



*TOMORROW
starts here.*

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Video Enabling The Contact Centre Through Remote Experts and Mobile Advisers

BRKCCT-2661

Barry Fialkov, Technical Solutions Architect

#clmel

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Agenda

- **Introduction**
- Solution Architecture
- Flows
- Case Studies
- Conclusion



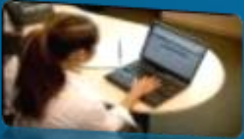
Sales and Service Challenges

- **Lack of local experts**
- **Delivering a face-to-face experience**
- **Limited ability to scale**

How to Address the Challenges

- **Simplify Multi-Channel Delivery**
- **Immersive Experience**
- **Virtualise the Workforce**

OMNI-CHANNEL CUSTOMER INTERACTION



Click to Collaborate



Phone/Mobile Banking



Click to Chat



In Person



Web Video Conference



Kiosk Video Conference



Branch/Store TelePresence Conference



Multipoint TelePresence Conference

UC, Presence Management and Intelligent Routing

Branch/Store Video Conference

Digital Communications Recording

Combined Customer Profile Databases

Unified Communications Technology

EXPERT RESOURCES (Mtg, SMB, Wealth Mgmt, etc.)



Regional Centres

Branch Banker



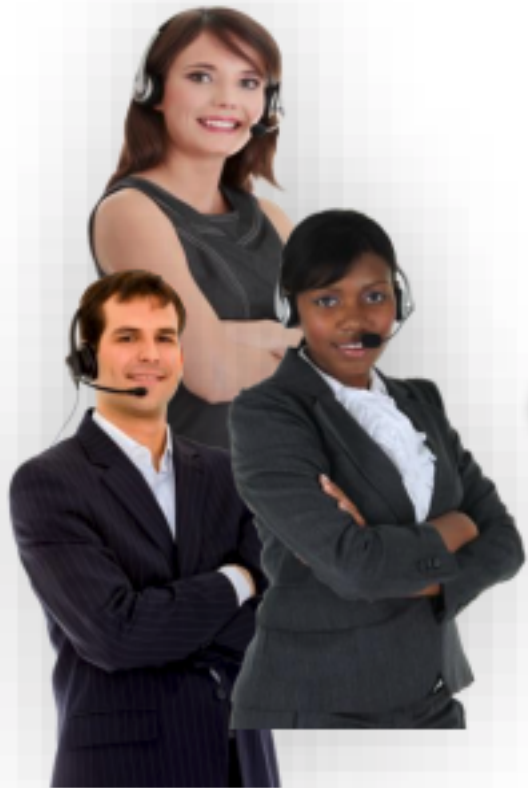
Mobile Banker



Outside Resource



Solution Core



Choice to connect to an array of Expertise

Call Queuing By Locale

VIQ & VOH, EWT

Multiparty Conference & Transfer Capabilities

Call Recording & Playback

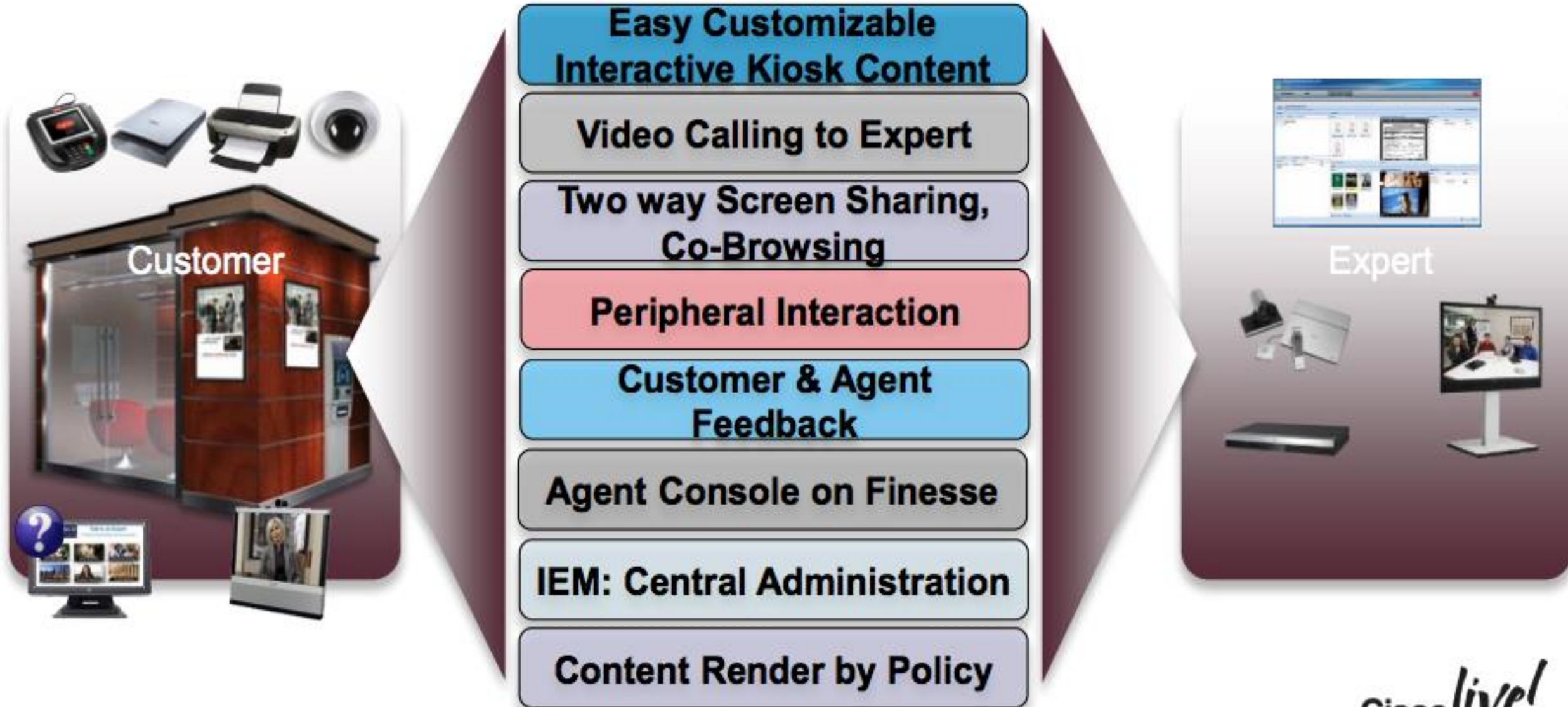
Centralized Administration

CRM integration

Reporting



Remote Expert Immersive



Remote Expert Kiosk



Interactive Content

Video Calling to Expert

Co-Browsing

Peripheral Interaction

Pre-packaged Tiled Template

Agent Console on Finesse

IEM: Central Administration

Content Render by Policy



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Remote Expert Mobile



WebRTC based

In-app voice, video, chat

Live online assistance, App screen share

Co-Browse, Annotation, file push

Web content push

Agent Console on Finesse

Context passing to CC

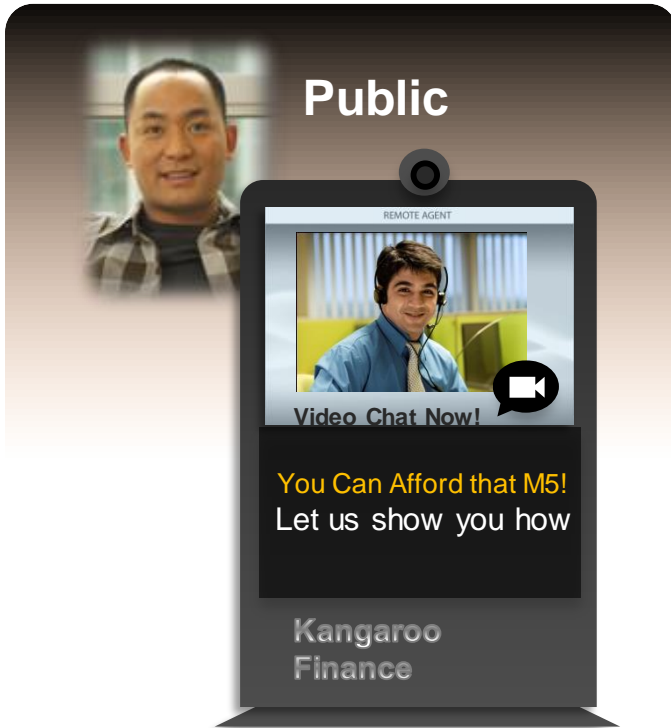
Visual IVR or bypass



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Remote Expert Vision

Delivering Engaging Customer Experiences



- Sees the Message
- Video Chats with Expert

Interactive Kiosk "Kiosk"



- Confers with Family
- Video Chats with Expert

Mobile/Remote "Mobile"



- Video Chats with Expert
- Makes the Purchase

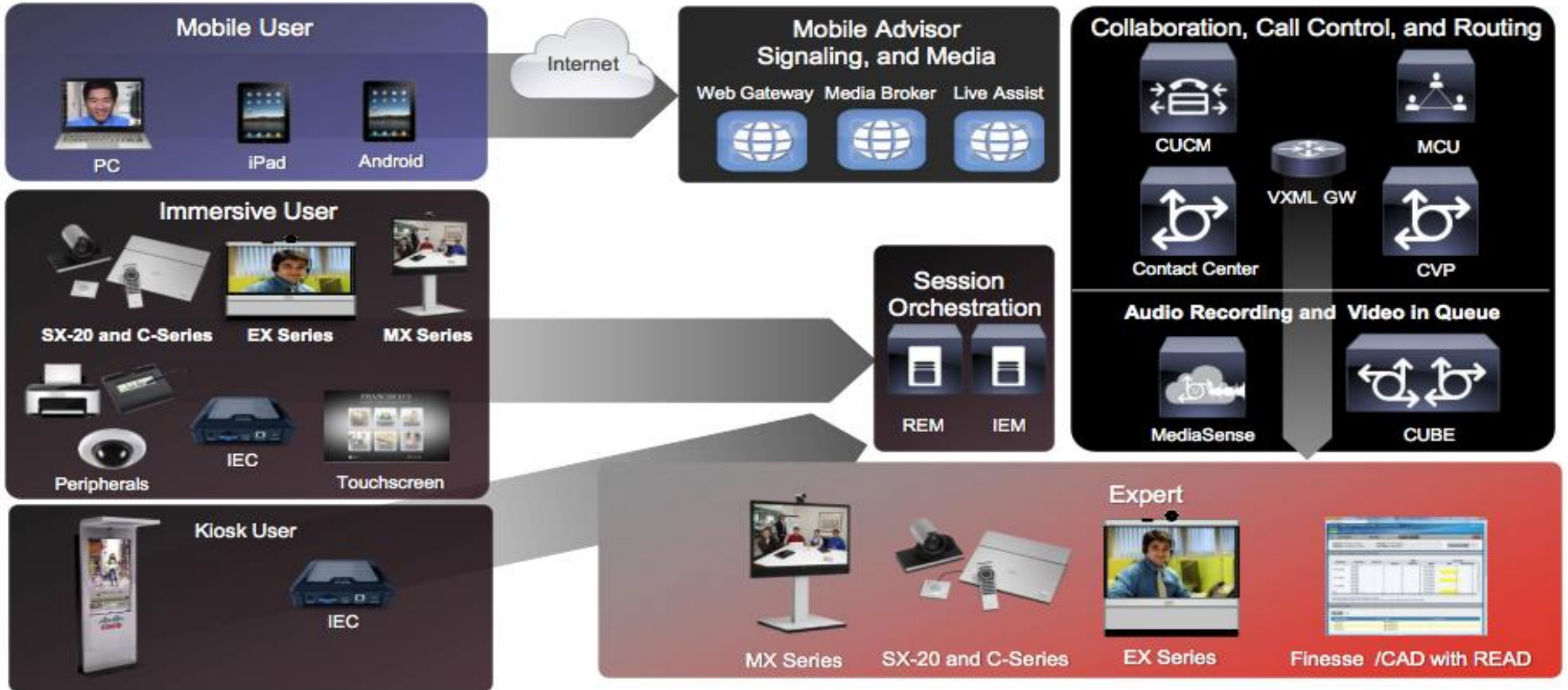
Immersive Video "Immersive"

Agenda

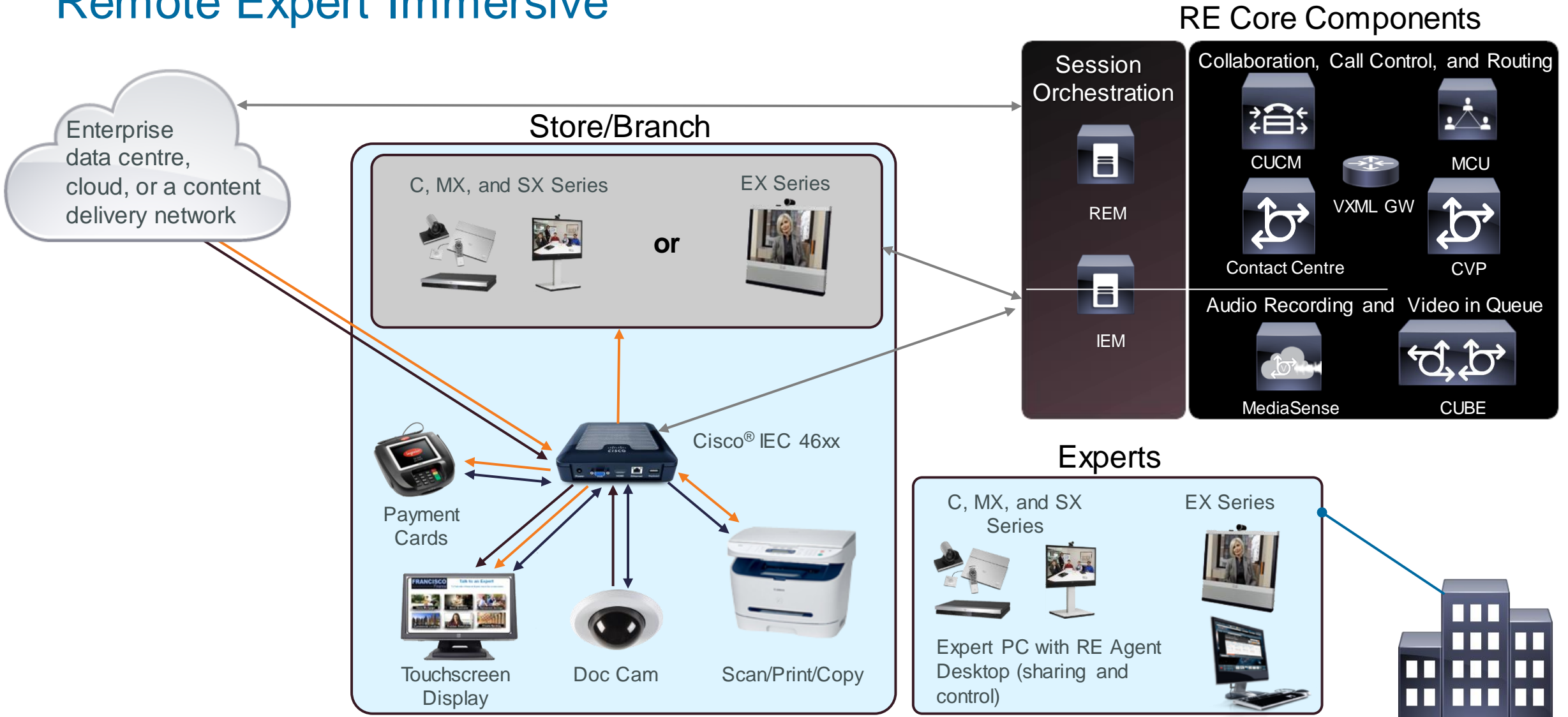
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Remote Expert/Mobile Adviser - Architecture



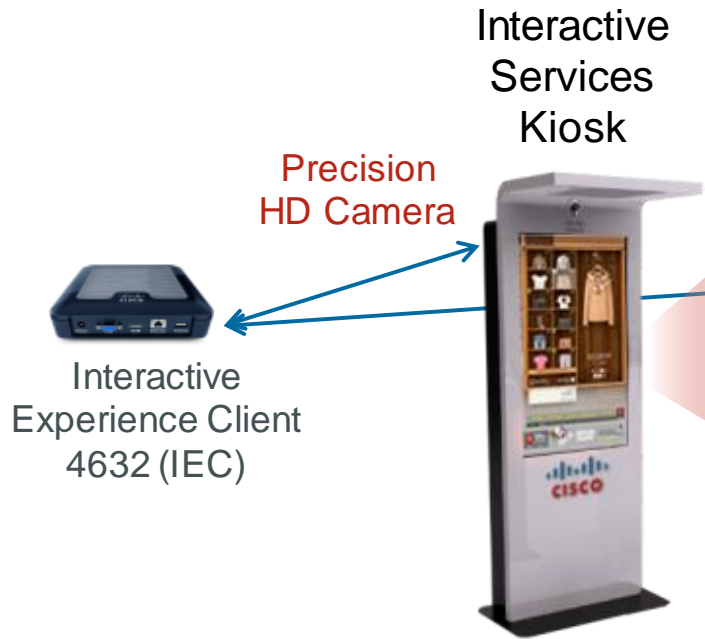
Remote Expert Immersive



Note: Some active traffic paths are omitted for clarity.

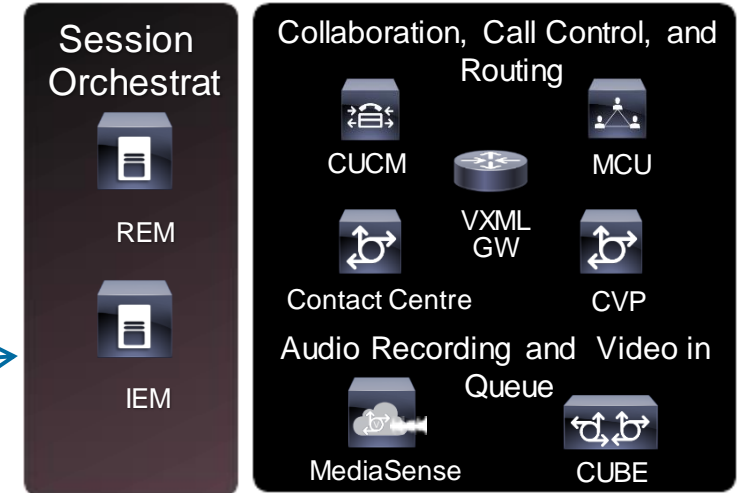
— H.264 Video — Graphics Content — Control Traffic

Remote Expert Kiosk

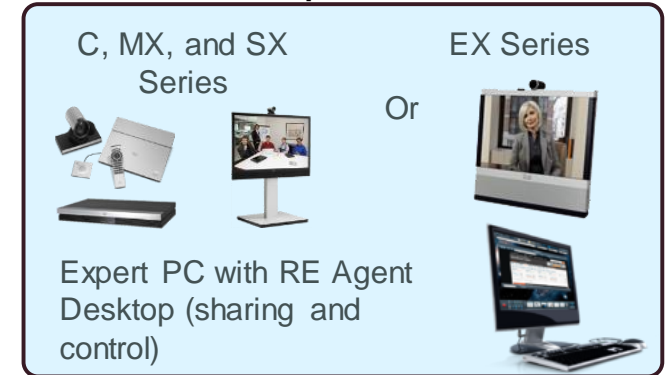


- Optional components:
- Touchscreens (third party)
 - Enclosures (third party)
 - Speakers (third party)
 - Peripherals (third party)
 - Customer web applications

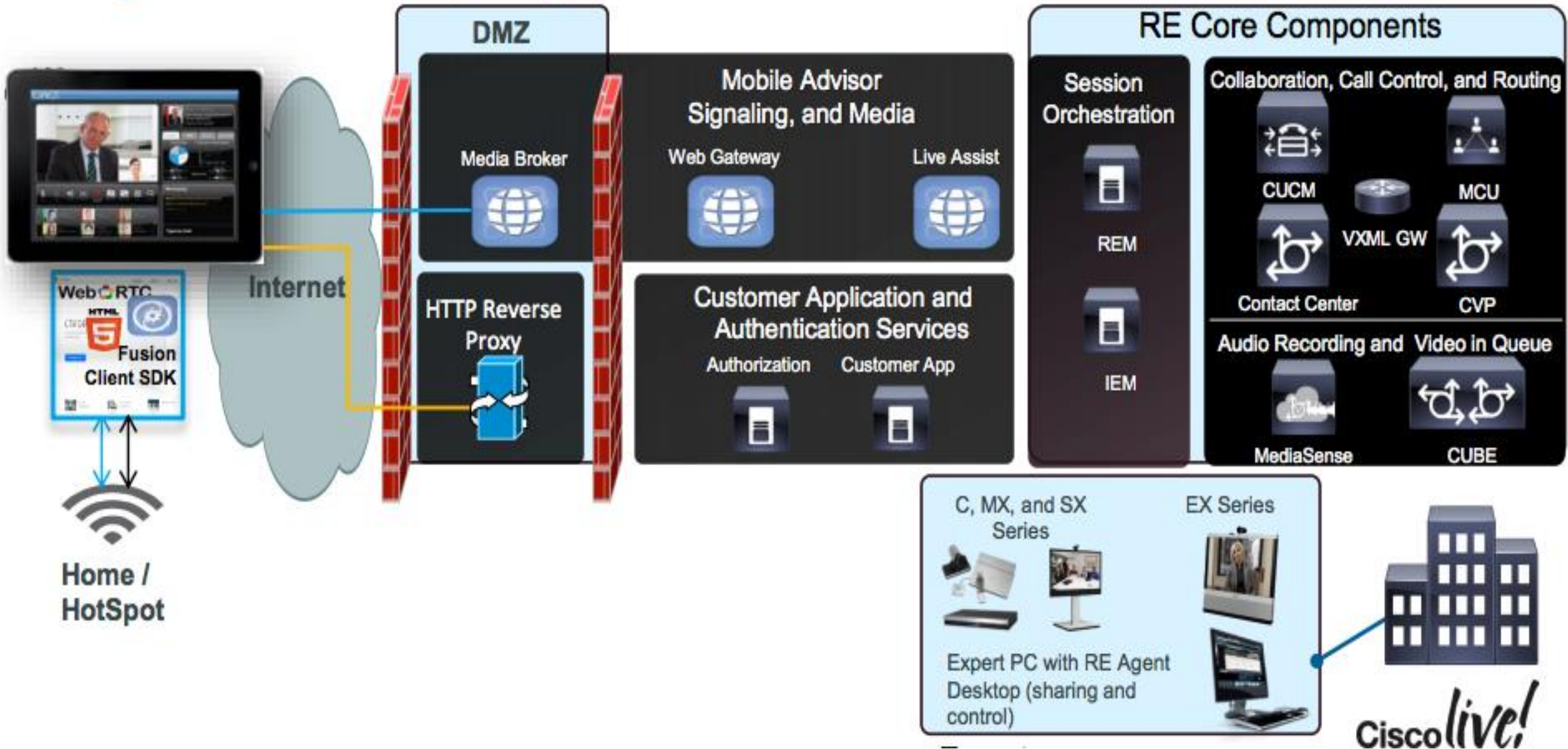
RE Core Components



Experts



Remote Expert Mobile

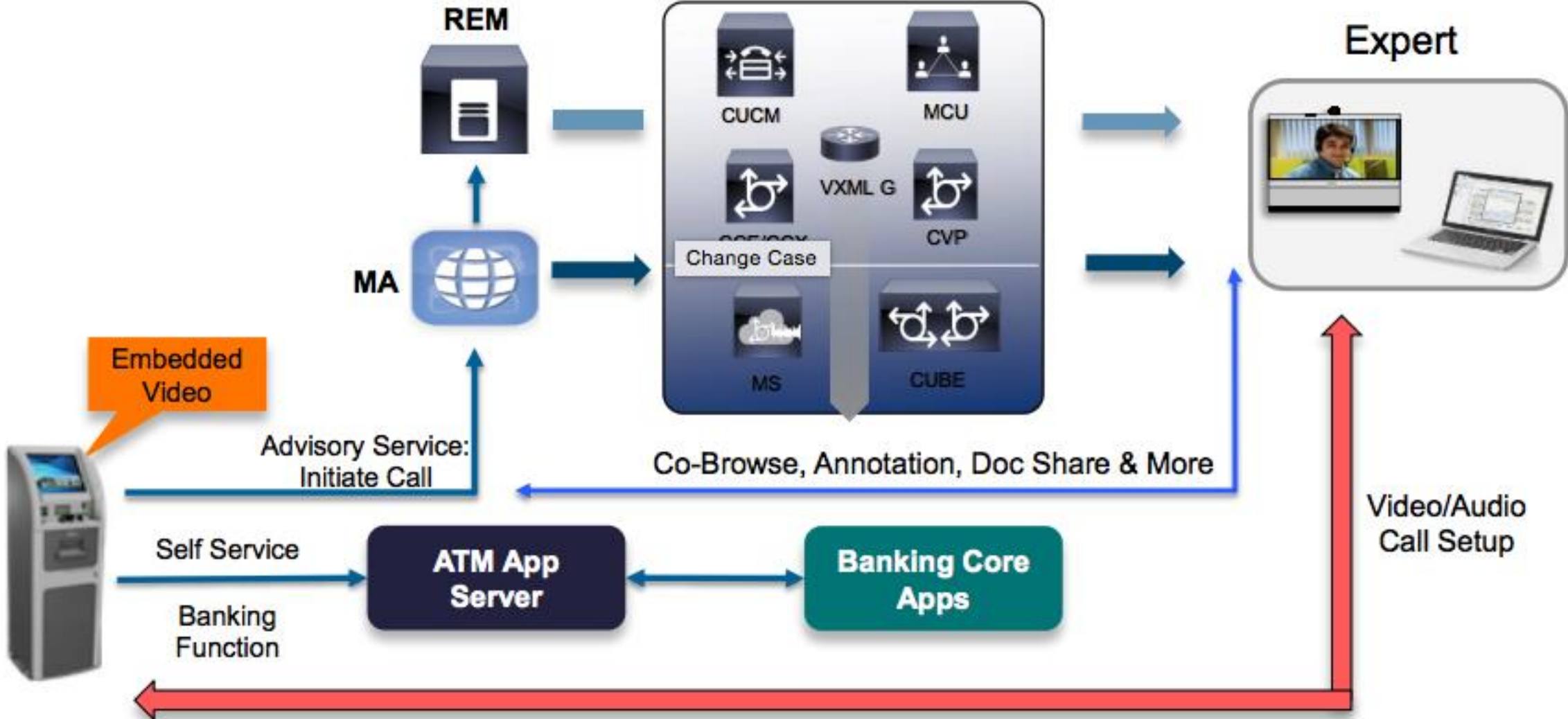


Jabber Guest and Mobile Advisor - Comparison

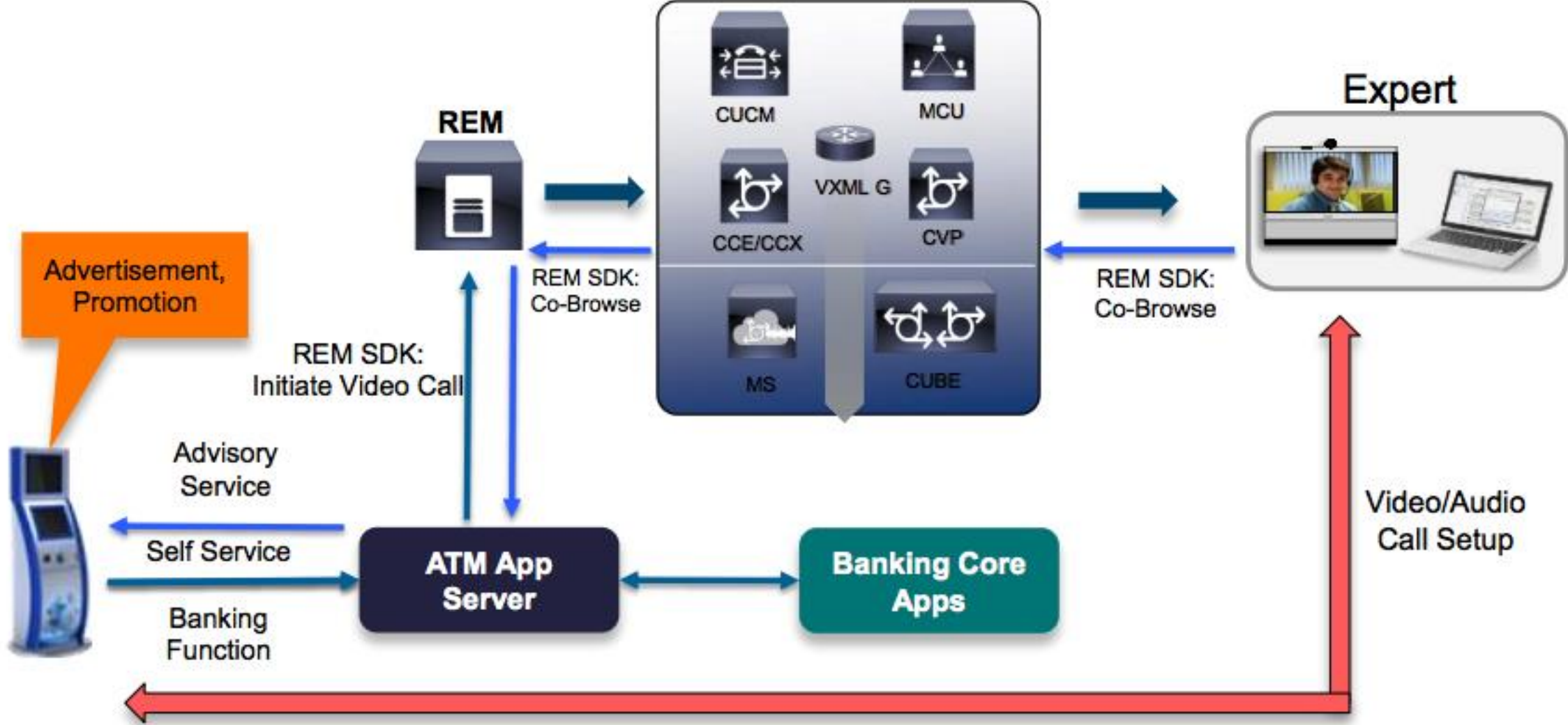
	RE Immersive	RE Kiosk
Target Audience	OEM from Cisco Ideal for complex workflows	Cisco Product Ideal for simple workflows
Plugin required / WebRTC support	N (Chrome, Firefox and Opera) Other browsers currently PlugIns	Y (plugin required for IE, Safari, Firefox, Chrome)
Mobile Support (iOS & Android)	Y	Y
Context passing and Screen/file sharing & annotation	Y – advance screen share from customer to expert	Limited - BFCP Based
VP8 video to H.264 transcoding	Y – Where required	N
Cisco UC infrastructure	Y – Multivendor supported	Y – CVD
Escalation from channel (chat to video)	N (custom possibility)	N



Remote Expert VTM Architecture



Remote Expert Immersive VTM Architecture



Remote Expert Capability Matrix

Feature	RE Immersive	RE Kiosk	RE Mobile
Audio recording using Mediasense	Yes	Yes	Yes
TelePresence Endpoint support	Customer and Expert	Expert	Expert
Call Conference and Transfer	Yes with CCE	Yes with CCE	Yes with CCE 10.0
Document and Application sharing	Yes	Yes	Yes
Grant consumer permission to control experts shared document/app	Yes	Yes	No
Peripheral support	Yes	Yes	No
Video on Hold	Yes	Yes	Yes
Video in Queue	Yes (CVP with Mediasense 10 or IEC)	Yes (CVP with Mediasense 10 or IEC)	Yes (CVP with Mediasense 10)

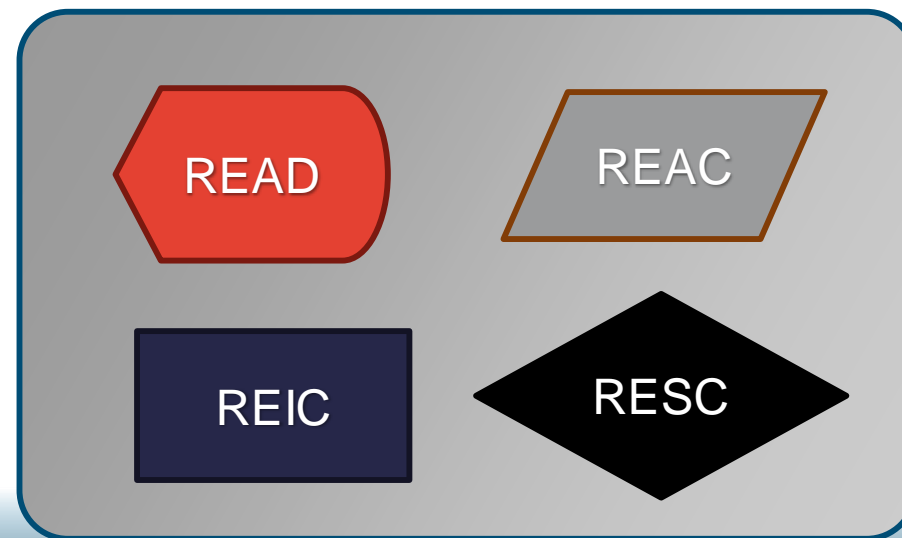


A Closer Look at Key RE Features

Session Orchestration

Remote Expert Manager (REM)

- Provides control and management for every Remote Expert Immersive and Kiosk session
- Orchestrates all expert and client interactions in the branch or store through a Cisco® IEC 4600 control point embedded in every Remote Expert client-side pod
- Interfaces with external applications and servers
- REM key functional components include:
 - RE Administrator Console (REAC)
 - RE Agent Desktop (READ)
 - RE Interactive Applications Controller (REIC)
 - RE Session Controller (RESC)



REM Functional Components (1 of 2)

RE Administrator Console (REAC)

REAC

- Web-based management interface to add, verify, and update all necessary configurations that are needed for normal operation of the REM platform

RE Agent Desktop (READ)

READ

- Web-based application for experts
- Provides CRM, note taking, video streaming, application sharing, and printing capabilities to experts

REM Functional Components (2 of 2)

RE Interactive Applications Controller (REIC)

REIC

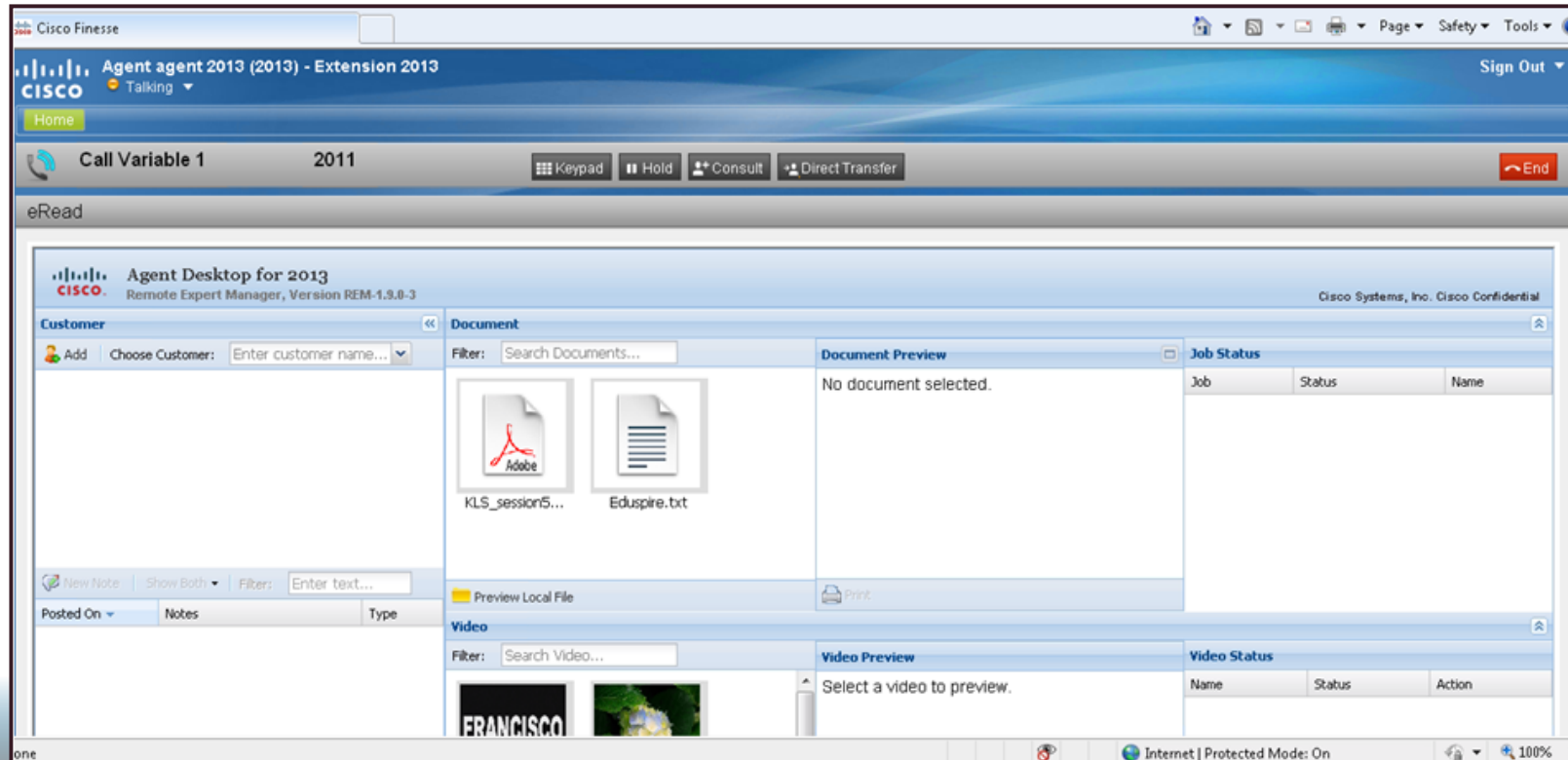
- Uses Flash/Flex and HTML+Javascript to render graphics, fonts, and video on the touchscreen located in the client-side pods
- Renders desktop apps shared by the expert
- Relays client touch inputs and facilitates client control of expert's shared application

RE Session Controller (RESC)

RESC

- Includes web-services interfaces to initiate and terminate RE sessions and data sharing sessions, trigger client-side printing, and control video streaming
- Uses JTAPI to initiate, monitor, control, and terminate calls

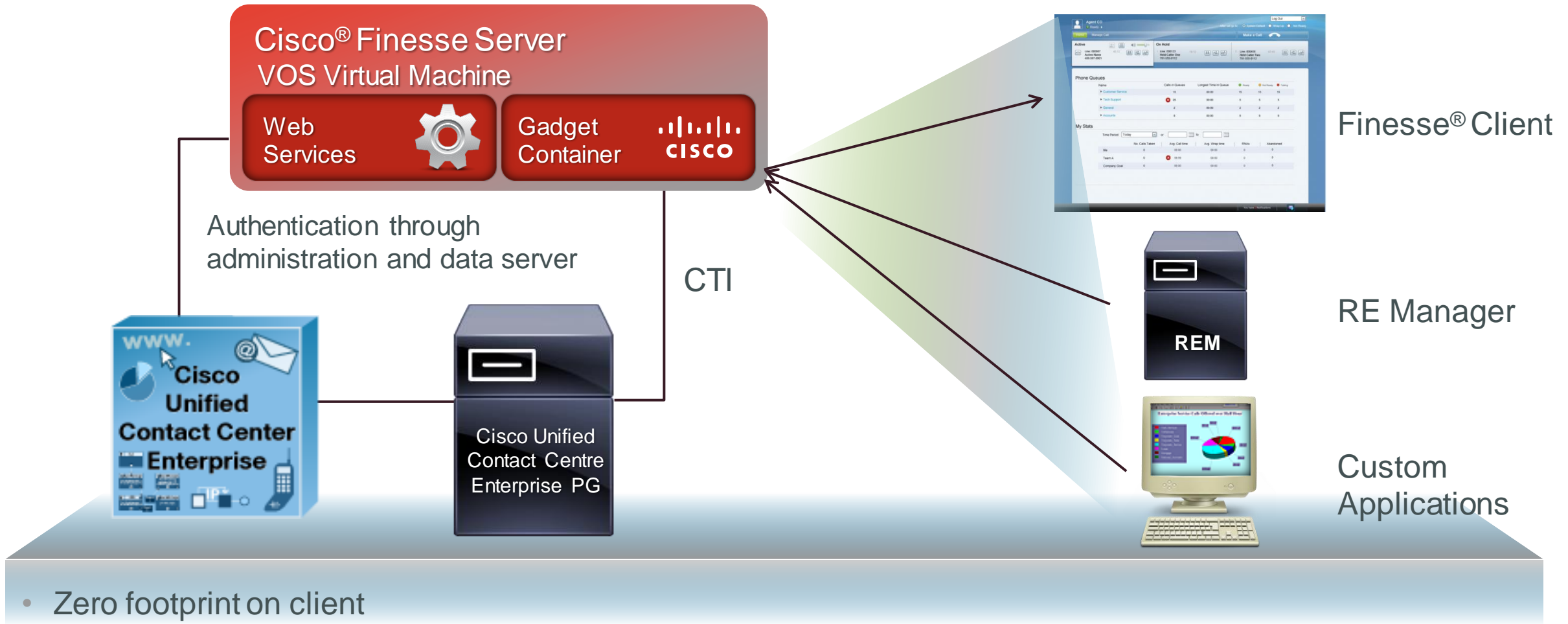
Remote Expert Agent Desktop in Finesse



- Complete RE Agent Desktop (READ) loads into Finesse® as one Open Social Gadget
- Additional gadgets from partners or developed by customers may be loaded into Cisco® Finesse along with READ

Finesse Desktop – Browser-based and Extensible

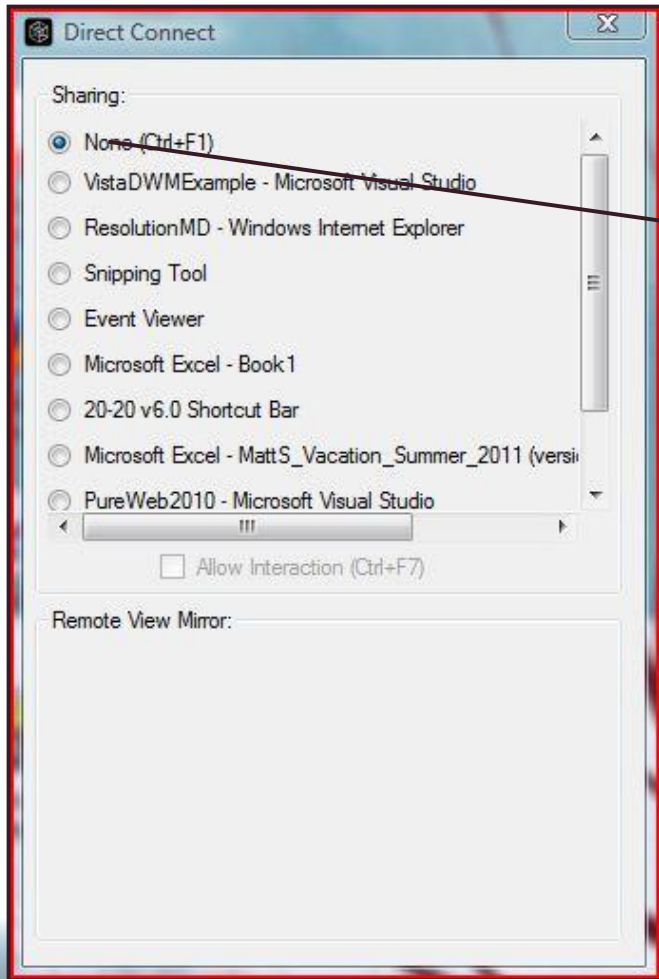
High-Level Architecture



- Zero footprint on client
- Mandatory administration workstation (AW)

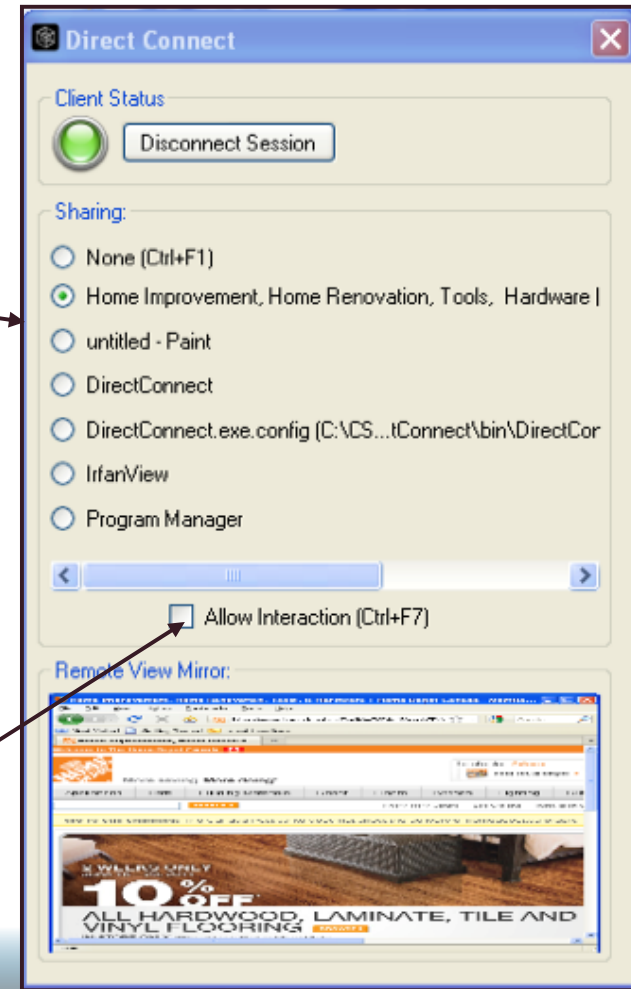
Expert's Application-Sharing Tool

Once Logged in, Simply Select What You Want to Share



One-click sharing

Can allow them to interact with you



Device Management

Interactive Experience Manager and Clients

- Provides a user-friendly way to configure, control, and monitor Cisco® Interactive Experience Client (IEC) devices
- IECs depend on IEM for:
 - Registrations
 - Monitoring
 - Policy settings
 - Firmware upgrades



Cisco IEC 4600 Series

- Interactive Experience Client (IEC) 4610 is the client-side control point in the RE Immersive and Kiosk Solution
- 2 Models
 - IEC 4610 has a single core Intel Celeron 1.2 GHz CPU
 - IEC 4632 is the client side of the Remote Expert Kiosk solution
 - IEC 4632 has a dual-core Celeron chip where each core clocks at 1.2 GHz
 - IEC 4632 handles two-way SIP video client and streaming video
- IEC 4600 is a small appliance (size of a small book)
 - Silent, fan-less mini-computer
 - Low power – consumes a maximum of 48 W
- Uses two independent stateless browsers to display interactive content

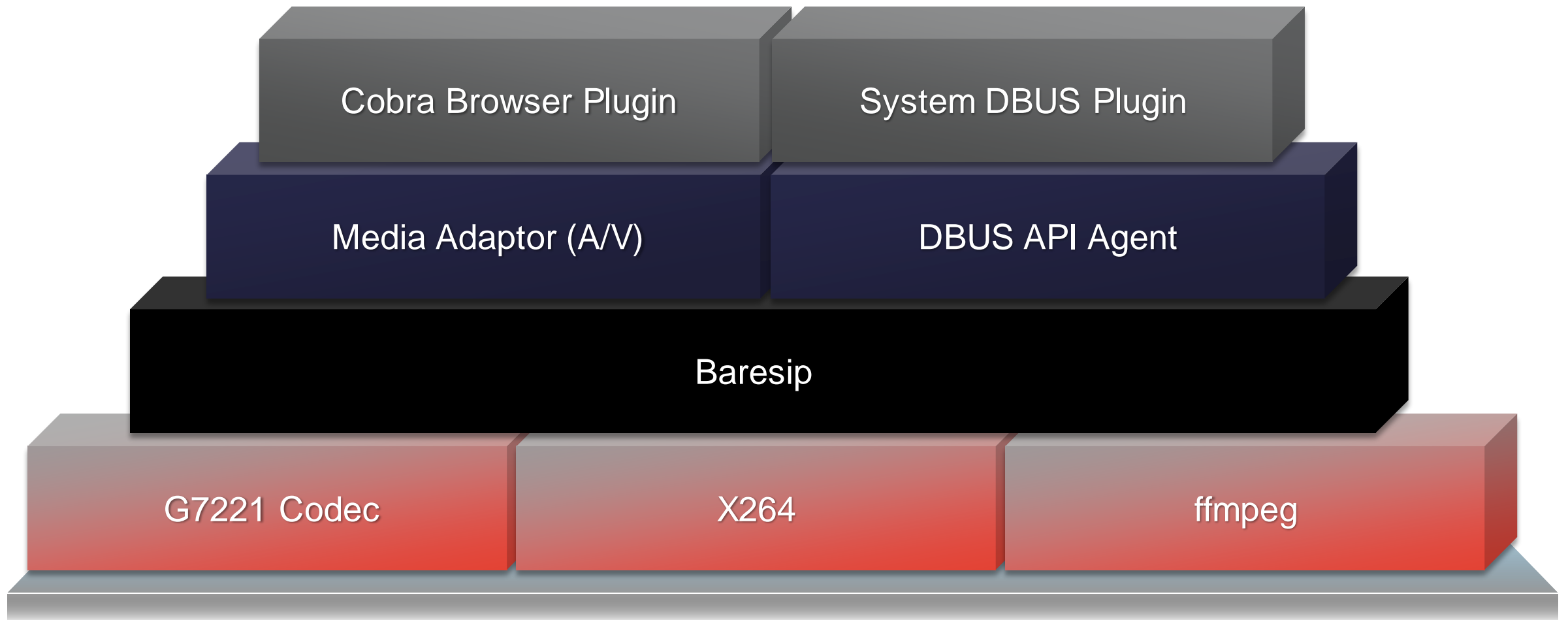


IEC SIP Video Widget

- SIP video widget in the IEC's Cobra browser registers with CUCM
- Widget is initialised and triggered using Cobra browser's JavaScript API
- Basic SIP widget parameters (e.g. transport protocol, originating phone number) are provisioned using IEM
- SIP video client appears as a window within the Remote Expert-Kiosk screen; this video window may be up to 480 pixels high by 640 pixels wide

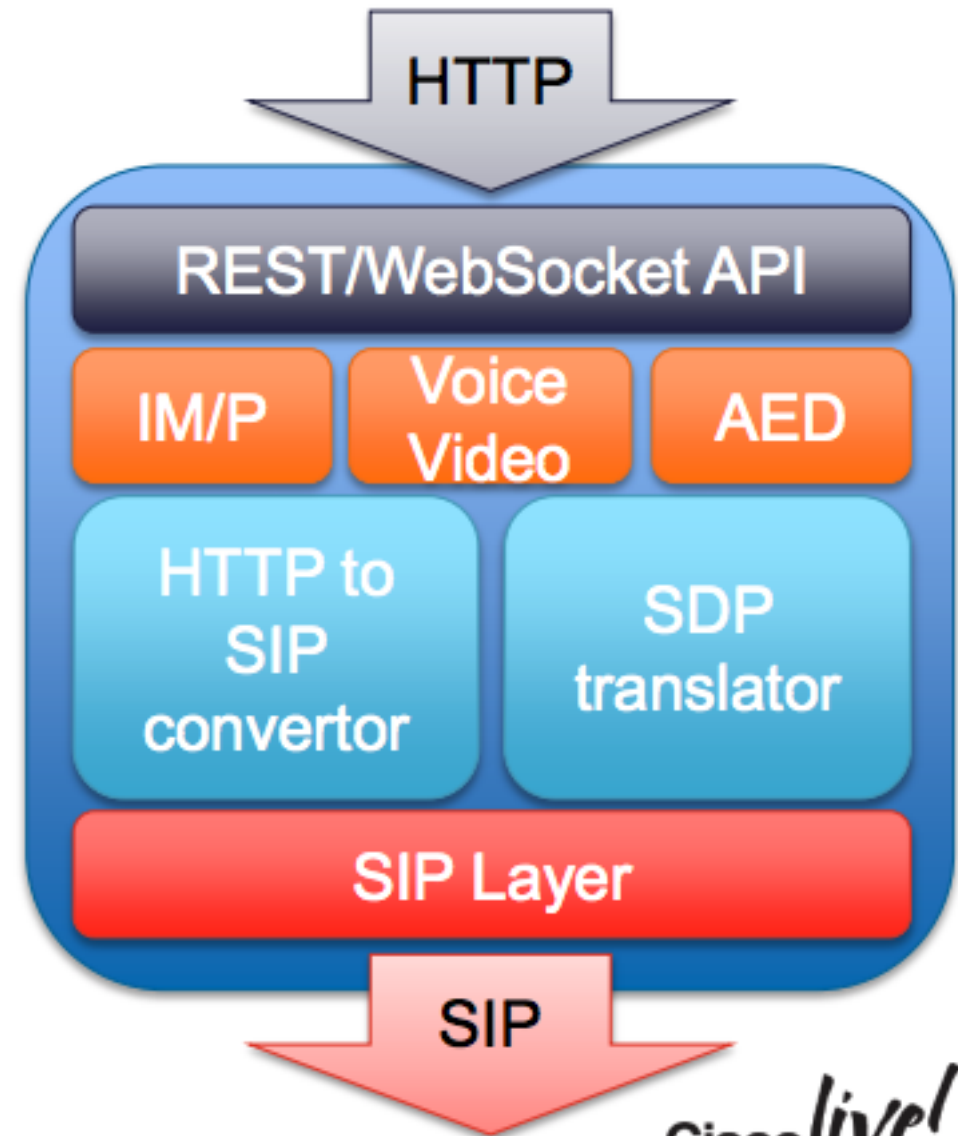


IEC SIP Video Widget Software Architecture



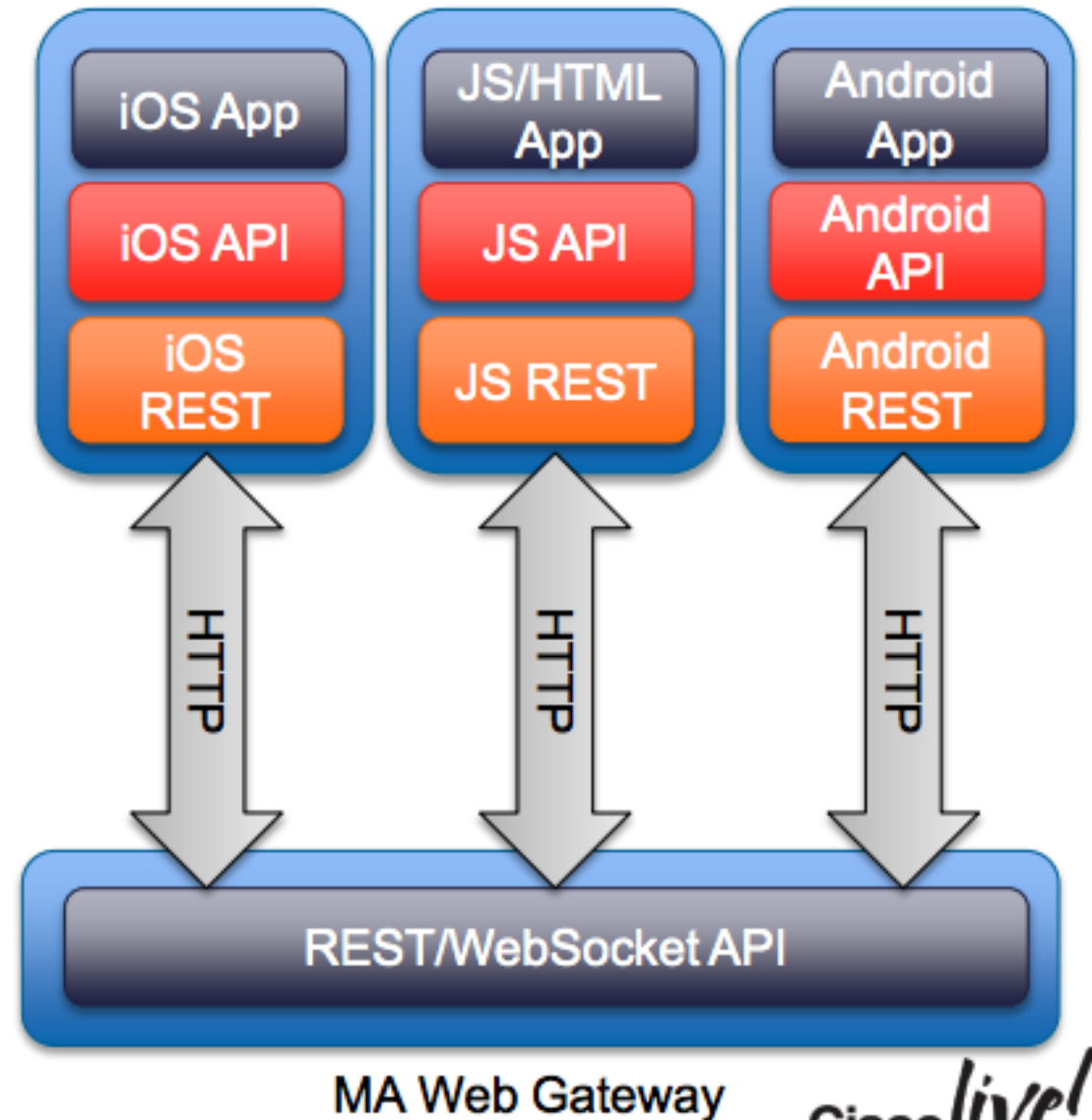
Mobile Adviser Web Gateway

- Converts from HTTP to SIP
- Translates SDP for enterprise consumption
- Exposes REST APIs
- Contains SDK provides platform specific wrapper libraries
 - iOS
 - Android
 - Javascript/HTML5



MA Client SDK

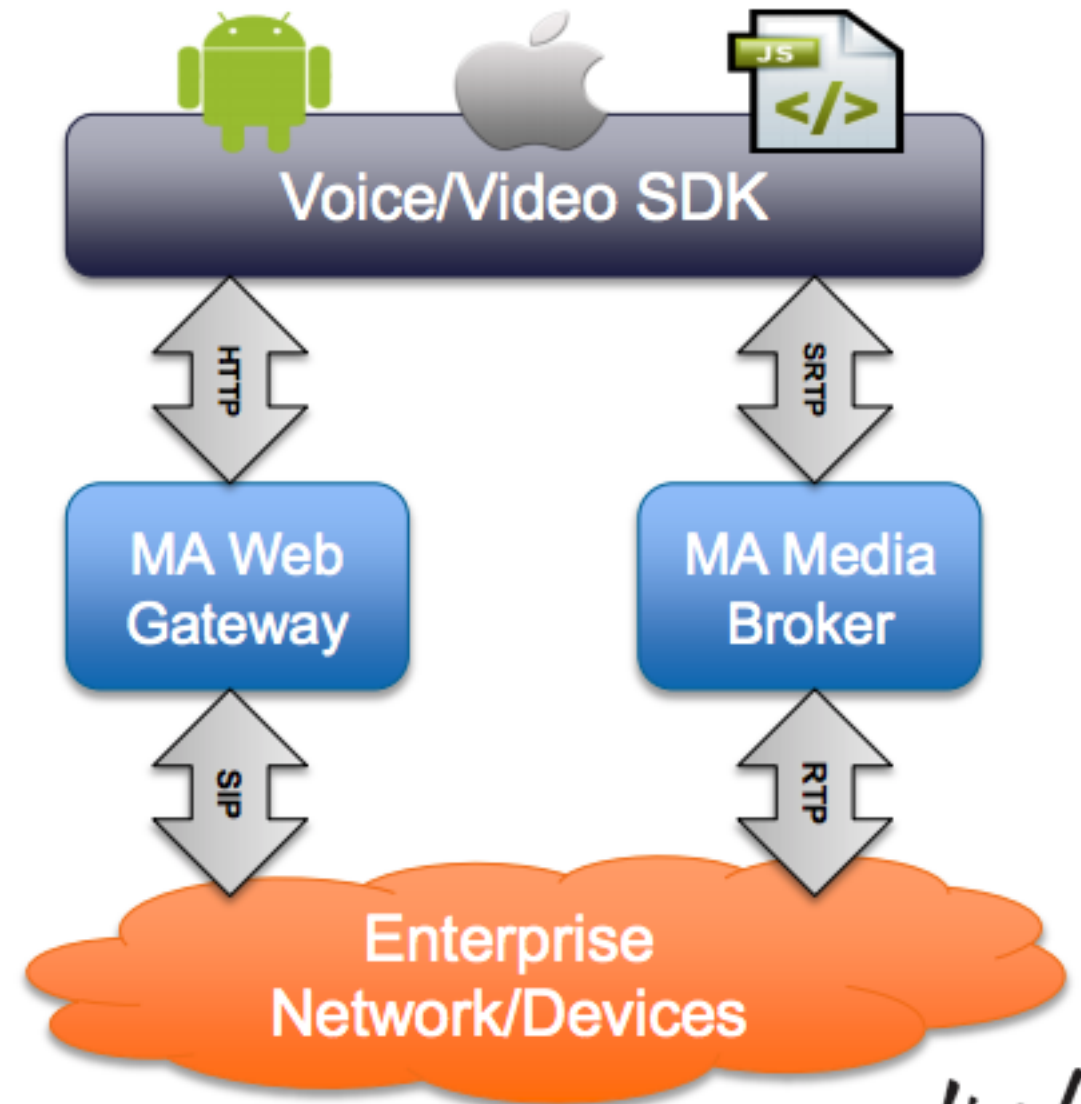
- Consistent APIs across platforms
- Rapid application development
 - Only platform SDK experience required
 - Hides REST APIs abstracting from changes
- Voice/Video use hardware acceleration where available
- Abstract IM and Presence APIs
- Application event sharing



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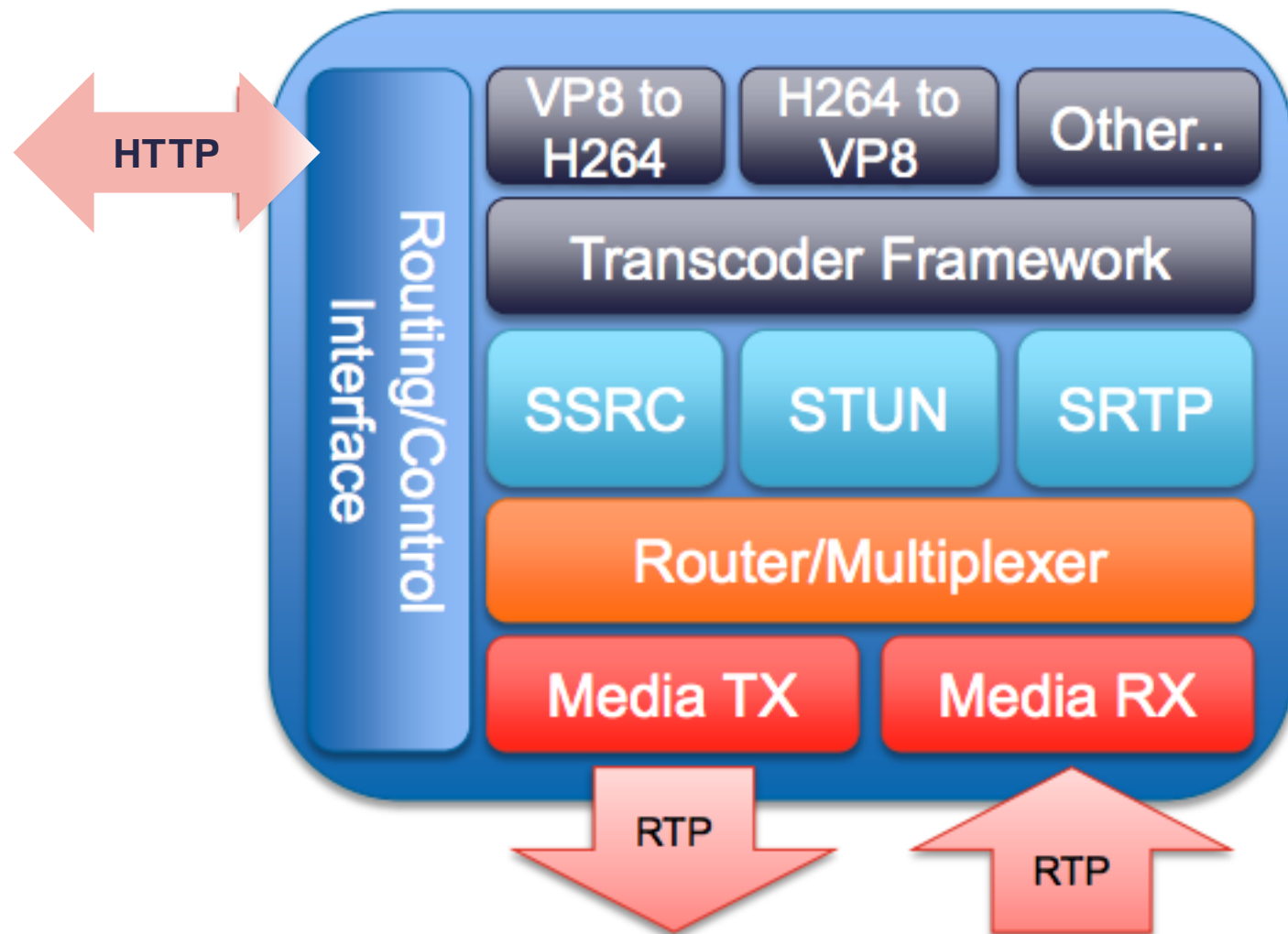
MA Client Voice/Video API/SDK

- iOS/Android/Javascript/HTML5
 - Seamless embedding in mobile/web applications
- No plugins or downloads for media
 - WebRTC in JS/HTML5
 - Native stacks on iOS/Android
- Simplified network model for large scale C2B use
 - Single media port (UDP or TCP)
 - Signalling over HTTP
- Thin client media optimisation

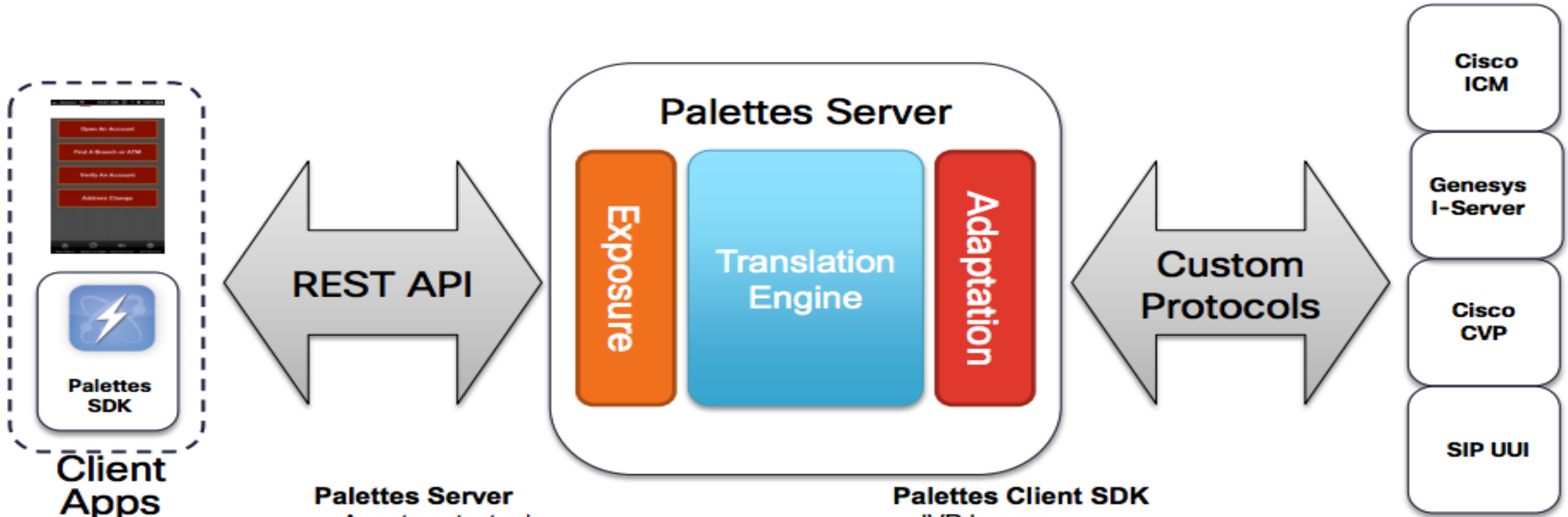


MA Media Broker

- Convert and adapt external media for the enterprise
- Media transcoding
 - Extensible framework for future protocols
- STUN/SRTP RTP SSRC termination
- Media port multiplexing
- Interworks WebRTC media



MA Palettes



Palettes Server

- Agent context relay
- Rules based XML manipulation
- Dynamic code generation
- VoiceXML rules handling
- Genesys T/I-server integration*
- Cisco UCCE/UCCX integration*

Palettes Client SDK

- IVR bypass
- Visual IVR
- Web rendering (HTML5)
- iOS app rendering (Objective C)
- Android app rendering (Java)
- Sample client code & applications

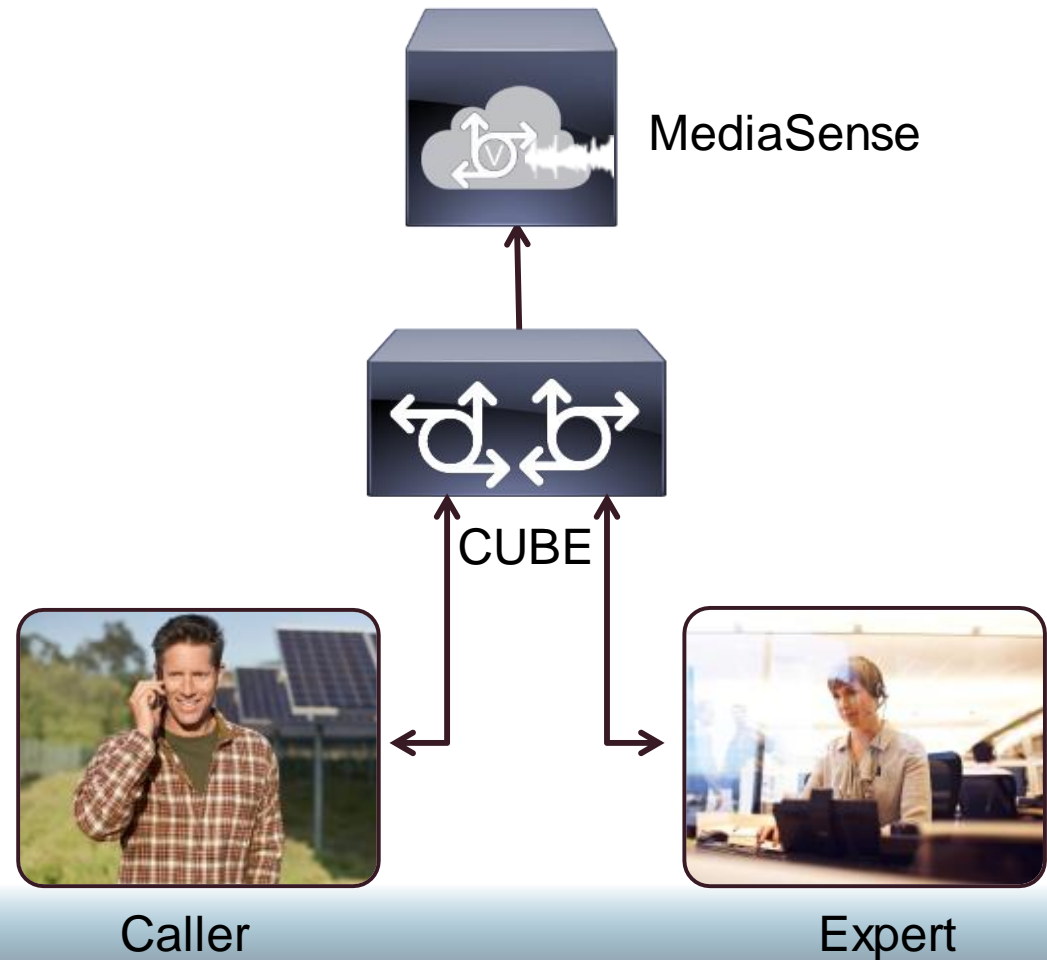
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RE Call Recording

Done by forking a copy of the audio/video stream through CUBE over to a Cisco® MediaSense server

RE Manager (REM) provides call playback & live monitoring with role-based access control

Can be integrated with Cisco validated third-party call recording products



Call Recording: MediaSense and CUBE

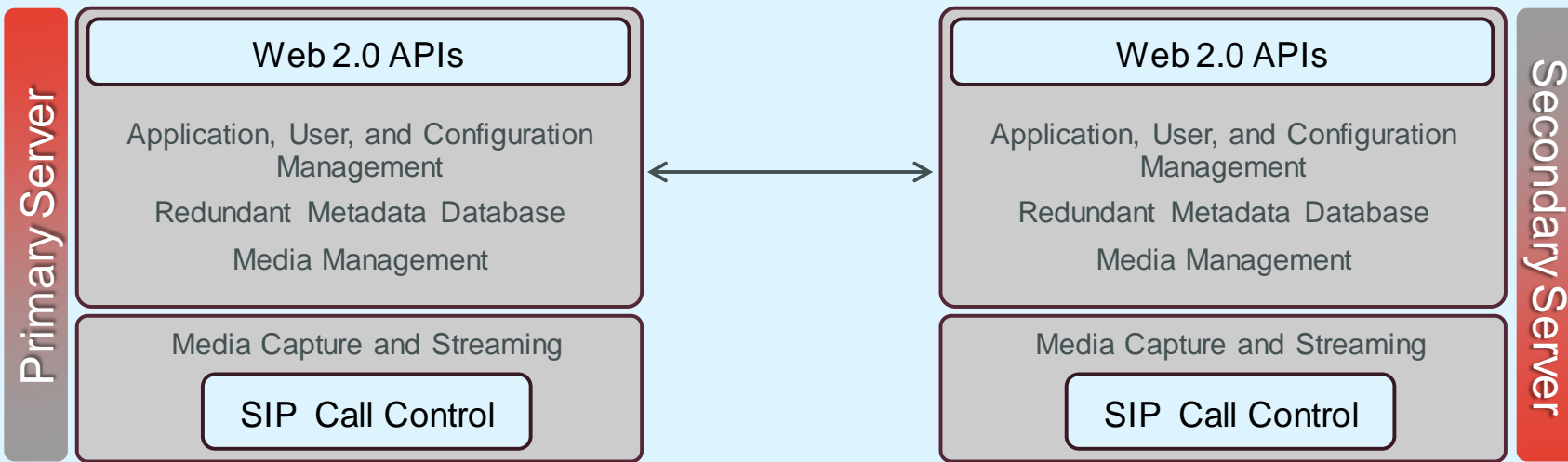
Monitoring and Playback Options

MediaSense UI for Search and Playback (Multi-Cluster)

REM for Search and Playback (Single Cluster, Multi-Future)

Third-Party Apps for Search and Playback (Multi-Cluster)

MediaSense Cluster (High Availability and Scale)



SIP ↔ Audio Stream



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Conferencing

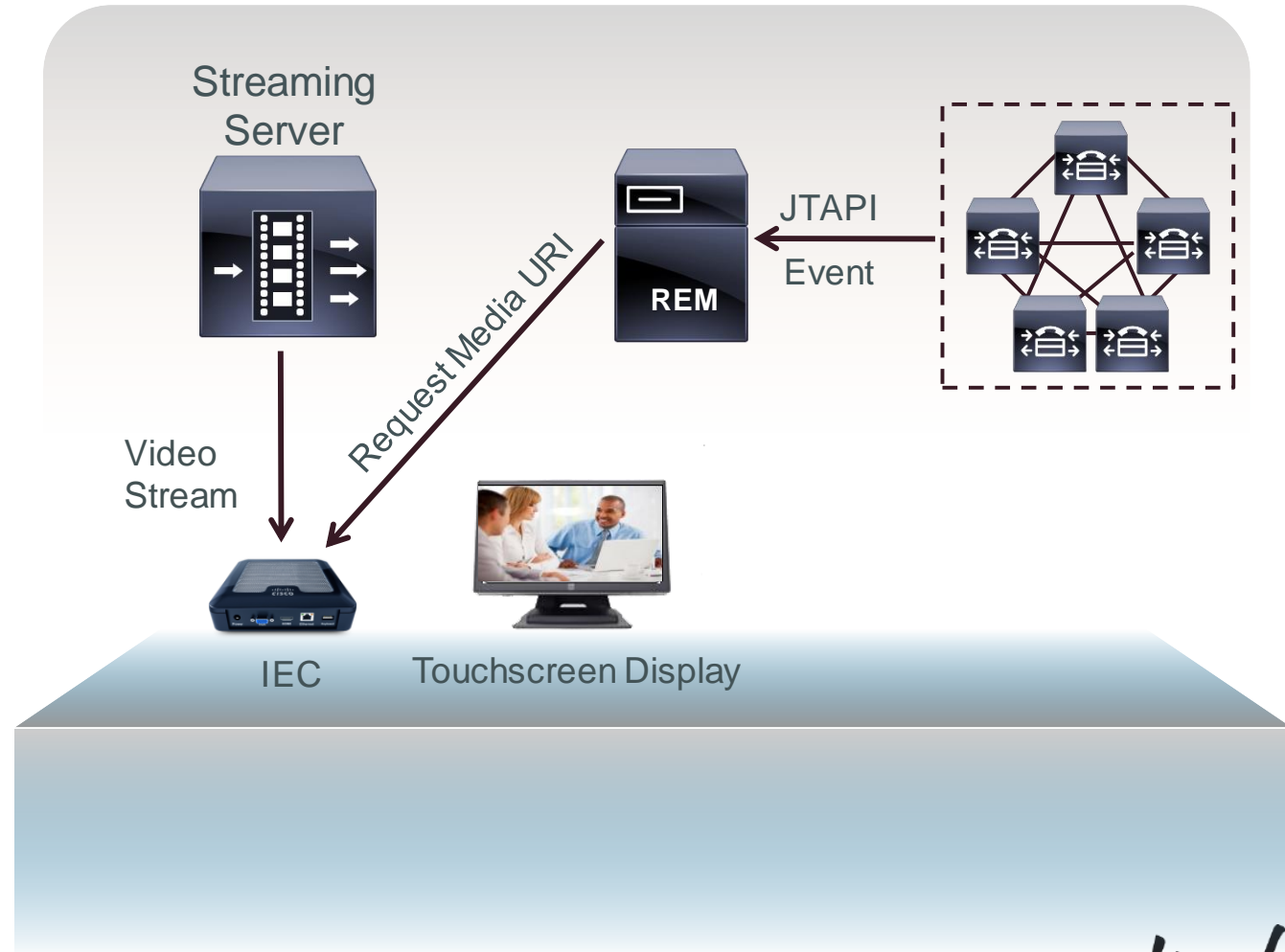
- Compatible with CCE deployments
- When more than two parties are involved in a video call, such as during a transfer between experts or conferencing with multiple experts
- CUCM Controlled Media resource



Cisco MCU

Video on Hold and Video in Queue

- Video is played to a caller when an expert puts them on hold, while being transferred, or while waiting for a conferencing session to begin
- On Immersive and Kiosk access, video is played on a touch panel
- Video is accomplished using REM, which directs the media server to stream video to IECs



Video in Queue Comparison

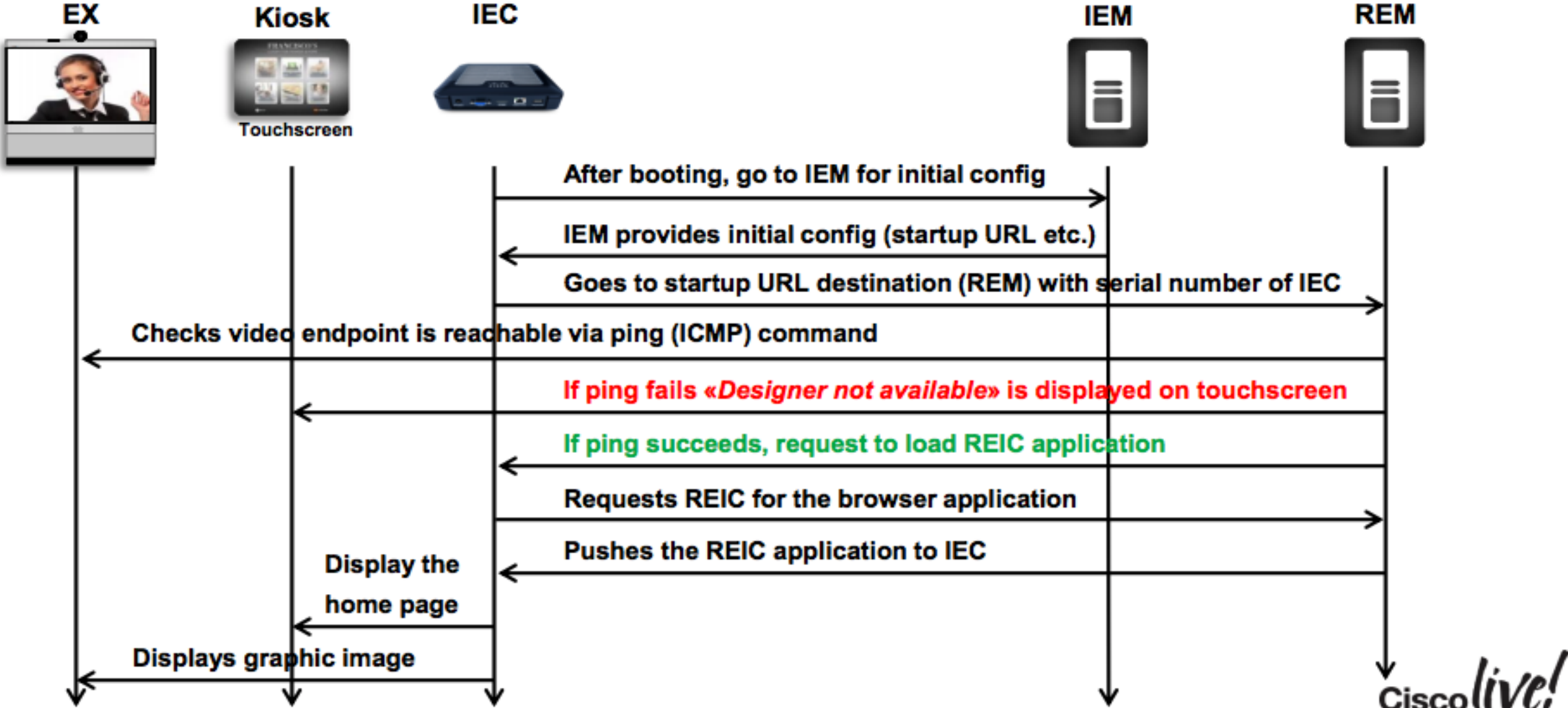
Capability	IEC Based	MediaSense Based
Cisco Contact Centre Models Supported Audio recording using Mediasense	Yes	Yes
Compatible with RE-Immersive & RE-Kiosk	Customer and Expert	Expert
Compatible with RE-Mobile	No	Yes
Requires RTMP or RTSP streaming server	Yes	No
Unique Video per Queue	Yes	Yes
Location of Video Playback for RE-Immersive	Touch Screen	TP Endpoint
Video Looping	Automatic	Yes – Via CVP Script
MediaSense Required	No	Yes
Video File formats & Resolutions Supported	MP4, FLV, F4V or MOV Containers with H.264 main or baseline & AAC-LD; 360p, 480p or 720p 4:3 or 16:9	MP4 Container with H.264 constrained baseline & AAC-LD; 360p, 480p, 720p, 1080p all in 4:3 ratio

Agenda

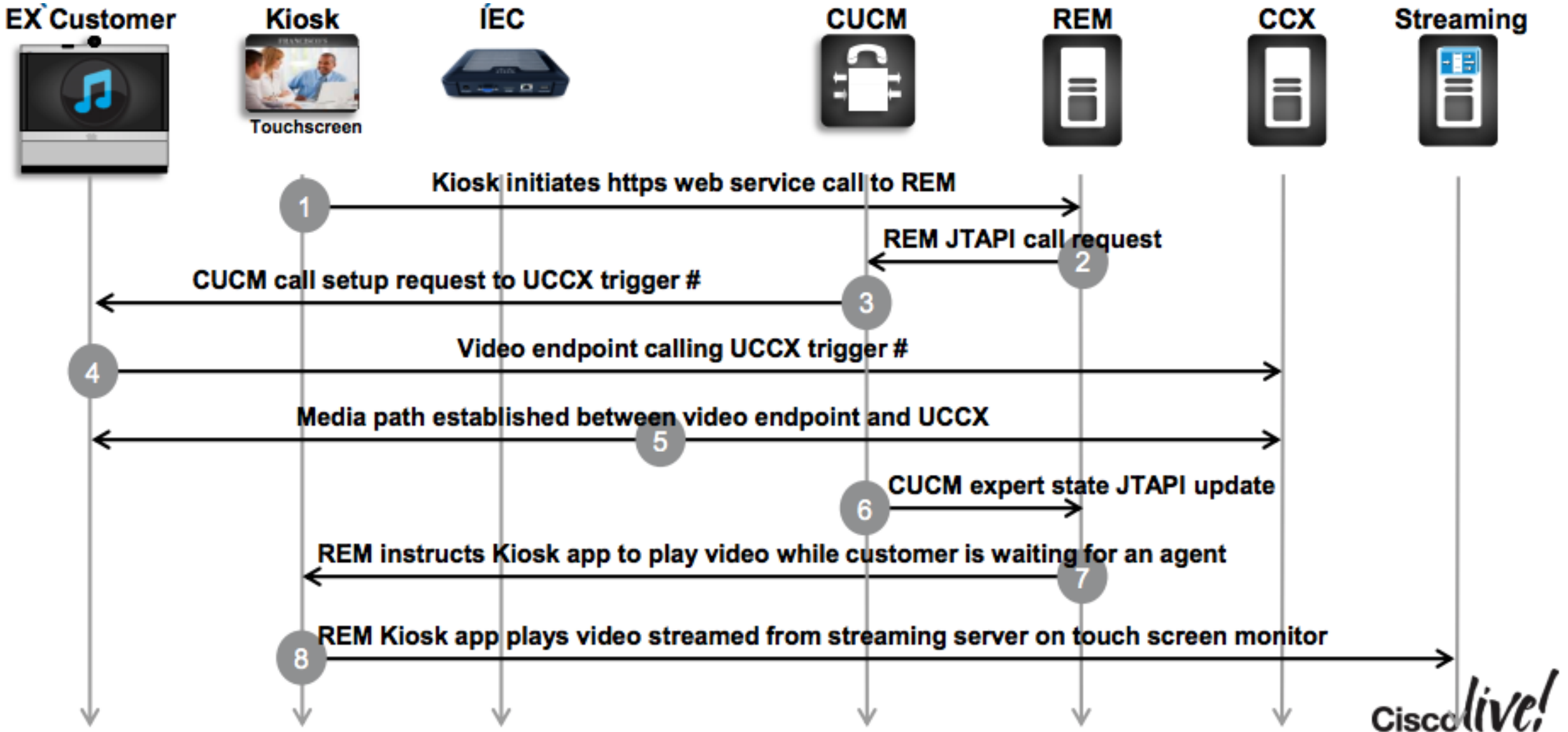
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IEC Boot-Up Sequence

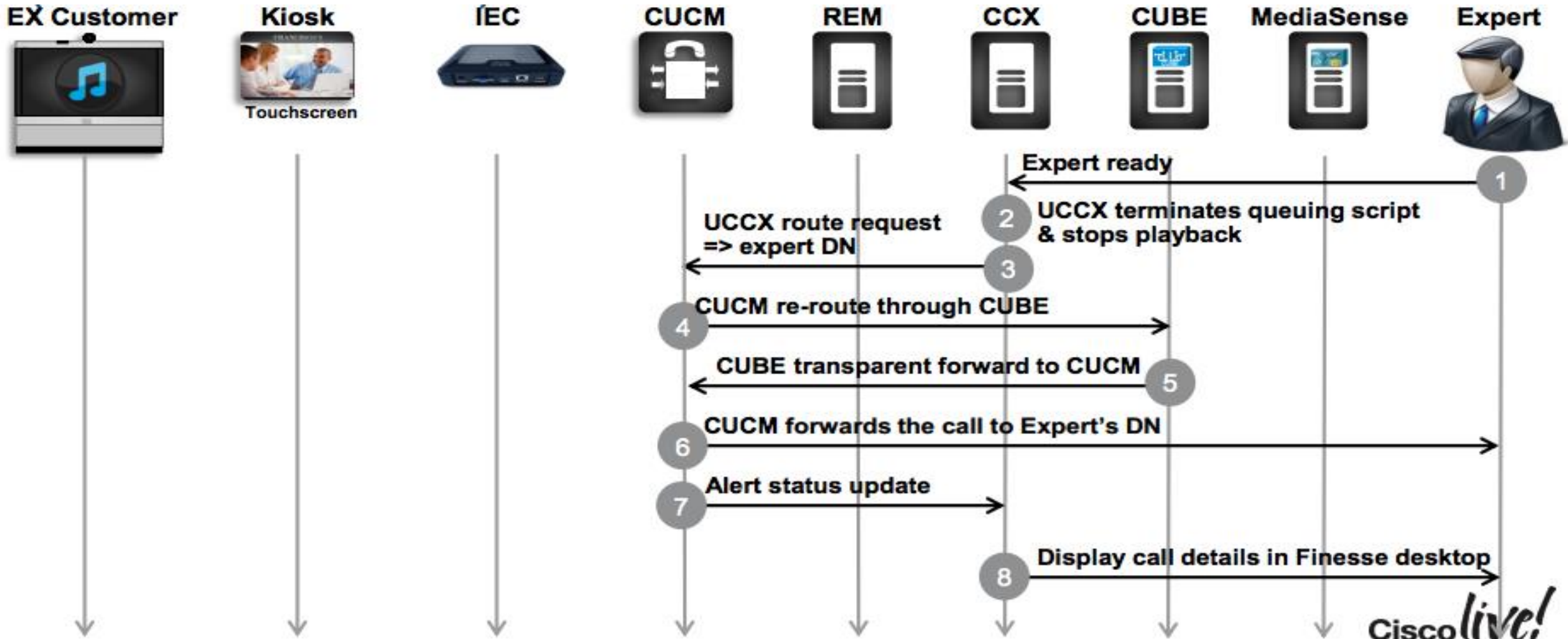


RE – Client Initiated Session (UCCX Based)



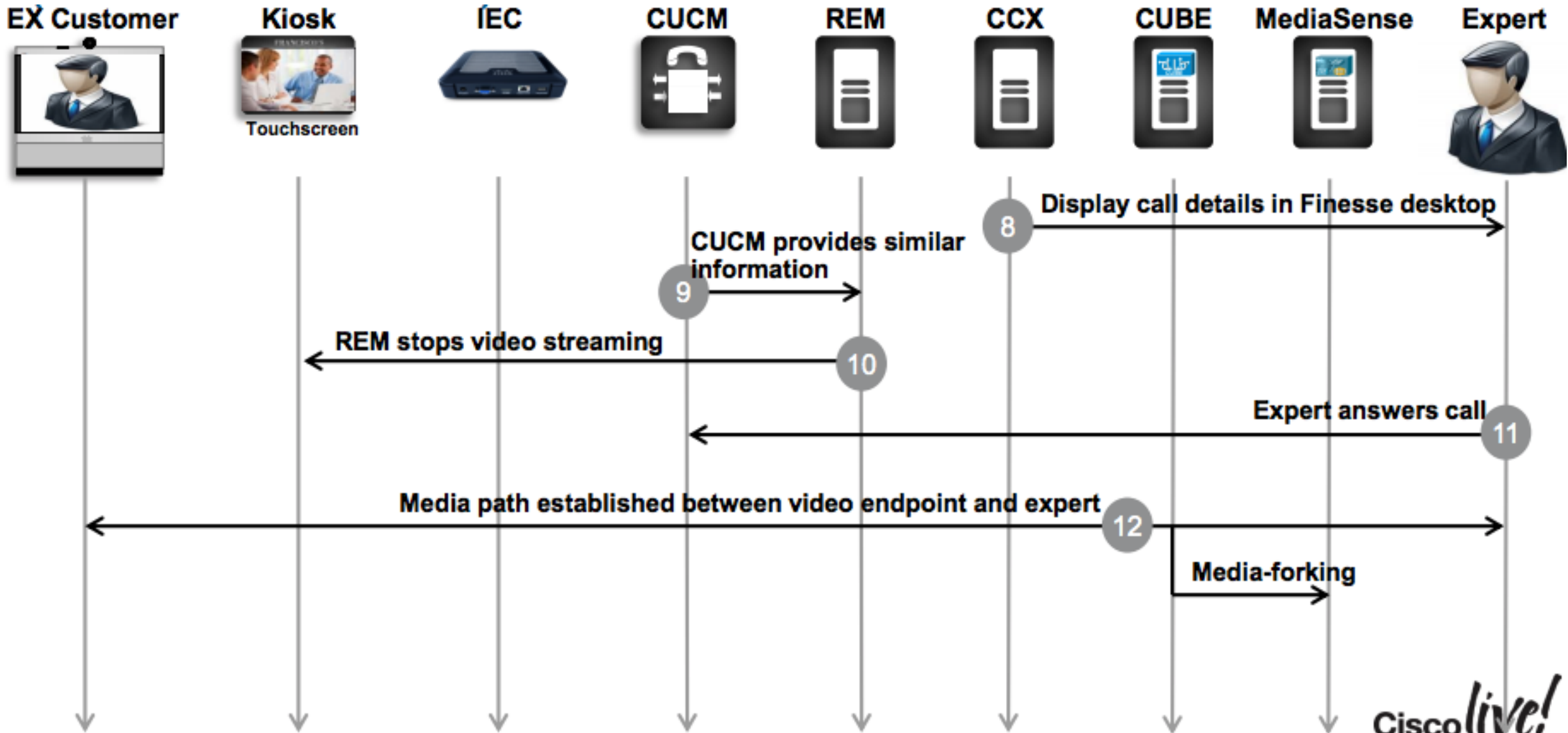
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RE – Agent Answered (UCCX Based)

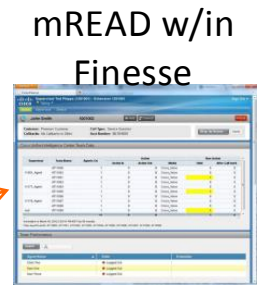


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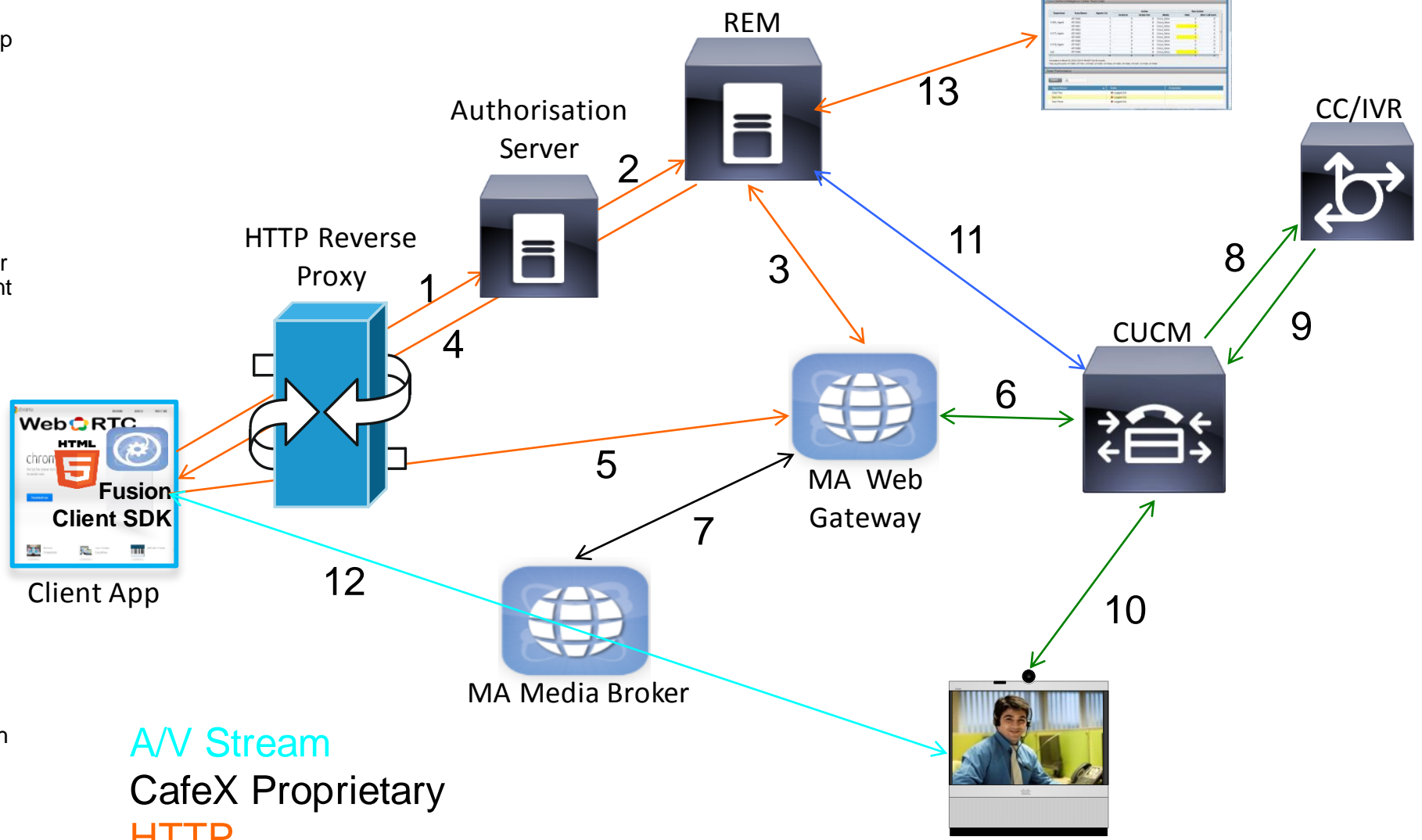
RE – Agent Answered (UCCX Based) cont.



RE / MA Session Flow - Client to Expert

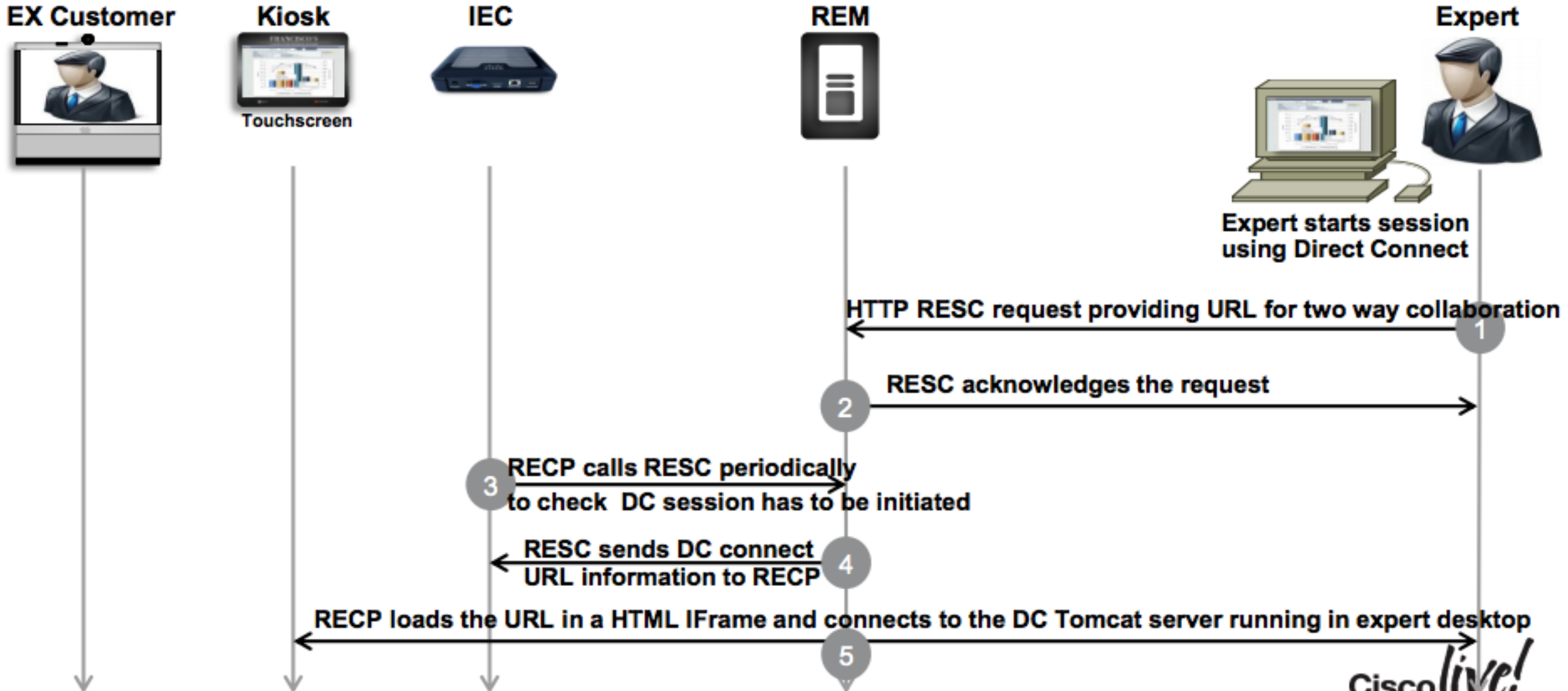


1. Client initiates session via button press on App / Web (http) to Authorisation Server
2. Auth Server requests session ID token for Client (http) using REM API
3. REM requests & receives Session ID token passed from MA Web Gateway
4. REM passes Session ID token to Auth. Server then Auth. Server passes same token to Client App.
5. Session Establishment Internet Video Leg
6. Session Request Enterprise Video Leg (using SIP)
7. Session Description passing Internet Video Leg
8. Queue call at IVR/CTI route point
9. Redirect call to selected agent DN (SIP)
10. Session Description passing Enterprise video leg (SDP/SIP)
11. JTAPI CTI update of IVR/CTI Route Point with term DN's/URI's
12. 2-way A/V call flowing
13. mREAD shown to Expert with MA Live Assist tools

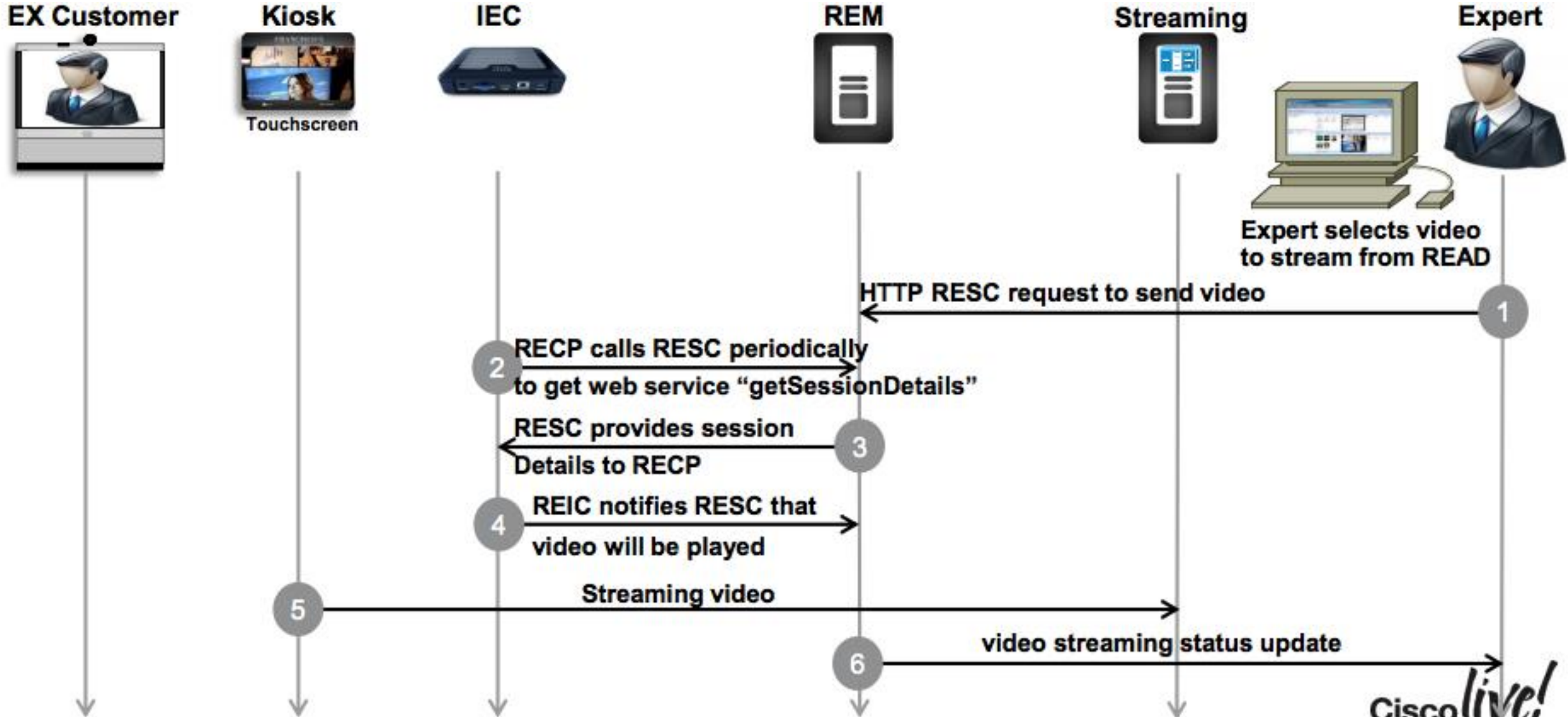


A/V Stream
CafeX Proprietary
HTTP
JTAPI/CTI
SIP

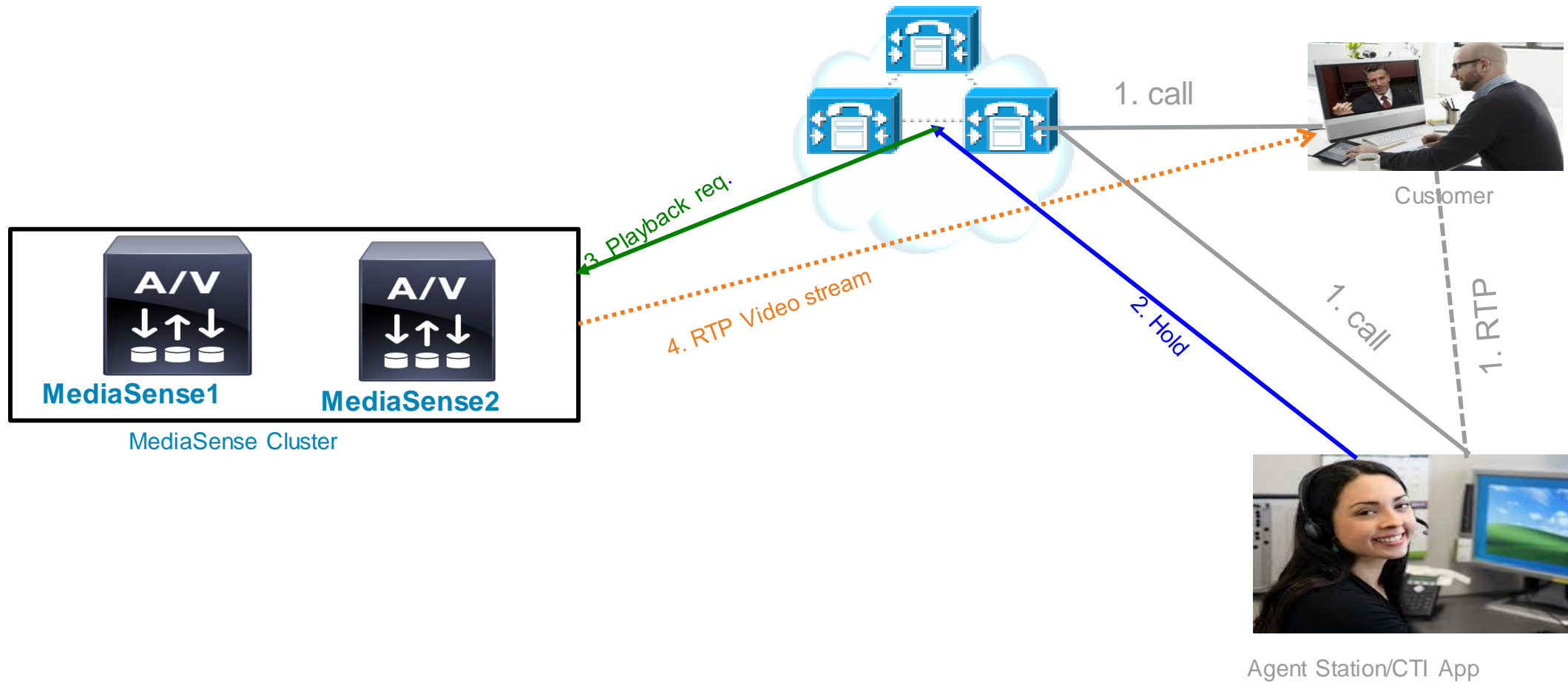
RE – Application Sharing Using Direct Connect



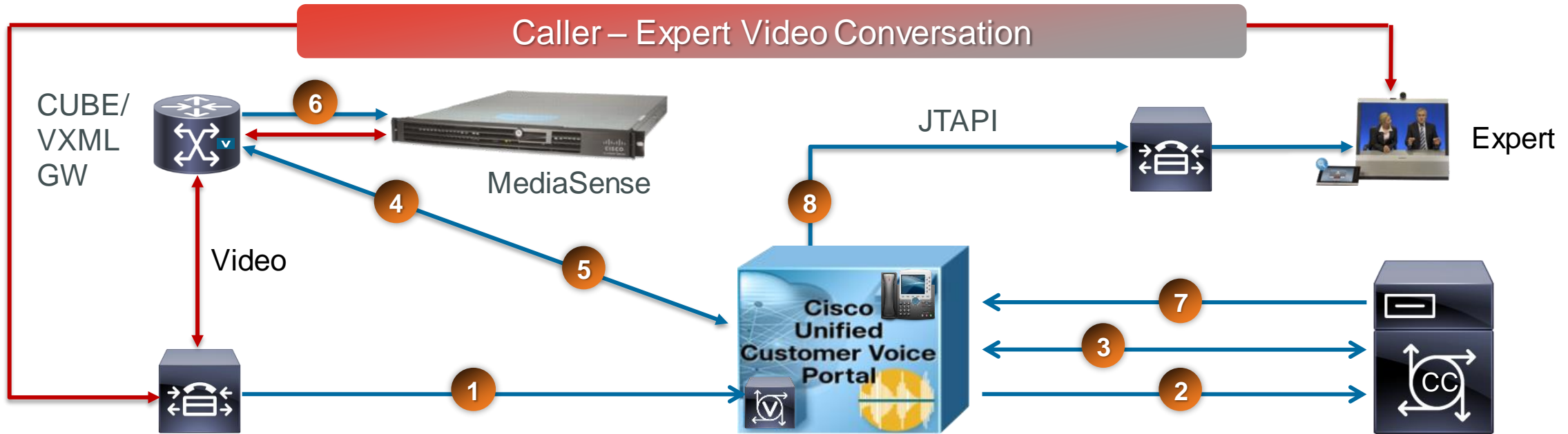
RE – Video Sharing



Video On Hold



Video in Queue Call Flow



1. New call from UCM to CVP
2. New call to UCCE from CVP
3. Play CVP studio video application
4. CVP sends call to CUBE/VXML GW

5. CVP VXML server application instructs VXML GW to connect to DN XXXX
6. CUBE sends call to Video Media Server with DN XXXX
7. Caller gets video IVR; navigates using DTMF
8. Agent is now available
9. CVP sends call to an agent



Caller

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What Some of Our Customers Have Achieved

Financial Services

Challenge

- Improve customer satisfaction
- Enhance access to experts
- Reduce leakage of business to competitors

Solution

- Deploy “virtual advisors” enabled by Cisco® video collaboration in retail bank branches
- Support close of mortgage sales in branch; printing, scanning, and accessing mortgage advisors from a central pool
- Manage unplanned and scheduled meetings

Results

- Two-thirds improvement in new mortgage business
- Double-digit improvement in customer net satisfaction
- Two-thirds reduction in cost of sale



What Some of Our Customers Have Achieved

Global Retailer

Challenge

- Effectively provide product and how-to-use advice to customers when and where they want it with a limited number of experts
- Increase sales by providing customers with detailed visual interactions, removing the barrier to purchase

Solution

- Deploy intelligent routing to experts and help enable video conferencing with customers
- Help enable major purchases that require high-touch interactions and advice

Results

- Sales of the target category increased an average of 15% in stores with Remote Expert compared to 5% for stores without Remote Expert—an increase of 300%
- Retailer is upgrading to the latest version and expanding the number of stores that include the Remote Expert solution



Continue Your Education

- Demos in the Cisco Campus
- Walk-in Self-Paced Labs
- Meet the Expert 1:1 meetings



Q & A

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