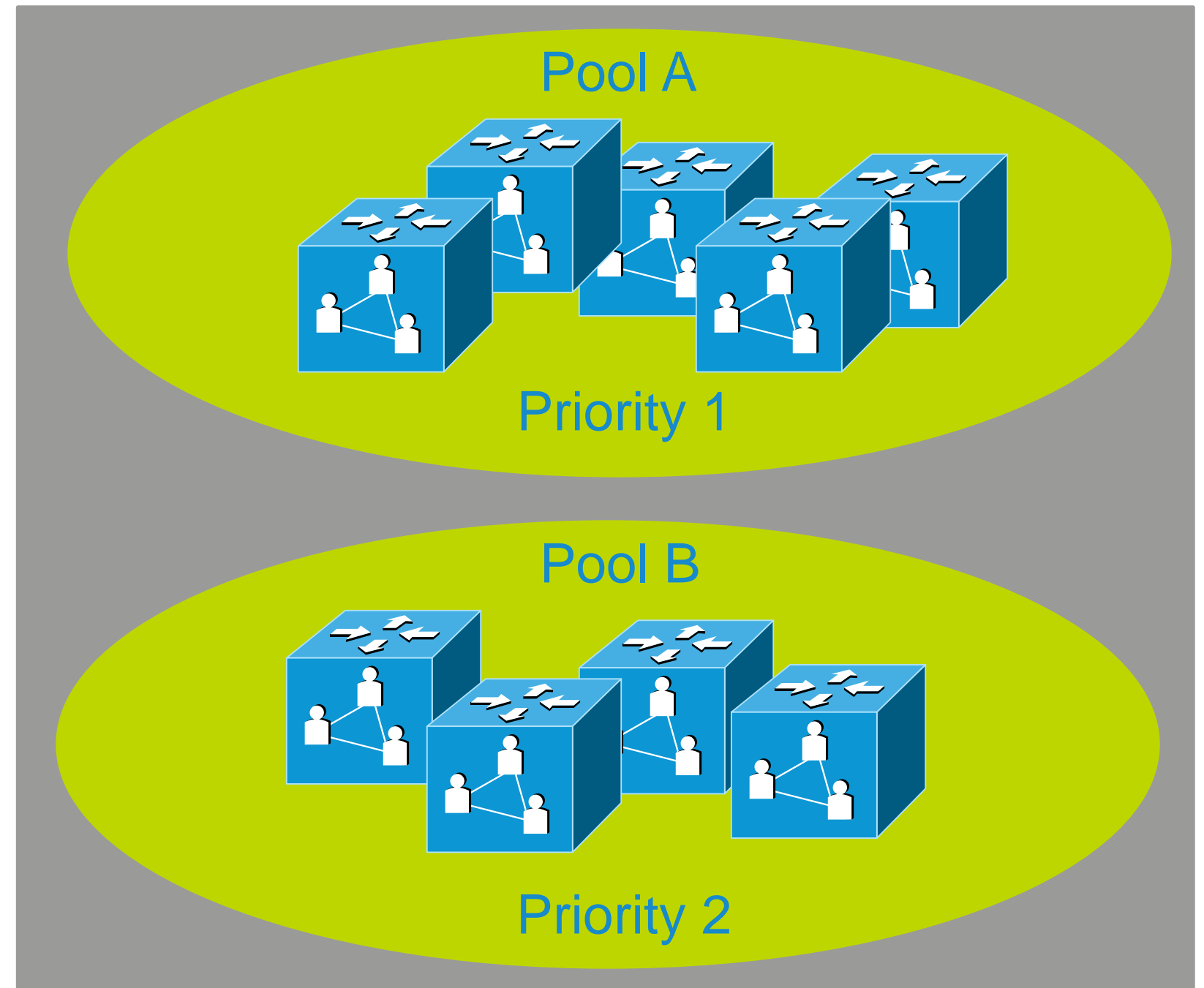
Conductor



Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – Service Preference

- A Service Preference is an ordered list of MCU pools
- TelePresence Conductor selects the correct pool based on the order of priority



Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – Conference Templates

- Specifies conference configuration
- Defines conference capabilities
- Defines participant experience



Conference templates

Name	* Standard
Description	Demo
Conference type	Meeting <input type="button" value="v"/> <input type="button" value="i"/>
No. of cascade ports to reserve	* 1 <input type="button" value="i"/>
Call Policy mode	Off <input type="button" value="v"/> <input type="button" value="i"/>
MCU Service Preference	* ServicePool1 <input type="button" value="v"/> <input type="button" value="i"/>
Limit number of participants	<input type="checkbox"/> Maximum <input type="text" value="0"/>

Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – Conference Alias



- RegEx used to create conference alias
- Aliases have direct associations to Conference Templates
- Users dial aliases to connect to the “right” conference on the “right” resource

Status	System	Conference configuration
Conference aliases		
Modify conference alias		
Name	*	55XX
Description		numeric conference
Incoming alias (must use regex)	*	(55\d\d)(@domain.lab)?
Conference name (must use regex replace string)	*	\1
Priority	*	6
Conference template	*	Standard 
Role name		Participant 

Rendezvous Conferencing

Meetings with Cisco TelePresence Conductor – Conference Alias

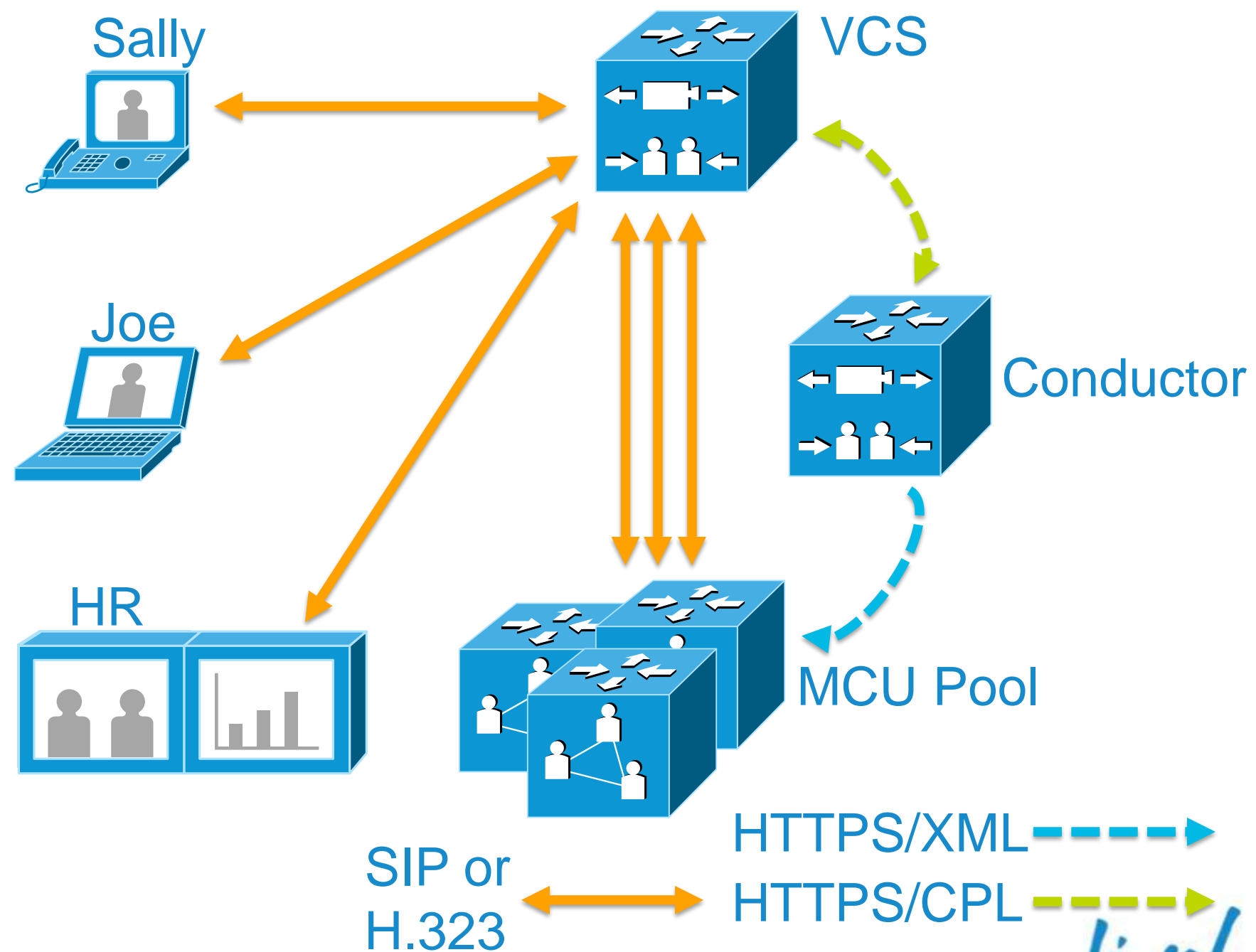
- Example:
 - Users dial any number between 5500 and 5599
 - SIP endpoints dial [55XX@domain.lab](#)
 - Conference is created on MCU with the same name as the dialed number with no domain (5500, 5501, etc...)

Status	System	Conference configuration
Conference aliases		
Modify conference alias		
Name	*	55XX
Description		numeric conference
Incoming alias (must use regex)	*	(55\d\d)(@domain.lab)?
Conference name (must use regex replace string)	*	\1
Priority	*	6
Conference template	*	Standard 
Role name		Participant 

Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

- Endpoints registered to VCS
- MCU's registered to VCS
- VCS <> Conductor:
 - HTTPS Request
 - CPL Reply
- Conductor <> MCU Pool:
 - XML RPC over HTTPS



Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS – MCU before meeting

- Conferences are **not** active on the MCU's within the Pools of the Service Preference:

No active conferences

Name ▼	Description	Owner	Registra
No active conferences			

No scheduled conferences

Delete selected Template for new conference Top level ▼ Add new conference

Name ▼	Numeric ID	Security	Owner	Status
No scheduled conferences				

Delete selected Template for new conference Top level ▼ Add new conference

No completed conferences

Purge selected Purge all

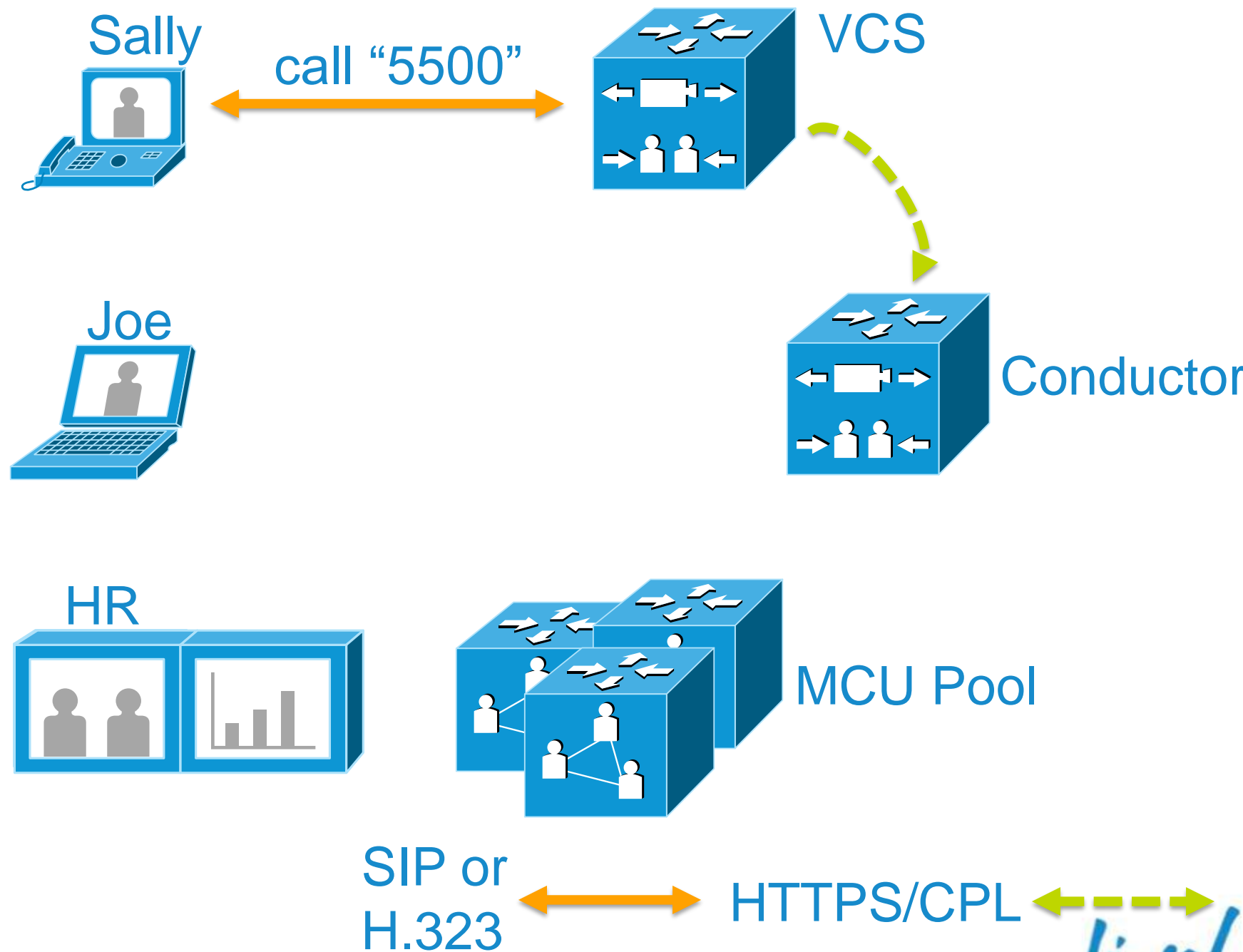
Name ▼	Owner
No completed conferences	

Purge selected Purge all

Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

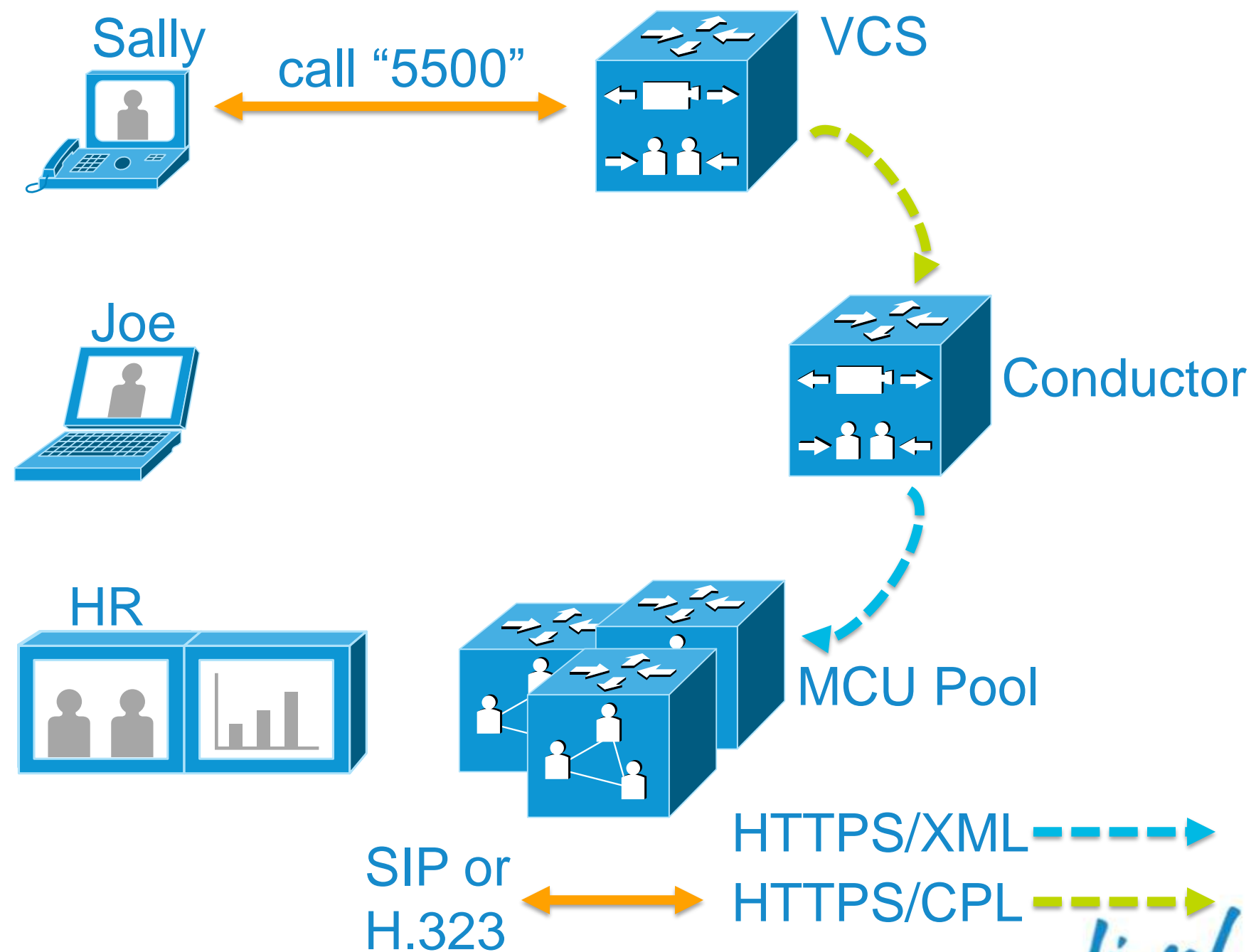
- Sally dials conference alias
- VCS sends call to Conductor for processing via HTTPS



Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

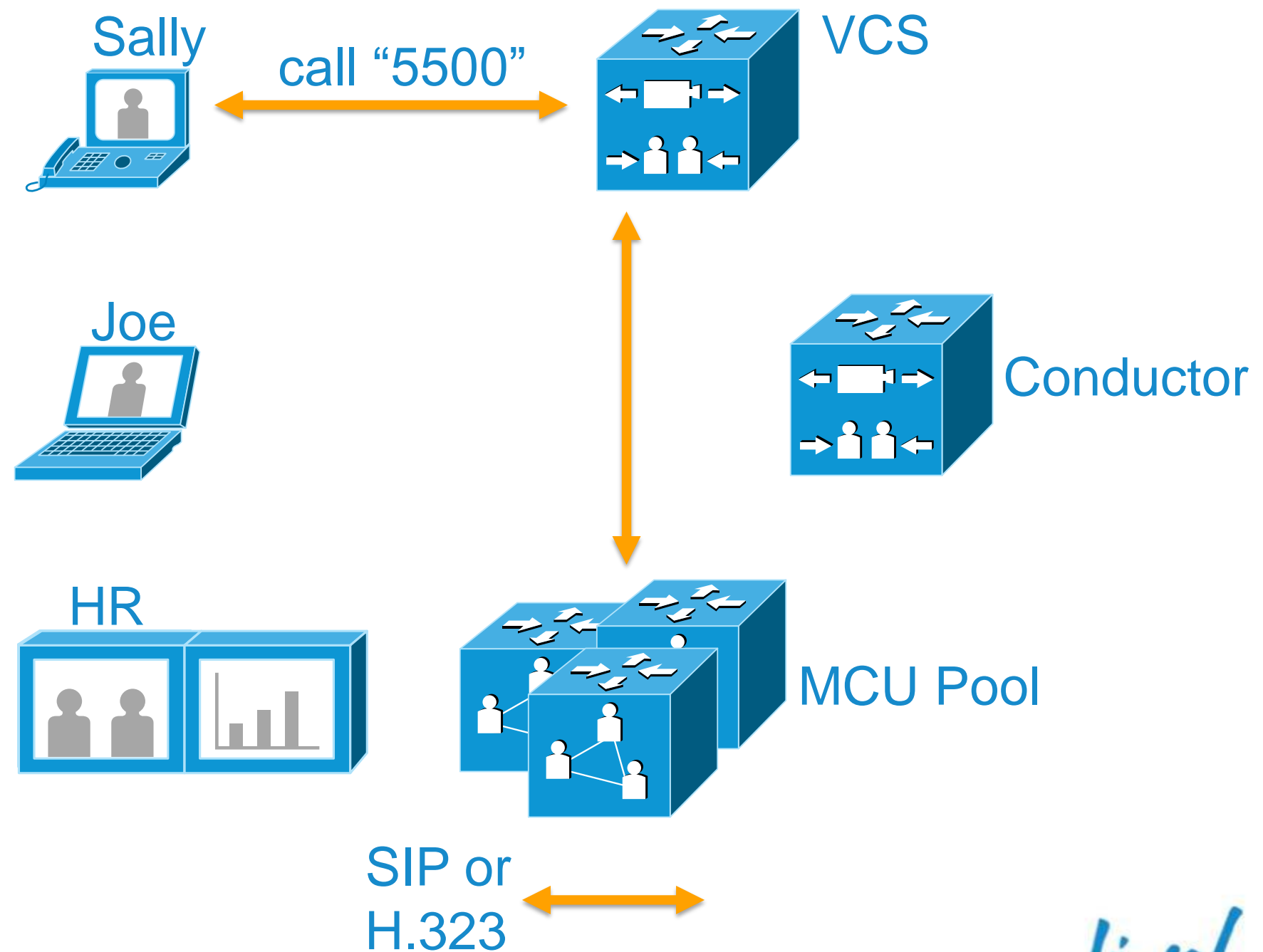
- Sally dials conference alias
- VCS sends call to Conductor for processing via HTTPS
- **Conductor configures appropriate MCU resources via XML**



Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

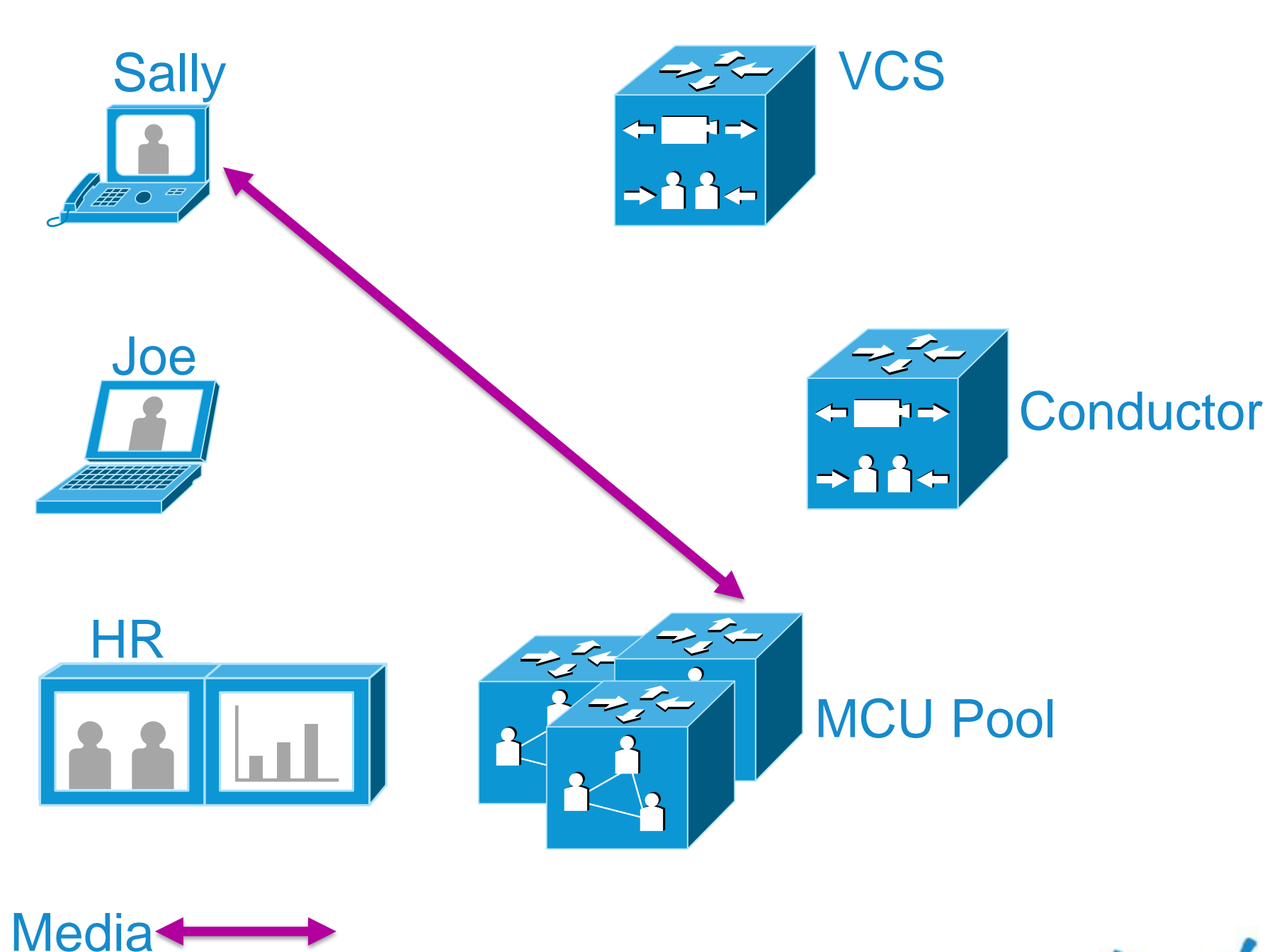
- Conductor replies to VCS with CPL
- VCS routes call to newly established conference



Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

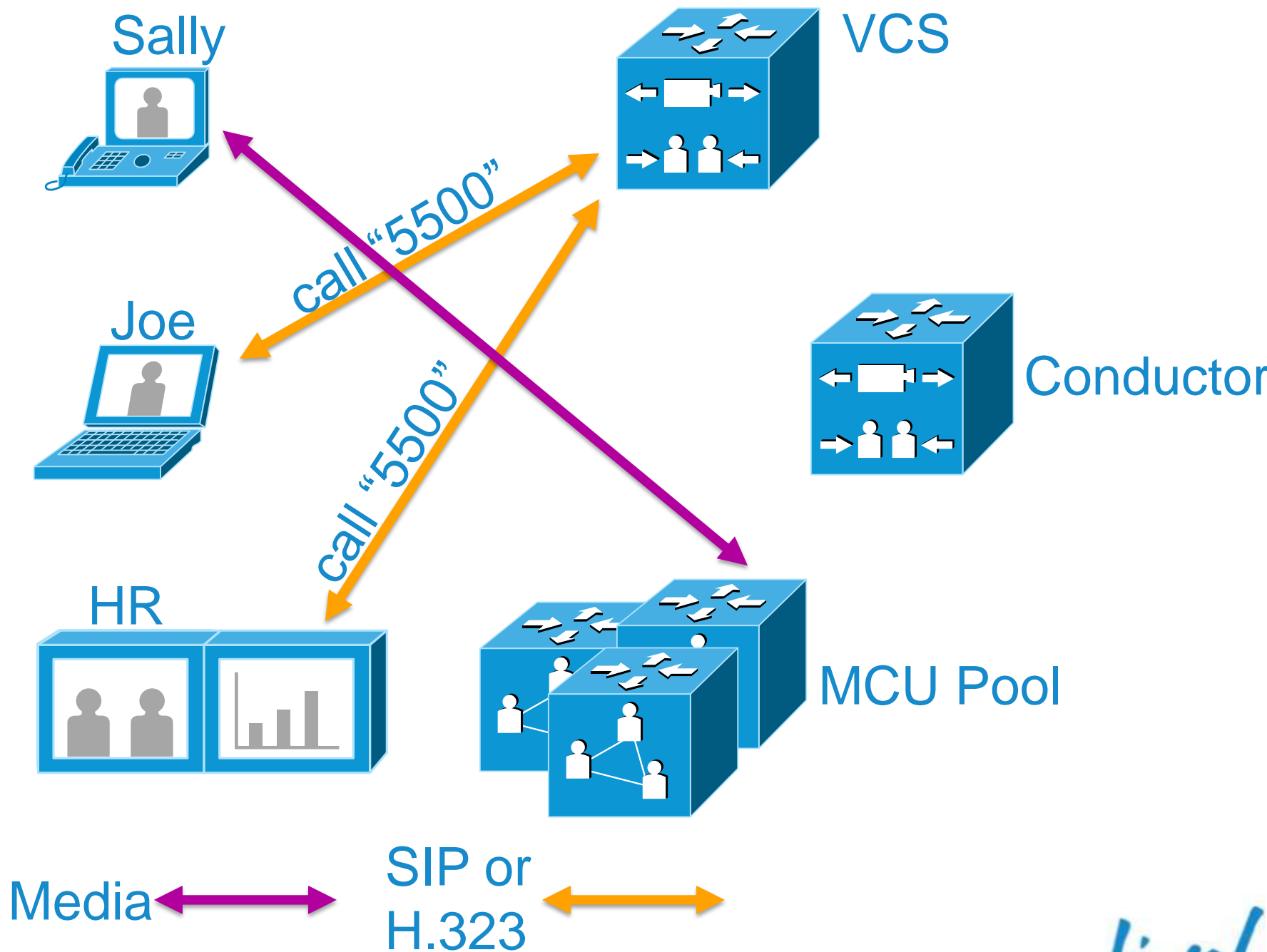
- Conductor replies to VCS with CPL
- VCS routes call to newly established conference
- **Sally is connected to the conference**
 - Media flows direct



Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

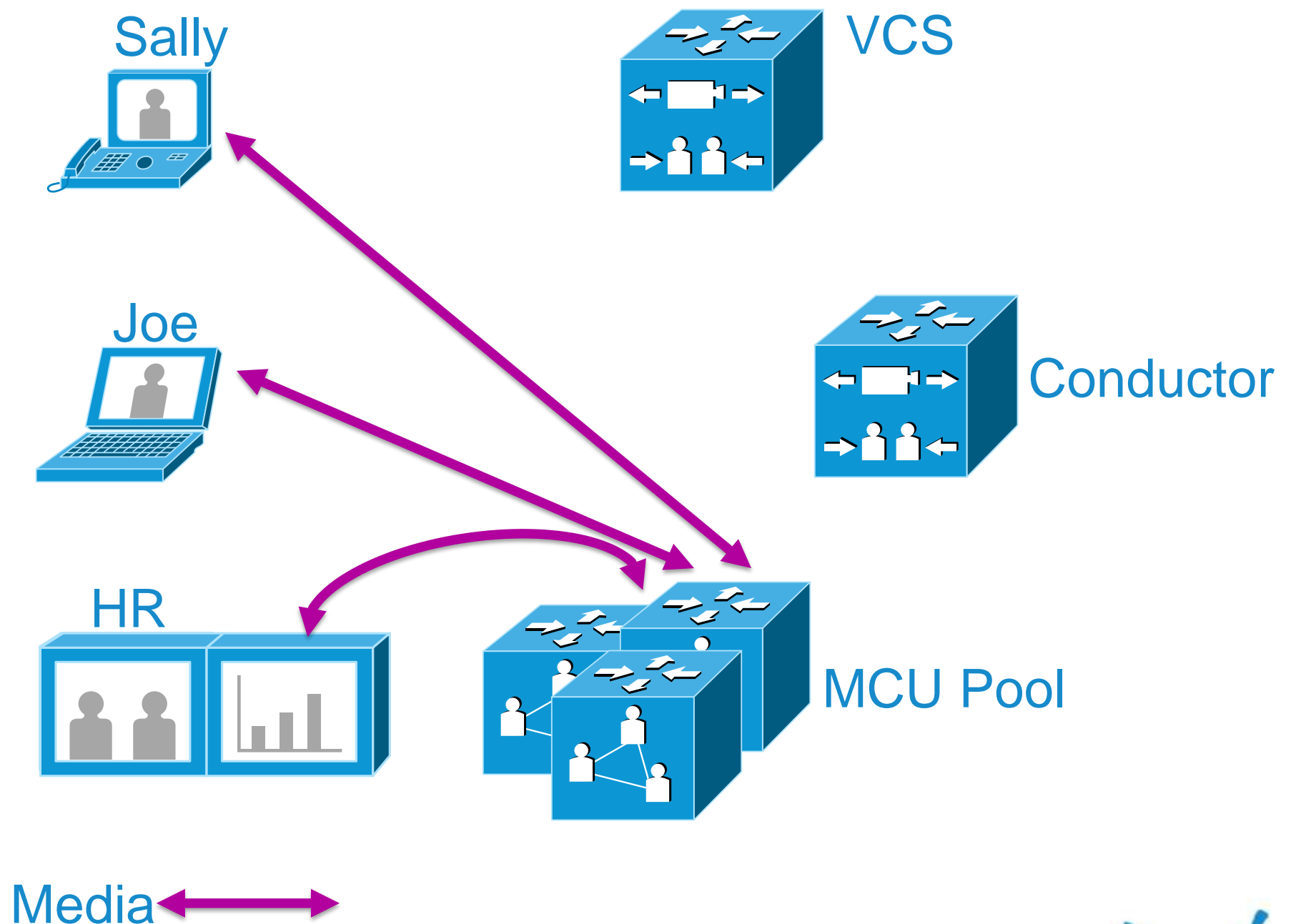
- **Joe and HR dial the conference alias**



Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

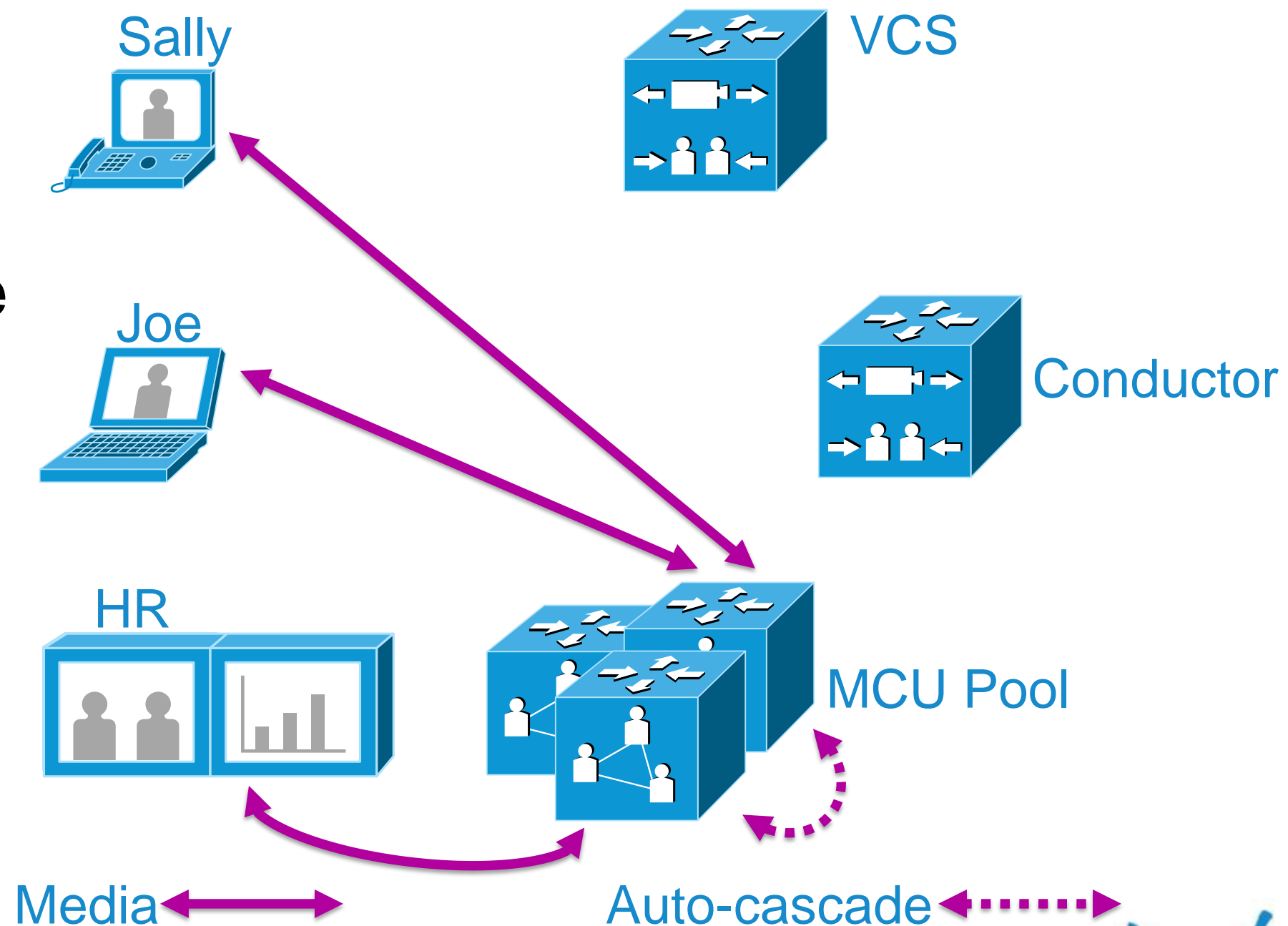
- Joe and HR dial the conference alias
- They connect to the same conference



Rendezvous Conferencing

Conference setup and media flow – Conductor with VCS

- Joe and HR dial the conference alias
- They connect to the same conference
- **Even if it needs to fall across multiple MCU's!**



Rendezvous Conferencing

- Rendezvous meetings with TelePresence Conductor
- **Static meetings with TelePresence MCU**

Rendezvous Conferencing

Static meetings with TelePresence MCU – Conference Template

Parameters				
Name	Project Update			
Parent template	Top level ▼			
Numeric ID registration	H.323 gatekeeper	Enabled ▼	SIP registrar	Enabled ▼
When only guests remain	<use parent setting> ▼			
Automatic lecture mode	<use parent setting> ▼			
Timeout for Type 1 automatic lecture mode	<use parent setting> ▼			
Visibility	<use parent setting> ▼			
Encryption	Required ▼			
Invite pre-configured participants	When at least one other participant is present ▼			
Mute on join	Audio	Enabled ▼	Video	<use parent setting> ▼

Rendezvous Conferencing

Static meetings with TelePresence MCU – Pre-configured participants

[Home](#) > [Endpoints](#) > [Add SIP Endpoint](#)

SIP Endpoint

SIP Endpoint

Display parameters

Name

Call-out parameters

Address

Use SIP registrar

3 configured endpoints

- Delete selected
- Add H.323
- Add SIP
- Add VNC

Name ▼	Address
<input type="checkbox"/> Human Resources	HR@xyzco.com
<input type="checkbox"/> Joe	joe@xyzco.com
<input type="checkbox"/> Sally	sally@xyzco.com



Rendezvous Conferencing

Static meetings with TelePresence MCU – Creating a new conference

- Associate a template to a new conference

ed conferences

Template for new conference

Top level

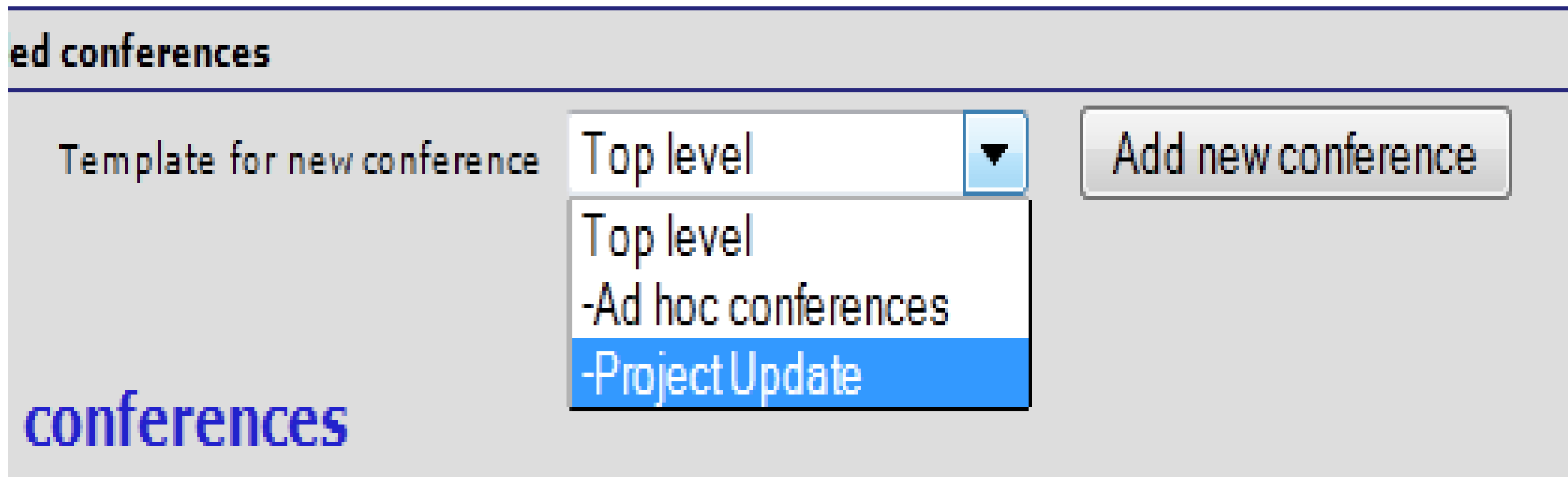
Top level

-Ad hoc conferences

-Project Update

conferences

Add new conference



Rendezvous Conferencing

Static meetings with TelePresence MCU – Creating a new conference

Parameters		
Name	<input type="text" value="Project Update"/>	
Description	<input type="text" value="XYZ Co - Big Project"/>	(optional)
Numeric ID	<input type="text" value="99999"/>	(optional)
PIN	<input type="text"/>	(optional)
Guest numeric ID	<input type="text"/>	(optional)
Guest PIN	<input type="text"/>	(optional)
Owner	<input type="text" value="admin"/>	
Numeric ID registration	<input checked="" type="checkbox"/> H.323 gatekeeper <input checked="" type="checkbox"/> SIP registrar	
When only guests remain	<input type="text" value="Take no action"/>	
Automatic lecture mode	<input type="text" value="Disabled"/>	
For Type 1 automatic lecture mode	<input type="text" value="Immediately"/>	
Visibility	<input type="text" value="Public"/>	
Encryption	<input type="text" value="Optional"/>	
Invite pre-configured participants	<input type="text" value="When at least one other participant is present"/>	
Mute on join	<input checked="" type="checkbox"/> Audio <input type="checkbox"/> Video	

From Template



Rendezvous Conferencing

Static meetings with TelePresence MCU – Creating a new conference

Start time and duration

Start time : (time now 23:27)

Start date (Today is December 20 2012)

Permanent

Maximum duration days hours minutes

Repetition

Interval No repeat
 Daily
 Every on Mon Tue Wed Thu Fri Sat
 The of every month

Termination No end date
 After repetition(s)
 End on or by (Today is Deceml

Set permanent

Rendezvous Conferencing

Static meetings with TelePresence MCU – Alias registration with VCS

Records: 10

Alias	Alias type	Protocol
<u>81</u>	MCU Prefix	H323
<u>99999@xyzco.com</u>	AOR	SIP
<u>99999</u>	E164	H323
<u>HR@xyzco.com</u>	AOR	SIP
<u>HR@xyzco.com</u>	H323Id	H323
<u>joe@xyzco.com</u>	AOR	SIP
<u>mcu1@xyzco.com</u>	AOR	SIP
<u>multiway@xyzco.com</u>	AOR	SIP
<u>sally@xyzco.com</u>	AOR	SIP
<u>xyzcomcu1</u>	H323Id	H323

Rendezvous Conferencing

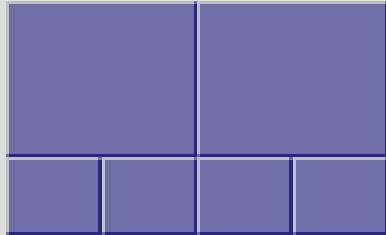
Static meetings with TelePresence MCU – Custom layouts

[Home](#) > [Conferences](#) > [Conference "Project Update"](#) > **Custom layout**

Participants Configuration **Custom layout**

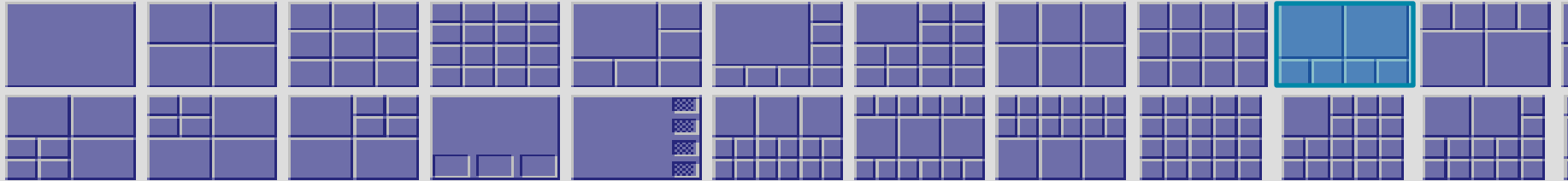
Conference "Project Update"

Conference custom layout



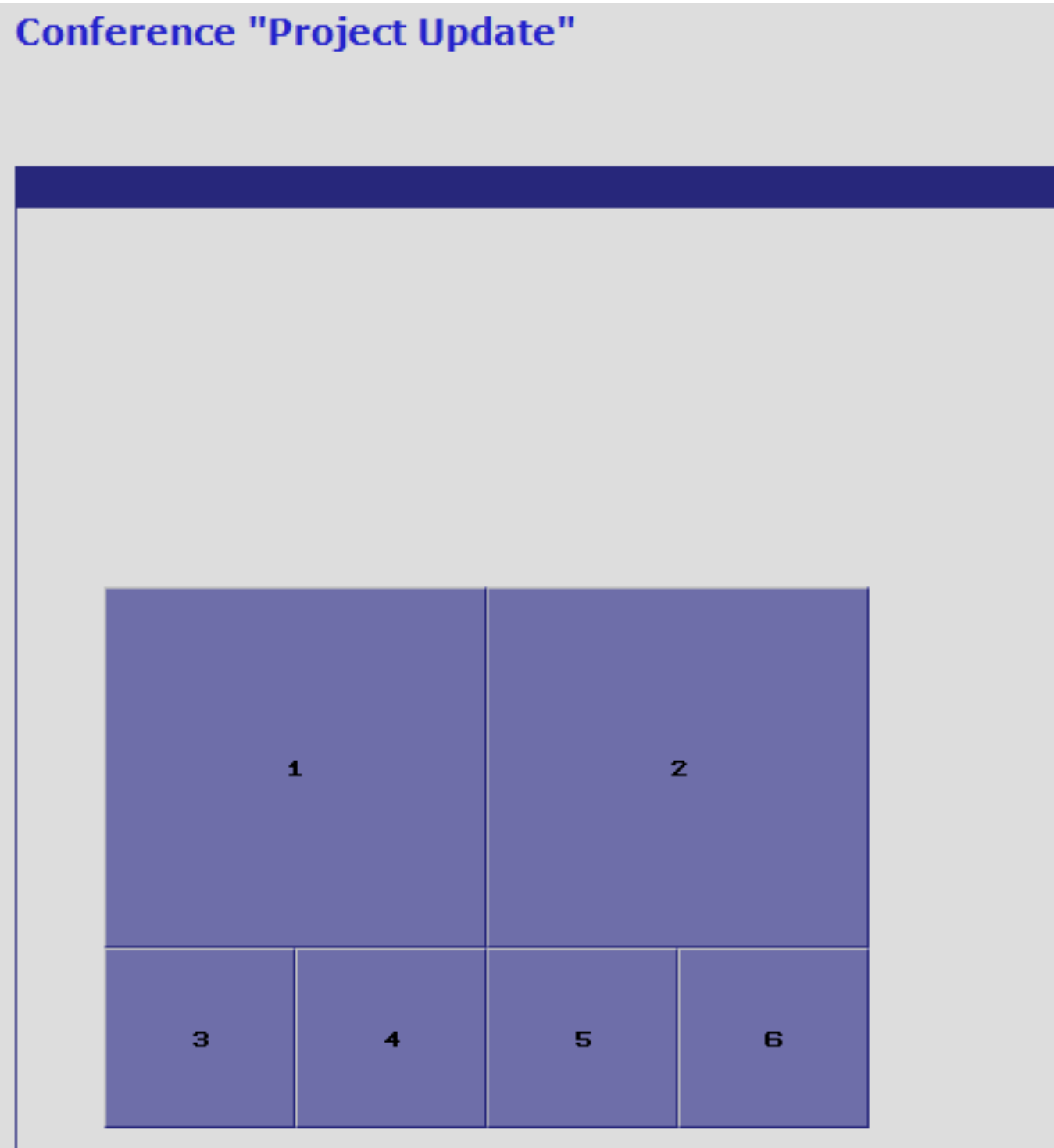
Available layouts

These layouts are designed to be suitable for all video conferencing situations.



Rendezvous Conferencing

Static meetings with TelePresence MCU – Custom layouts – Pane placement



Current status Enabled Disabled

Pane 1	<default>
Pane 2	<blank>
Pane 3	<default>
Pane 4	<rolling>
Pane 5	<loudest speaker>
Pane 6	<content>
Pane 7	SIP: Human Resources
Pane 8	SIP: Joe
Pane 9	SIP: Sally
Pane 10	<default>
Pane 11	<default>
Pane 12	<default>
Pane 13	<default>



Rendezvous Conferencing

Static meetings with TelePresence MCU – MCU before meeting

Conference list Auto attendants Move participants Templates

1 active conference

Name ▼	Description	Owner	Registration	Participants
Project Update	Stream XYZ Co - Big Project	admin	Registered	0 (3 dormant)

1 scheduled conference

 Template for new conference ▼

Name ▼	Numeric ID	Security	Owner	Status
<input type="checkbox"/> Project Update	99999	<none>	admin	In progress

 Template for new conference ▼



Rendezvous Conferencing

Static meetings with TelePresence MCU – MCU during meeting

[Home](#) > [Conferences](#) > Conference list

Conference list Auto attendants Move participants Templates

1 active conference

Name ▼	Description	Owner	Registration	Participants
Project Update	Stream XYZ Co - Big Project	admin	Registered	3

1 scheduled conference

Delete selected Template for new conference: Top level ▼ Add new conference

Name ▼	Numeric ID	Security	Owner	Status
<input type="checkbox"/> Project Update	99999	<none>	admin	In progress

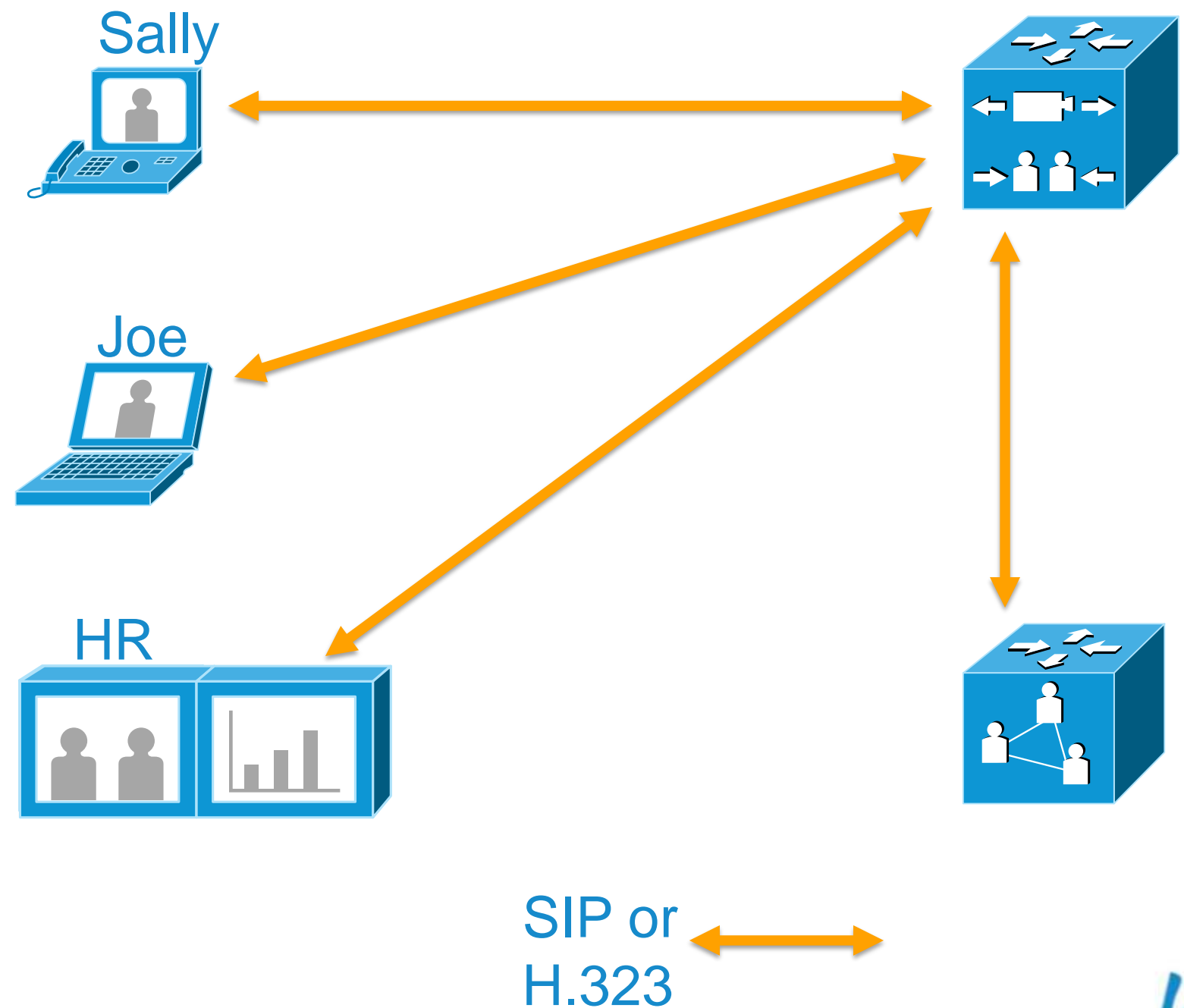
Delete selected Template for new conference: Top level ▼ Add new conference



Rendezvous Conferencing

Conference setup and media flow – **Static meetings on TelePresence MCU**

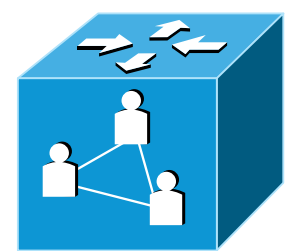
- Endpoints registered to VCS
- MCU registered to VCS
- Static conference configured on MCU and registered to VCS



Rendezvous Conferencing

Conference setup and media flow – **Static meetings on TelePresence MCU**

- **Sally dials into static conference**



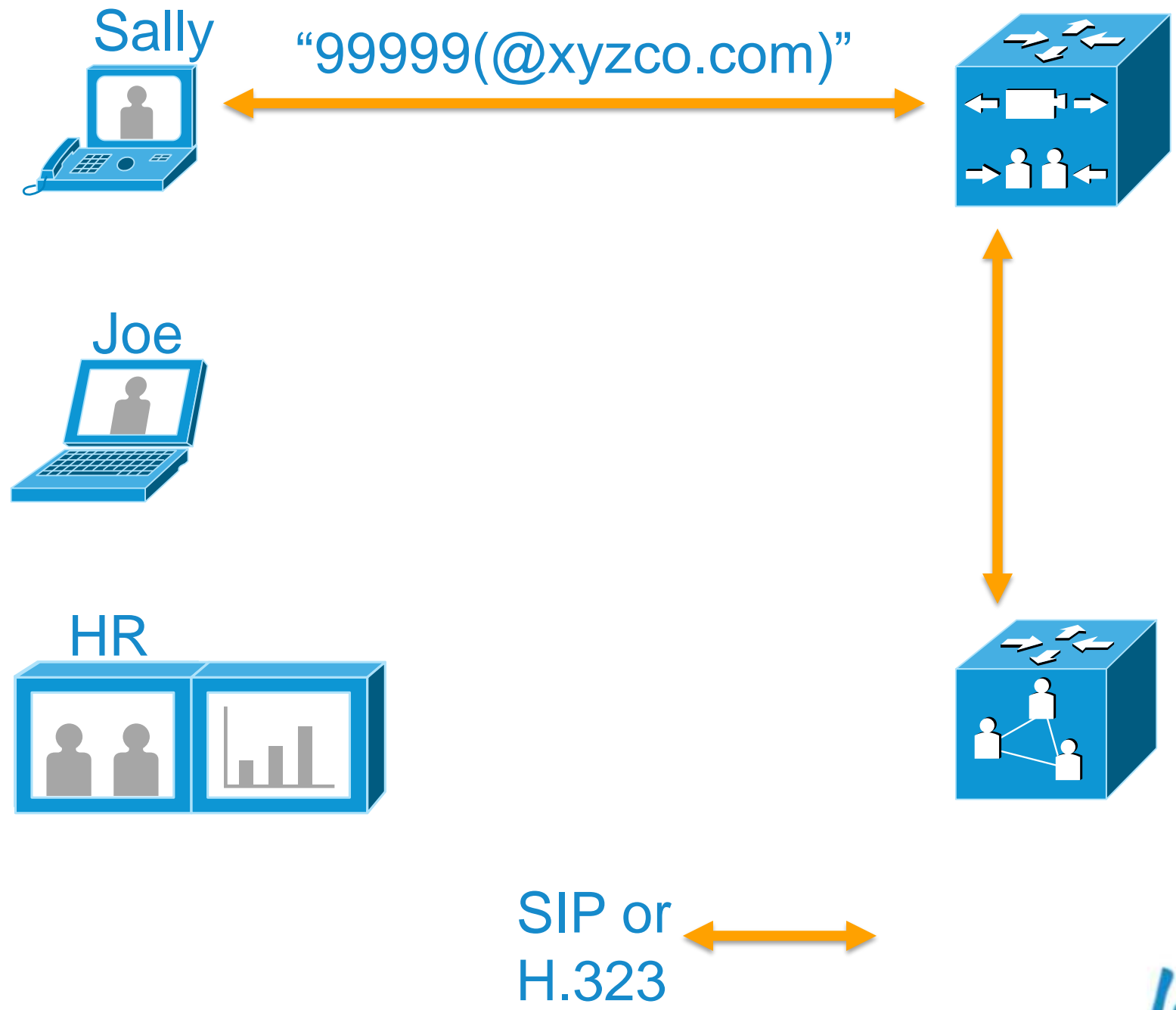
SIP or H.323



Rendezvous Conferencing

Conference setup and media flow – **Static meetings on TelePresence MCU**

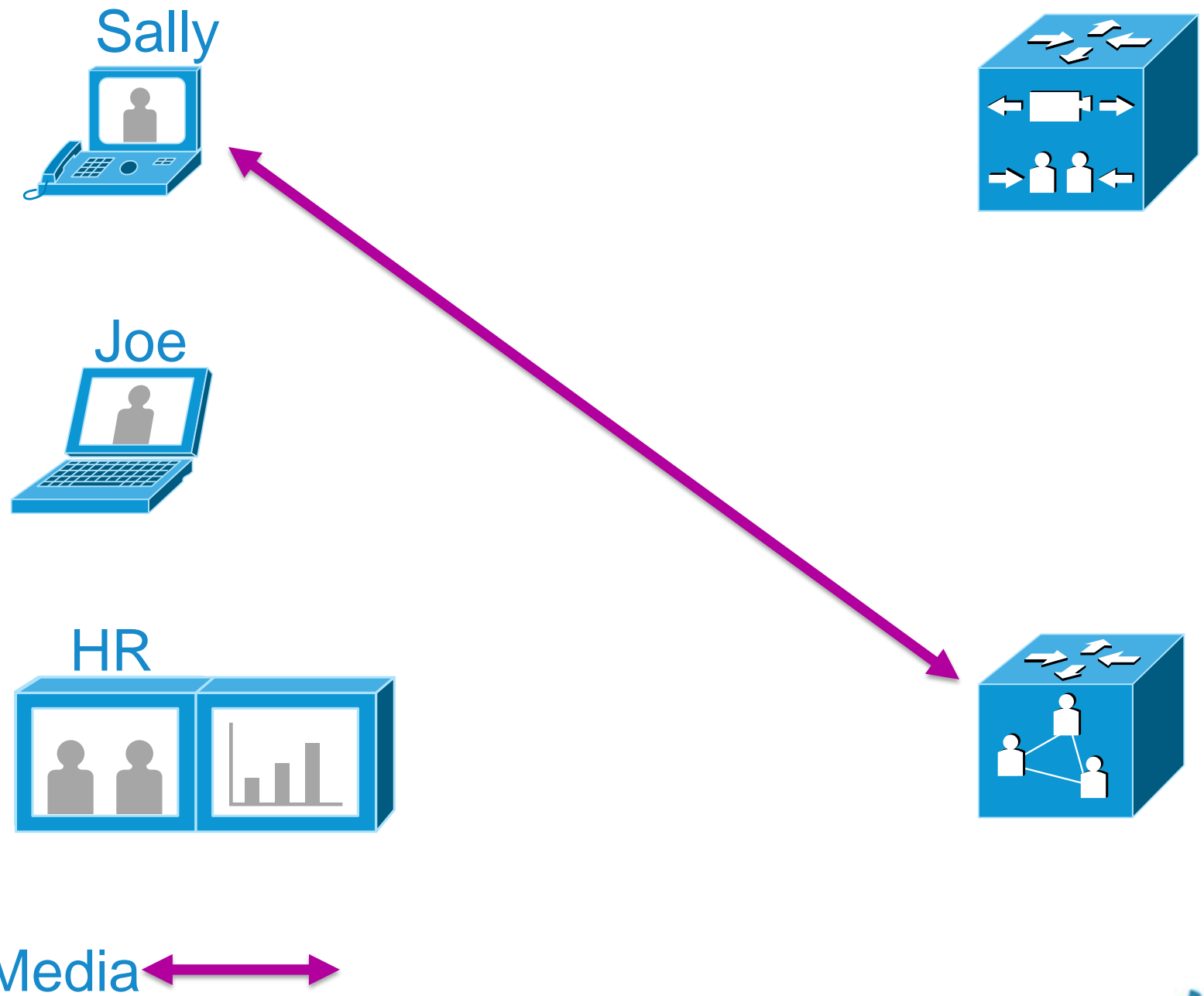
- Sally dials into static conference
- **Call signalling via VCS**



Rendezvous Conferencing

Conference setup and media flow – **Static meetings on TelePresence MCU**

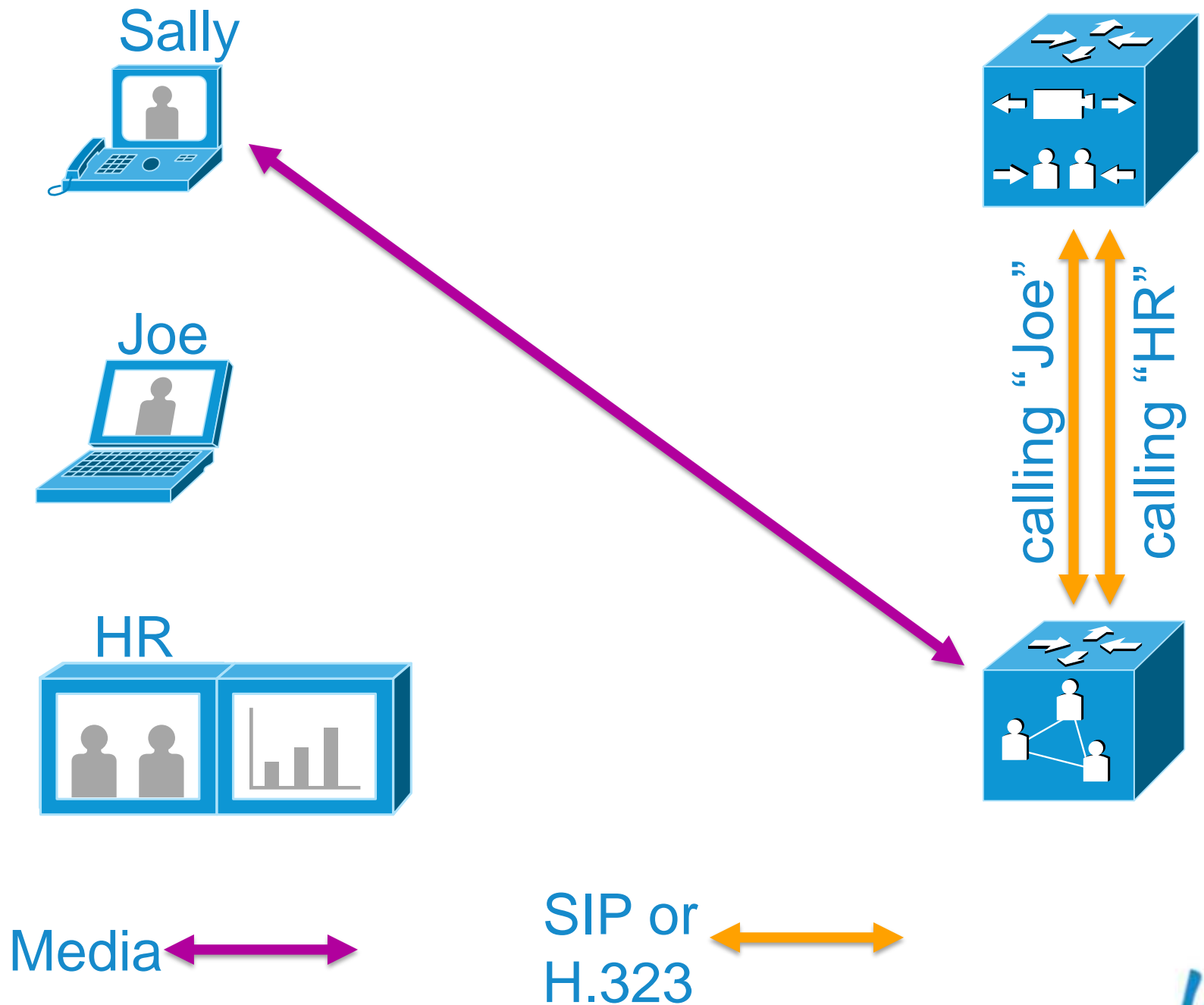
- Sally dials into static conference
- Call signalling via VCS
- **Sally connects and initiates the static conference**



Rendezvous Conferencing

Conference setup and media flow – **Static meetings on TelePresence MCU**

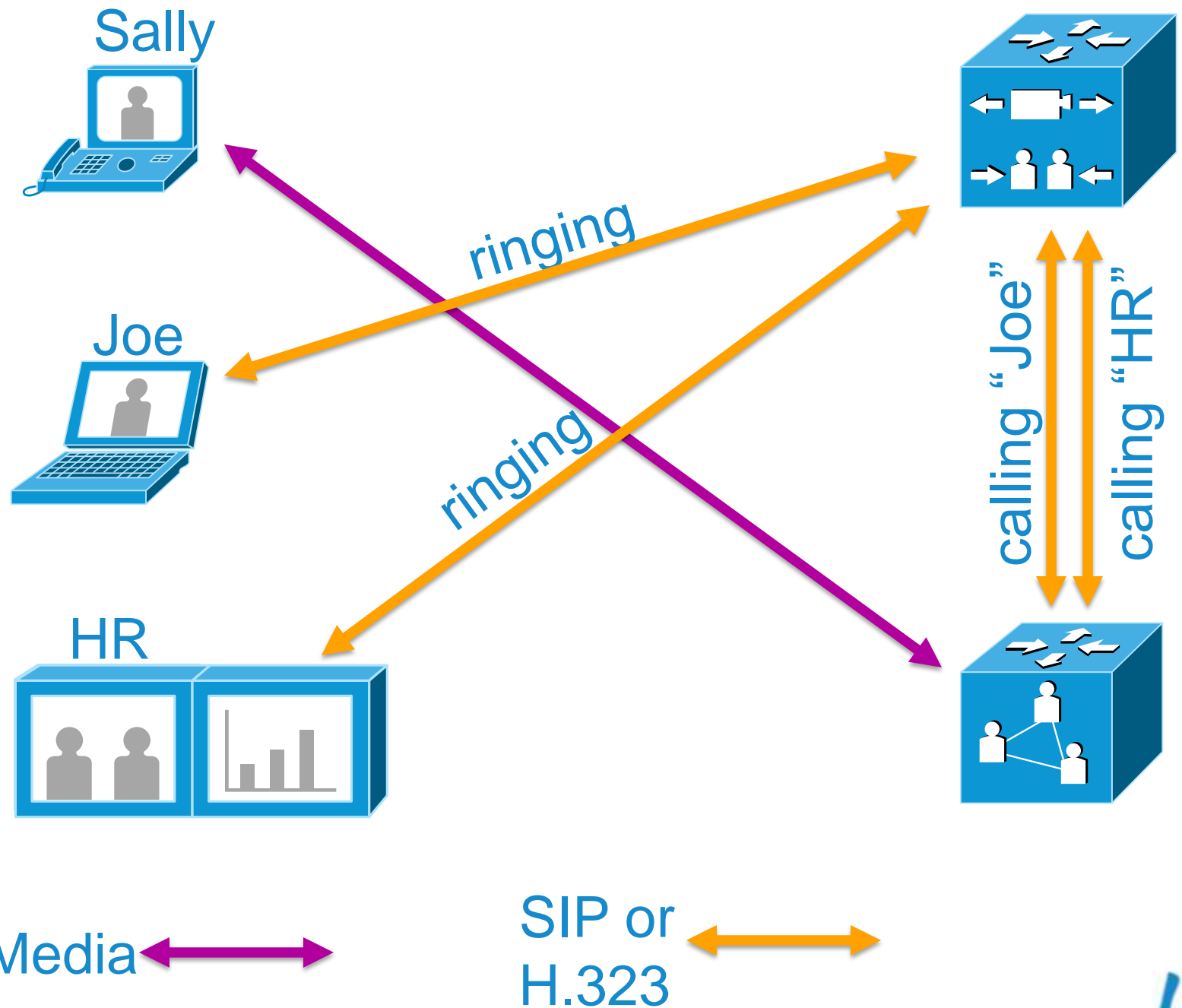
- **Conference initiation drives MCU dial-out to pre-configured participants**



Rendezvous Conferencing

Conference setup and media flow – **Static meetings on TelePresence MCU**

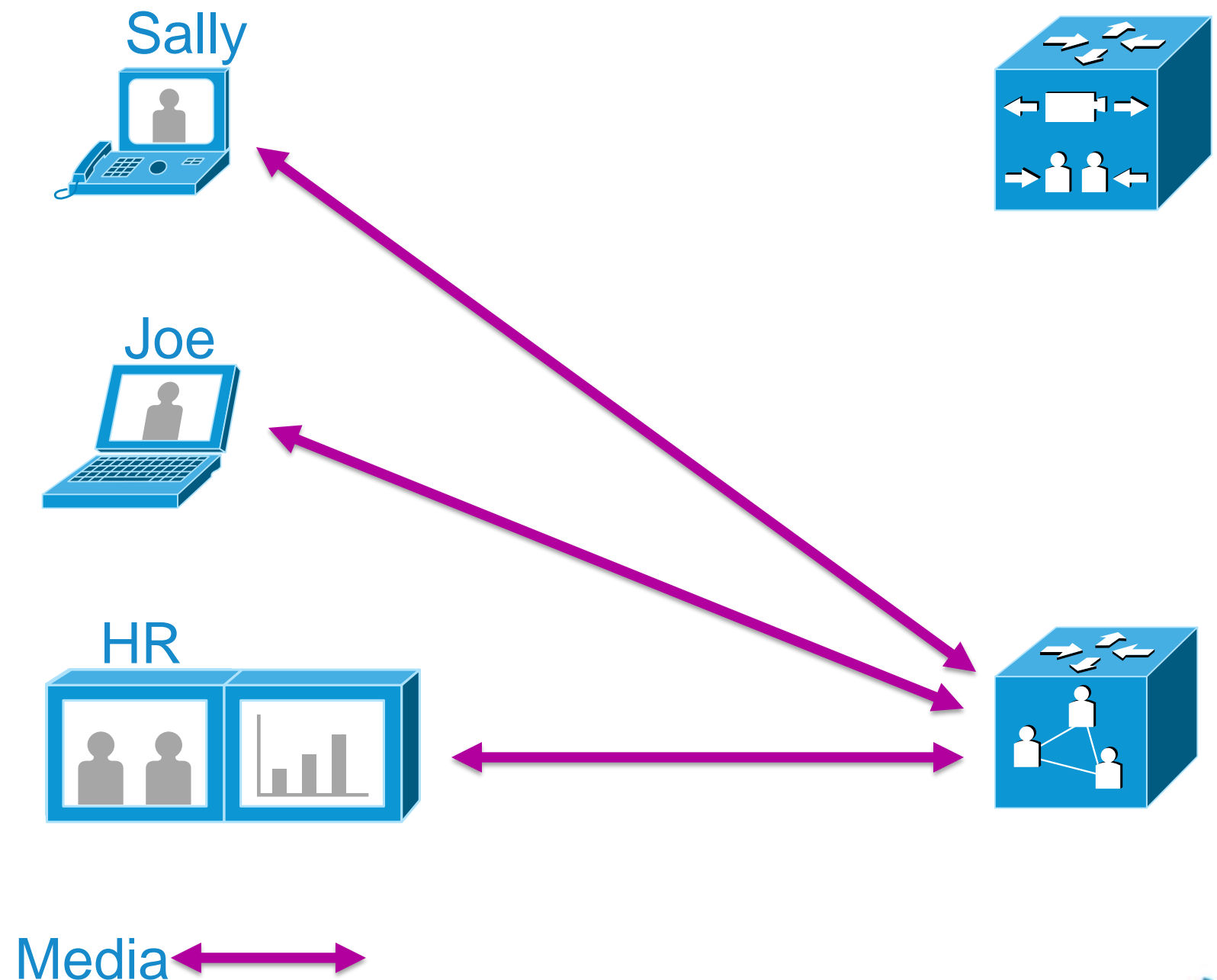
- Conference initiation drives MCU dial-out to pre-configured participants
- **Call signalling via VCS**



Rendezvous Conferencing

Conference setup and media flow – **Static meetings on TelePresence MCU**

- Conference initiation drives MCU dial-out to pre-configured participants
- Call signalling via VCS
- **Joe and HR are connected to the conference**



Rendezvous Conferencing

- TelePresence Conductor
 - MCU Pools
 - Service Preferences
 - Automatic Cascade
- Static Conferences
 - Conference Templates
 - Pre-configured Endpoints
 - Custom Layouts

Scheduled Conferencing



Scheduled Conferencing

- **Direct bookings from MCU web interface**
- Using TelePresence Management Suite

Scheduled Conferencing

Booking meetings from MCU web interface – Adding a new conference

- Home > Conferences > Conference list

1 scheduled conference

Delete selected Template for new conference Top level Add new conference

Name ▼	Numeric ID	Security
<input type="checkbox"/> Project Update	99999	<none>

Delete selected Template for new conference Top level Add new conference

Scheduled Conferencing

Booking meetings from MCU web interface – Adding a new conference

- Set conference parameters...

Name	<input type="text" value="XYZ Co Team Meeting"/>	
Description	<input type="text" value="weekly project update"/>	(optional)
Numeric ID	<input type="text" value="7777"/>	(optional)
PIN	<input type="text"/>	(optional)
Guest numeric ID	<input type="text"/>	(optional)
Guest PIN	<input type="text"/>	(optional)
Owner	<input type="text" value="admin"/>	
Numeric ID registration	<input checked="" type="checkbox"/>	H.323 gatekeeper <input checked="" type="checkbox"/> SIP registrar
When only guests remain	<input type="text" value="Disconnect all participants"/>	
Automatic lecture mode	<input type="text" value="Disabled"/>	
Timeout for Type 1 automatic lecture mode	<input type="text" value="Immediately"/>	
Visibility	<input type="text" value="Public"/>	
Encryption	<input type="text" value="Optional"/>	
Invite pre-configured participants	<input type="text" value="At the start of the conference"/>	

Scheduled Conferencing

Booking meetings from MCU web interface – Adding a new conference

- Set conference parameters...continued

Start time and duration

Start time : (time now 15:14)

Start date (Today is December 21 2012)

Permanent

Maximum duration days hours minutes

Repetition

Interval No repeat
 Daily
 Every on Mon Tue Wed Thu Fri Sat Sun
 The of every month

Termination No end date
 After repetition(s)
 End on or by (Today is December 21 2012)

Scheduled Conferencing

Booking meetings from MCU web interface – Pre-configured endpoints

[Home](#) > [Endpoints](#) > [Add SIP Endpoint](#)

SIP Endpoint

SIP Endpoint

Display parameters

Name

Call-out parameters

Address

Use SIP registrar

3 configured endpoints

Delete selected

Add H.323

Add SIP

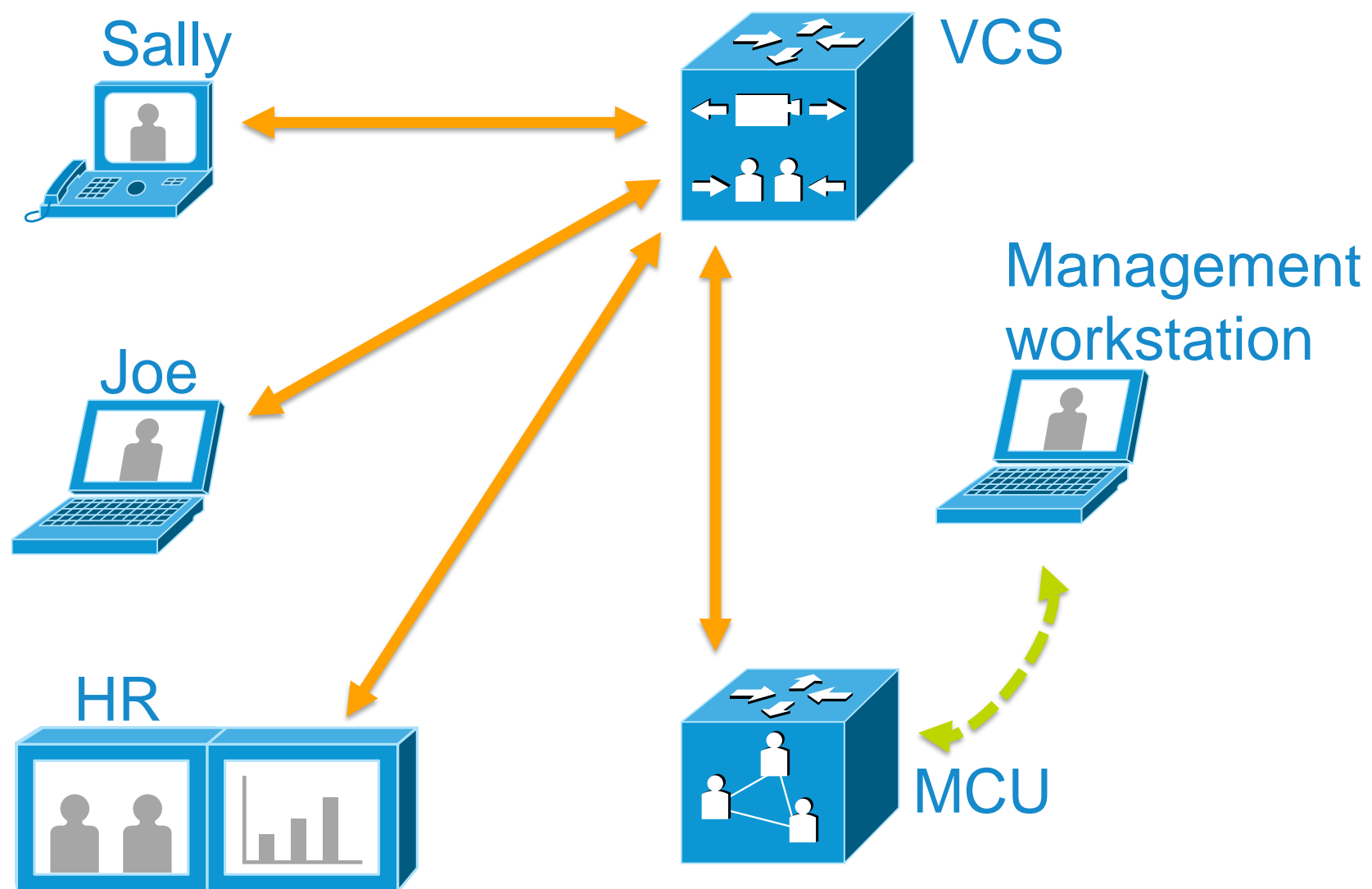
Add VNC

Name ▼	Address
<input type="checkbox"/> Human Resources	HR@xyzco.com
<input type="checkbox"/> Joe	joe@xyzco.com
<input type="checkbox"/> Sally	sally@xyzco.com

Scheduled Conferencing

Conference setup and media flow – Booking meetings with MCU web interface

- Endpoints registered to VCS
- MCU registered to VCS
- Management workstation with web access to MCU

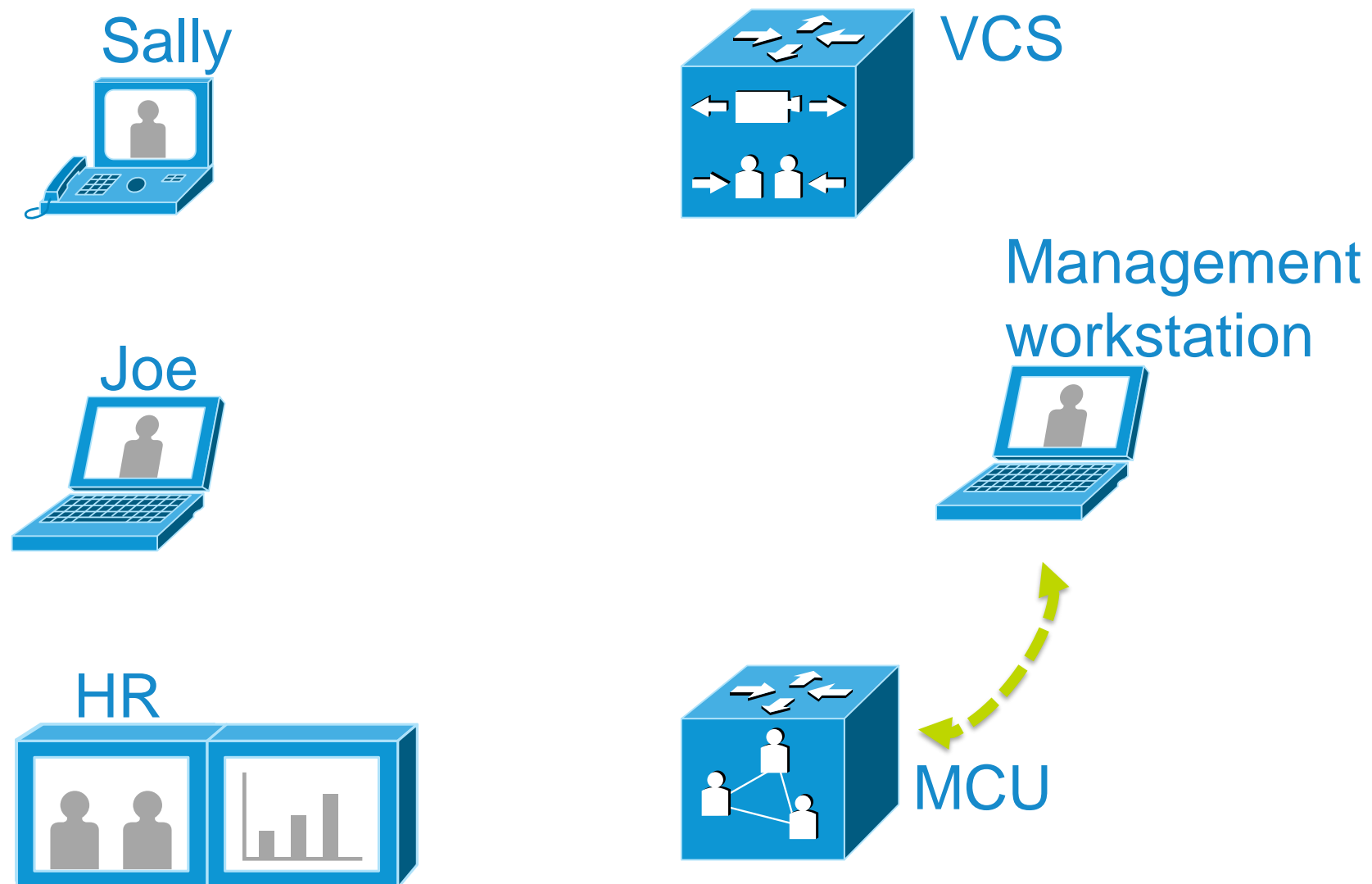


SIP or H.323 ↔ HTTP(S) ↔ Cisco live!

Scheduled Conferencing

Conference setup and media flow – Booking meetings with MCU web interface

- **Conference created via MCU web interface**

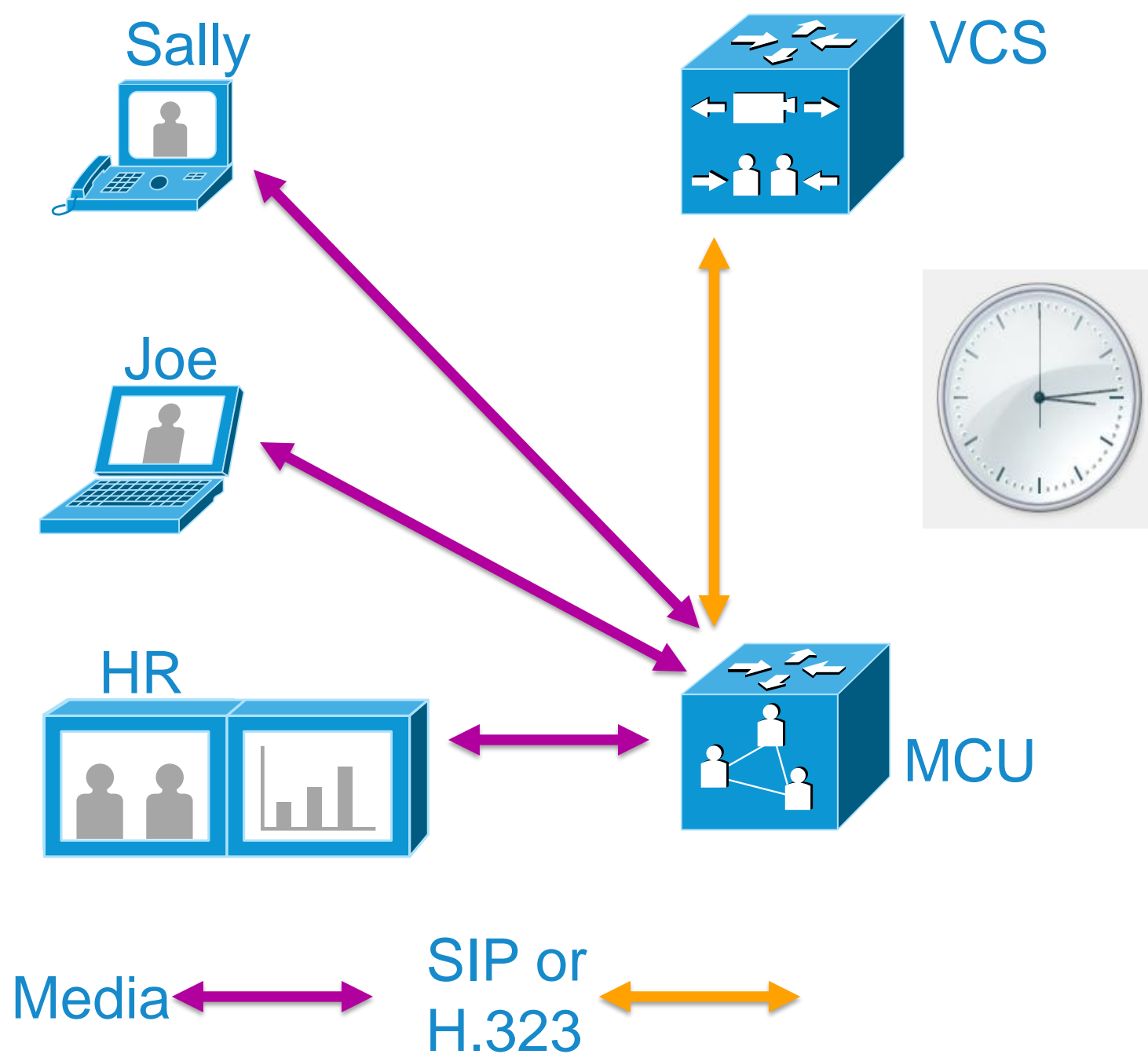


HTTP(S) 
Cisco live!

Scheduled Conferencing

Conference setup and media flow – Booking meetings with MCU web interface

- Conference created via MCU web interface
- **Conference start time**
 - MCU dials out to endpoints
 - Conference is routable



Scheduled Conferencing

Conference setup and media flow – Booking meetings with MCU web interface

- Conference created via MCU web interface



- Conference start time
 - MCU dials out to endpoints
 - Conference is routable



- **Conference finish time**
 - **MCU hangs up connections**
 - **Conference is not routable**



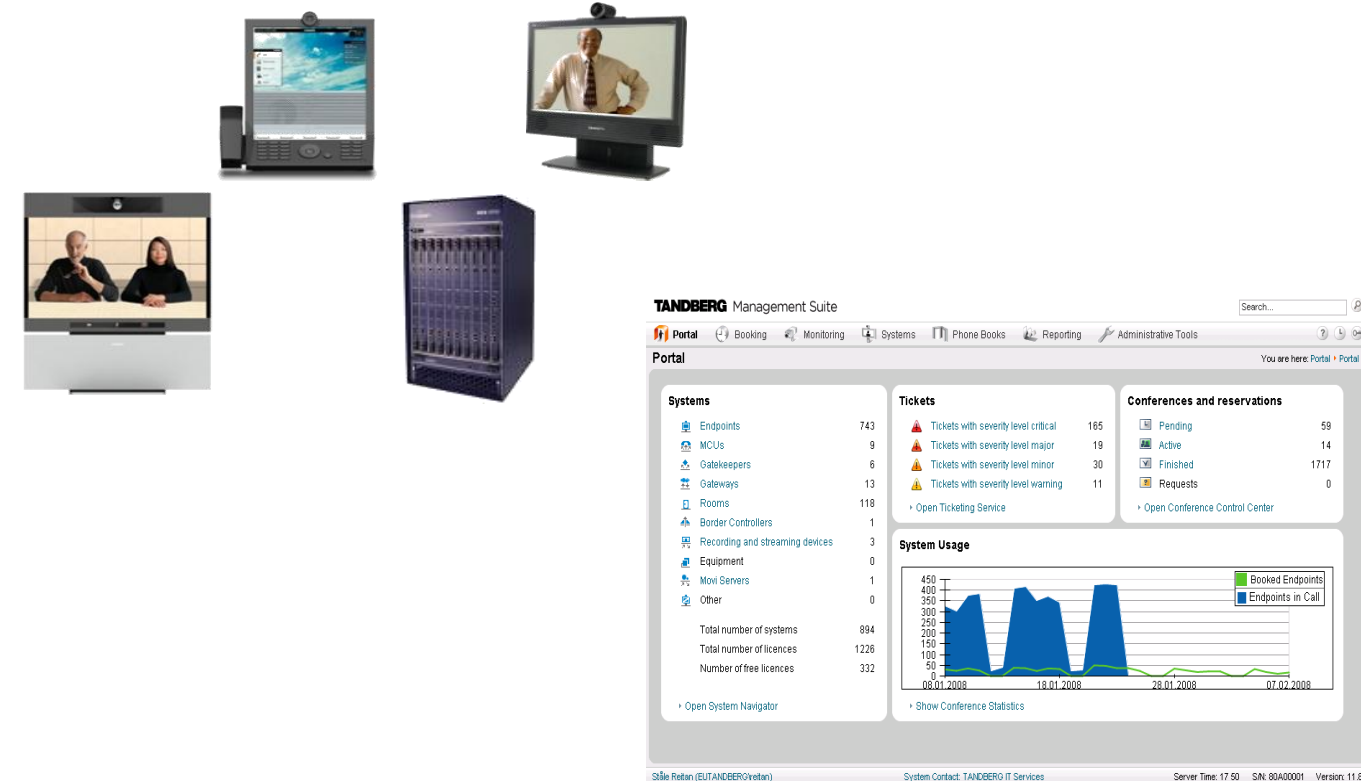
Scheduled Conferencing

- Direct bookings from MCU web interface
- **Using TelePresence Management Suite**

Scheduled Conferencing

TelePresence Management Suite - Overview

- Systems management:
 - Multivendor endpoints and infrastructure support
- Diagnostics, monitoring and reporting
- Proliferation of video
 - Very large scale provisioning
 - Multiple scheduling options



Scheduled Conferencing

Scheduling with TelePresence Management Suite – Joining a conference

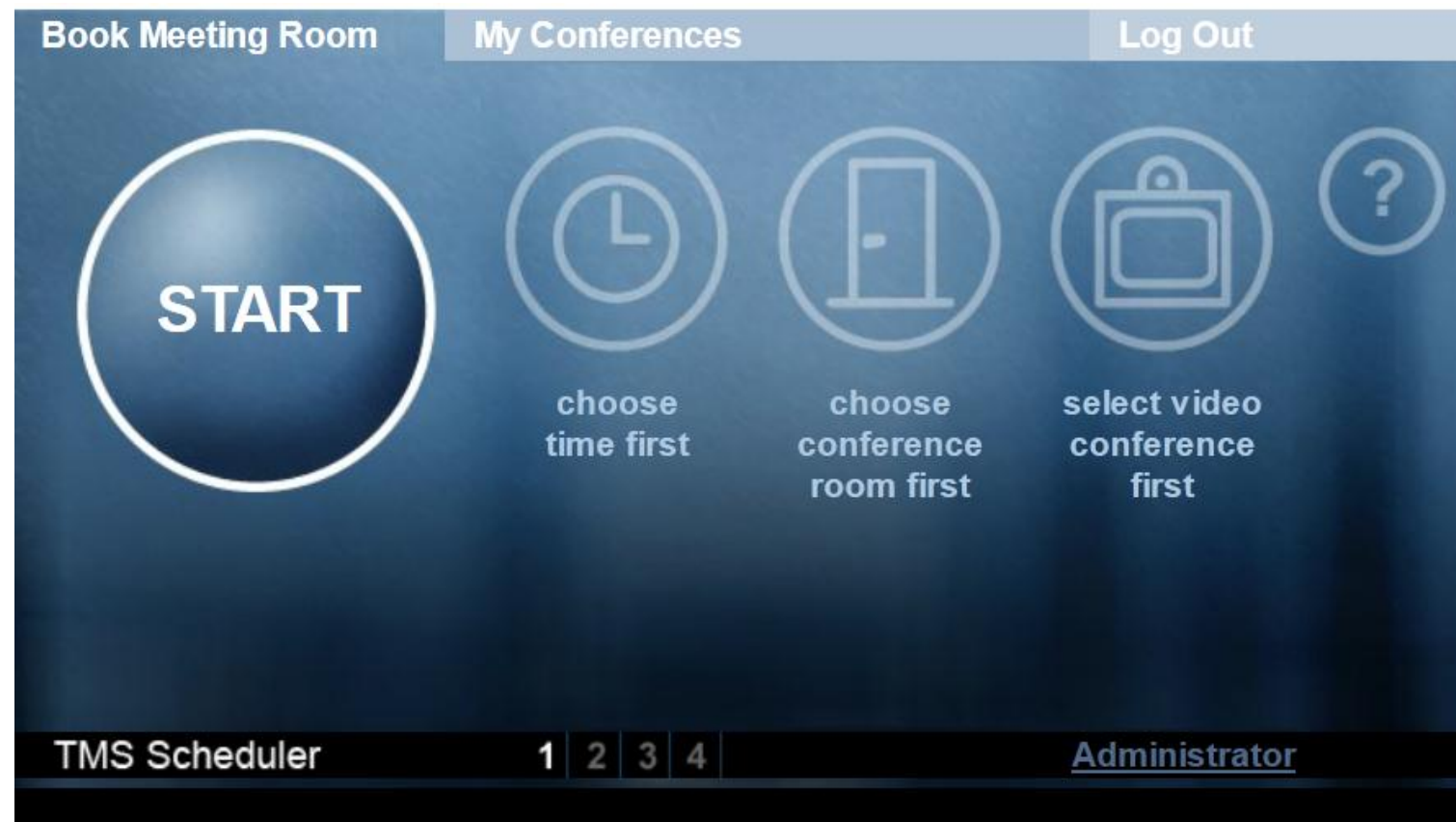
- Automatic connect
- One Button to Push
- Manual Connect
- No Connect
- Reservation

Scheduled Conferencing

Scheduling with TelePresence Management Suite – Work flow

User schedules
a meeting

Via MS Exchange, Lotus Domino, Web Interface
or Scheduling API's



Scheduled Conferencing

Scheduling with TelePresence Management Suite – Work flow

User schedules a meeting

TMS selects a resource

Using IP Zones

Administrative Tools

- Configuration
- User Administration
- Locations**
 - ISDN Zones
 - IP Zones**
- Billing Codes
- Activity Status
- TMS Server Maintenance
- TMS Tickets
- Audit Log

IP Zones

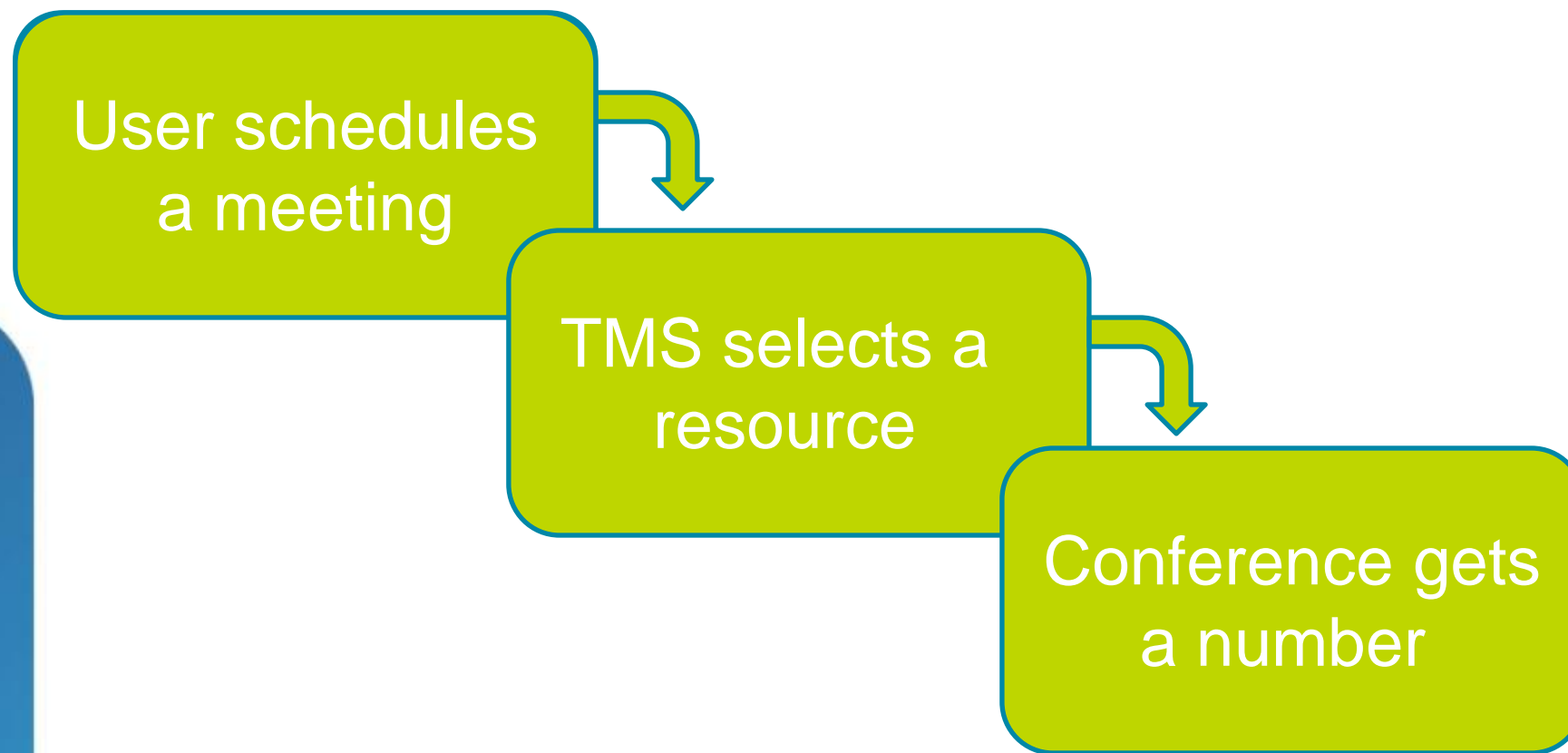
- IP Zone Name ▲
- Canberra
- Melbourne


New Delete

General	
Name:	xyzco_mcu1
System Type:	TANDBERG Codian MCU 4510
Manufacturer:	TANDBERG
Network Address:	10.1.1.200
System Connectivity:	Reachable on LAN
MAC Address:	00:0D:7C:00:76:58
Track System by:	MAC Address
TMS System Id:	5
IP Zone:	Canberra
Time Zone:	(GMT + 10:00) Canberra, Melbourne, Sydney

Scheduled Conferencing

Scheduling with TelePresence Management Suite – Work flow



 xyzco_mcu1
System Type: TANDBERG Codian MCU System status: Idle Network Address: 10.1.1.200 Connectivity: Reachable on LAN

Summary **Settings** Call Status Connection Permissions Logs

View Settings Edit Settings **Extended Settings** Ticket Filters

Extended Settings

First Meeting Id:

Meeting Id Step:

Enable ISDN Gateway DID Mapping:

Conference Layout:

Visibility:

Scheduled Conferencing

Scheduling with TelePresence Management Suite – Work flow

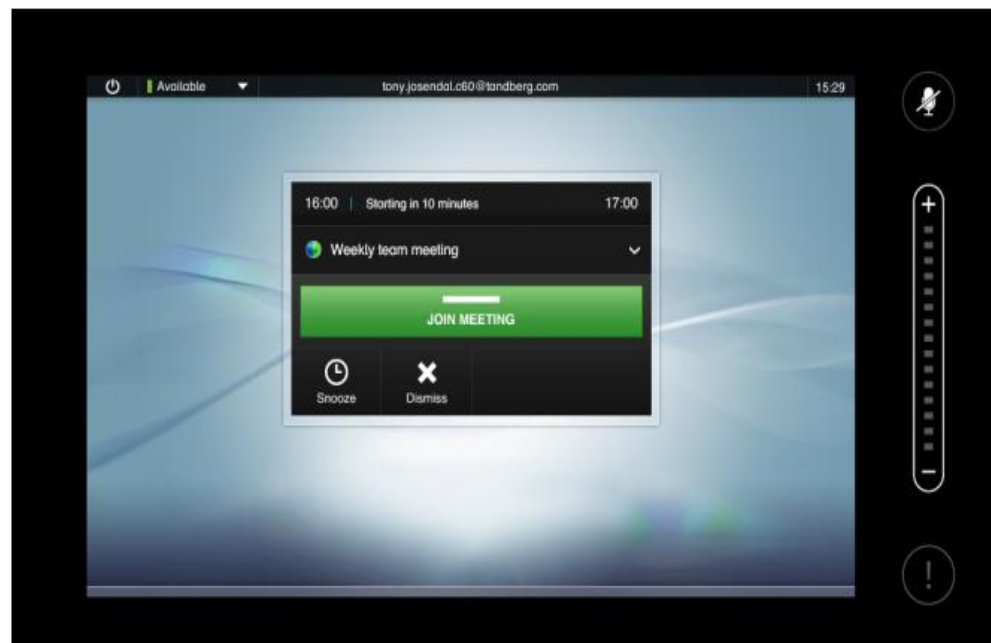
User schedules a meeting

TMS selects a resource

Conference gets a number

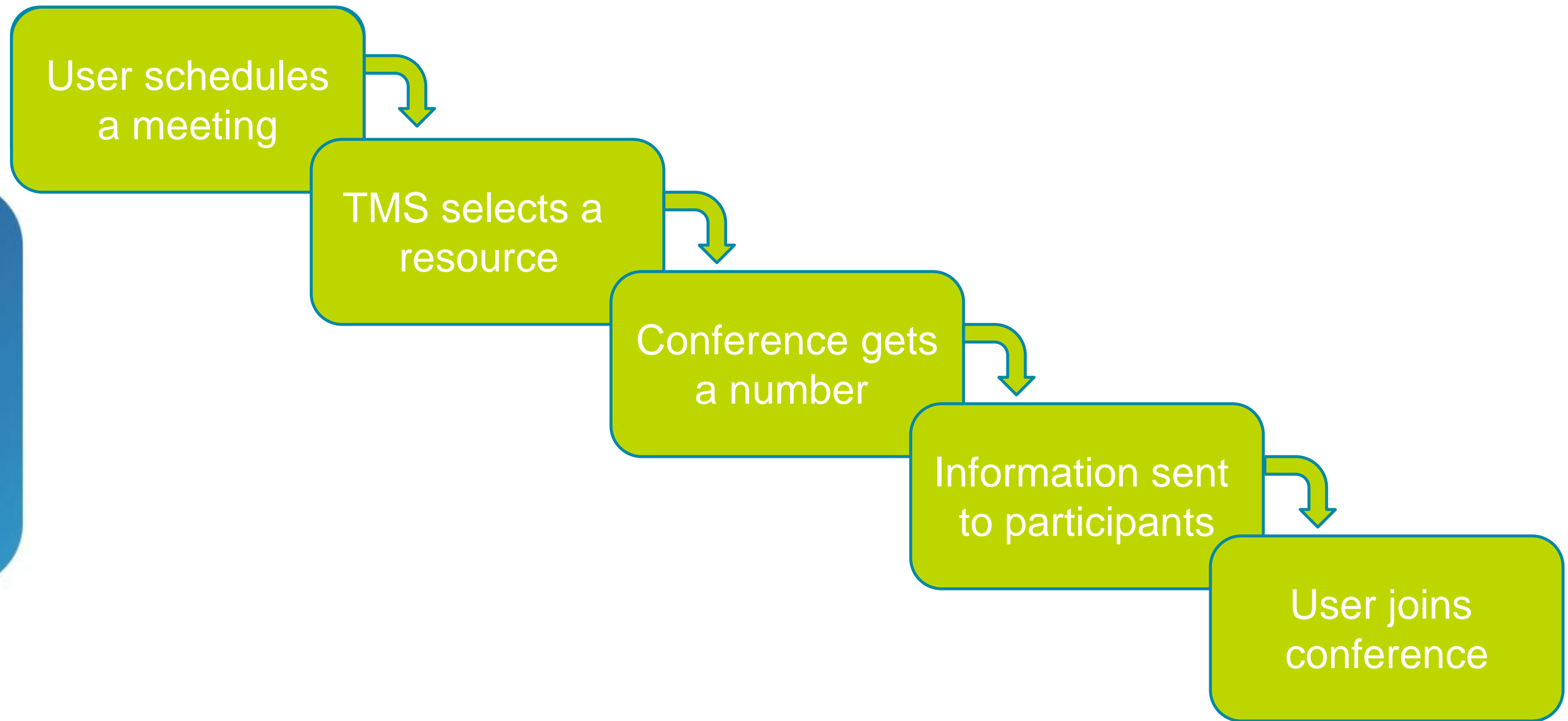
Information sent to participants

Email, OBTP or auto-connect



Scheduled Conferencing

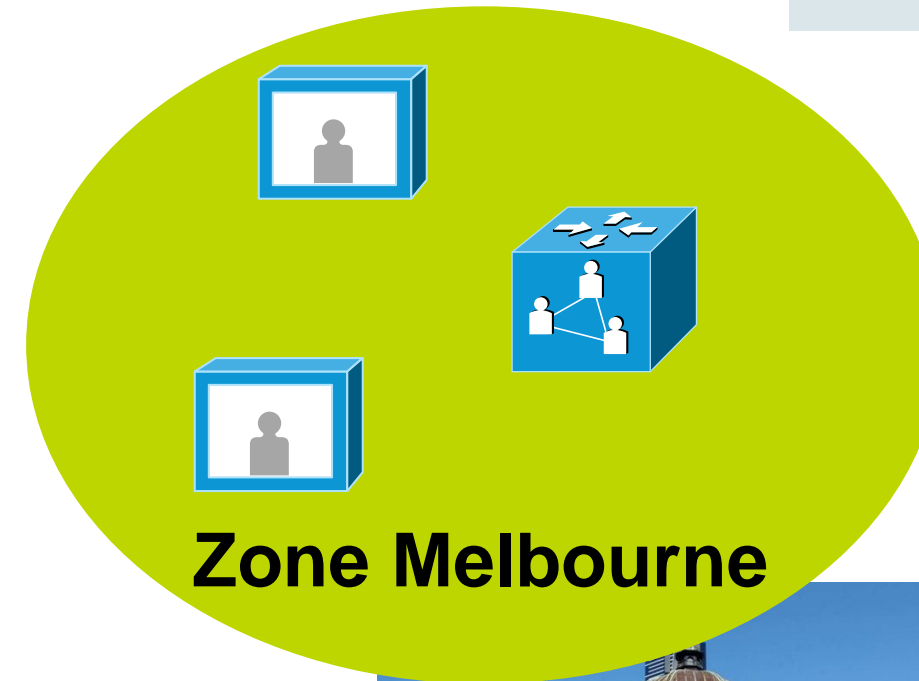
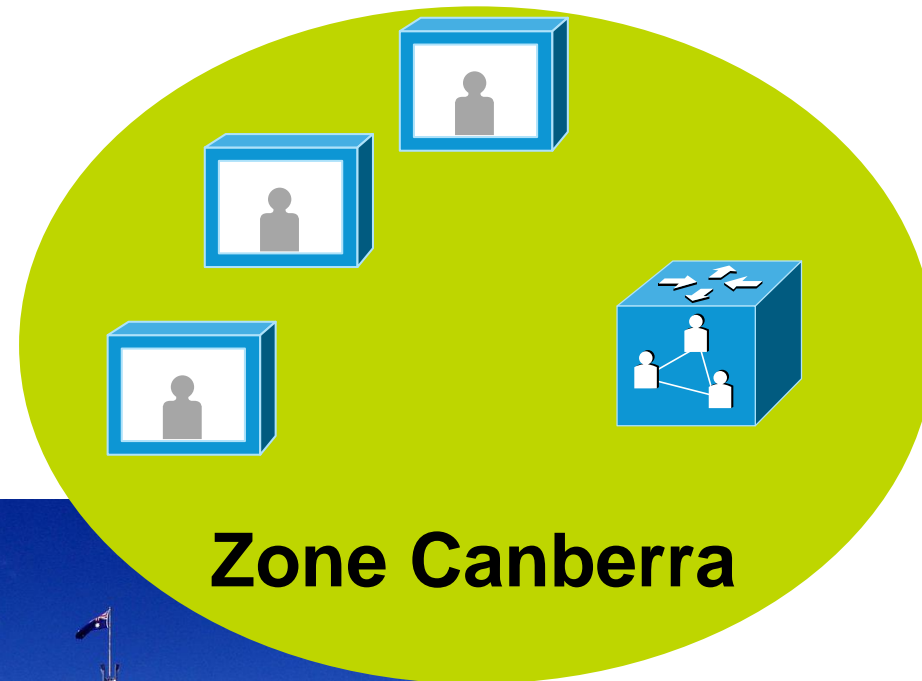
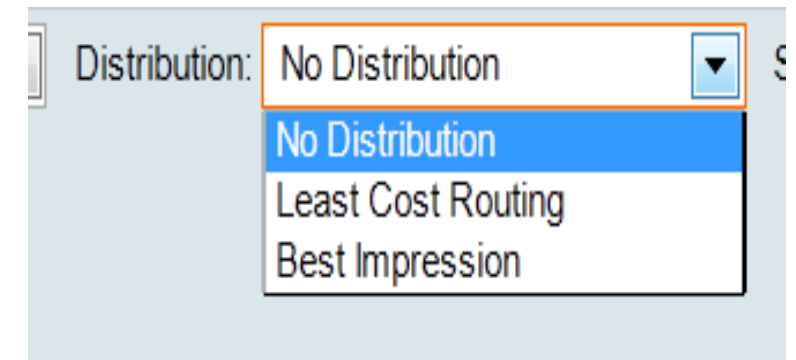
Scheduling with TelePresence Management Suite – Work flow



Scheduled Conferencing

Scheduling with TelePresence Management Suite – IP Zones

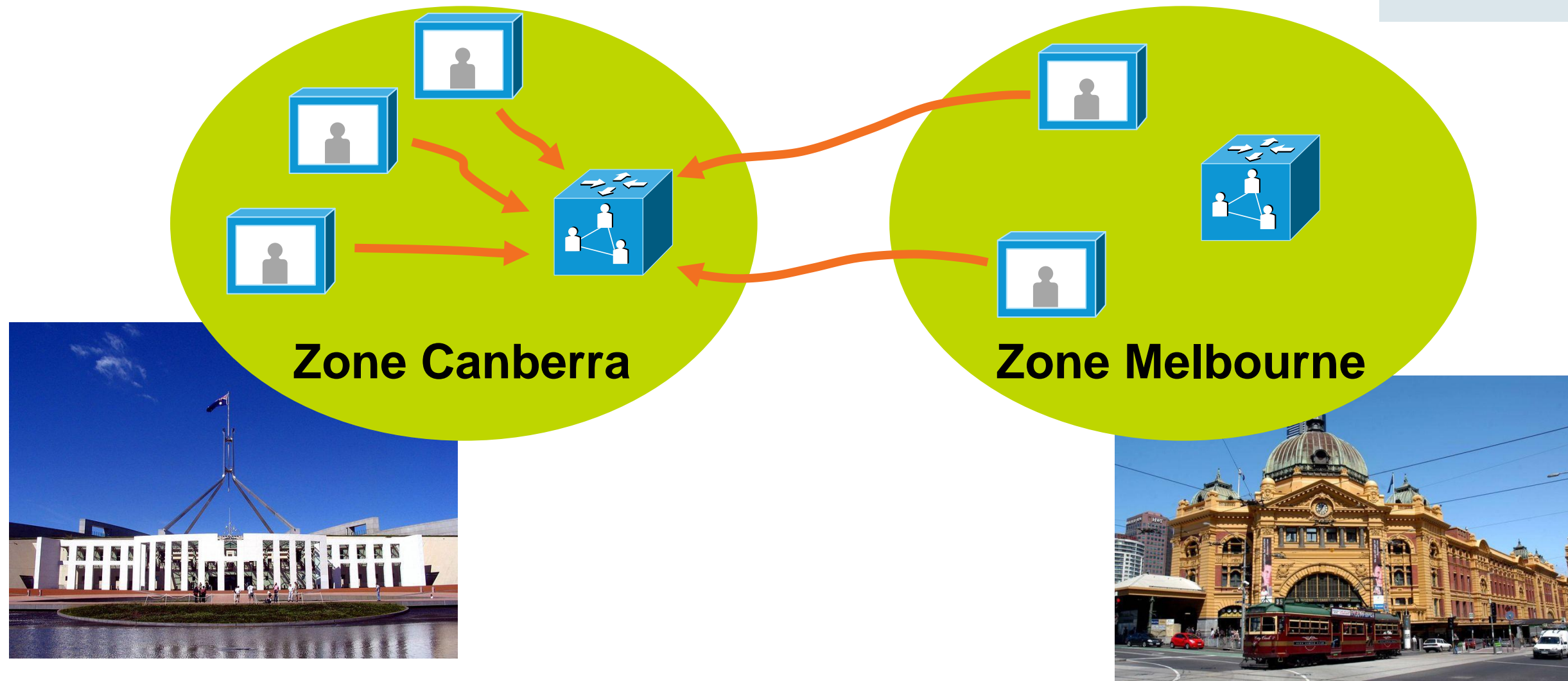
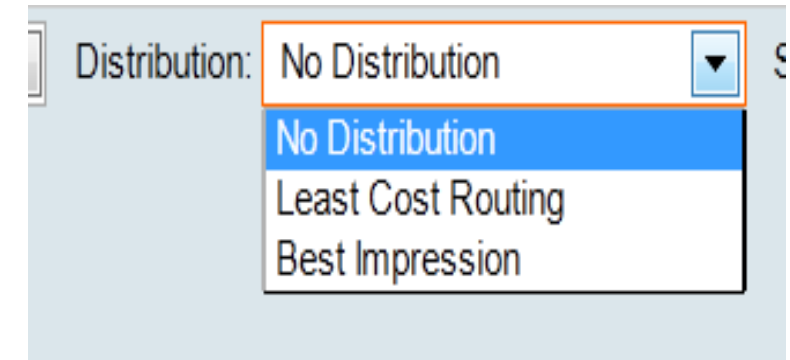
- No distribution of conference routing



Scheduled Conferencing

Scheduling with TelePresence Management Suite – IP Zones

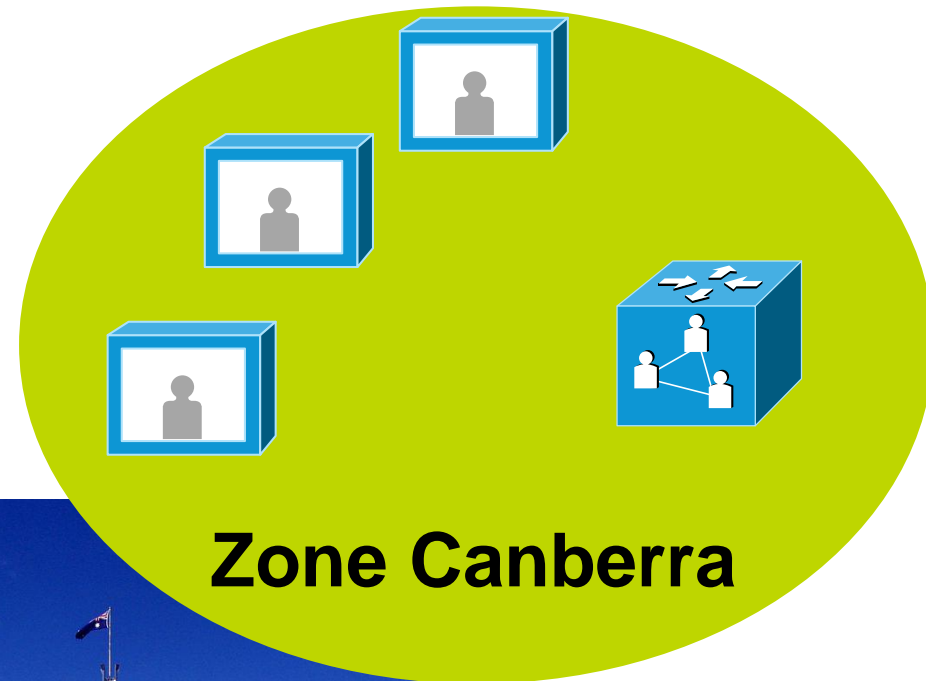
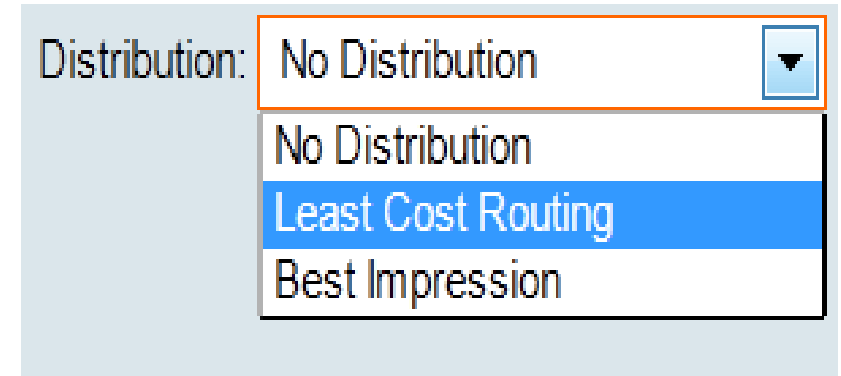
- No distribution of conference routing:



Scheduled Conferencing

Scheduling with TelePresence Management Suite – IP Zones

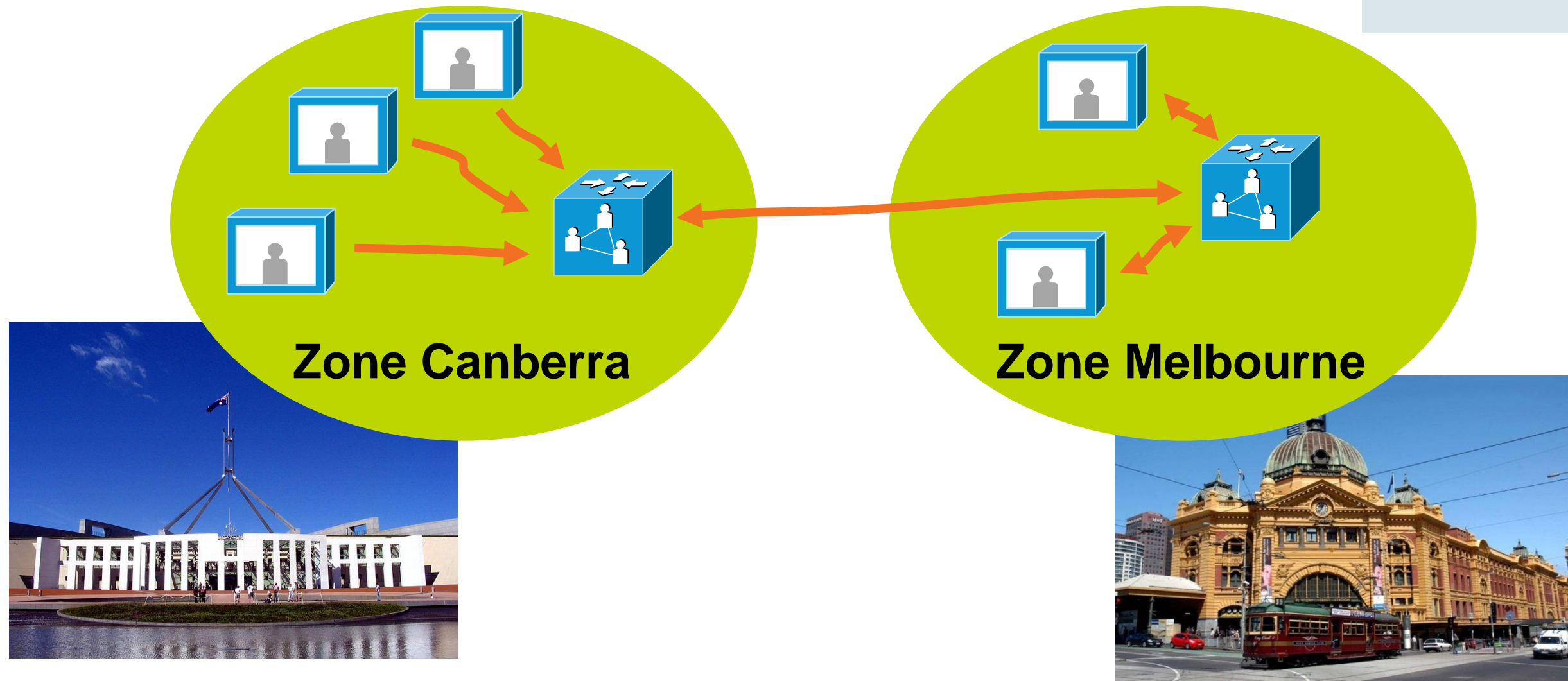
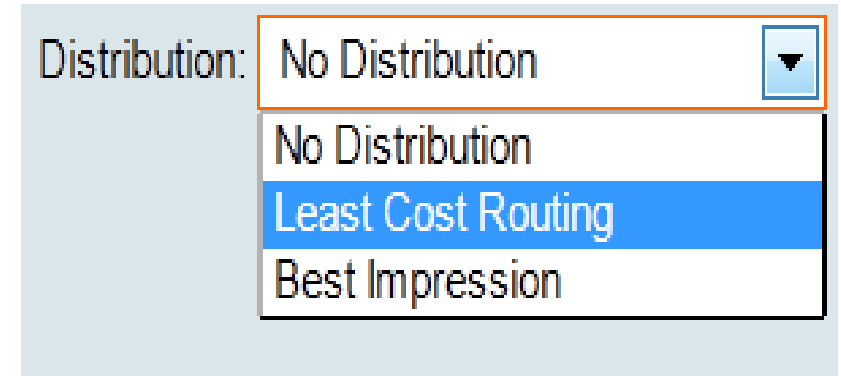
- Least cost distribution of conference routing:



Scheduled Conferencing

Scheduling with TelePresence Management Suite – IP Zones

- Least cost distribution of conference routing:



Scheduled Conferencing

Scheduling with TelePresence Management Suite – Managing MCU's with TMS

- Systems > Navigator > Add Systems > Advanced Settings

Advanced Settings

Set authentication settings (if s

Username:

Persistent Settings:

Persistent Template:

Discovery Options

Use the following SNMP community



Discover Non-SNMP Systems.

Scheduled Conferencing

Scheduling with TelePresence Management Suite – Managing MCU's with TMS

- Systems > Navigator > MCU > Settings > Edit Settings

TMS Scheduling Settings

Allow Bookings:

Allow Incoming IP Address Dialing:

Allow Incoming H.323 Dialing:

Allow Incoming SIP URI Dialing:

Save Force Refresh Enforce Management Settings

Scheduled Conferencing

Scheduling with TelePresence Management Suite – Managing MCU's with TMS

- Administrative Tools > Configuration > Conference Settings

Advanced Conference Options

Conference Booking Time:	Server Time
External MCU Usage in Routing:	Only if needed
Preferred MCU Type in Routing:	Only if needed Always Always, except point to point
Use Flat H.323 Dialing Plan When Routing Calls:	No
Prefer H.323 ID over E.164 Alias:	
Send Warning When Ad Hoc Conferences Exceed This Duration (in hours):	

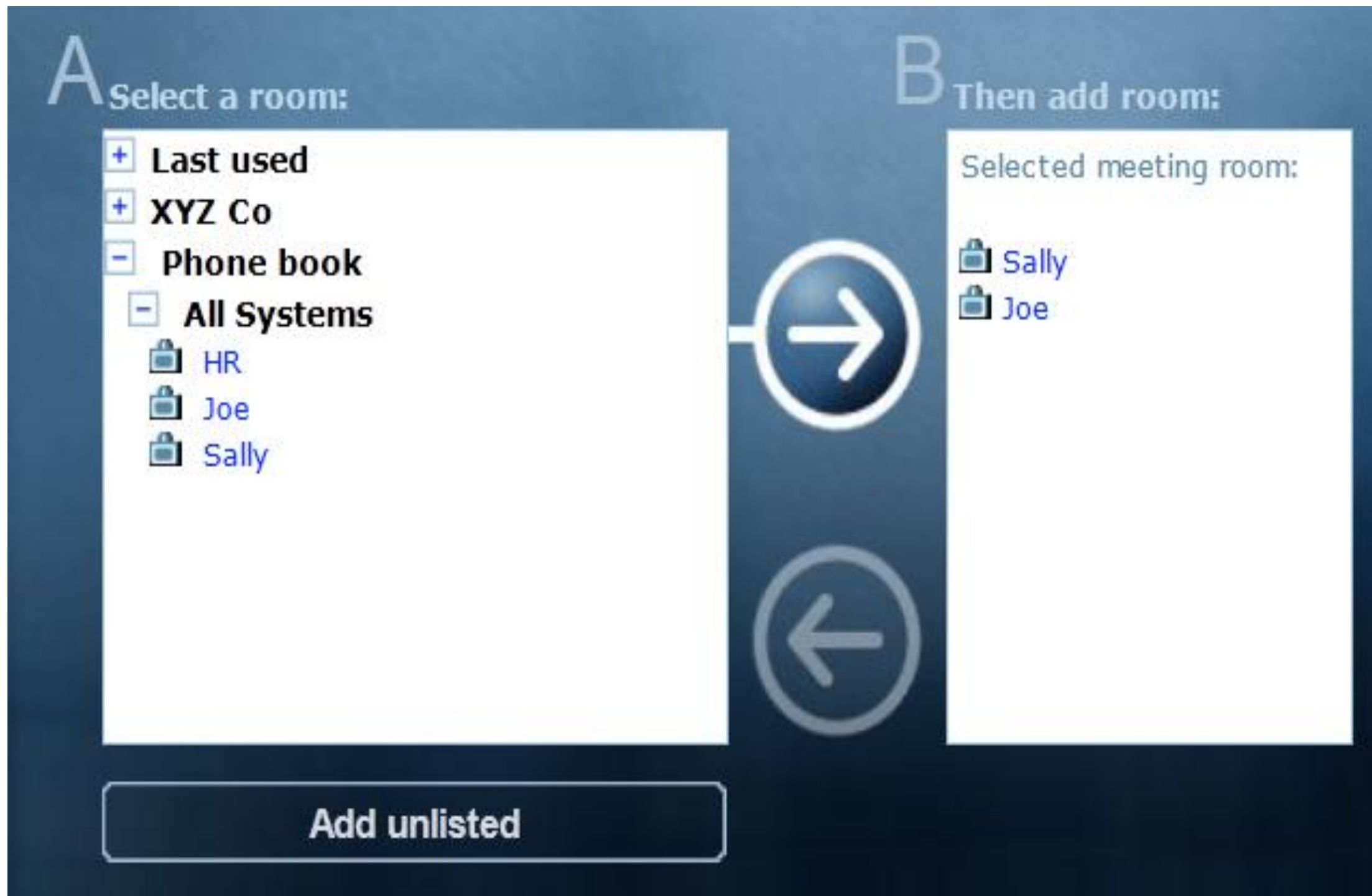
Scheduled Conferencing

Simplified scheduling with TMS Scheduler – Work flow – Start page

The screenshot displays the TMS Scheduler interface. At the top, there are three tabs: "Book Meeting Room", "My Conferences", and "Log Out". The "My Conferences" tab is active. Below the tabs, there is a large blue circle with the word "START" in white. To the right of the "START" button are four circular icons: a clock, a door, a video camera, and a question mark. Below each icon is a text label: "choose time first", "choose conference room first", "select video conference first", and a question mark. At the bottom of the interface, there is a dark blue bar with the text "TMS Scheduler" on the left, a navigation bar with numbers "1", "2", "3", and "4" in the middle, and the word "Administrator" on the right.

Scheduled Conferencing

Simplified scheduling with TMS Scheduler – Work flow – Listed participants



Scheduled Conferencing

Simplified scheduling with TMS Scheduler – Work flow – Unlisted participants

Add unlisted participants ✕

Dial Out Dial In

Enter the IP address or the alias of the participant.

E.g. 10.0.2.67

SIP Address:

Video ISDN Video IP

Telephone Telephone IP

Video SIP

Scheduled Conferencing

Simplified scheduling with TMS Scheduler – Work flow – Select date and time

A Select date: 12/21/2012

B Set start time: 5:45 PM

C Set end time: 3:45 PM, 4:00 PM, 4:15 PM, 4:30 PM, 4:45 PM, 5:00 PM, 5:15 PM, 5:30 PM, 5:45 PM, 6:00 PM

Room availability: Local times

	12AM	01	02	03	04	05	06
All Rooms (local time)	Available	Available	Available	Available	Available	Available	Available
Sally	Available	Available	Available	Available	Available	Available	Available
Joe	Available	Available	Available	Available	Available	Available	Available
HR	Available	Available	Available	Available	Available	Available	Available
	Busy	Busy	Busy	Busy	Busy	Busy	Busy

Legend: Available (Yellow), Busy (Blue), // No information (Grey)



Scheduled Conferencing

Simplified scheduling with TMS Scheduler – Work flow – Confirm booking

Confirm booking

Conference title

Scheduled Meeting 12/21/2012 5:35 PM

Billing Code

Date

12/21/2012 5:45 PM

Rooms	Start time (Local time)	End Time (Local time)
Sally	5:45 PM	6:00 PM
Joe	5:45 PM	6:00 PM
HR	5:45 PM	6:00 PM

Advanced

PREVIOUS **CANCEL** **CONFIRM**

Scheduled Conferencing

Simplified scheduling with TMS Scheduler – Work flow – My Conferences

Book Meeting Room | **My Conferences** | Log Out

Select a conference to edit or delete it.

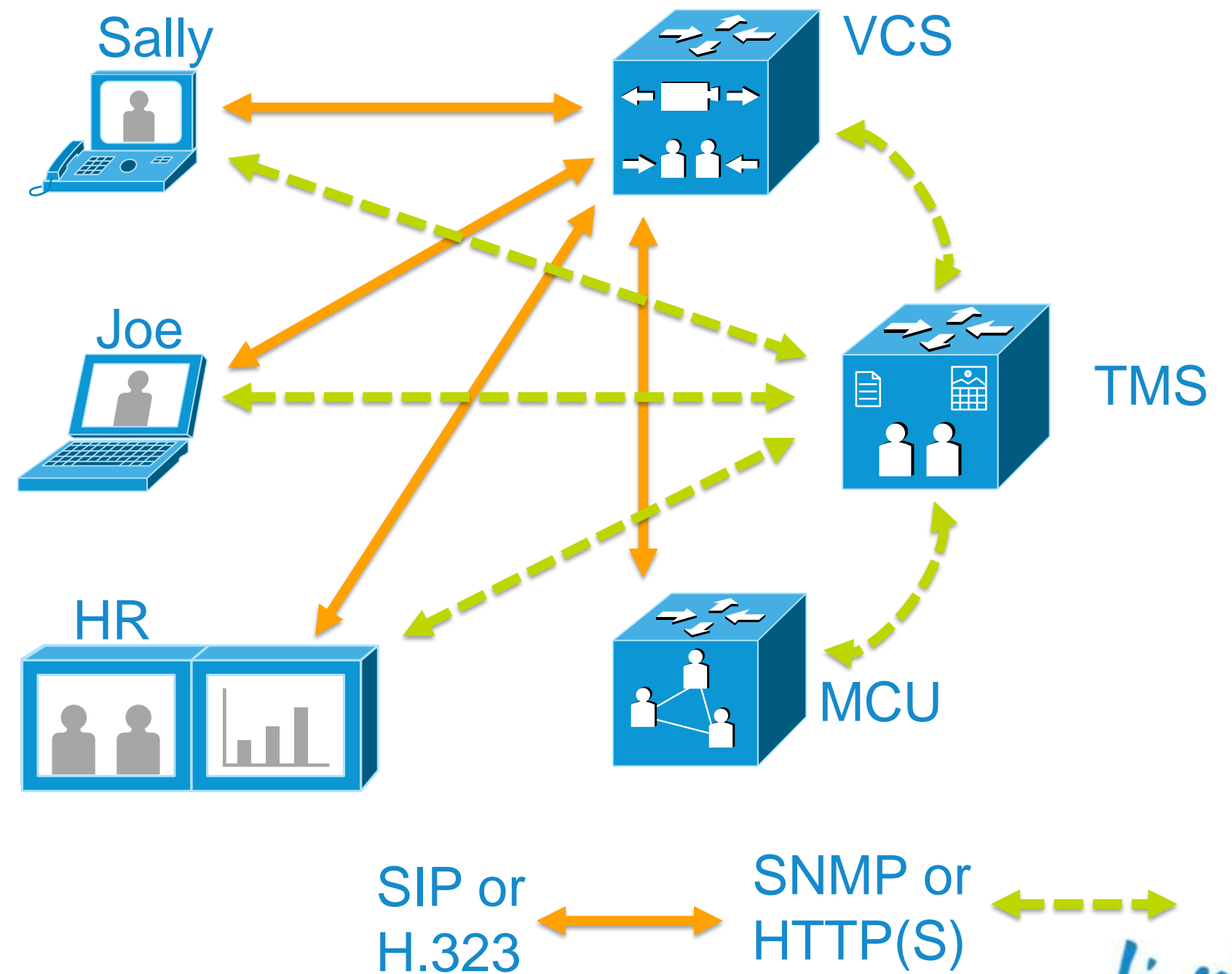
Select Date	Start time	End time	Conference title
<input type="checkbox"/> 12/21/2012	5:45 PM	6:00 PM	Scheduled Meeting 12/21/2012 5:35 PM

EDIT **DELETE**

Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

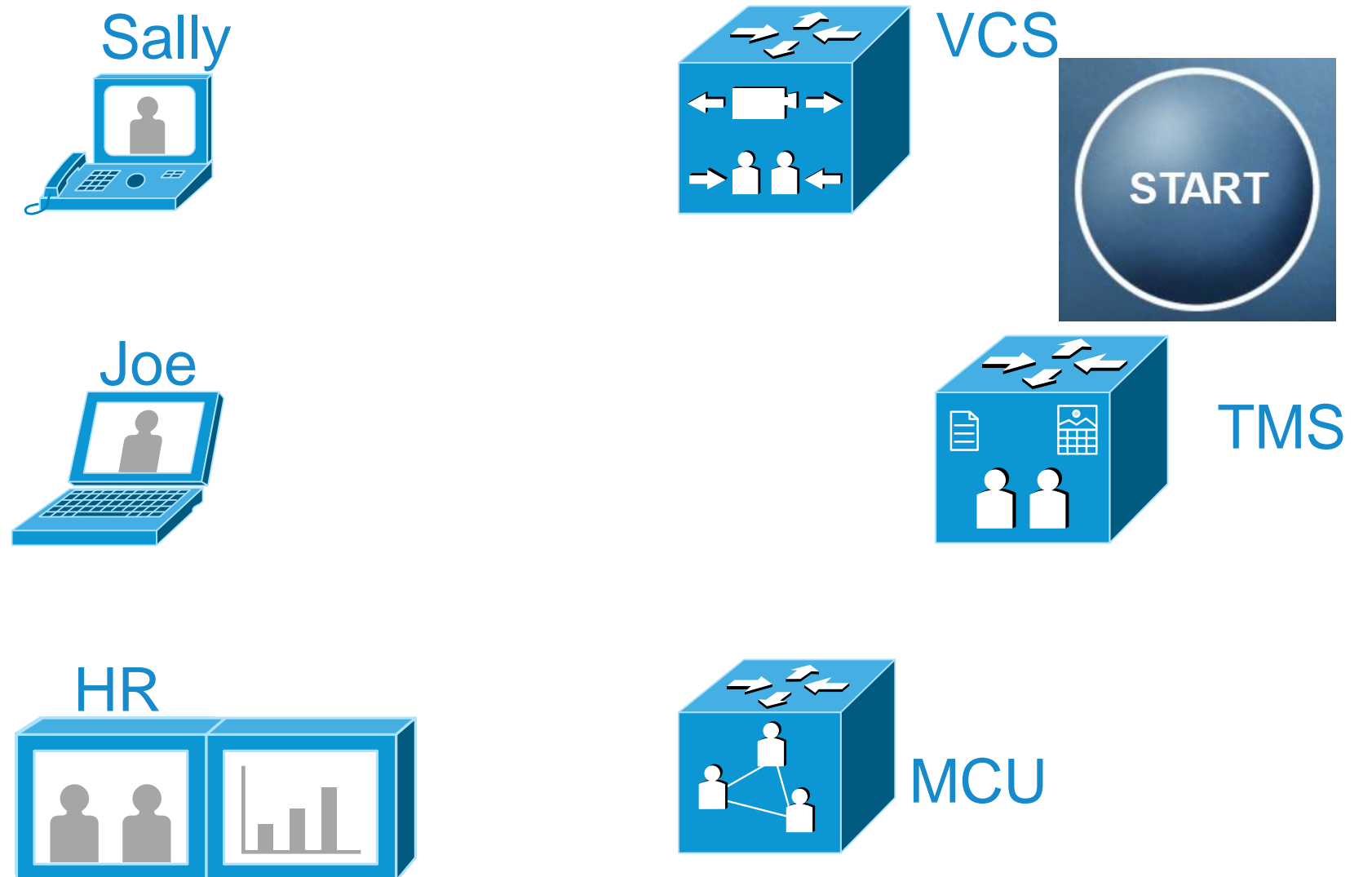
- Endpoints registered to VCS
- MCU registered to VCS
- TMS configured to manage video systems:
 - Endpoints and VCS via SNMP
 - MCU via HTTP(S)



Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

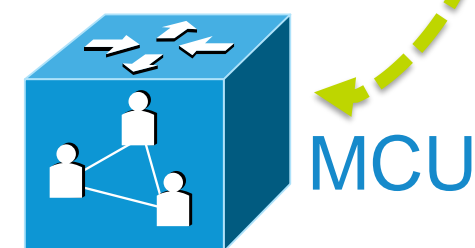
- **Conference booked via TMS Scheduler tool**



Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

- Conference booked via TMS Scheduler tool
- **At scheduled start time TMS creates conference on MCU**



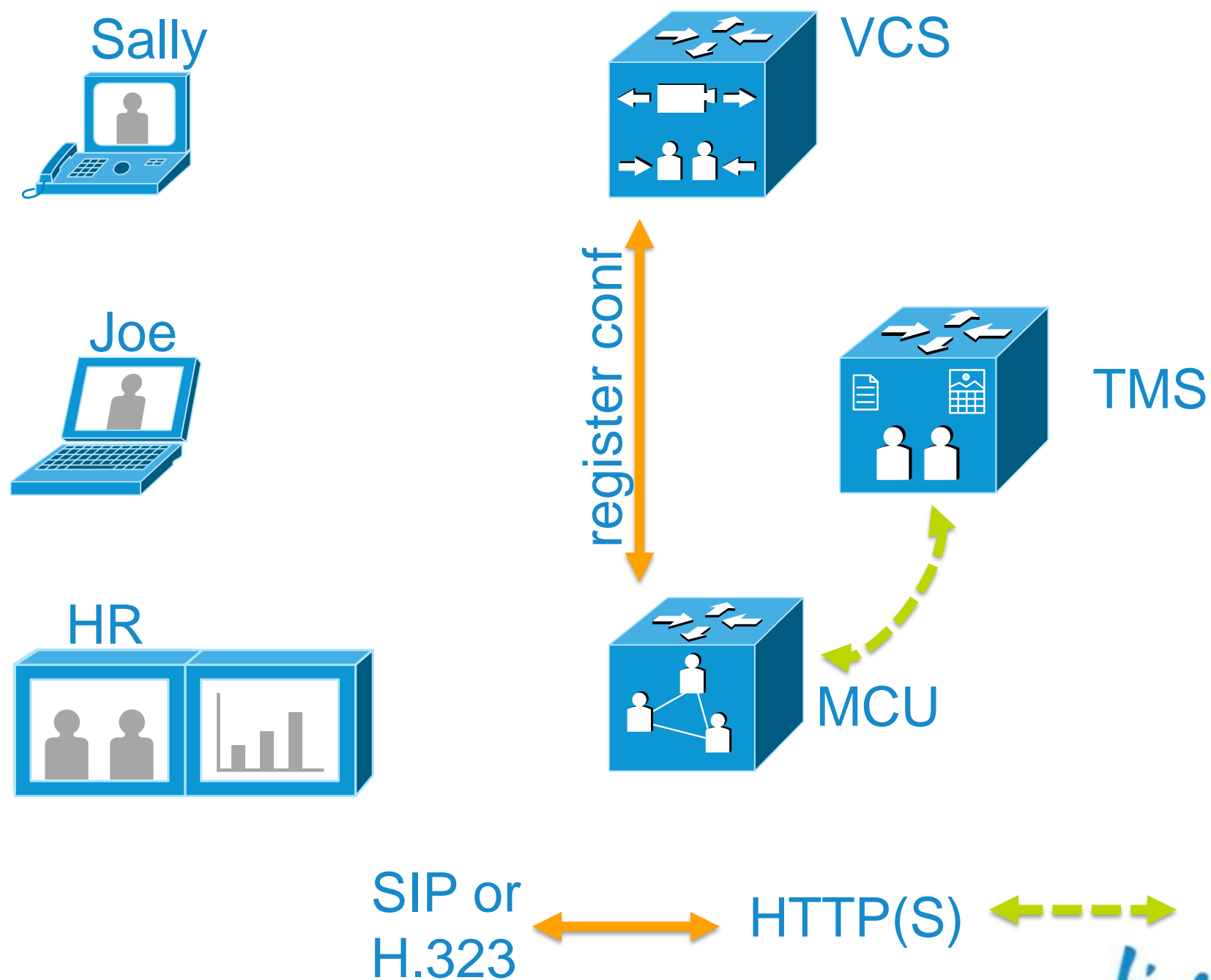
HTTP(S) ↔

Cisco live!

Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

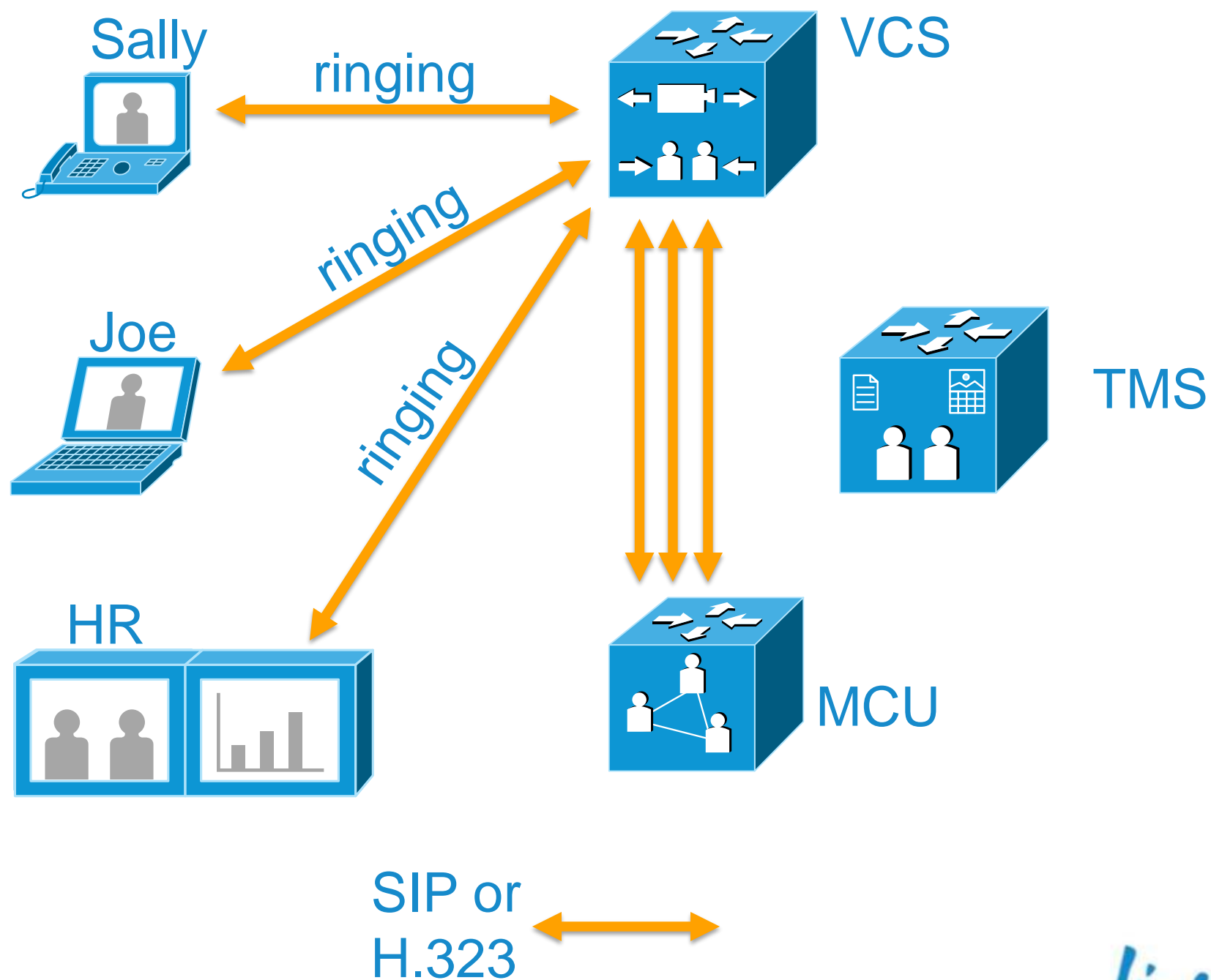
- Conference booked via TMS Scheduler tool
- At scheduled start time TMS creates conference on MCU
- **Conference is registered to VCS and is now routable**



Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

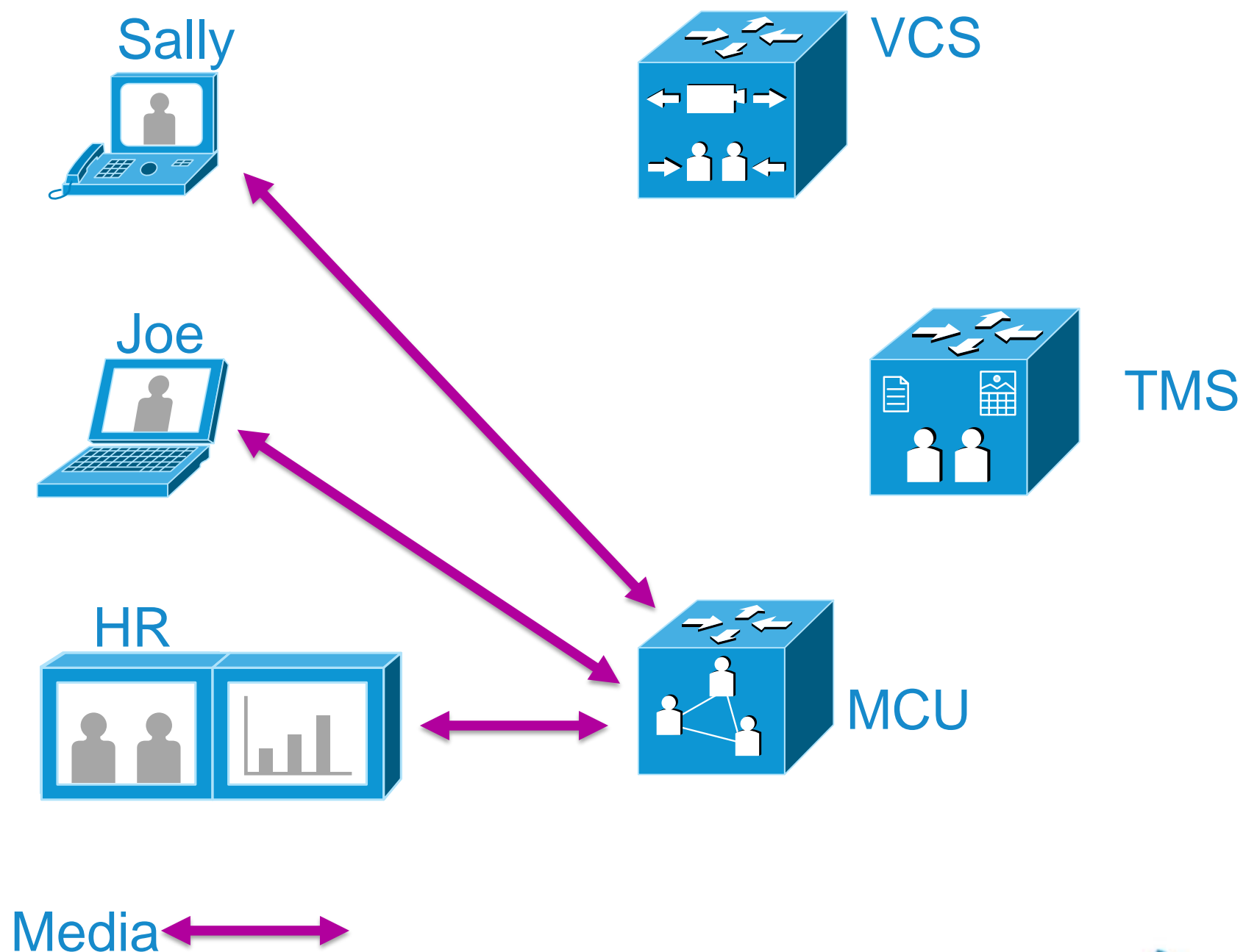
- **MCU dials out to pre-configured endpoints**



Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

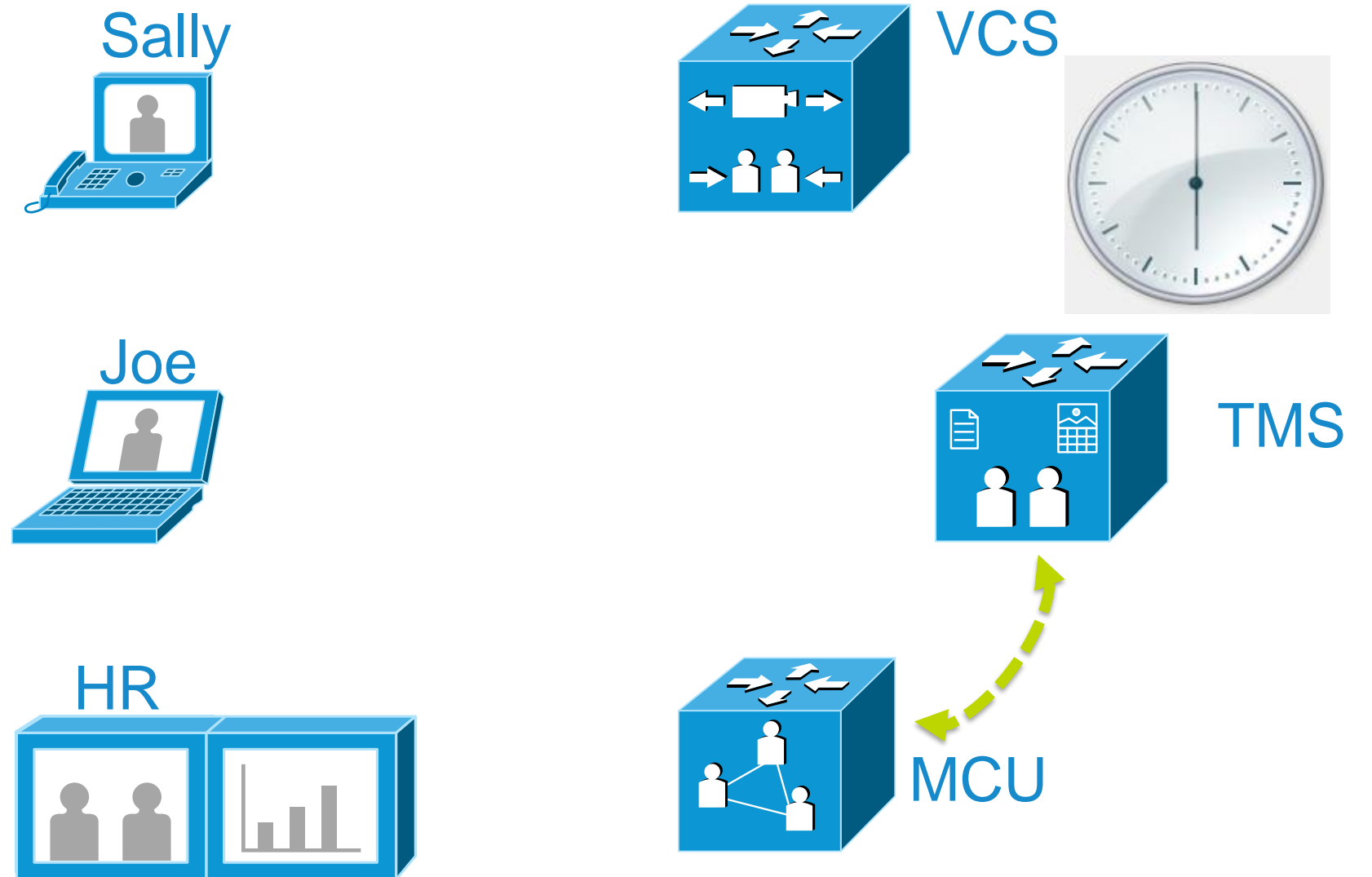
- MCU dials out to pre-configured endpoints
- **Endpoints connect to scheduled conference - Media flows direct**



Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

- **At scheduled finish time TMS destroys conference on MCU**



HTTP(S) ↔

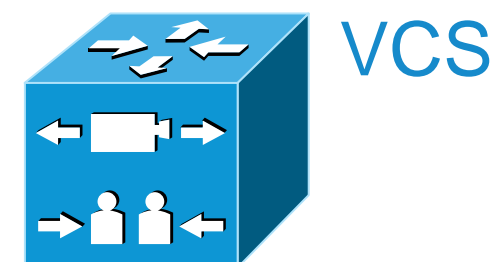
Cisco *live!*

Scheduled Conferencing

Conference setup and media flow – Simplified scheduling with TMS Scheduler

- At scheduled finish time TMS destroys conference on MCU

- Conference is deregistered from VCS and is not routable**



Scheduled Conferencing

- MCU direct bookings
 - Conference Templates
 - Pre-configured Endpoints
- TelePresence Management Suite
 - Joining a conference
 - IP Zones
 - TMS Scheduler

Summary

- **Cisco TelePresence Architecture and Multipoint Portfolio**
- **Conferencing options and meeting types**
- **How to deploy Cisco TelePresence Conferencing**

Q & A



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