



# WebRTC: Why You Should Care and How Avaya Can Help You

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## What is WebRTC?

- ▶ A set of standards being defined by the IETF (protocols) and the W3C (JavaScript API)
  - Standard protocols defined at the media plane
  - No standard defined for signaling plane
- ▶ The vision: **ubiquitous, standard** support of real time **audio, video and data** between all browsers without **plugins / downloads**
- ▶ Particular attention paid to:
  - NAT / Firewall Traversal
  - Internet-friendly codecs
  - Privacy

## Why You Should Care About WebRTC

**Context**

**UBIQUITOUS  
VIDEO**

**VPN-Less  
Access**



**Browser-Based  
Agent / UC Clients**

**Integrated Communications**

# Different Ways that WebRTC Can Be Used in the Enterprise

- ▶ On-Ramp
  - SIP at the core
  - Browser with WebRTC is used to originate calls into the SIP core
  - The focus of this presentation
- ▶ Built-In
  - Multimedia conference bridge has native WebRTC capabilities
  - No need to transition to SIP before entering the bridge
- ▶ Off-Ramp
  - SIP at the core
  - Browser with WebRTC acts as thin UC or agent client

# Use Case

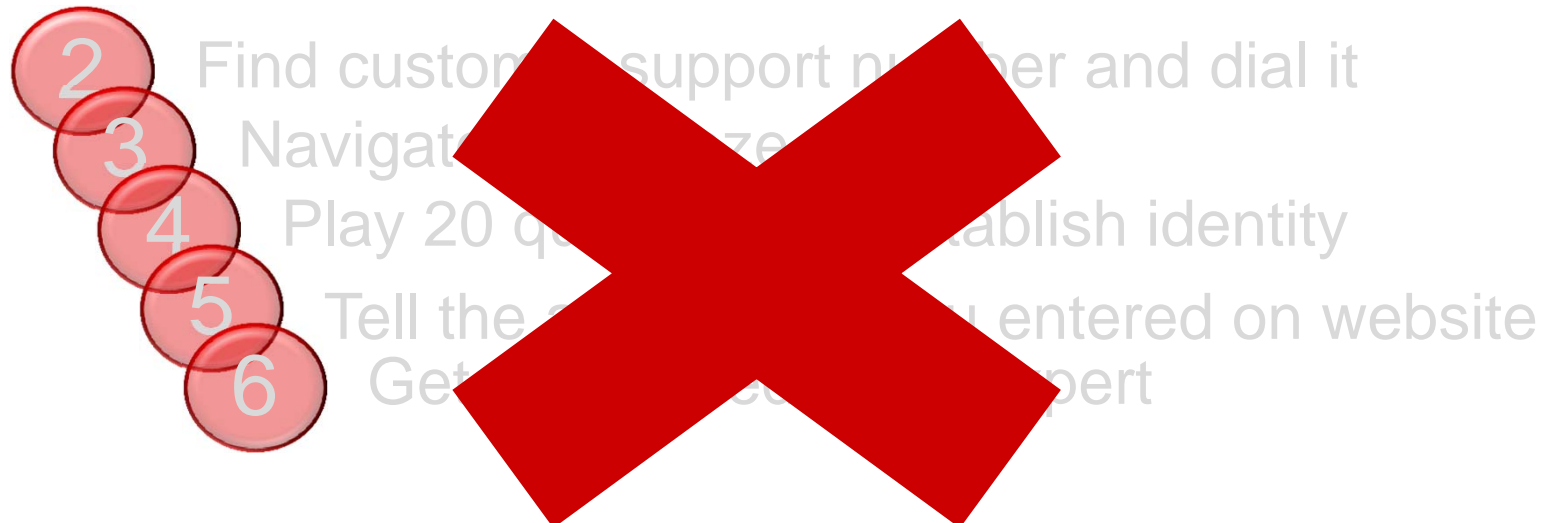
## Refrigerator Customer Support Journey

(Google "YouTube Avaya Aura® Collaboration Environment: Enhanced Business Applications")

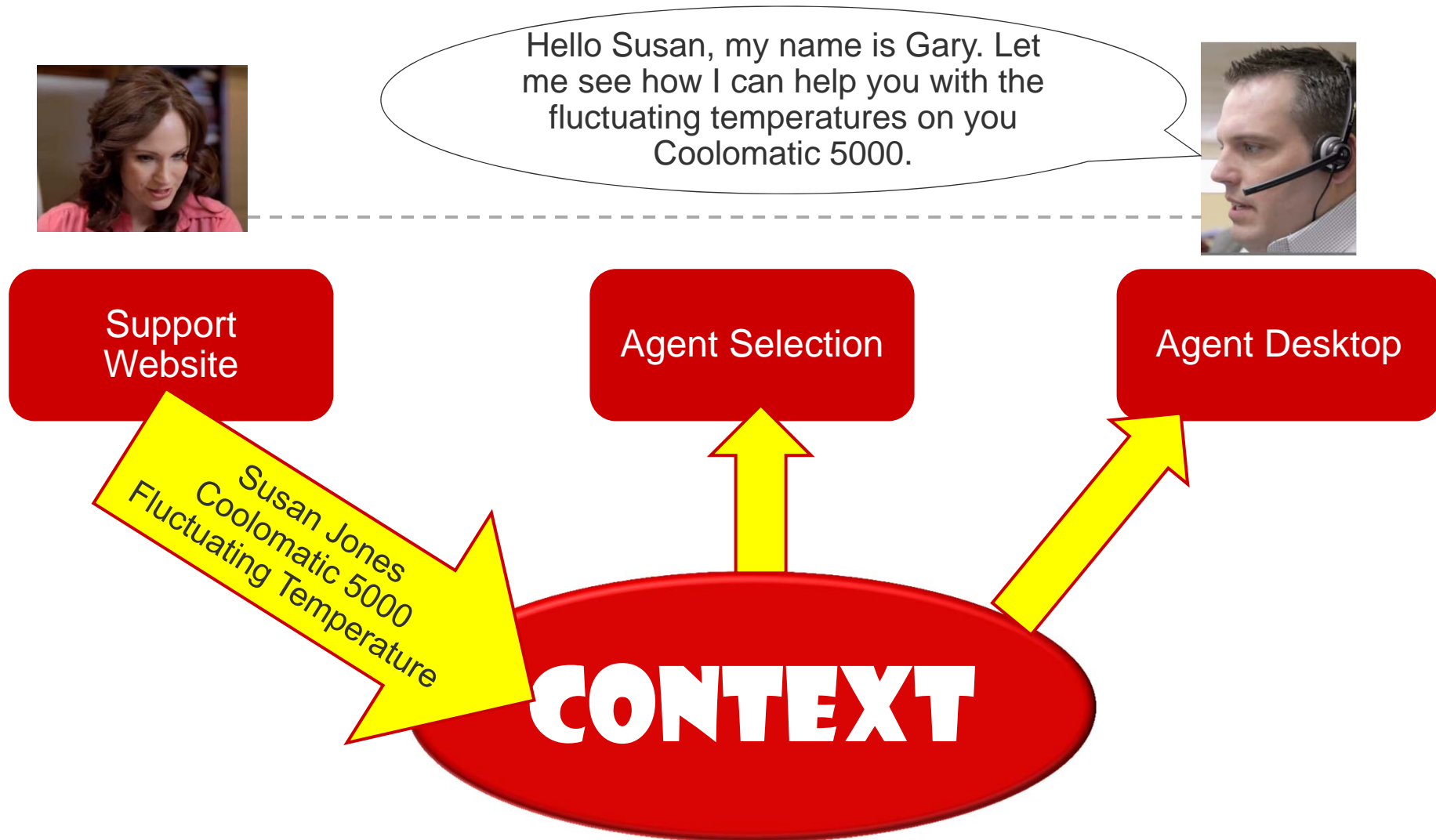
## Current Customer Journey

- 1 Enter information on website
- 2 Find customer support number and dial it
- 3 Navigate IVR maze
- 4 Play 20 questions to establish identity
- 5 Tell the agent what you entered on website
- 6 Get transferred to somebody that can help you

# Customer Journey Enabled with WebRTC

- 1 Enter information on website
  - 2 Click to Call
  - 3 Expert agent greets you by name and knows exactly why you are calling.
- 
- 2 Find customer support number and dial it
  - 3 Navigate to website
  - 4 Play 20 questions to establish identity
  - 5 Tell the agent you entered on website
  - 6 Get connected to expert

# The Key Enabler of Enhanced Customer Journey: WebRTC with Context





# How to Implement this Use Case?

## Enter Collaboration Environment

## How Do I Leverage WebRTC in My Web Application?

- ▶ WebRTC APIs make it (somewhat) easy to make **2 browsers** pointed at the **same website** talk to each other
- ▶ In a contact center, this simple functionality isn't sufficient.

**ICE**  
**Call**  
**Recording**

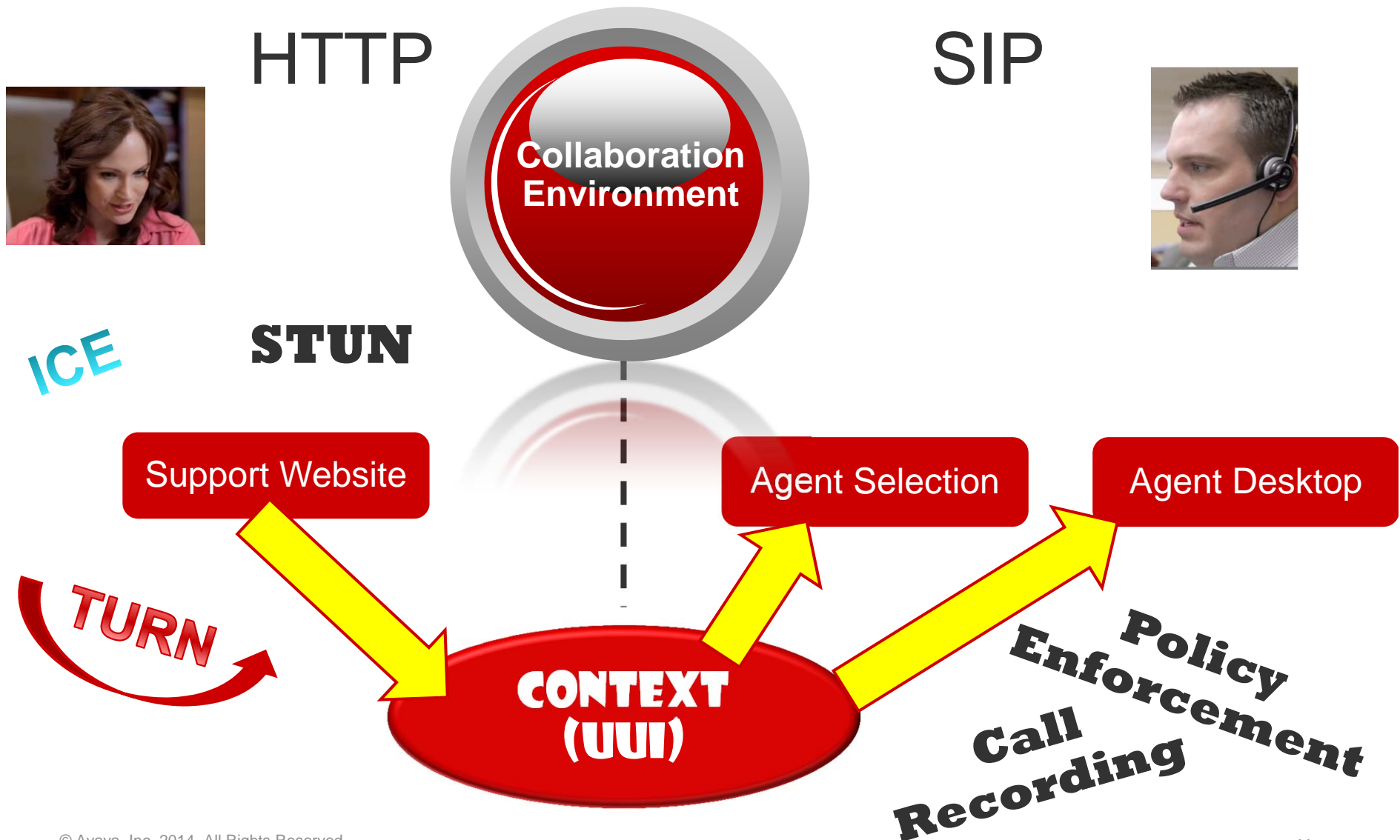
**STUN**  
**SIP**  
**Interop**

**SRTP**  
**Policy**  
**Enforcement**

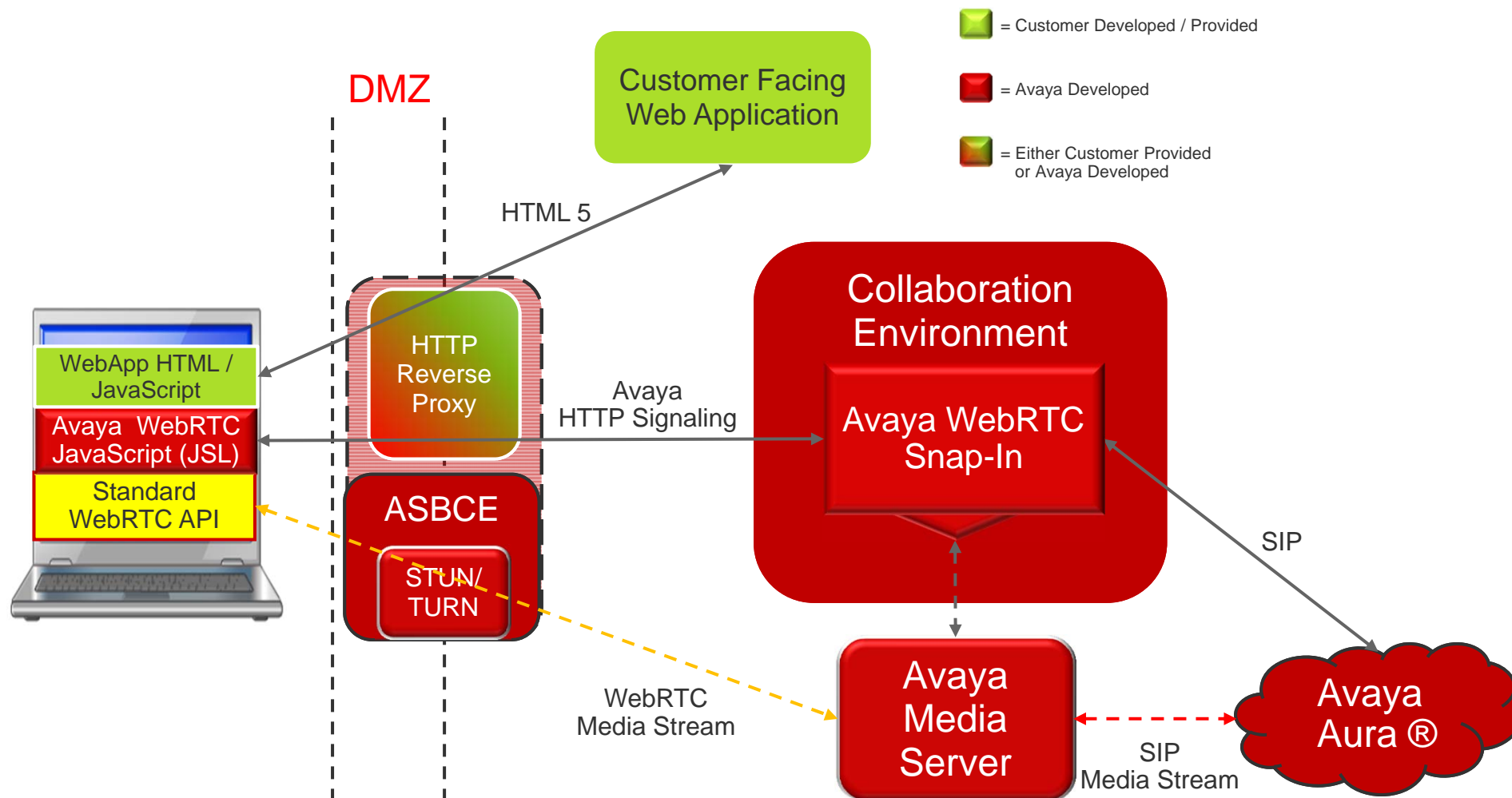
**TURN**

Collaboration Environment makes it easy to embed  
real time communications into any web experience

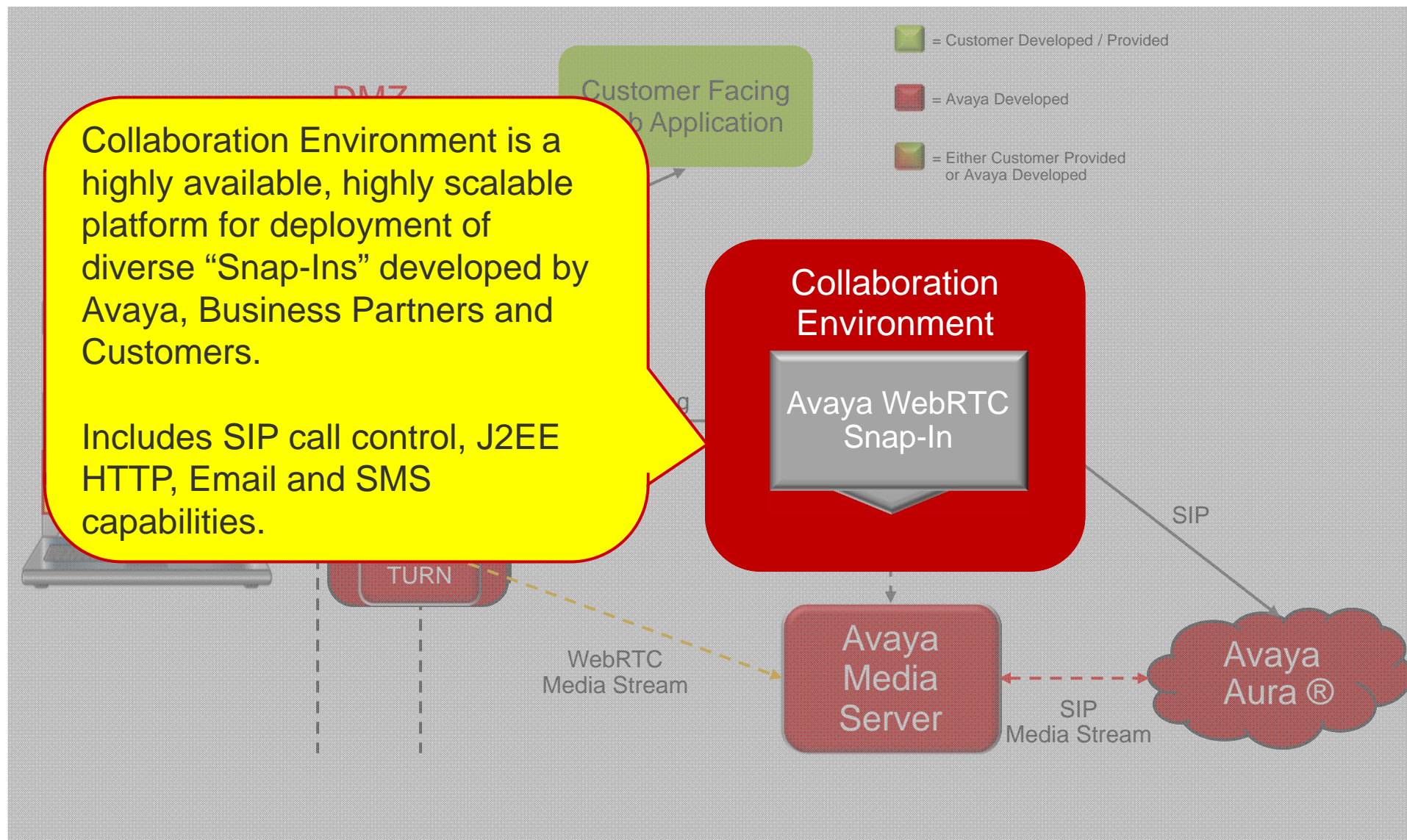
# Collaboration Environment Bridges HTTP and SIP



# Avaya WebRTC Snap-in Architecture

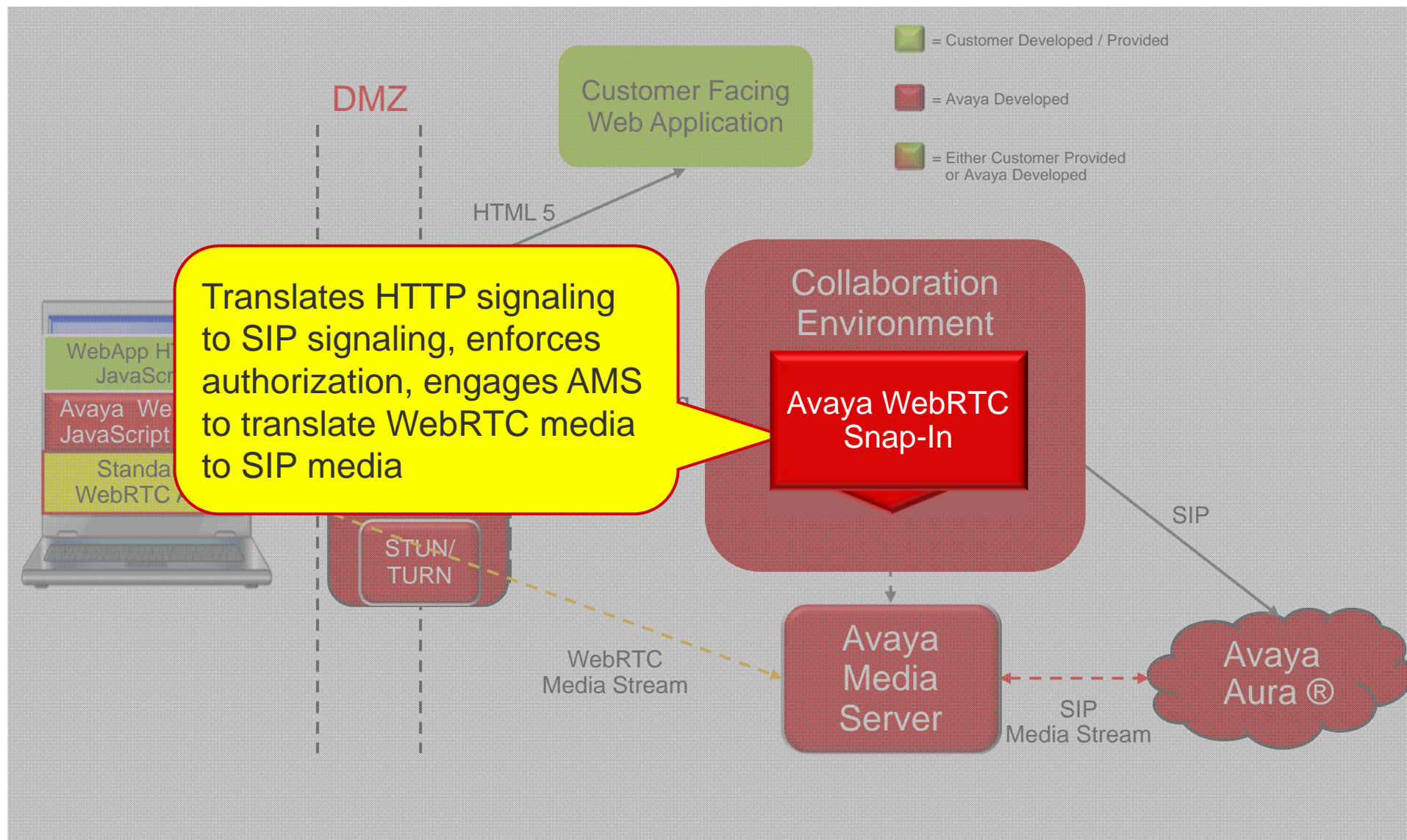


# Collaboration Environment

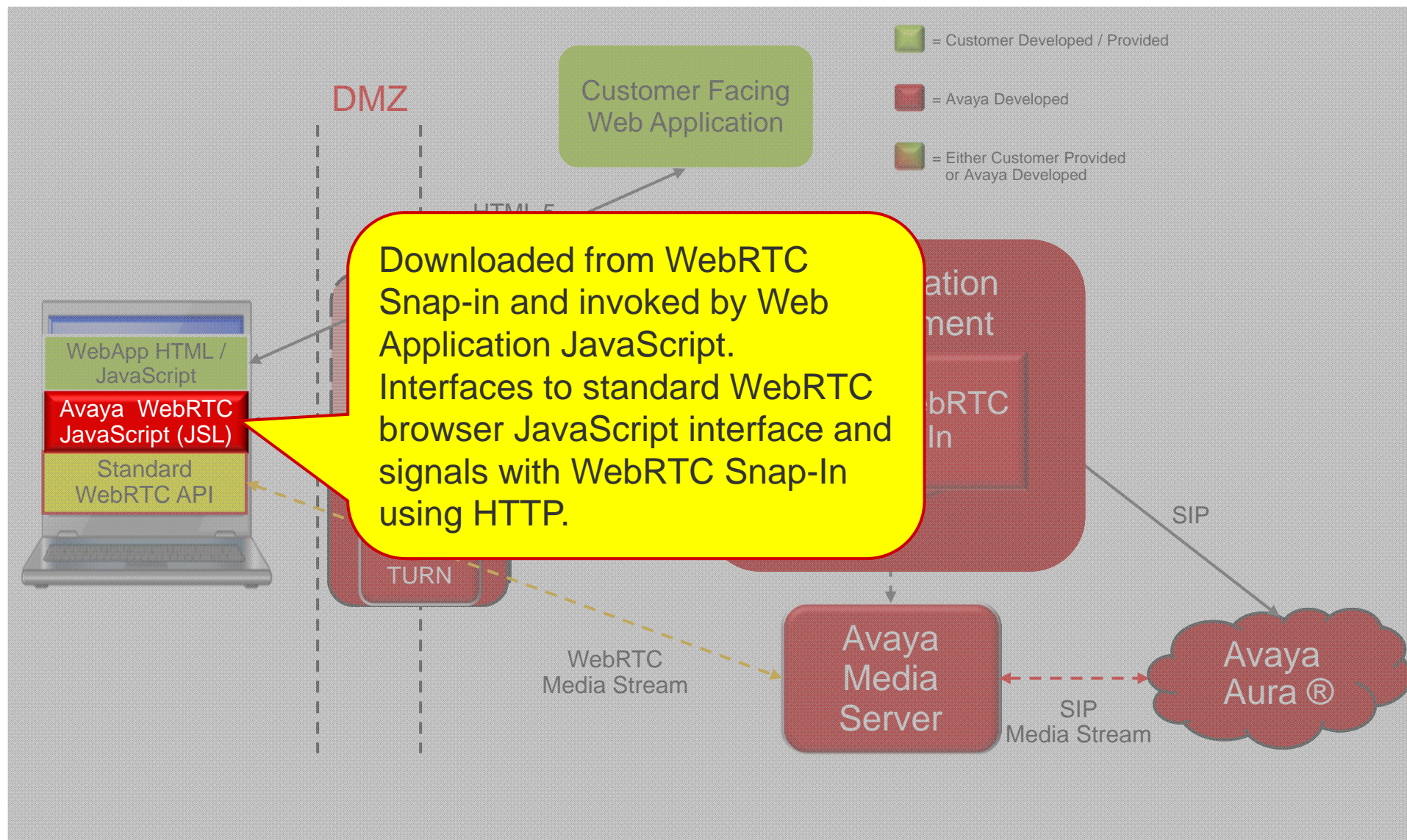




# WebRTC Snap-in

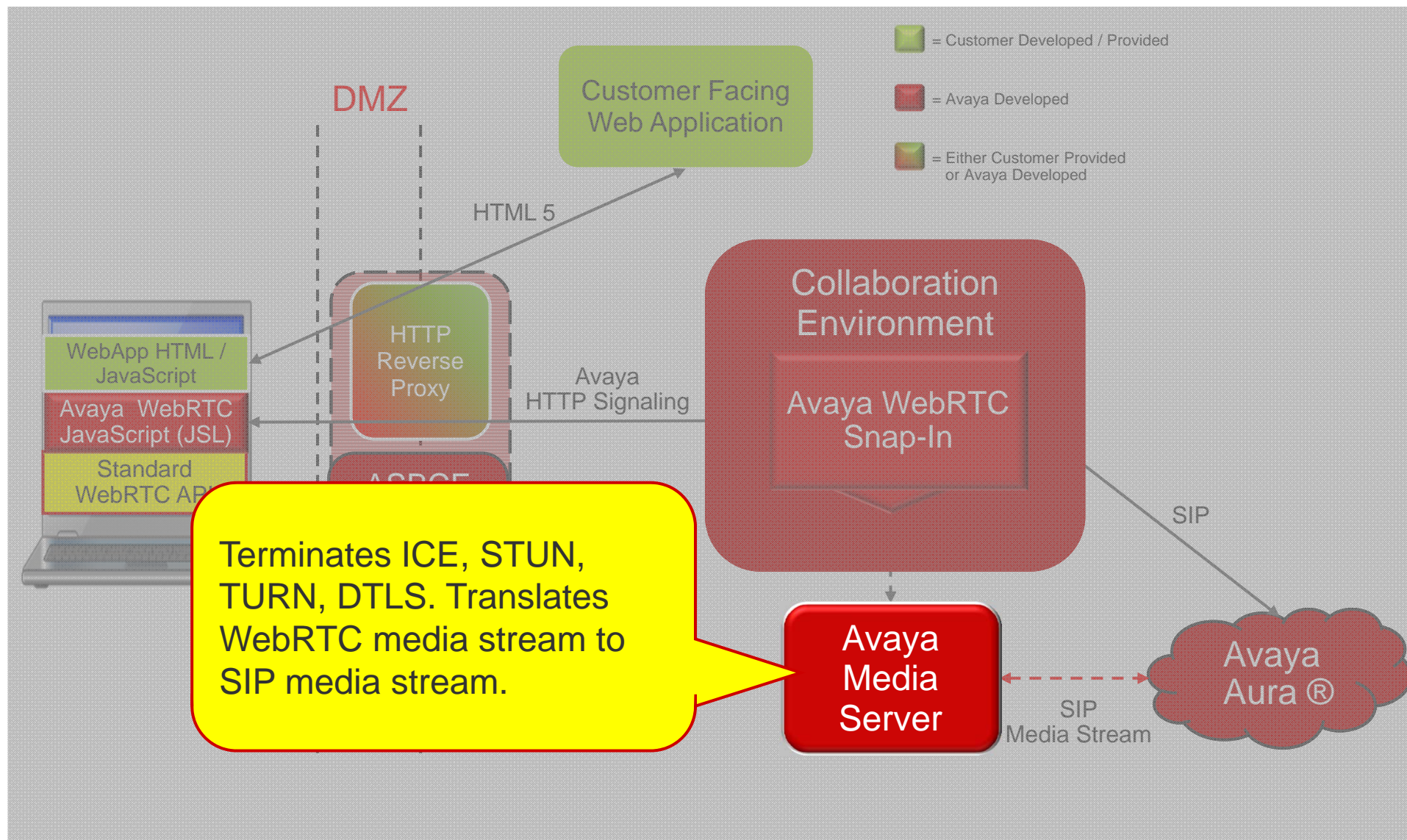


# WebRTC JavaScript Library (JSL)



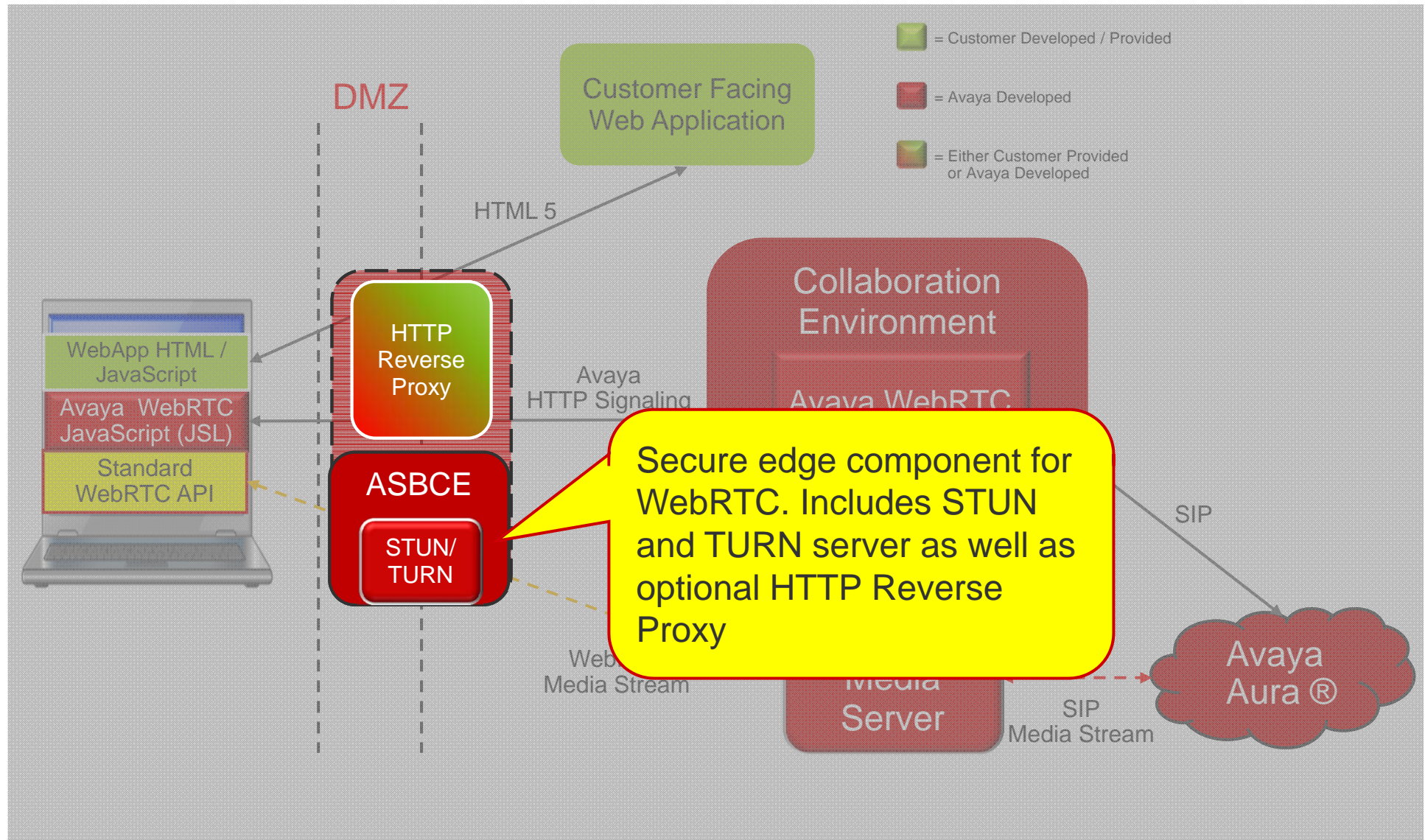


# Avaya Media Server (AMS)





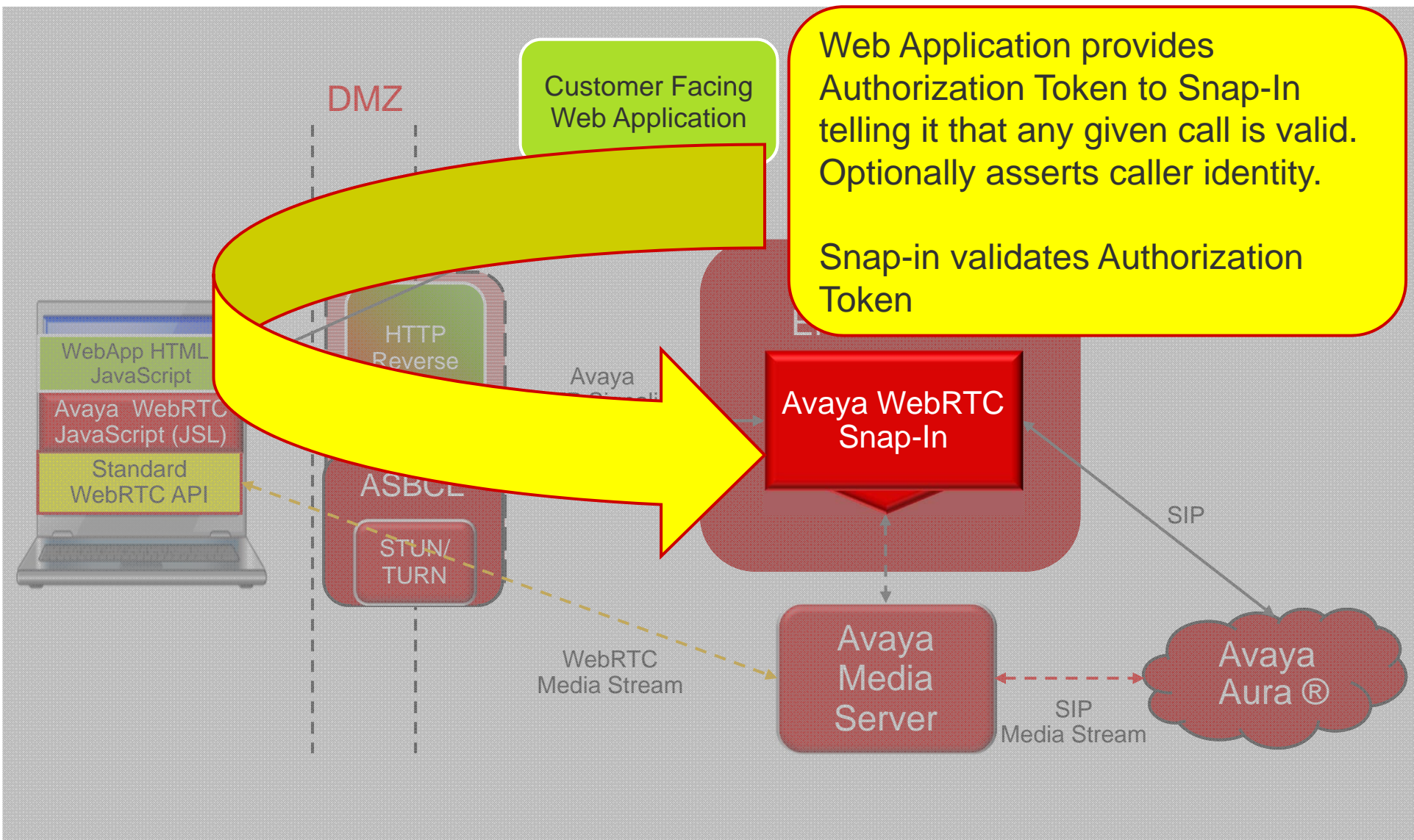
# Avaya SBC for Enterprise



# Avaya WebRTC Trust / Security Model

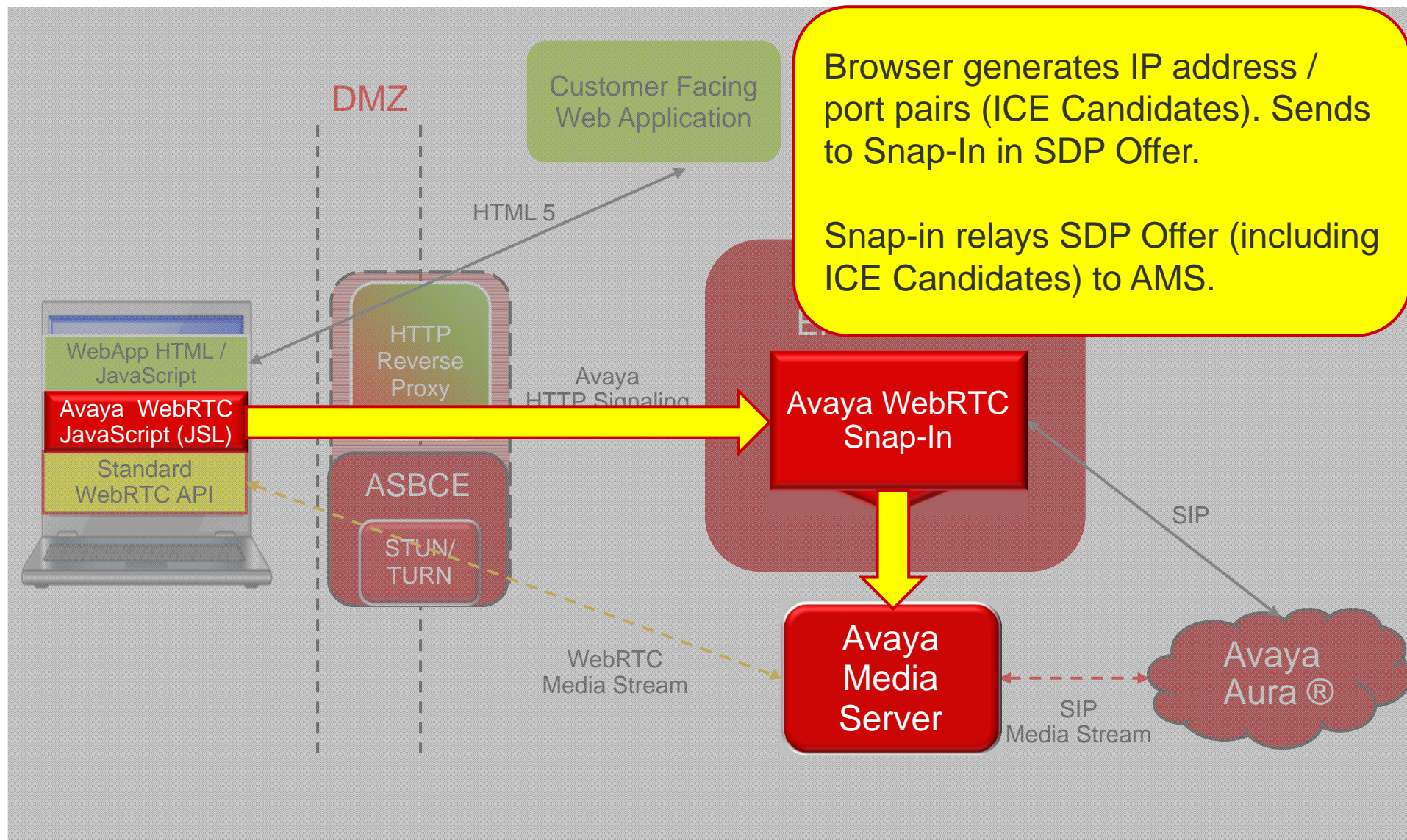
Something Different than We've Ever Seen Before

# Generation / Validation of Authorization Token

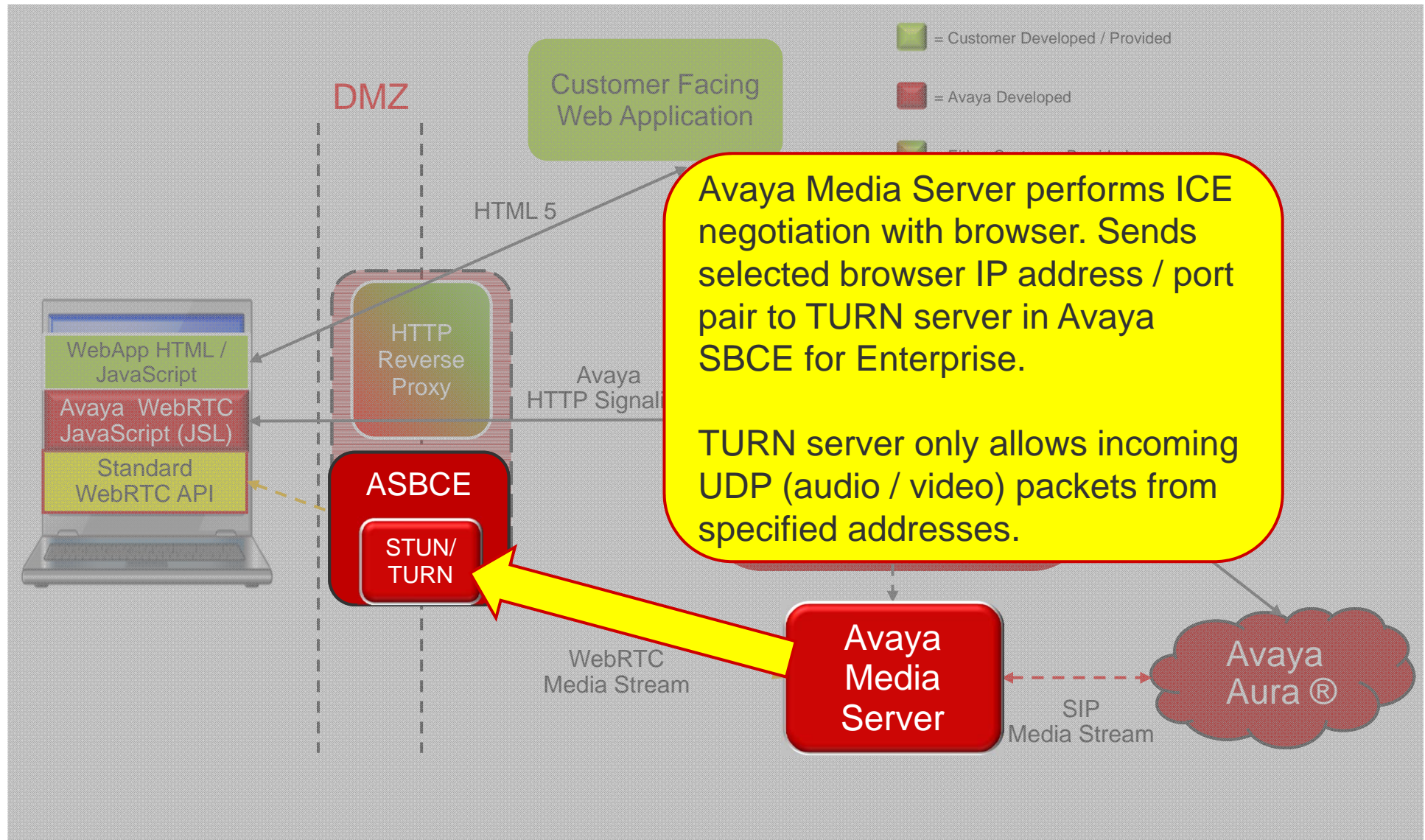




# Generation / Propagation of Browser ICE Candidates

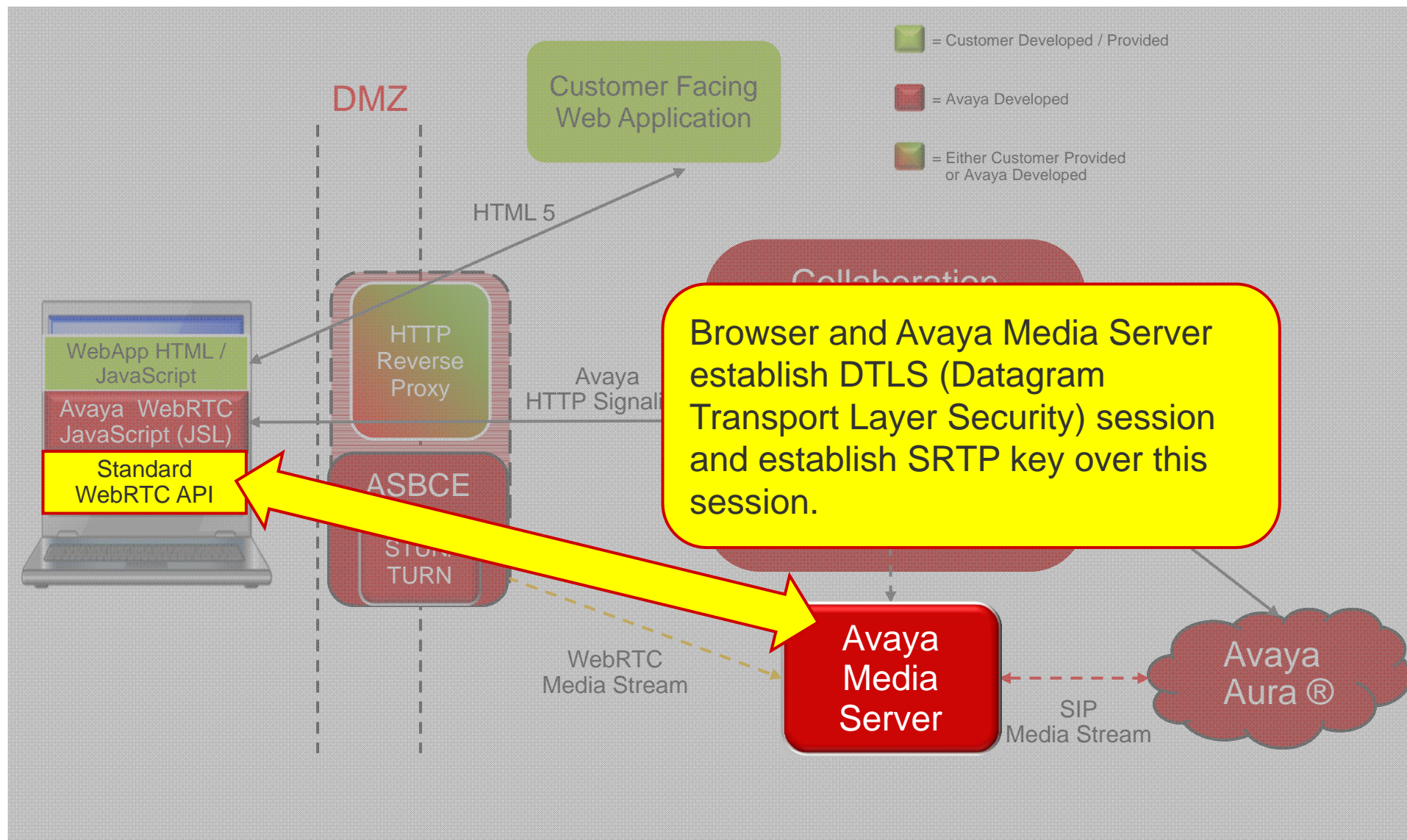


# Sending of Browser Address to TURN Server





# Establishment of SRTP key



## Why did Avaya choose this model? Embrace the Web in WebRTC!

- ▶ Customers have already invested in a secure, scalable HTTP infrastructure.
  - Reverse Proxies and Application Delivery Controllers protect against DoS / DDoS, enforce policies
- ▶ Avaya sends WebRTC signaling through existing infrastructure, embracing the customer's investment
- ▶ On-premises TURN server (as part of Avaya SBC for Enterprise) allows secure media relay across enterprise firewall
  - A cloud based service may be offered in the future
  - This would mean NO new DMZ elements for WebRTC
- ▶ Conspicuous in its absence: VPN

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# Peeling the Customer Journey Onion

A Suite of Snap-ins Working Together

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# The Snap-ins Behind Enhanced Customer Journey



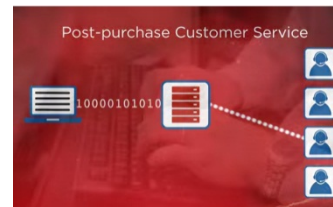
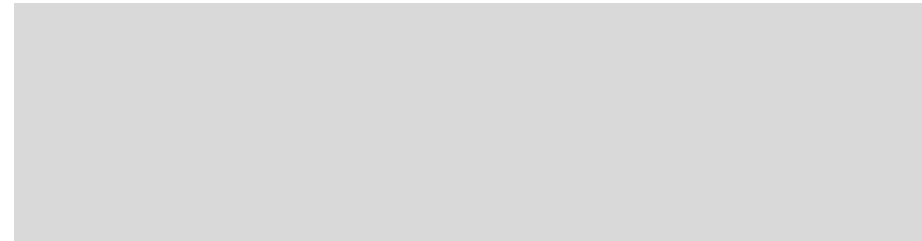
The **WebRTC snap-in** make it easy to add click to call capabilities from any web application to any Avaya Aura® endpoint



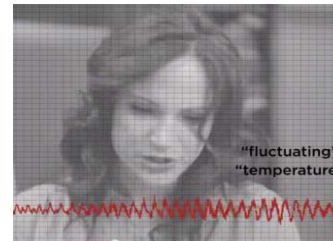
**Collaboration Designer** provides graphical design environment for implementing workflows



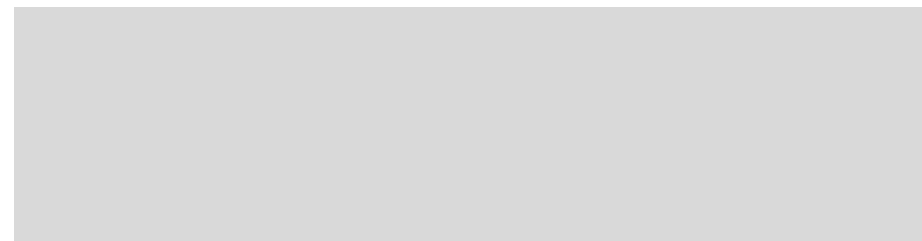
**Context Store** is a highly scalable, highly available in-memory data grid with a web service interface



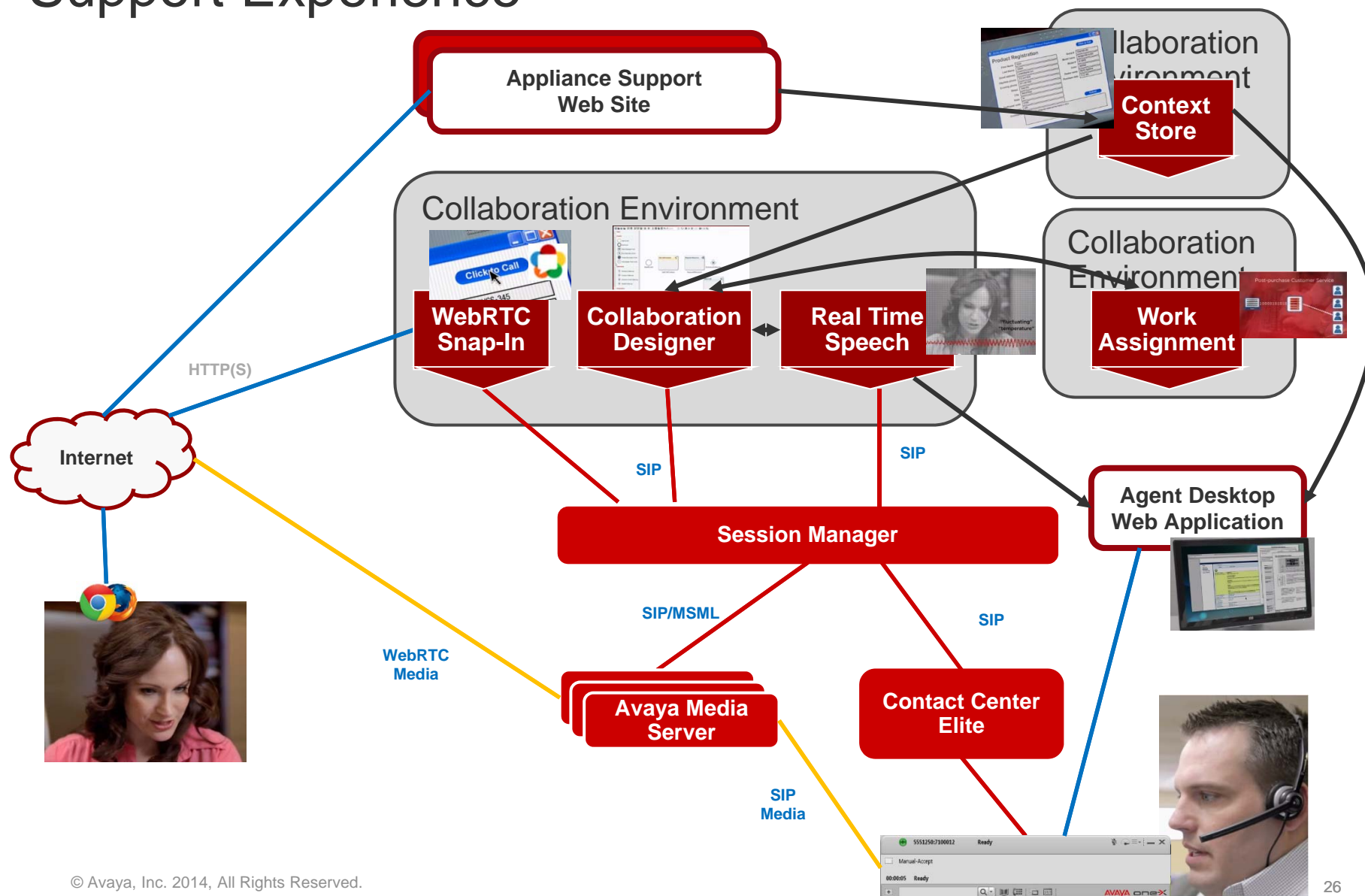
**Work Assignment** selects the best resource (e.g. Agent) to handle a work request (e.g. call) based on a customizable set of attributes.



**Real-Time Speech** enables immediate detection of spoken phrases in two-party calls



# Putting the Snap-ins Together to Create a Seamless Support Experience

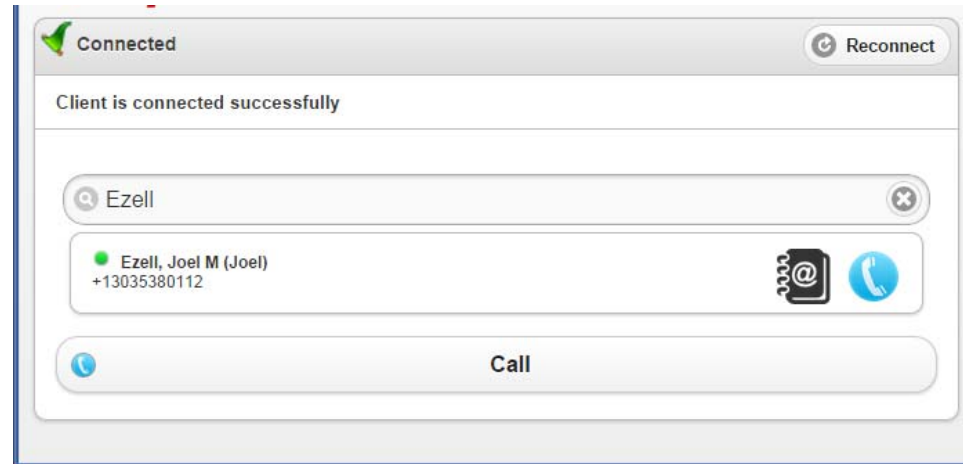


## In Conclusion

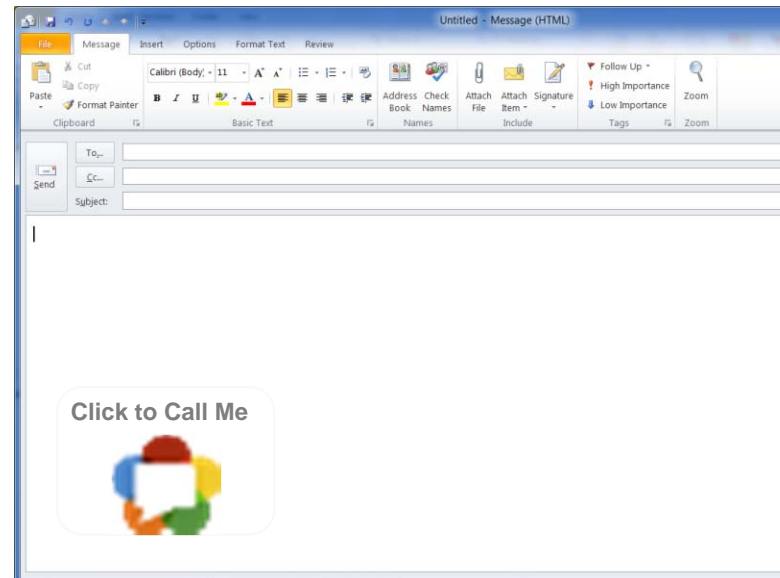
Avaya WebRTC: a powerful start  
with a bright future

# Additional Use Cases for Collaboration Environment 3.0 WebRTC

- ▶ Click to call from enterprise directory web page



- ▶ “Click to call me” URL in email signature



## Enhancements coming in the near future



### ▶ Video

- One and two way video between browsers, mobile devices and Avaya Aura® endpoints such as Communicator.



### ▶ Mobile

- Native iOS and Android SDKs to incorporate real-time Audio / Video into custom mobile apps



### ▶ Unified Communications and Agent SDK

- Ability to create full-fledged browser-based UC and Agent clients
- No download, install, plugin or VPN required!

WebRTC brings a change of paradigm  
Avaya helps make it happen

AVAYA



Dedicated  
Communication Clients



Communications  
Integrated into Fit  
for Purpose  
Experiences

# Sample WebRTC Enterprise Use-Cases

Opportunities for both the UC and CC aspects of communications



## Browser UC Client

- Audio, Video, IM, Collaboration
- UC client for cloud based service
- Tailor User-Client to Work-duties



## Web Assistance

- Web customers voice / video / collaborate with contact center agents—without a download



## One-Touch Video

- Call me from an email link.
- Click-to-discuss from application



## Web Agent Desktop

- Thin client agent position without VPN



## Web Video Conferencing

- Browser-based video conferencing
- No downloads, greater usage



## VDI Communication

- Voice and video to a VDI brick.
- Media on brick, Virtual desktop.



The image features the Avaya logo in white, bold, sans-serif capital letters. The 'y' in 'AVAYA' is stylized with a long, thin tail that extends downwards and to the right. Below the logo, the tagline 'The Power of We' is written in a smaller, white, sans-serif font, with a trademark symbol (TM) at the end. The background is a deep red with a subtle, abstract pattern of light, wispy lines and a slight gradient, giving it a dynamic and modern feel.

# AVAYA

The Power of We™