



*LET'S
BUILD
TOMORROW
TODAY*

Deliver Omnichannel Customer Experience with Remote Expert Mobile

Ruchi Gupta, Product Manager

Yuri Fedotov, Solution Architect

BRKCCT-2080

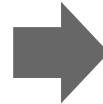
Agenda

- Market Trends and RE Mobile Overview
- Solution Details
 - Components
 - Deployments
 - Design Considerations
 - Advanced Integrations
- GTM and Future
- Key Takeaways



Market Trend and Remote Expert Mobile Overview

Recent Market Transitions...



Cisco *live!*

Challenges in the Evolving Customer Care Industry

Changing Customer Expectations



- Mobile
- Personalized
- Convenient and Easy

Drive to Digital



- Mobile customer applications
- Technology refresh
- New deployment models


Changing Roles



- Drive Business Outcomes
- Customer Care is no more a cost center (CXO's)

In ~3-5 years, a majority of interactions will originate from mobile and web

Have You Been Here Before?



Do you see the blue box where it says “account number”?



Nope



Omnichannel – Key Attributes

Omnichannel First is a *Strategy*

“Ensuring a continuous and consistent high-quality experience regardless of **how**, **when**, and **where** a customer chooses to engage with an organization and no matter the purpose”

Reduce
Customer
Effort

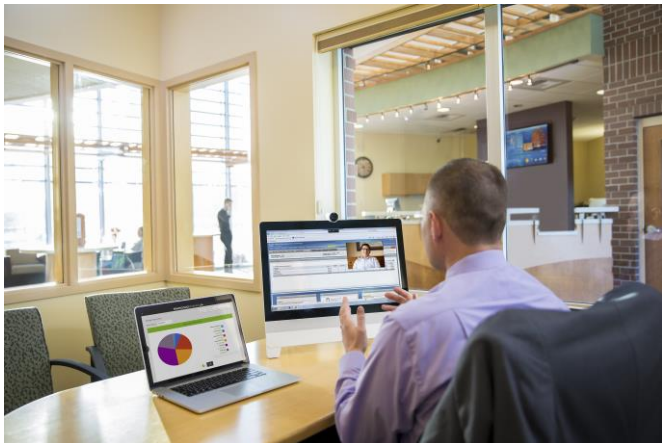
Personal
Customer
Journeys

Persistent
Context
And Data



Remote Expert Mobile

What is it?



<https://communities.cisco.com/community/partner/collaboration/contactcenter/remote-expert>

- Remote Expert Mobile is a software platform that delivers customer experiences above and beyond “traditional” customer care:
 - Web and mobile SDK’s
 - WebRTC gateway for SIP Signaling
 - Media transcoding/ pass-through and firewall traversal
 - Cisco Finesse gadget and web based Expert Console
- Integrates with Cisco’s Collaboration Architecture Portfolio
 - CUCM only
 - Contact Center
 - UCCX
 - P/UCCE
- Simplified Ordering - available on CCW

Remote Expert Mobile Key Features

Simplified Integration



Embedded Video Calling



Login Context



Screen Sharing/Remote Control



Annotation

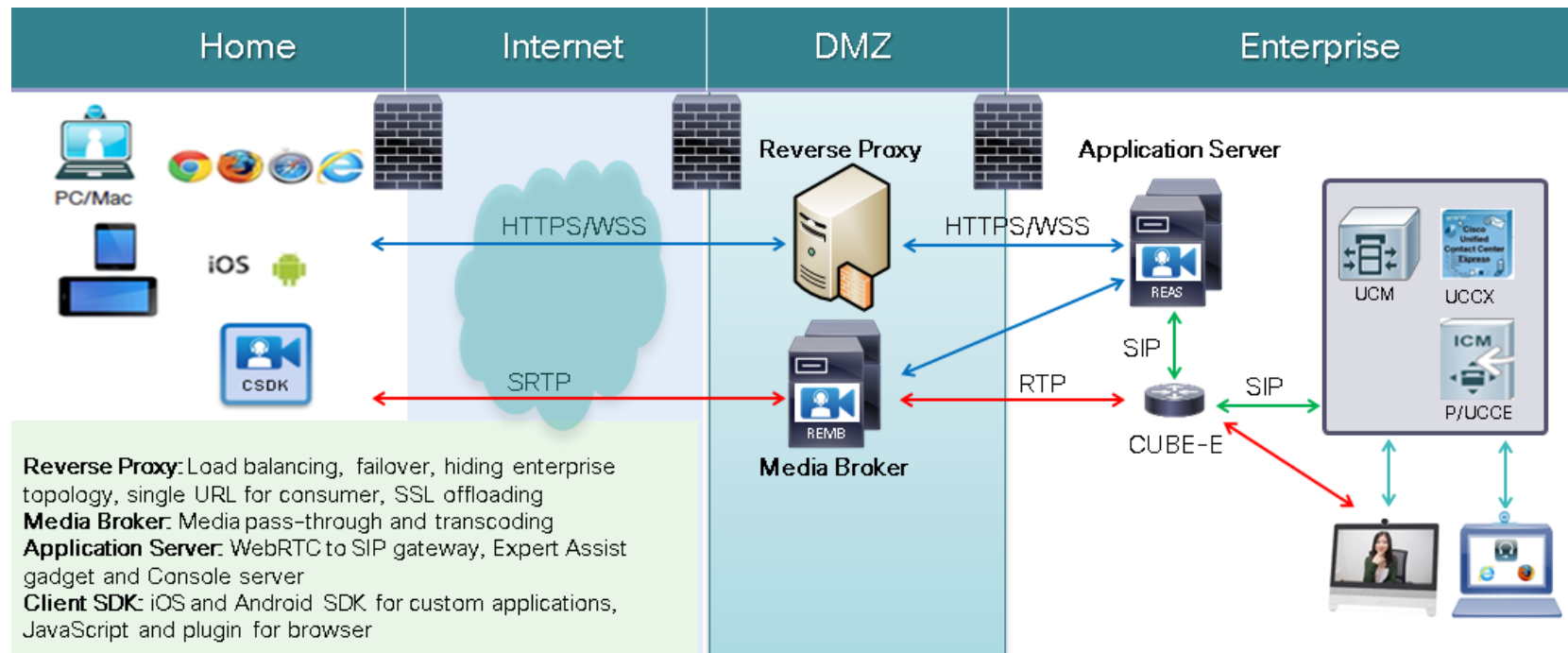


Content Push



CiscoLive!

Remote Expert Mobile Topology and how it fits in



Numbers matter...

FACTS

90% conversion rate

when video channel added
versus 50% for audio only

Forrester

16.8% annual revenue

growth for firms that include co-
browse vs 9.7% for ones that don't

Aberdeen

Customers

4X

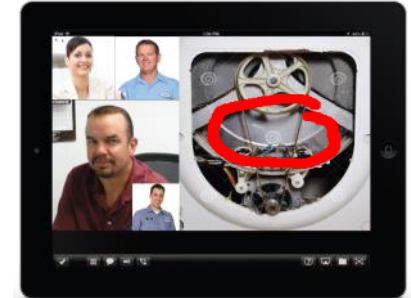
more likely to defect if issue is service-related

Bain & Company

Broad Applicability Across Verticals



Higher-Education HealthCare Citizen & Federal Services Finance Retail Manufacturing...



*Cisco*live!

Video

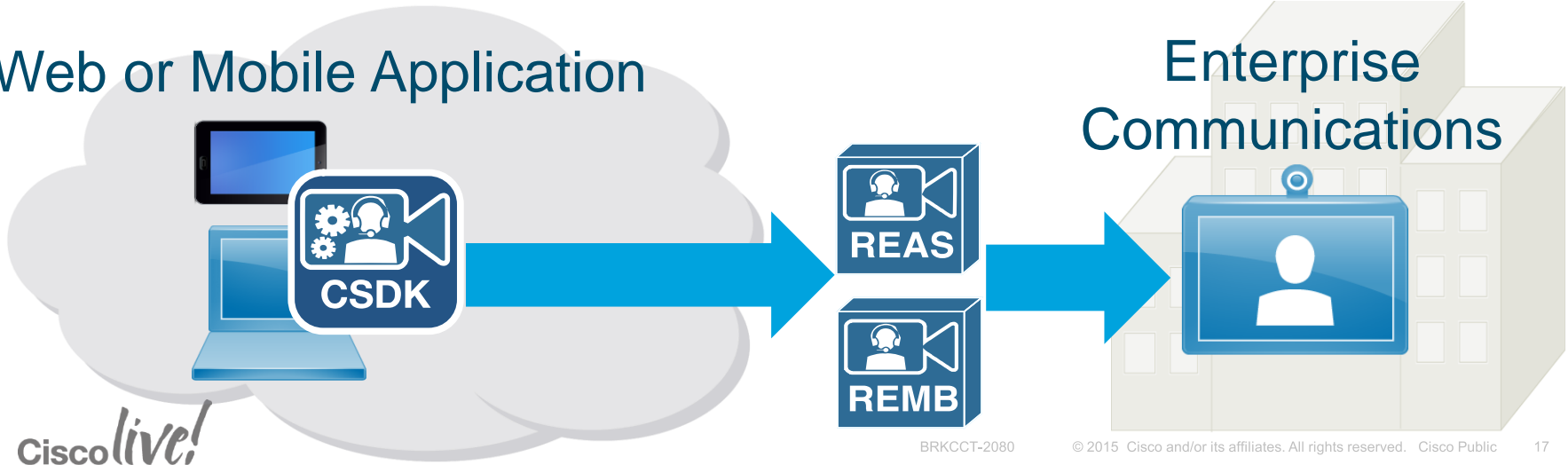
Solution Details

- Components
- Deployments
- Design Considerations
- Advanced Integrations

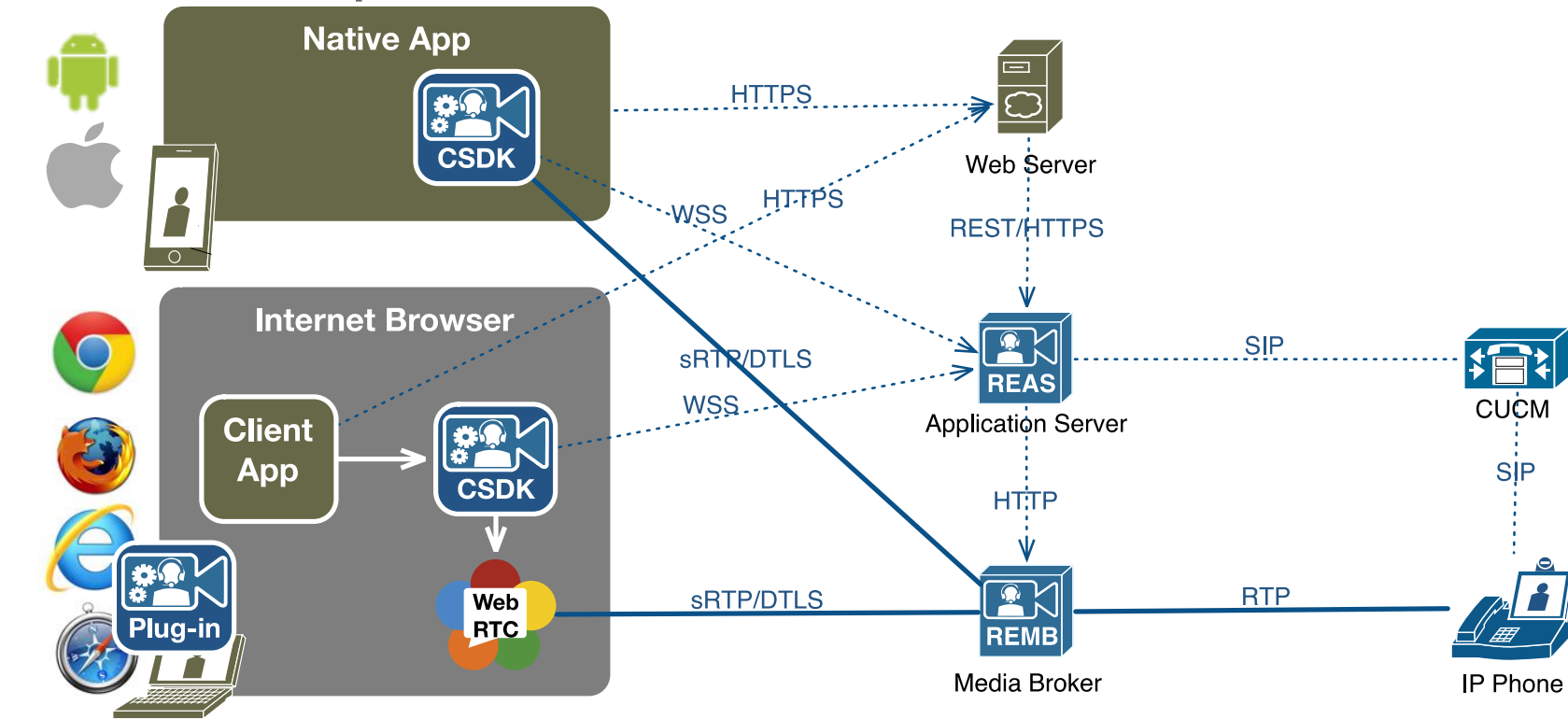
Key Components

- Client Software Development Kit (CSDK)
- Remote Expert Application Server (REAS)
- Remote Expert Media Broker (REMB)

Web or Mobile Application



Remote Expert Mobile Client SDK



Remote Expert Application Server (REAS)

Server-side for the Remote Expert Mobile Client SDK

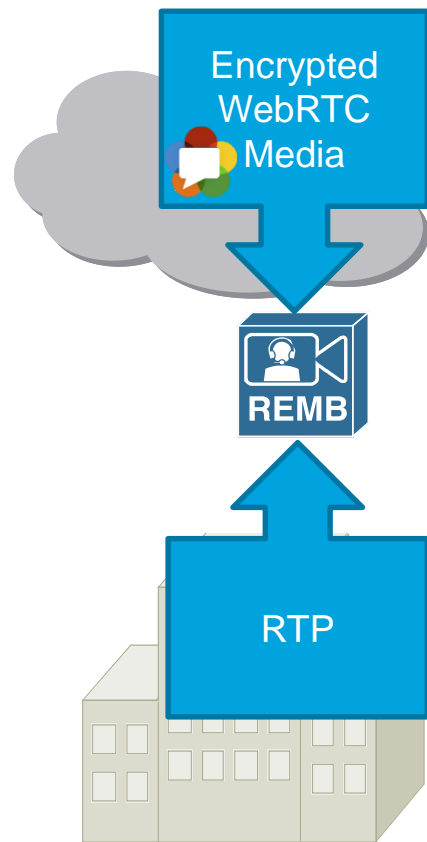
- Standard Services
 - Web Gateway
 - Expert Assist
 - Expert Console
 - Expert and Supervisor
 - Finesse Gadgets
 - Contact Center Agent and Supervisor
- Advanced Services
 - Application Event Distribution (AED)
 - Instant Messaging and Presence Proxy
 - Palettes



Remote Expert Media Broker (REMB)

STUN/SRTP Termination Point

- Secure Over-the-top Audio: G.711, Opus
- Audio Transcoding:
 - Opus to G.711 or G.729a
 - G.711 to G.729a
- Secure Over-the-top Video: H.264 and VP8
- Video Transcoding:
 - H.264 to VP8
 - VP8 to H.264
- Transcoding required only between incompatible endpoints



Remote Expert Mobile Deployments

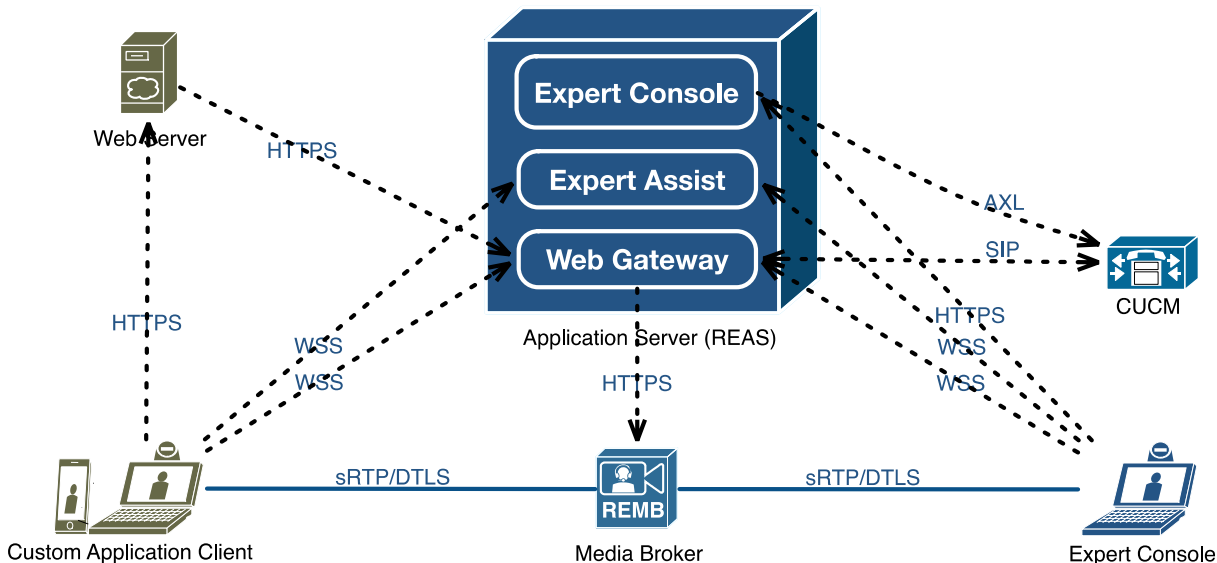
RE Mobile Deployment Capabilities

Functionality	UCM	CCX	(P/U)CCE
Agent video client	Browser Application	Cisco Video Endpoint	Cisco Video Endpoint
Call Routing	UCM (Hunt Groups)	CCX	CCE Router
Call Transfer and Conference	X	✓ (only DX & Jabber)	✓
Video on Hold	X	✓	✓
Video in Queue	X	✓ (no DTMF)	✓
Expert Desktop	Expert Console	Finesse	Finesse

Communications Manager

UCM Integration and Expert Console

Use Case: Customer to individual expert or small group of experts



- CUCM

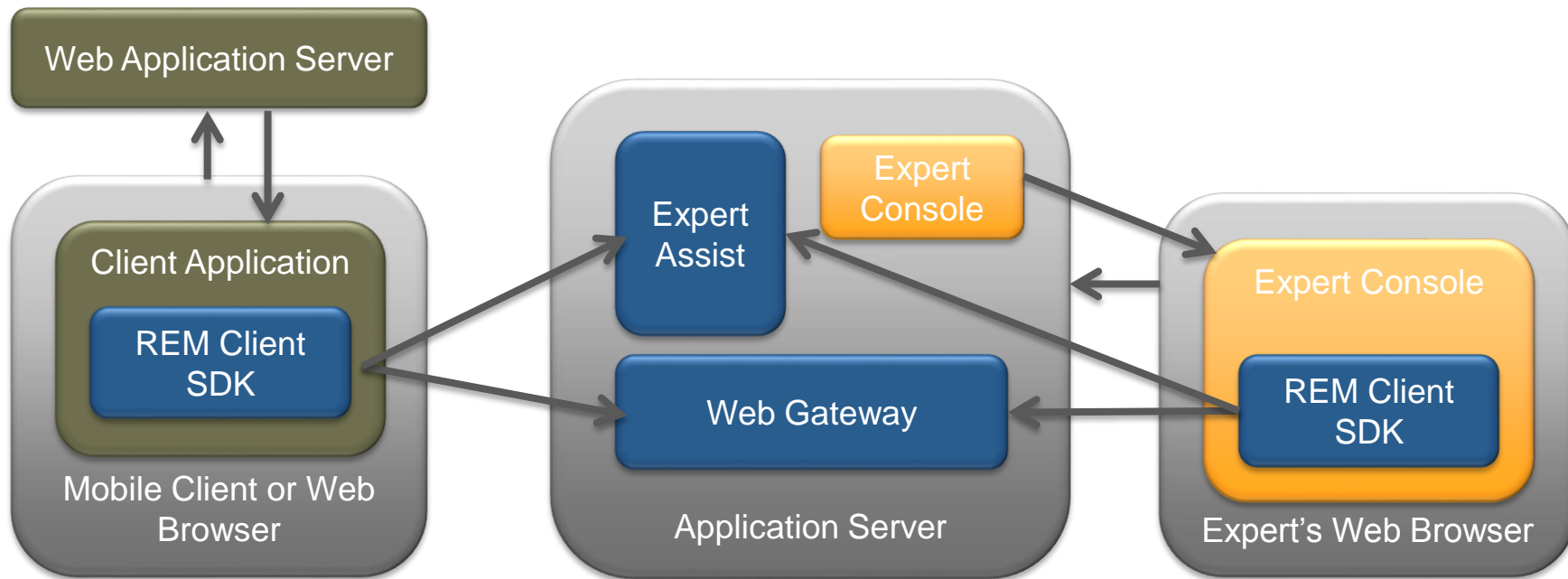
- Expert Authentication
- Call Distribution
 - Hunt Groups
([Extend and connect](#))

- Expert Console

- Voice & Video in Browser
- Custom Application Screen View
- Screen Annotations
- Document Push
- Anywhere on the Internet

Expert Console

Simple Out-of-box Expert Web Application for Expert Assist functionality

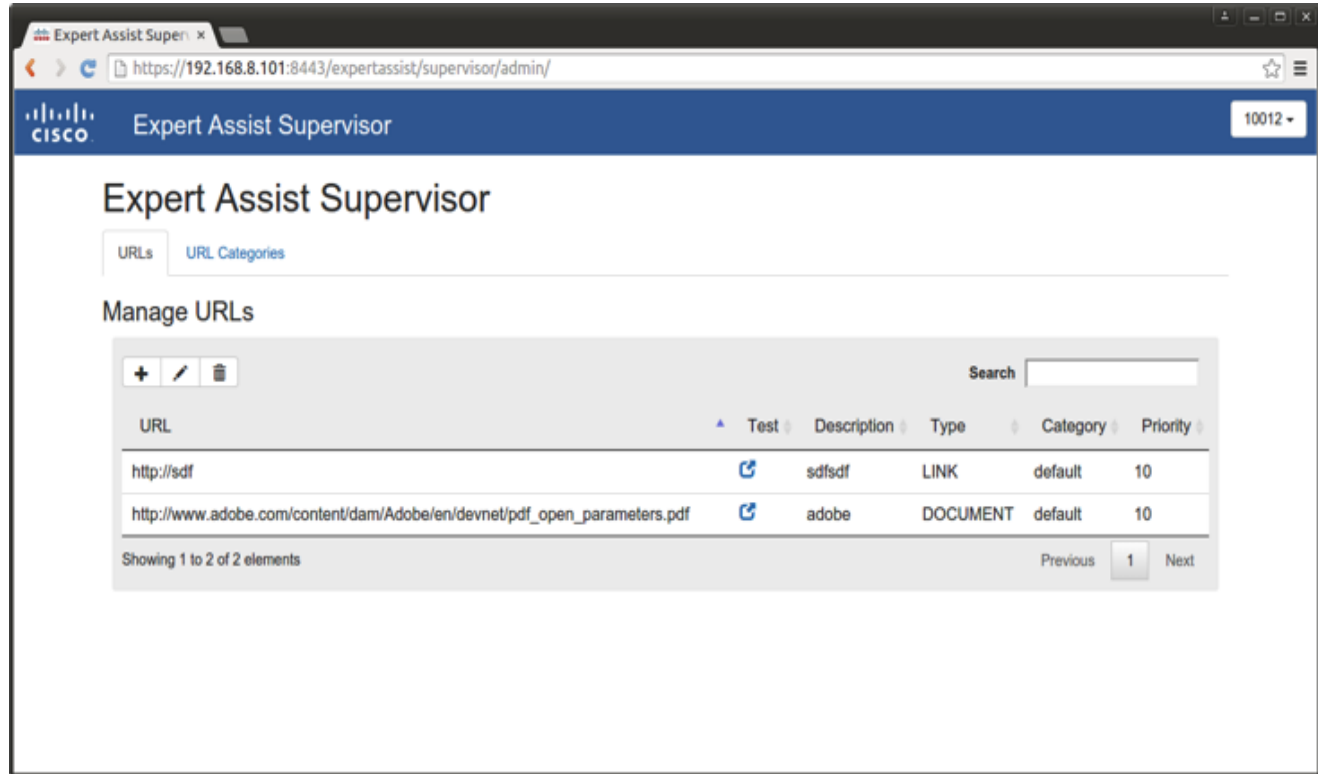


Expert Console - Expert

The screenshot shows the Cisco Expert Assist web interface. The browser address bar displays the URL <https://192.168.8.101:8443/expertassist/agent/>. The page features a blue header with the Cisco logo and navigation links: Products & Services, Support, How to Buy, Training & Events, and Partners. A search bar is located on the right side of the header. Below the header, a large banner image shows a doctor using a computer with multiple video feeds. The text on the banner reads: "Doctors Use Cisco TelePresence to Treat Sick Kids in over 20 Countries" and "Telehealth consultations, using Cisco, improve lives while cutting costs." A "Watch Video" button is present. To the right of the banner, there are two video feeds of people, a "Form editor" button, and a "Kris" video feed with the text "analytics with Cisco Hyperlocation." Below the banner, there is a "Latest News" section with three articles: "Get Faster Answers to Little Patients", "Let's Build Tomorrow Today - Cisco Live San Diego, June 7-11", and "Cisco Intercloud Turns One - 25 Mar 2015".

Cisco *live!*

Expert Console - Supervisor



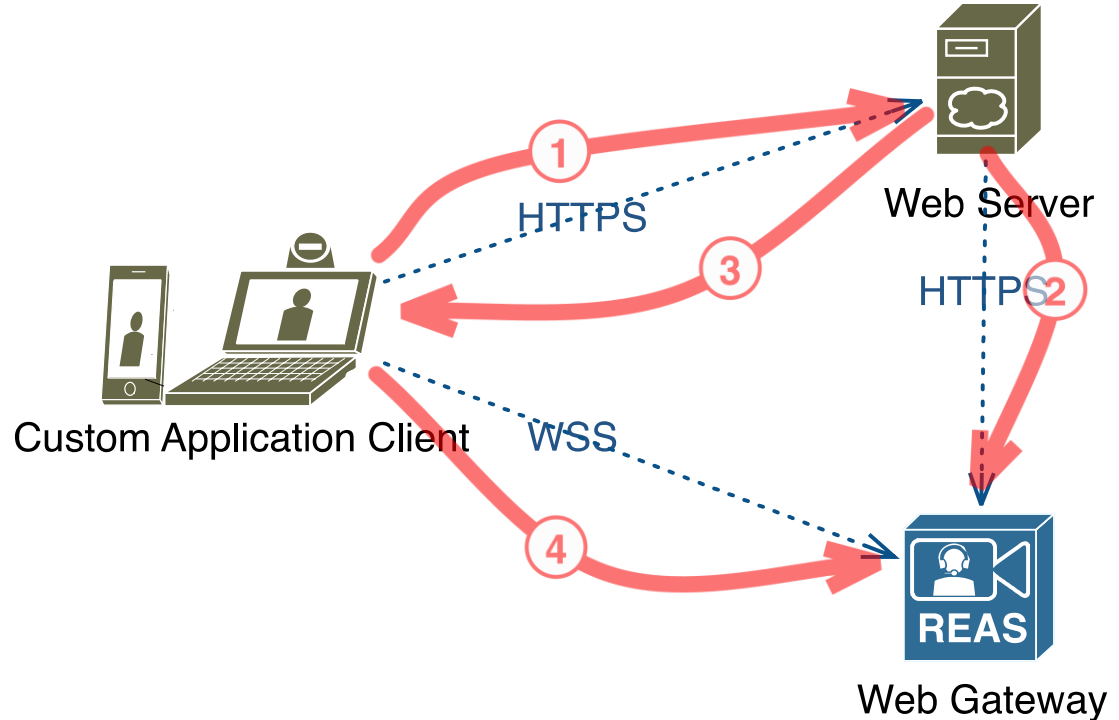
The screenshot displays the 'Expert Assist Supervisor' web interface. The browser address bar shows the URL `https://192.168.8.101:8443/expertassist/supervisor/admin/`. The page header includes the Cisco logo and the text 'Expert Assist Supervisor', with a user identifier '10012' in the top right corner. Below the header, there are two tabs: 'URLs' (selected) and 'URL Categories'. The main section is titled 'Manage URLs'. It features a toolbar with icons for adding, editing, and deleting entries, along with a search bar. A table lists the managed URLs with columns for URL, Test, Description, Type, Category, and Priority. Two entries are visible: a link to 'http://sdf' and a document 'http://www.adobe.com/content/dam/Adobe/en/devnet/pdf_open_parameters.pdf'. At the bottom, it indicates 'Showing 1 to 2 of 2 elements' and provides navigation links for 'Previous', '1', and 'Next'.

URL	Test	Description	Type	Category	Priority
http://sdf		sdfsdf	LINK	default	10
http://www.adobe.com/content/dam/Adobe/en/devnet/pdf_open_parameters.pdf		adobe	DOCUMENT	default	10

Client Registration

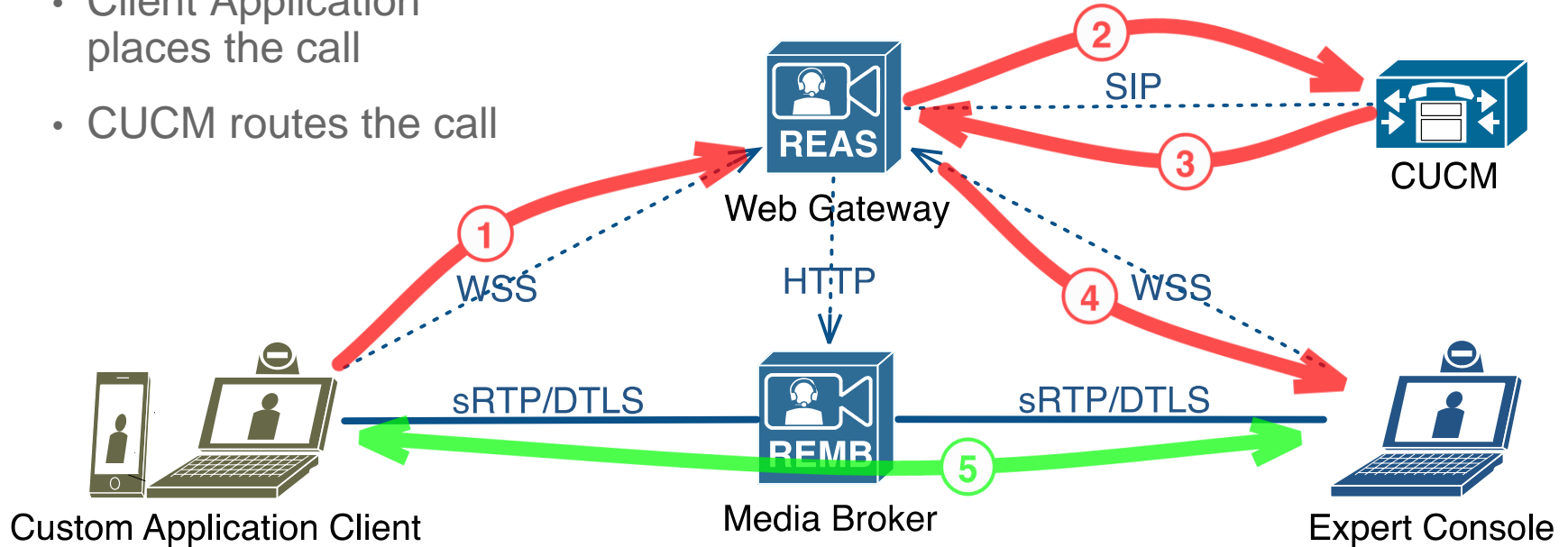
Server Application in charge of Client Admission

1. Web Server Authenticates Client
2. Registers Client with Web gateway
3. Web Server passes Security Token to the client
4. Client uses security token to connect to the Web gateway



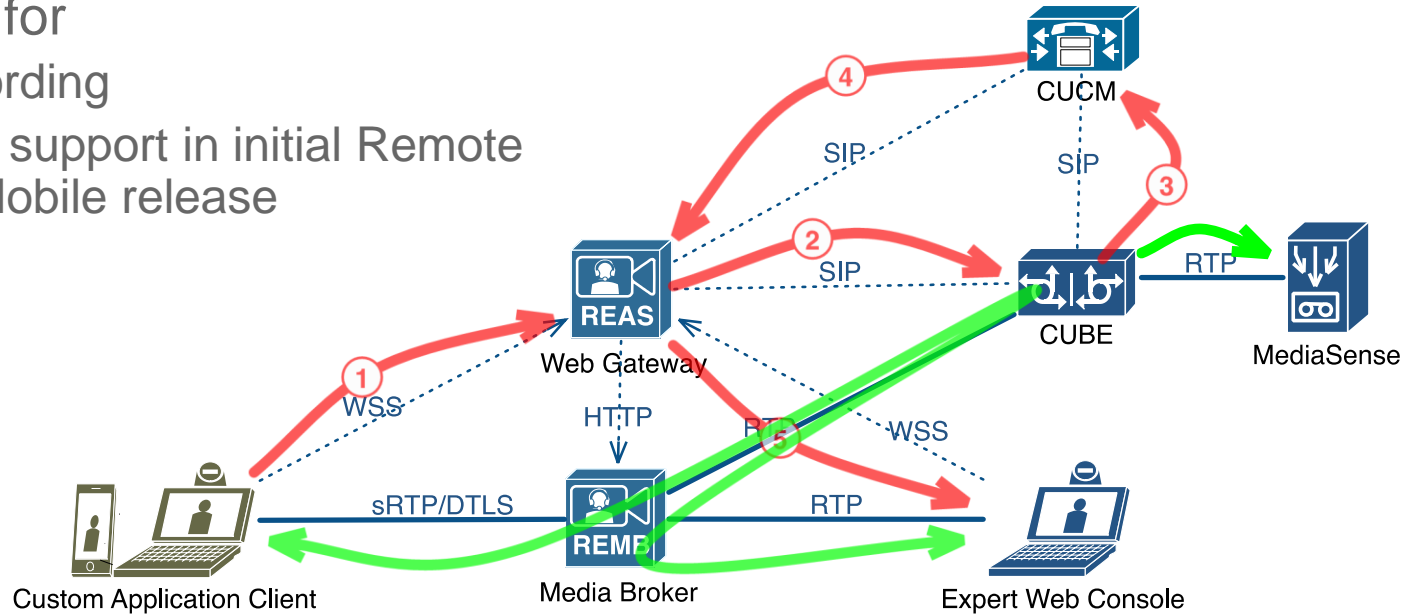
Placing Call

- Client Application places the call
- CUCM routes the call



CUBE in UCM Deployment

- Required for
 - Call recording
 - Call flow support in initial Remote Expert Mobile release



Adding Expert Assist Session

- Both parties connect to the session using unique CorrelationID
- Caller ID (ANI) is used for the Expert Assist CorrelationID



Web Application Modification

- Few lines of code behind the help button
- Add to every page to be shared



```
68      <script src="../assistserver/sdk/web/consumer/assist.js"></script>
69
70
71      <div id="assist"><a id="assistlink" title="Assist"
onclick="AssistSDK.startSupport(assistConfig())">
<br>Assist</a></div>
```


Contact Center Enterprise

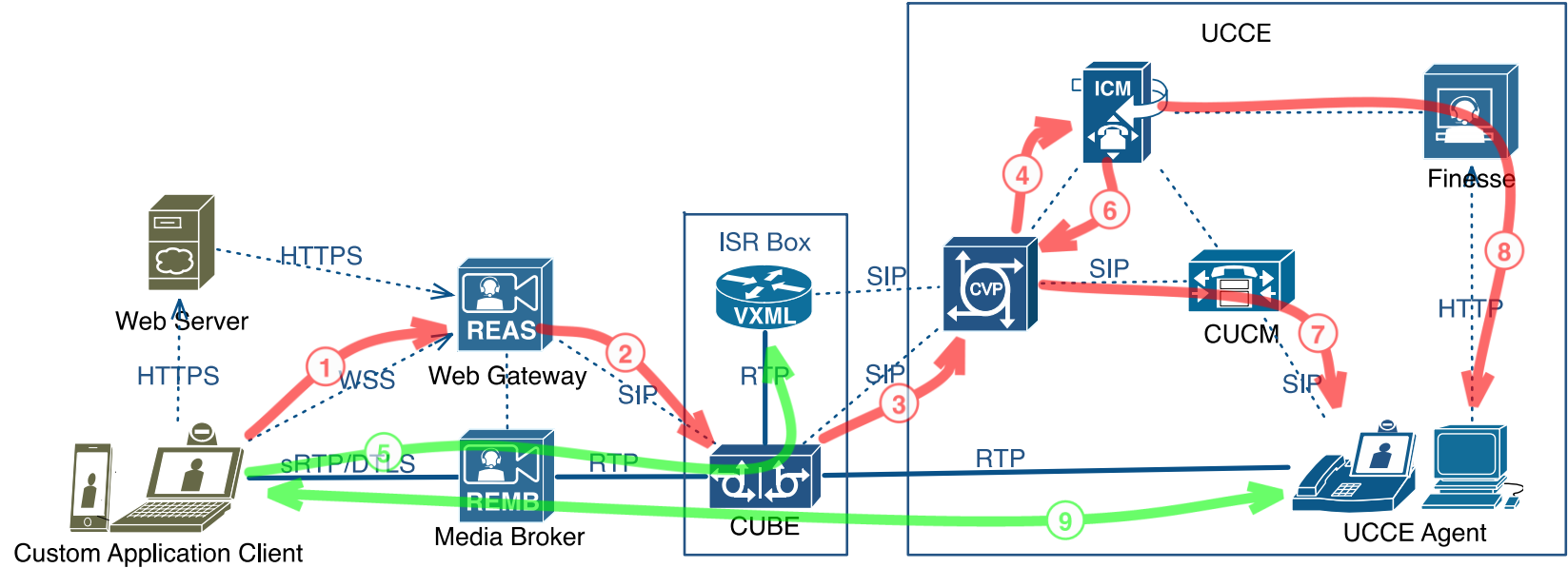
Contact Center

Essential tool for most consumer to business communication

- Ensure Availability
 - Plan and control Agent's work
 - Queue and distribute calls
- Optimize Productivity
 - Off-load routine work to self service
 - Route call to the right Agent
 - Provide Agent with relevant information

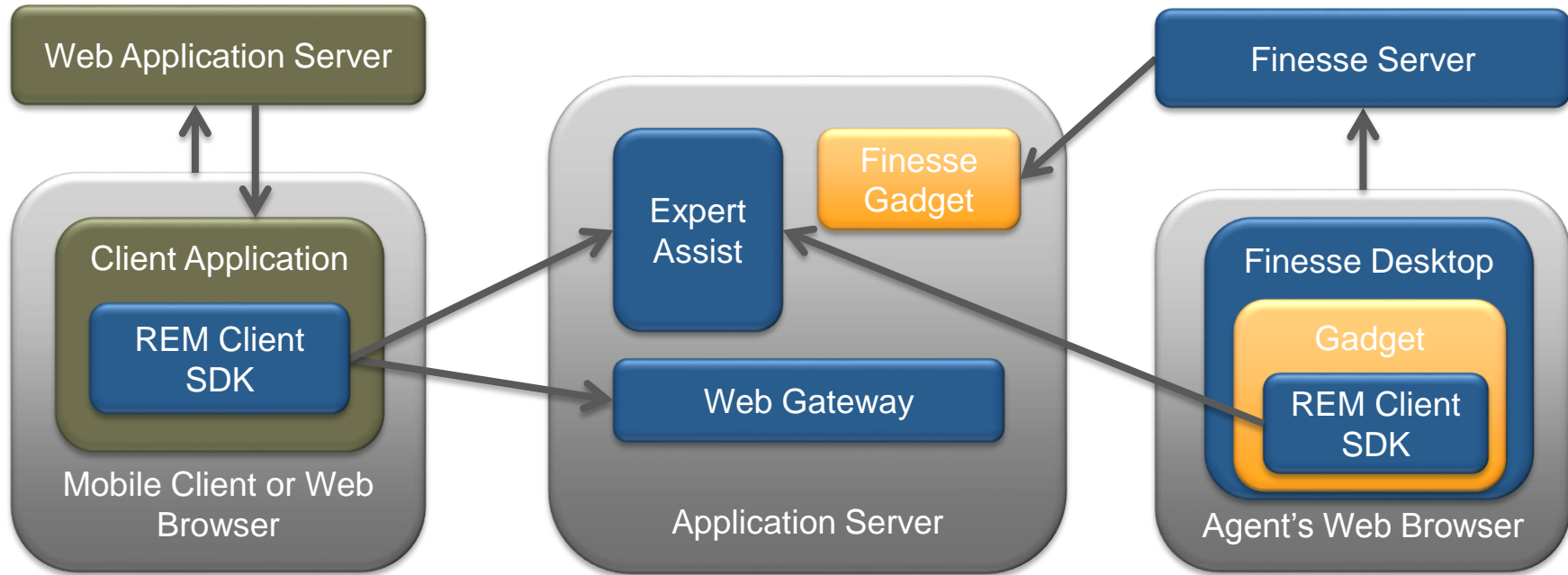


Contact Center Call Flow



RE Mobile Finesse Gadget

Out-of-box integration to Finesse Agent Desktop

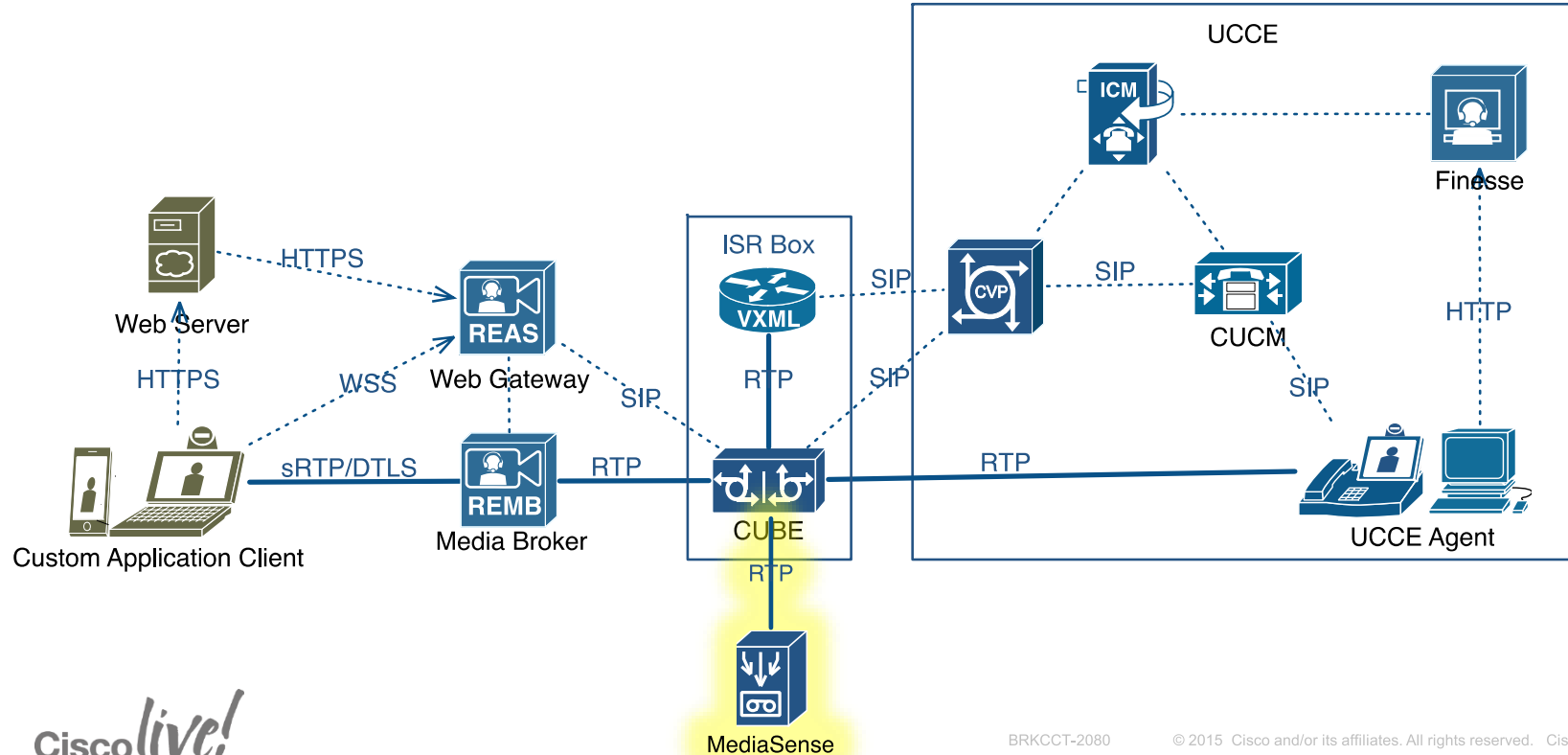


RE Mobile Finesse Gadget

The screenshot displays the Cisco Finesse web interface for Agent John Smith (10) - Extension 27531. The interface includes a top navigation bar with 'Home', 'Manage Call', and 'My Recordings'. Below this, a call status bar shows '01:00 | Name: Keith Griffin' and 'assist-7vvum5am...'. A customer information panel lists details for Keith Griffin, including City (Orlando, FL), Account Number (123456), and Account Type (Personal). A product information panel lists Insurance, Segment (Business), Origin (Web), and Journey (Home Mortgage Prequalify). A 'Wrap-Up Reason' button is also visible. The main content area is titled 'Expert Assist' and features a search bar with the text 'assist-7vvum5am3p8jokb3av4p7ioju' and a 'Stop share' button. A 'Share' button and various icons are also present. A mobile gadget overlay is shown on the right side of the screen, displaying a black screen with a white phone icon at the bottom. The background of the gadget shows a preview of the Francisco Finance website, which includes a 'WELCOME' section, a 'Get Prequalified For Your Dream Home' section, and an 'Apply for auto insurance' section.

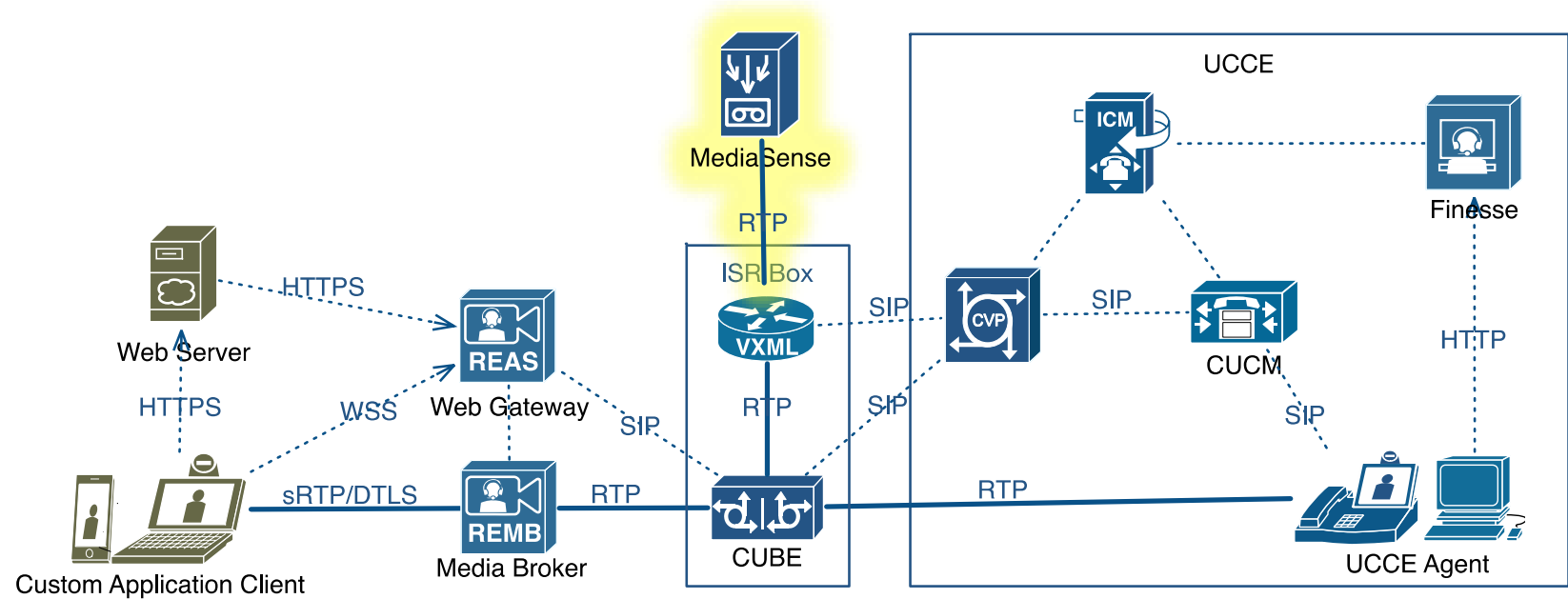
Voice and Video Recording

MediaSense and CUBE Media Forking



Video in Queue

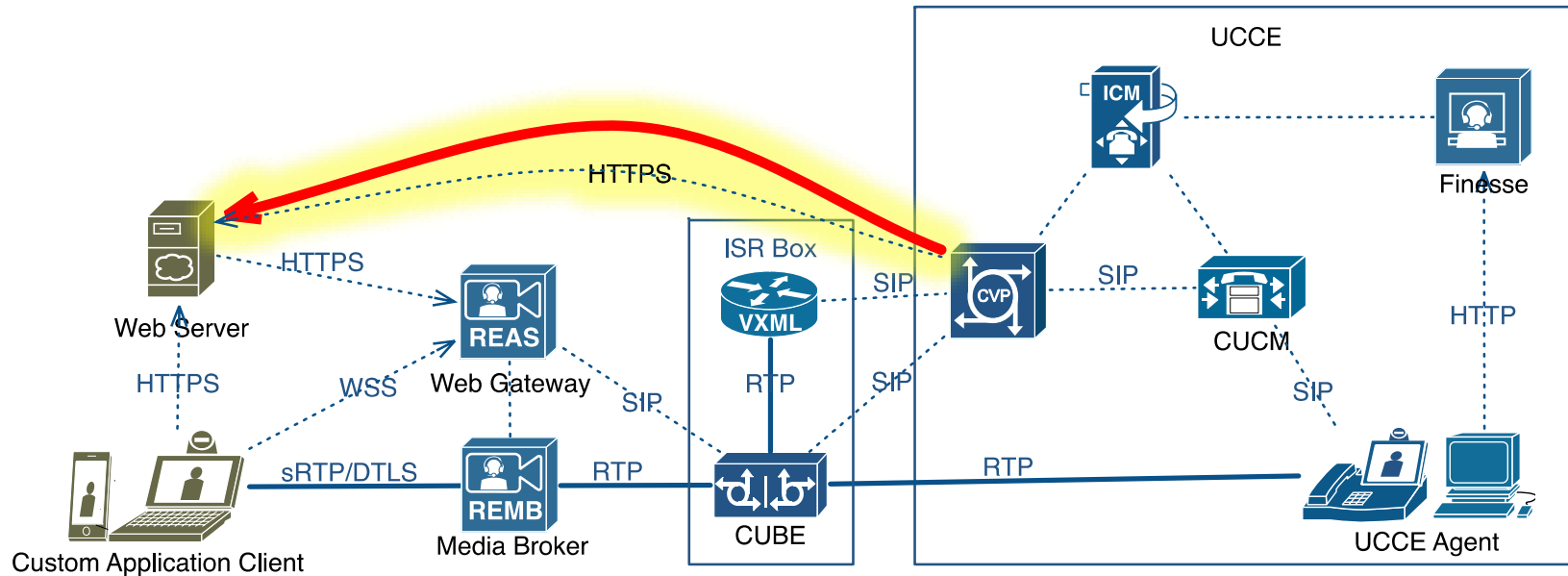
CVP Streams Video hosted on MediaSense



Passing Call Context

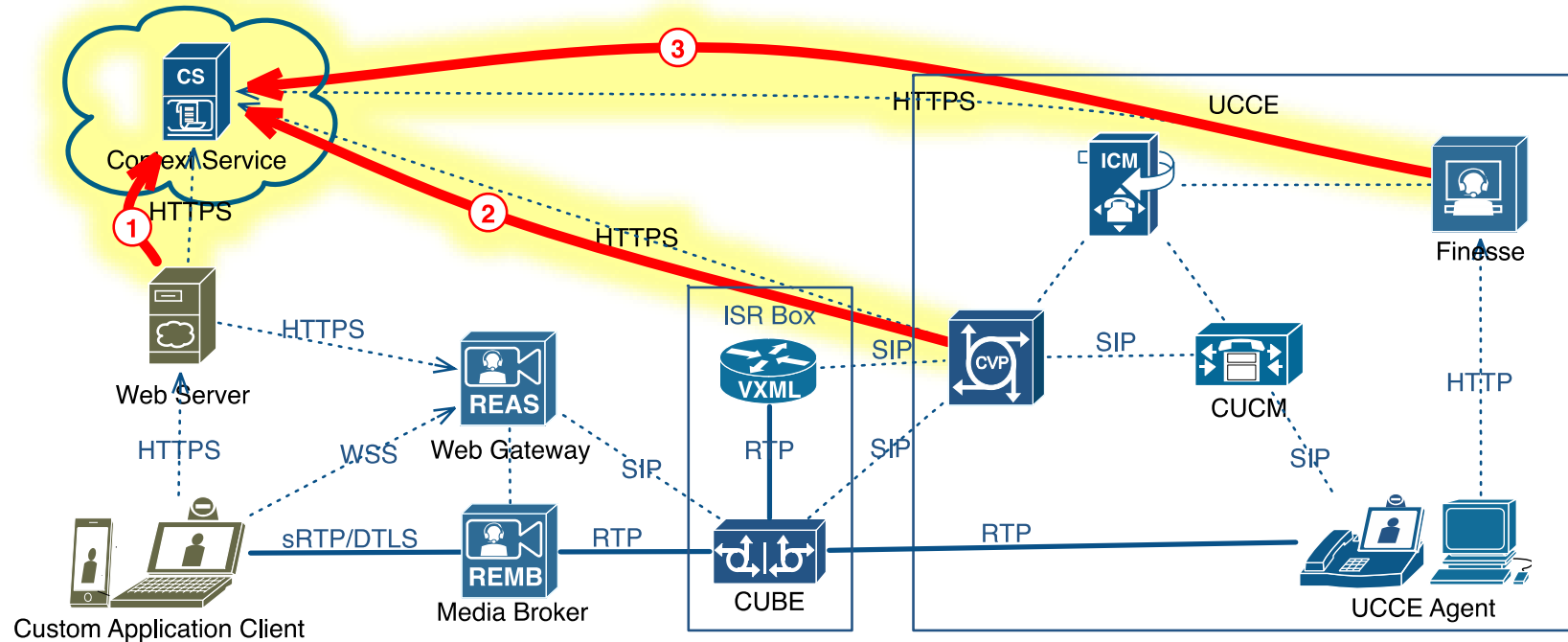
Option 1: UI SIP Header

Option 2: CVP fetches call context from the Web Application



Passing Call Context

Option 3: Use New Cisco Context Service (when available)

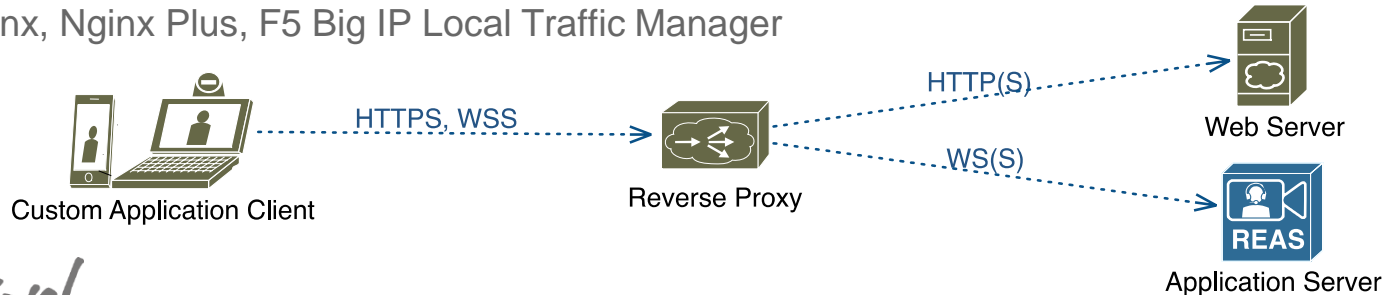
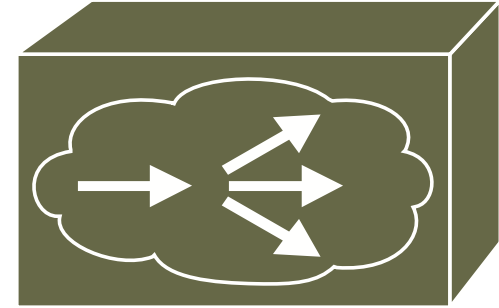


Design Considerations

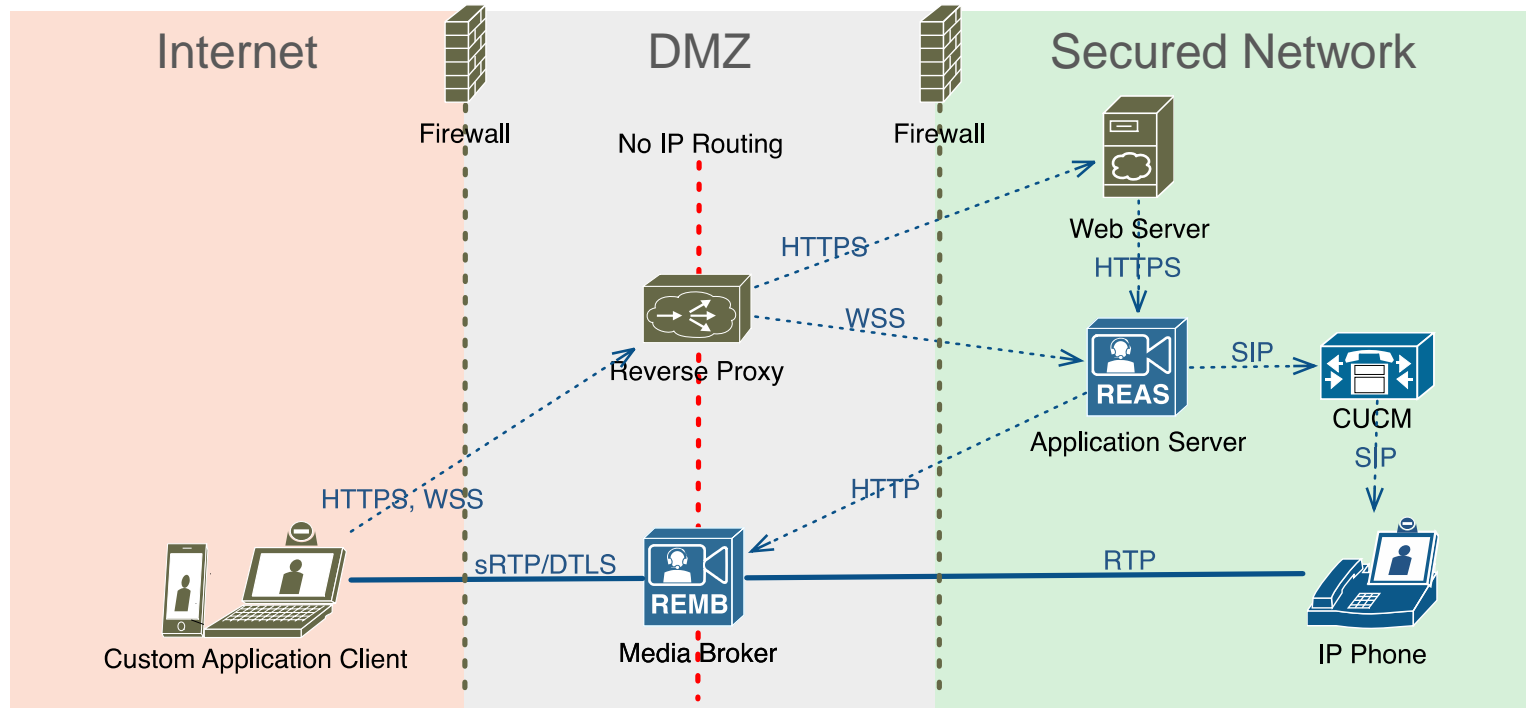
- Security
- High Availability
- Scalability

Reverse Proxy

- Functions
 - Consolidate client connections
 - Hide internal topology
 - Limit Internet access to specific services only
 - SSL Offload
- Not part of Remote Expert Mobile package
 - Re-use the same Reverse Proxy that is used for existing Web Applications
- Web Sockets support required
 - Nginx, Nginx Plus, F5 Big IP Local Traffic Manager

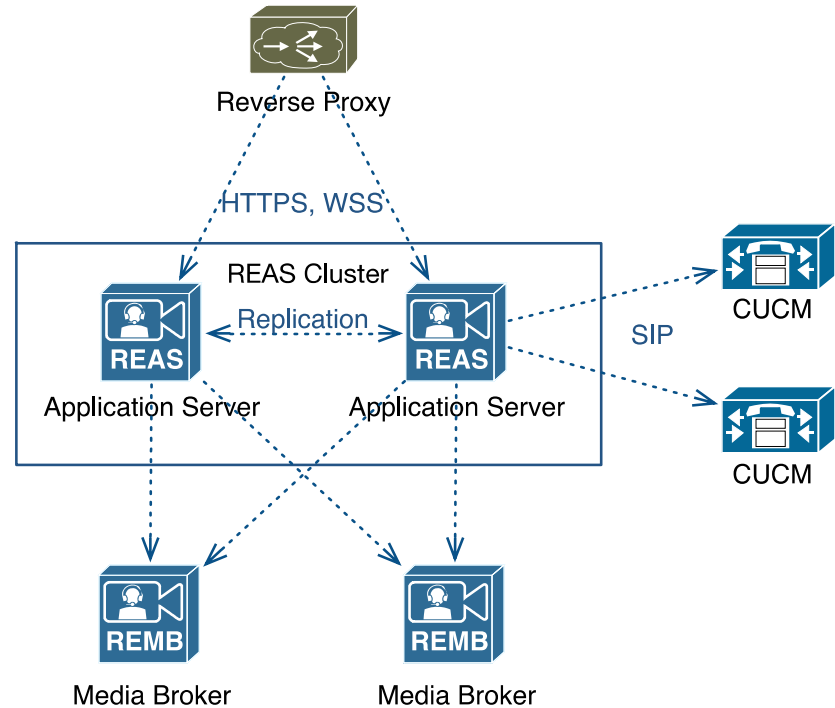


Secure Internet Connectivity



High Availability

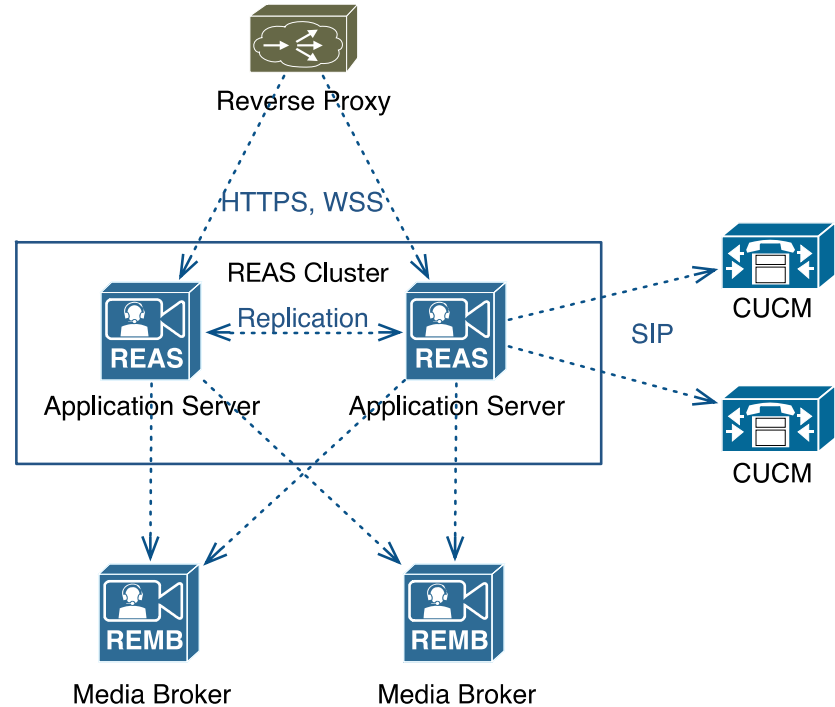
- All Nodes Active
- Automatic load distribution
 - Application Servers
 - Media Brokers
- Primary/backup service for each session
- Outbound SIP load-balancing
 - SIP OPTIONS ping



Scalability

Supported Configuration

- 4 nodes (2 REAS, 2 REMB)
- Each REAS node: 100 sessions
- Each REMB node: 50 sessions
 - 45 pass-through
 - 5 transcoded (VP8 -> H.264)



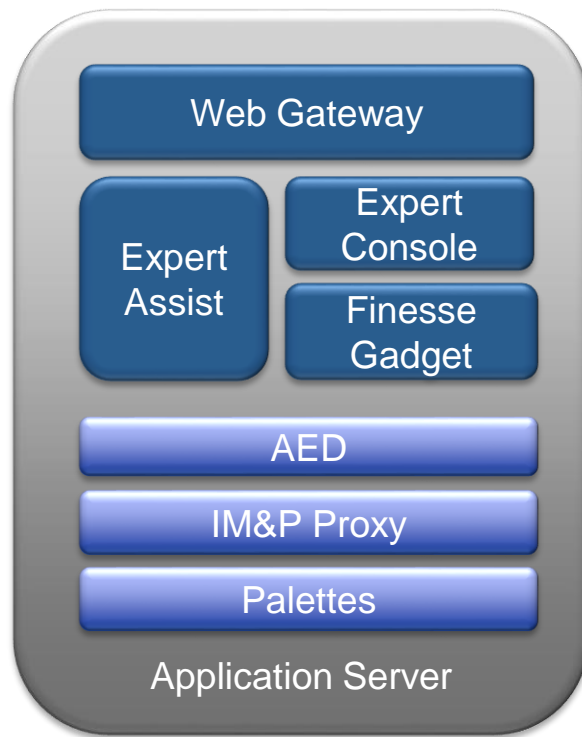
Remote Expert Insights

Additional Remote Expert Mobile Integrations by Cisco Services

Remote Expert Application Server (REAS)

Server-side for the Remote Expert Mobile Client SDK

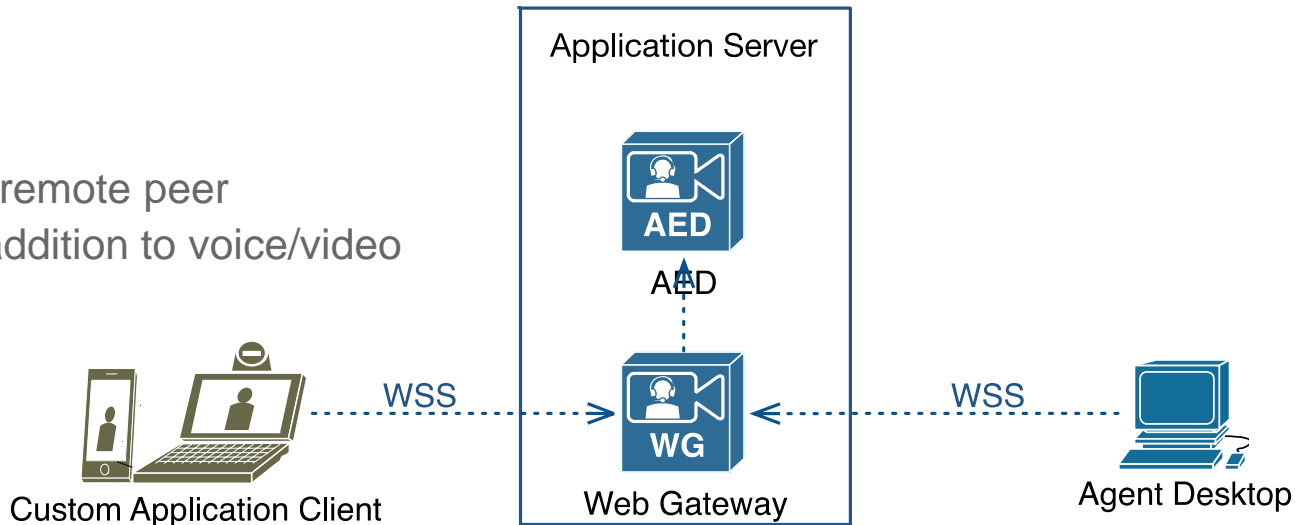
- Standard Services
 - Web Gateway
 - Expert Assist
 - Finesse Gadgets
 - Contact Center Agent and Supervisor
 - Expert Assist Console
 - Expert and Supervisor
- Advanced Services
 - Application Event Distribution (AED)
 - Instant Messaging and Presence Proxy
 - Palettes



Application Event Distribution (AED)

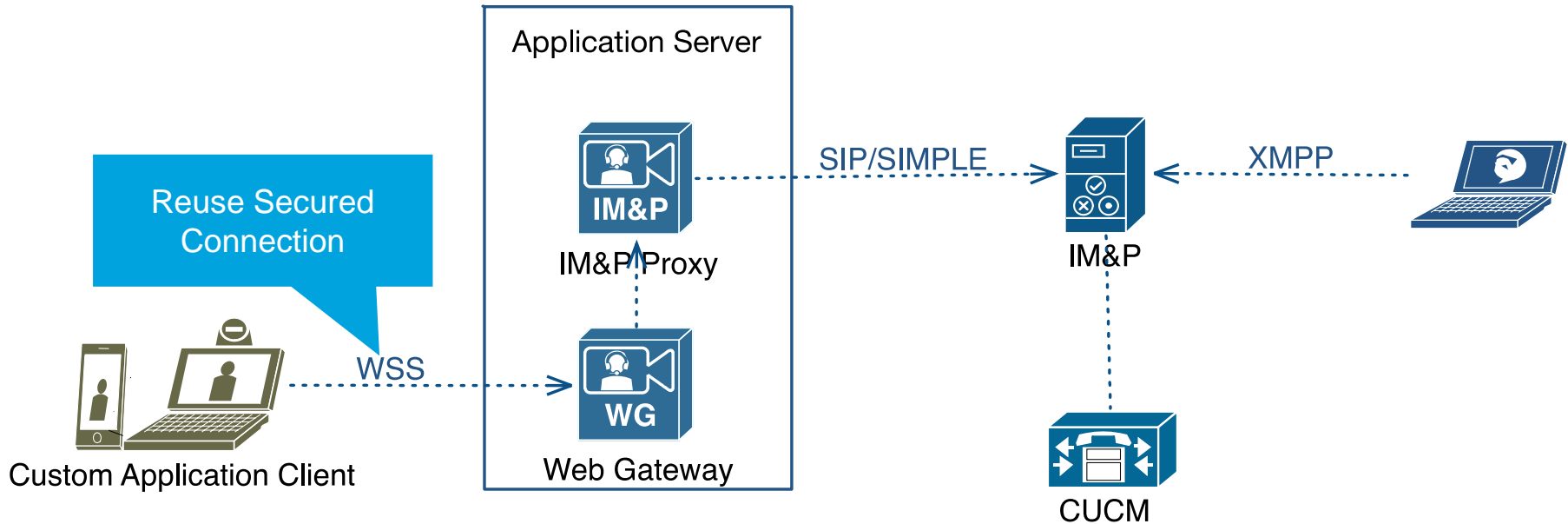
Exchange text messages between applications

- Simple API
 - `AED.createTopic(topicID)`
 - `Topic.send AedMessage("Hello")`
- Usage Examples
 - Send commands to remote peer
 - Simple text chat in addition to voice/video



Instant Messaging and Presence

Adding Enterprise IM&P to the Custom Application



Palettes

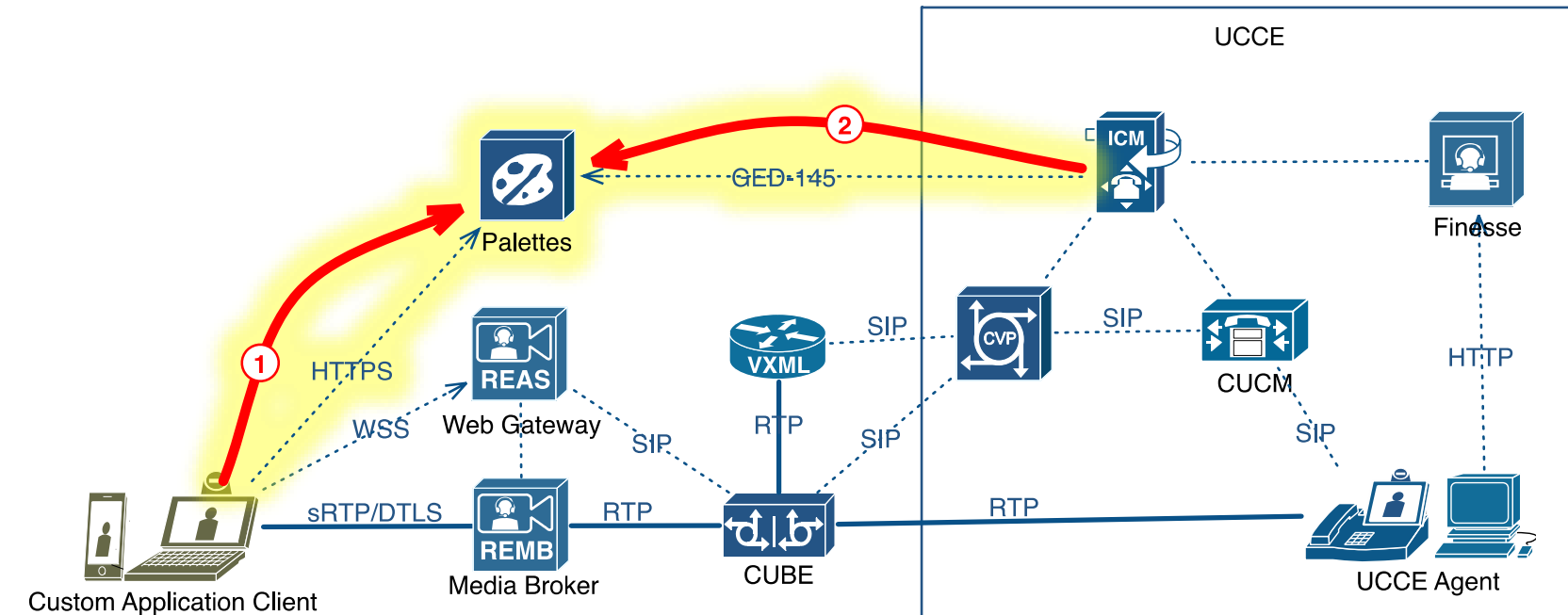
Various services to interact with Contact Center Applications

- Pass call context
- Visual IVR
- IVR Bypass

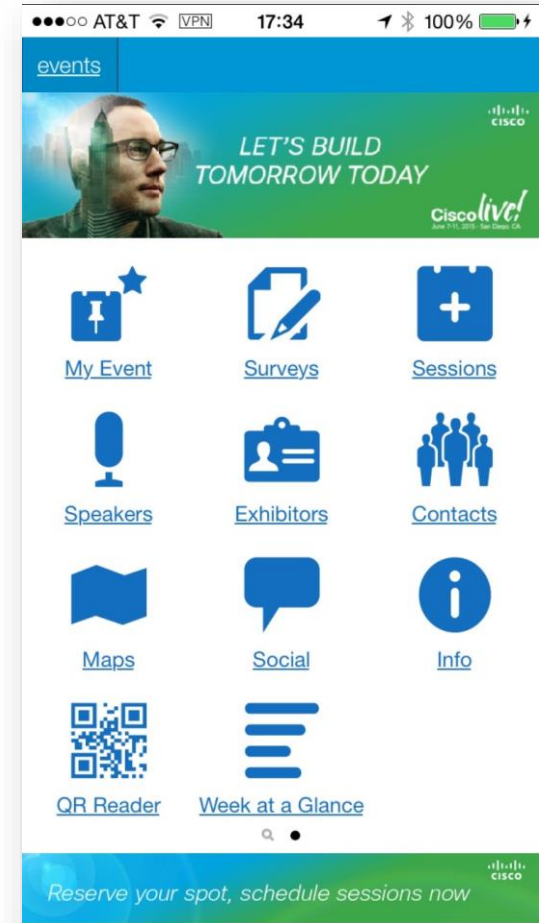
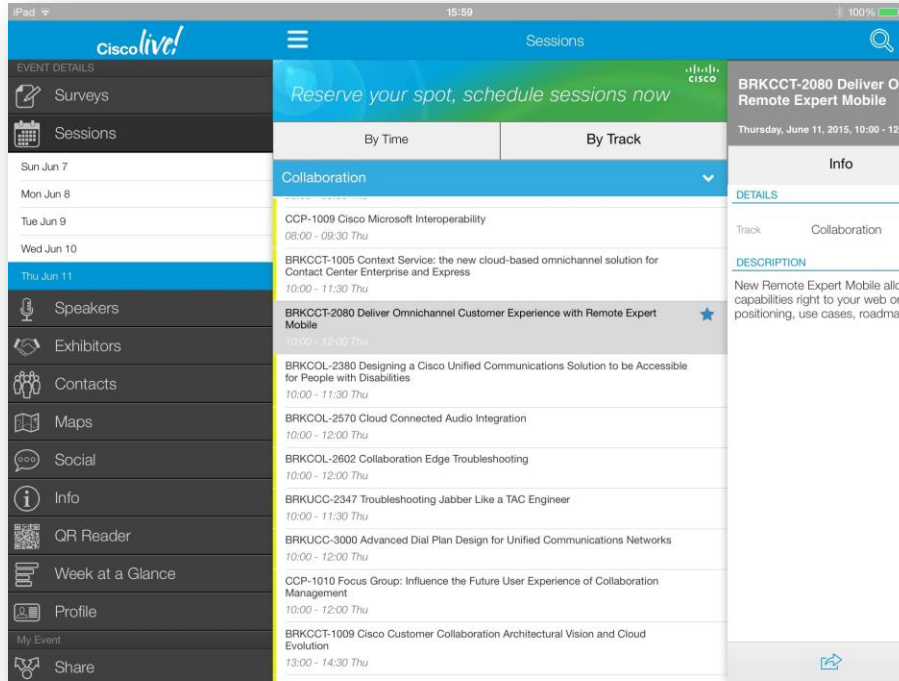


Palettes: Call Context

Pass call context to UCCE via Application Gateway protocol (GED-145)



Self Service is in your Application

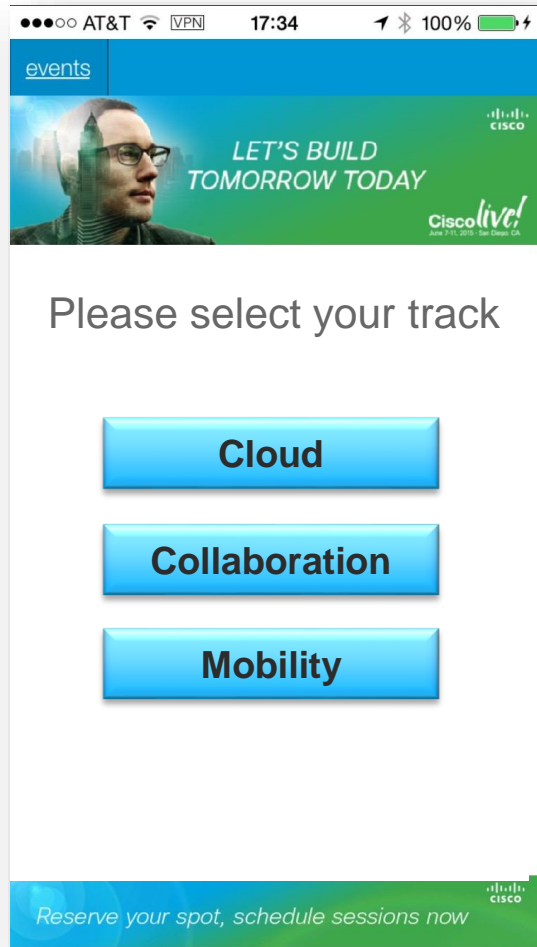


CiscoLive!

Visual IVR

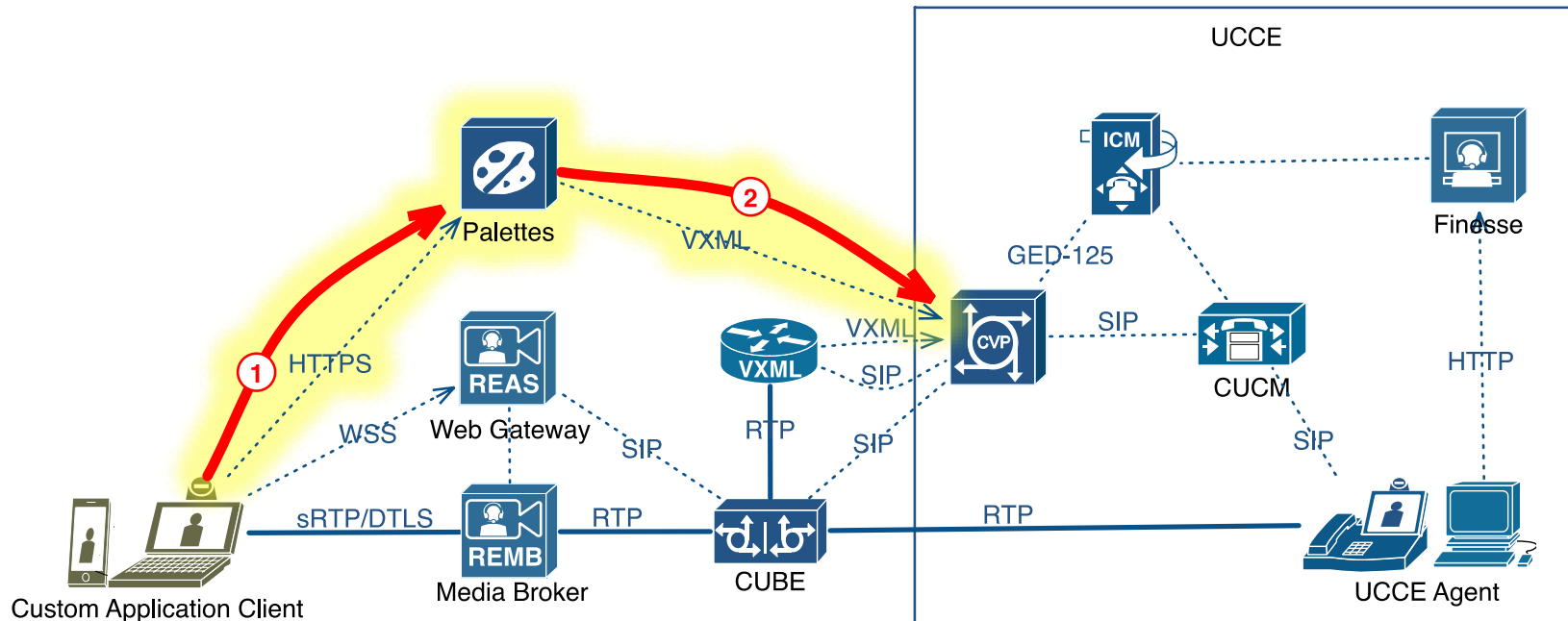
Visualize VXML Dialog

```
<?xml version="1.0"?>
<vxml version="2.0">
  <menu>
    <prompt>Please select your
track</prompt>
    <choice next=«cloud.vxml»>Cloud</choice>
    <choice
next=«collab.vxml»>Collaboration</choice>
    <choice
next=«mobil.vxml»>Mobility</choice>
  </menu>
</vxml>
```



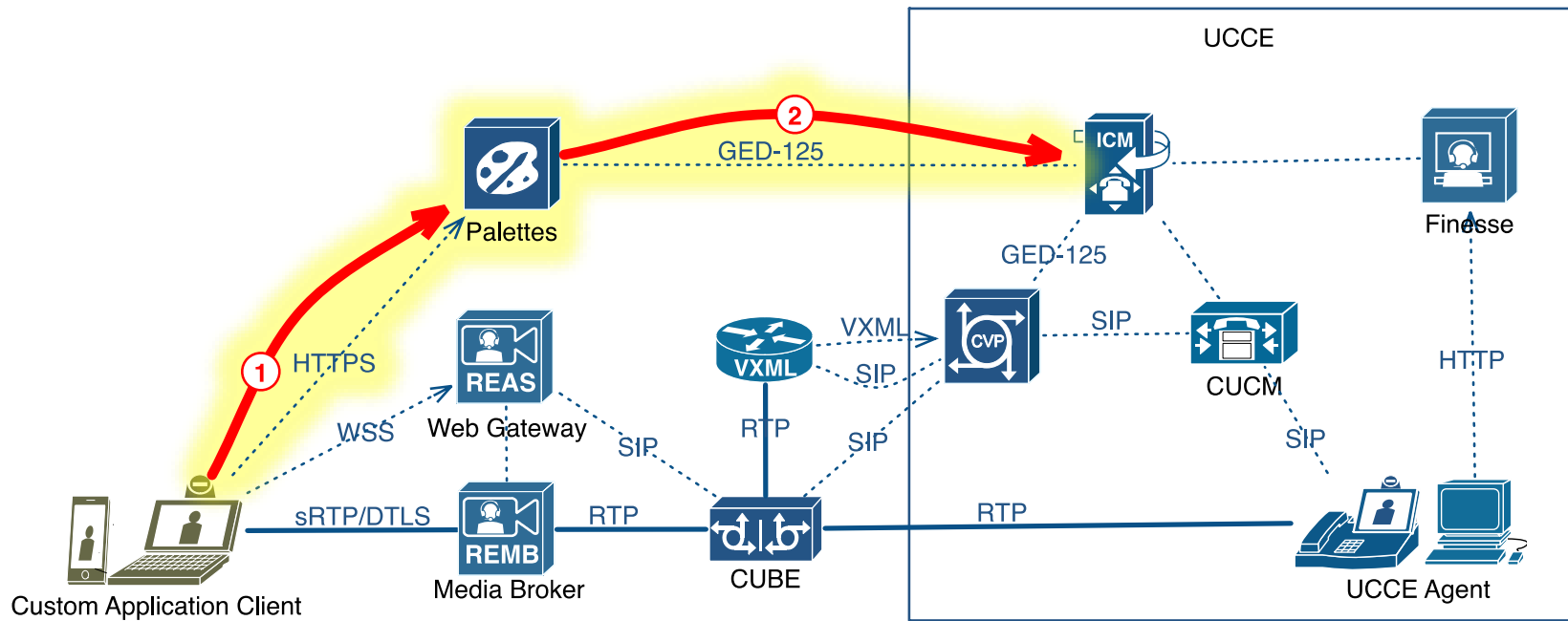
Palettes: Visual IVR

Convert your existing VXML IVR Application into Visual UI



Palettes: IVR Bypass

Pass call context and get routing decision directly from UCCE



Let's build tomorrow today

The collage features five overlapping mobile app screenshots:

- Top Left:** A white screen titled "Call Us" with a home icon and a menu icon. It displays "CALL HHONORS" in a gold button, followed by "or 1 855-672-1138". Below, it says "HHonors Automated Account Inquiry Telephone 24 hours a day, 7 days a week:" and lists toll-free numbers for inside and outside the US/Canada. It also includes a "Reservations" section with a toll-free number and an "International Free Number (UIFN)".
- Top Center:** A white screen titled "Contact Reservations" with a back arrow. It lists various phone numbers for different services like "Future Rental Assistance", "Travel reservation", "Hearing impaired", "Baggage service", "MileagePlus", and "Automated flight information".
- Top Right:** A blue screen titled "Contact AA" with a menu icon. It says "To speak with a Hertz Agent, please call:" and lists phone numbers for "Future Rental Assistance" and "Registration Support".
- Bottom Center:** A blue screen titled "Contact Us" with a back arrow and a home icon. It lists support channels: "Registration Support: 1.800.745.6492", "International: 1.801.523.6546", "Email Support: support@ciscolive2015.com", and "Twitter: Follow us @CiscoLive".
- Bottom Right:** A dark blue screen titled "Contact Us" with a back arrow and a red triangle icon. It lists various support options: "DOMESTIC RESERVATIONS (800) 221-1212", "INTERNATIONAL RESERVATIONS (800) 241-4141", "DELTA.COM/FLY DELTA APP SUPPORT (888) 750-3284", "TWEET US @DELTAASSIST", "RESERVATION ASSISTANCE BY LANGUAGE" (Spanish, Japanese, Korean), and "GROUP SALES".

CiscoLive!

GTM and Future

Remote Expert Mobile How to Order

FCS Mid CY2015

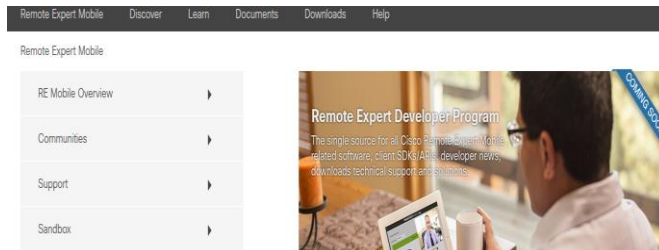


- Concurrent session based licence \$1500 (List)
- SWSS for support and upgrade
- SKUs on compliance hold (partner training)
- A2Q review for UCCE/PCCE deals
- Partner and Customer NFR kits
- Partner requirement based on CC / UCM Platform



Remote Expert Mobile Training Availability

- Partner Community @ <https://communities.cisco.com/community/partner/collaboration/contactcenter/remote-expert>
 - Live training offered via webex weekly (1 day)
 - Schedule posted on partner community
- Developer Network @ <https://developer.cisco.com/site/remote-expert-mobile/>
 - Sandbox environment and access to SDKs/APIs
 - Training and Dev Forum



Localizations – RE Mobile – 2HCY15

Interface	Languages
Agent /Expert Interface	English (US)*, Roadmap: French, Japanese, Spanish (Spain), German, Italian, Portuguese (Brazilian), Dutch, Swedish, Russian, Danish, Chinese (China), Chinese (Taiwan), Korean, (+Finnish, Norwegian, Polish, Turkish)
Client SDK interface (pop-up messages, alerts)	English (US)*, Roadmap: French, Japanese, Spanish (Spain), German, Italian, Portuguese (Brazilian), Dutch, Swedish, Russian, Danish, Chinese (China), Chinese (Taiwan), Korean, (+Finnish, Norwegian, Polish, Turkish)
Admin Interface	English (US)

*First release supports English(US) only

Remote Expert Mobile Roadmap/Backlog

RE 10.6 1HCY2015

- RE Mobile Standard
 - In-app voice, video
 - Annotation
 - Content URL push
 - Co-browse/Remote control
 - Web/Mobile SDK
 - WebRTC based
 - CCX/CCE/PCCE
- Finesse Gadget
- RE Mobile Integration with CUCM

Future (backlog)

- Localization for RE Mobile
- Scalability
- REaaS/ RE Mobile with HCS
- UI Enhancements
- Solution Level Enhancements
- Integration with Context Service
- IM/Text Chat Integration
- BE platform

Many of the products and features described herein remain in varying stages of development and will be offered on a when-and-if-available basis. This roadmap is subject to change at the sole discretion of Cisco, and Cisco will have no liability for delay in the delivery or failure to deliver any of the products or features set forth in this document.

Key Takeaways

Remote Expert Mobile

Ignite B2C rich collaboration in your existing apps and website



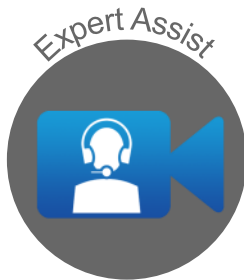
WEBRTC SDKs

- Plugin-less approach
- Video supports VP8 & H.264, transcoding, NACK/PLI for impaired networks
- Accessible API for JS, iOS, Android developers



ENTERPRISE ON-RAMP

- Reuses infrastructure & devices
- HTTP-SIP gateway scaling



EXPERT ASSIST

- App share, co-browse, annotate, push files & links
- iOS, Android and browsers
- 2 lines of code to implement
- Utilizes mass multi-player gaming for max efficiency

For more information visit the Cisco® Remote Expert Mobile CCO page at:

www.cisco.com/go/remobile



- Delightful customer experiences
- Visit us at WoS, DevNet zone
- For more information visit the Cisco® Remote Expert Mobile CCO page at: www.cisco.com/go/remobile

Complete Your Online Session Evaluation

- Give us your feedback to be entered into a Daily Survey Drawing. A daily winner will receive a \$750 Amazon gift card.
- Complete your session surveys though the Cisco Live mobile app or your computer on Cisco Live Connect.



Don't forget: Cisco Live sessions will be available for viewing on-demand after the event at [CiscoLive.com/Online](https://cislive.com/online)

Continue Your Education

- Demos in the Cisco campus
- Walk-in Self-Paced Labs
- Table Topics
- Meet the Engineer 1:1 meetings
- Related sessions

Contact Center Sessions Week at a Glance

Monday	Tuesday	Wednesday	Thursday
<p>8:00-9:30 (90) BRKCCT-1011 Cisco Unified Contact Center Express Update and Roadmap <i>(G. Variyath)</i></p> <p>9:30-10:30 (60) PSOCCT-1008 Omnichannel Customer Care - Preparing for the Mobile Customer <i>(K.McPartlan,K.Gouda))</i></p> <p>10:00-11:30 (90) BRKCCT-1051 Cisco Unified Contact Center Enterprise and CVP Overview and Roadmap <i>(J.Lundy/S.Vashist)</i></p> <p>11:00-11:30 (30) DEVNET-1130 Cisco Finesse API's <i>(T.Phipps)</i></p> <p>12:00-1:00 Table Topics UCCX <i>(G. Variyath)</i> Finesse<i>(T.Phipps)</i> <u>Color Coding</u> UCCE UCCX MediaSense Omnichannel</p>	<p>8:00-9:30 (90) BRKCCT-1041 CCE Security Best Practice Guide Overview <i>(C. Gonzales)</i></p> <p>11:30-12:30 Table Topic Reporting and Analytics <i>(C.Logue/V.Gururaj)</i></p> <p>1:00-2:00 (60) CCSCOL-1400 Case Study: Providing a Total Customer Experience <i>(C.Botting ,D.Kramer, M. Voornhout)</i></p> <p>1:00-2:30 (90) BRKCCT-1006 Omnichannel Contact Center Solutions Overview <i>(W.E.Nijenhuis)</i></p> <p>1:00-3:00 (2 hr) BRKCCT-3005 Solution Troubleshooting for Unified Contact Center Enterprise <i>(C.Palau)</i></p> <p>3:30-5:00 (90) BRKCCT-1031 Cisco Finesse - The Next Generation Agent Collaboration Experience <i>(T.Phipps)</i></p> <p>4:00-5:00 (60) CCSCCT-1405 Case Study: American Century Investments <i>(N.Westvold)</i></p>	<p>8:00-10:00 (2hr) BRKCCT-2007 Cisco Unified Contact Center Enterprise Planning and Design <i>(M. Berenjian,M.Eady)</i></p> <p>8:00-10:00 (2hr) BRKCCT-2019 Cisco Unified Contact Center Express Planning and Design and Support <i>(G.Burton,M.Turnbow)</i></p> <p>8:00-10:00 (2hr) BRKUCC-2270 Network Media Recording and Streaming with Cisco MediaSense <i>(C.Ward)</i></p> <p>11:30-12:30 Table Topic UCCE(PCCE,HCS) & CVP <i>(J.Lundy, C.Logue)</i></p> <p>1:00-3:00 (2hr) BRKCT-2050 Building recording and monitoring applications with the MediaSense API <i>(K.Rehor)</i></p> <p>1:00-3:00 (2hr) BRKCT-2056 Contact Center Reporting & Analytics: Unified Intelligence Center <i>(V.Gururaj,C.Logue)</i></p> <p>1:00-3:00 (2hr) BRKCCT-2027 UCCE Solution Service Creation (including CCE and CVP Scripting) <i>(S.Vashist,,B.Cole)</i></p>	<p>8:00-9:30 (90) BRKCCT-1002 Hosted Collaboration Service Contact Center Update <i>(A.Mermel,M.Varghese)</i></p> <p>10:00-12:00 (2hr) BRKCCT-2080 Deliver omnichannel Customer Experience with Remote Expert Mobile <i>(R.Gupta,Y.Fedotov)</i></p> <p>10:00-11:30 (90) BRKCCT-1005 Context Service: the new cloud-based omnichannel solution for Contact Center Enterprise and Express <i>(V.Chhabra)</i></p> <p>1:00-2:30 (90) BRKCCT-1009 Cisco Customer Collaboration Architectural Vision and Cloud Evolution <i>(M.Lepore,T.Famous)</i></p>

Thank you



TOMORROW starts here.