



**CTI**  
MEETING  
TECHNOLOGY

# Onsite Presentation Management Application: Hardware, Software & Network Requirements

*(revised March 2022)*



# Topics

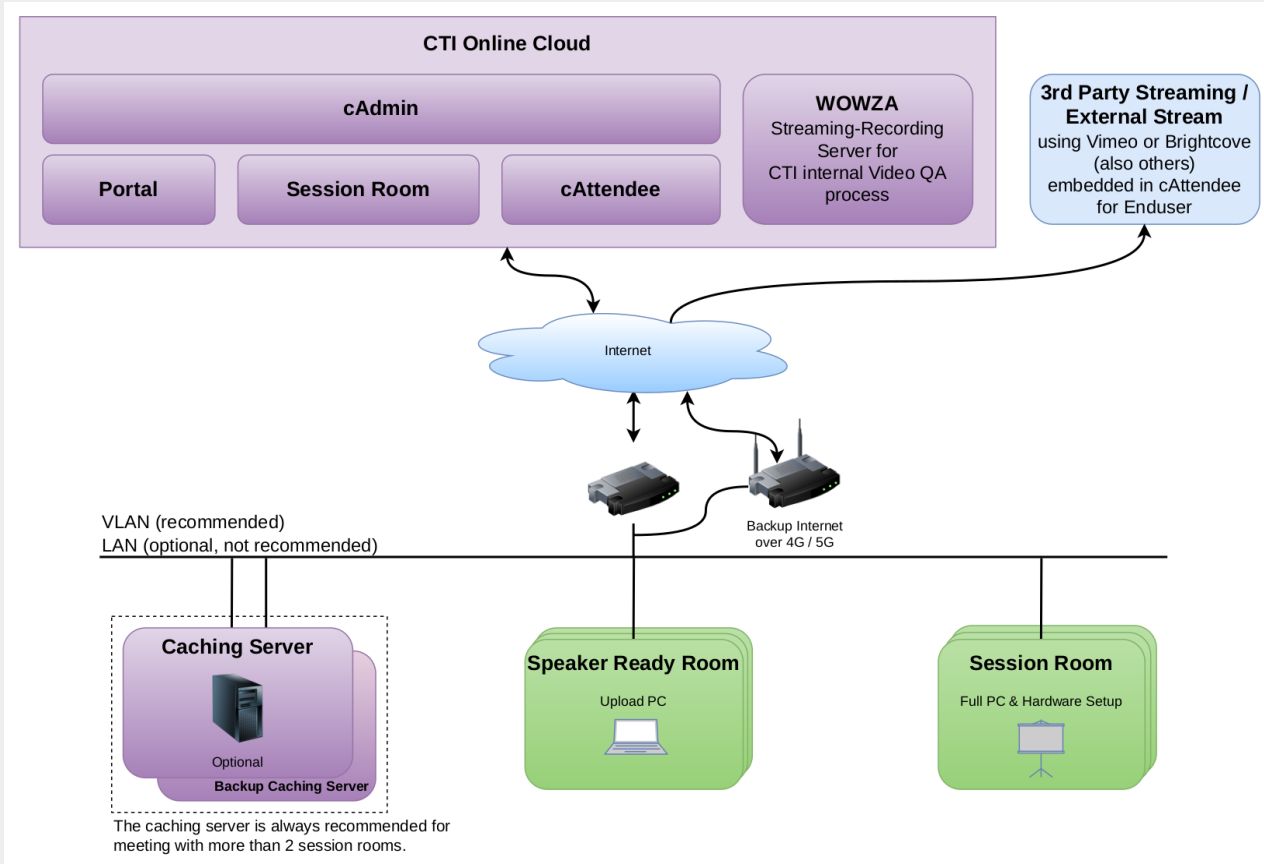
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# Overview

- CTI's Presentation Management application is a scalable, cloud-based SaaS application allowing presenters to upload presentation files via the internet, make final updates and practice in an on-site speaker ready room, and then present from a local computer in a session room. In venues with stable, high bandwidth internet connections the onsite presentation management installation will only require hardware for session room computers and speaker ready room computers. In venues with unstable or insufficient bandwidth internet connections, an on-site caching server is available.
- The Presentation Management application supports streaming to overflow rooms and streaming to 3<sup>rd</sup> party content distribution platforms.
- The Presentation Management application supports recording of streams to allow content to be edited and re-purposed. Editing tools are available in the application and 3<sup>rd</sup> party video editing tools may be used as well.
- Please refer to the application [KnowledgeBase](#) for current Presentation Management documentation, network estimation tools, set-up guides and related API documentation.

# Onsite Presentation Management Components





# When To Use an Onsite Caching Server

The Presentation Management application requires a minimum level of internet connectivity to function. An onsite caching server is available to hold local copies of all files used by the presentation management application. The application synchronizes the files between the caching server and the cloud and provides faster application response times onsite where internet bandwidth is low or the internet connection is unstable.

Recommended scenarios for Cloud-only vs Caching Server:

## **Presentation Management – Cloud Only**

- 2 or fewer concurrent session rooms
- Internet bandwidth of at least 150% of recommended bandwidth
- Stable internet connection

## **Presentation Management - Caching Server**

- More than 2 concurrent session rooms
- Less than 150% of recommended internet bandwidth



# Session Room and Speaker Ready Room Hardware & Software Requirements

## **Please Note:**

- All laptops and PC's must be the same brand and series with the same hardware features
- All laptops and PC's must be setup exactly in the same way
- For setting up the master clone, remote access to one laptop must be provided to CTI no later than 4 weeks before the event.
- AV company will clone the laptops/PC's

**Computers must be the same brand  
and series and  
setup in the same way**

## **Minimum Required Hardware**

- CPU: Pentium i5 or i7 (Quad-Core; at least 7<sup>th</sup> Gen.; min. 4 Threads)
- RAM: min. 8GB
- Minimum Hard disk:
  - No recording – 250GB SSD
  - SD Recording - 500GB SSD
  - HD Recording - 1TB SSD
- Display: 1920x1080, Full HD (16:9)

## **Required Software**

- Operating System: Windows 10 / Ultimate 64bit
- Additional software: Office 2016
- Browser: Latest browser version of Chrome



# Caching Server Hardware & Software Requirements

## **Please Note:**

- Please consult the [KnowledgeBase](#) for the set-up script for the caching server. We recommend configuring this no later than 4 weeks before the event.

## **Minimum Required Hardware – Dedicated Server Recommended**

- CPU: Within 2 years of current technology
- RAM: min. 4GB
- Minimum Hard disk: 1TB HDD / SSD
- Second back-up server optional

## **Required Software**

- Operating System: Ubuntu 20.04.x LTS



# Network Requirements

## Calculating Bandwidth Requirements

The upload and download bandwidths required can be calculated as a function of the video bit rate, the maximum number of concurrent session rooms, the number of streams per session room per video bit rate, the number of concurrent session ready room computers available to presenters and whether a caching server is in use. A bandwidth calculator is available in the application [Knowledgebase](#). For quick estimation purposes only the following formula can be used:

$$\begin{aligned} & ((\text{Max \# Concurrent Session Rooms}) * (\text{\# of streams}) * 4\text{Mbps for HD}) + \\ & (\text{\# of Concurrent Speaker Ready Room Computers} * 3\text{Mbps}) + 10\text{Mbps} \\ & = \text{Required bidirectional bandwidth.} \end{aligned}$$

Please consult the [bandwidth calculator](#) for accurate upload and download requirements.





# Network Requirements

## VLAN Requirements & Internet Back-up

### VLAN 1 (Session Rooms & Speaker Ready Room)

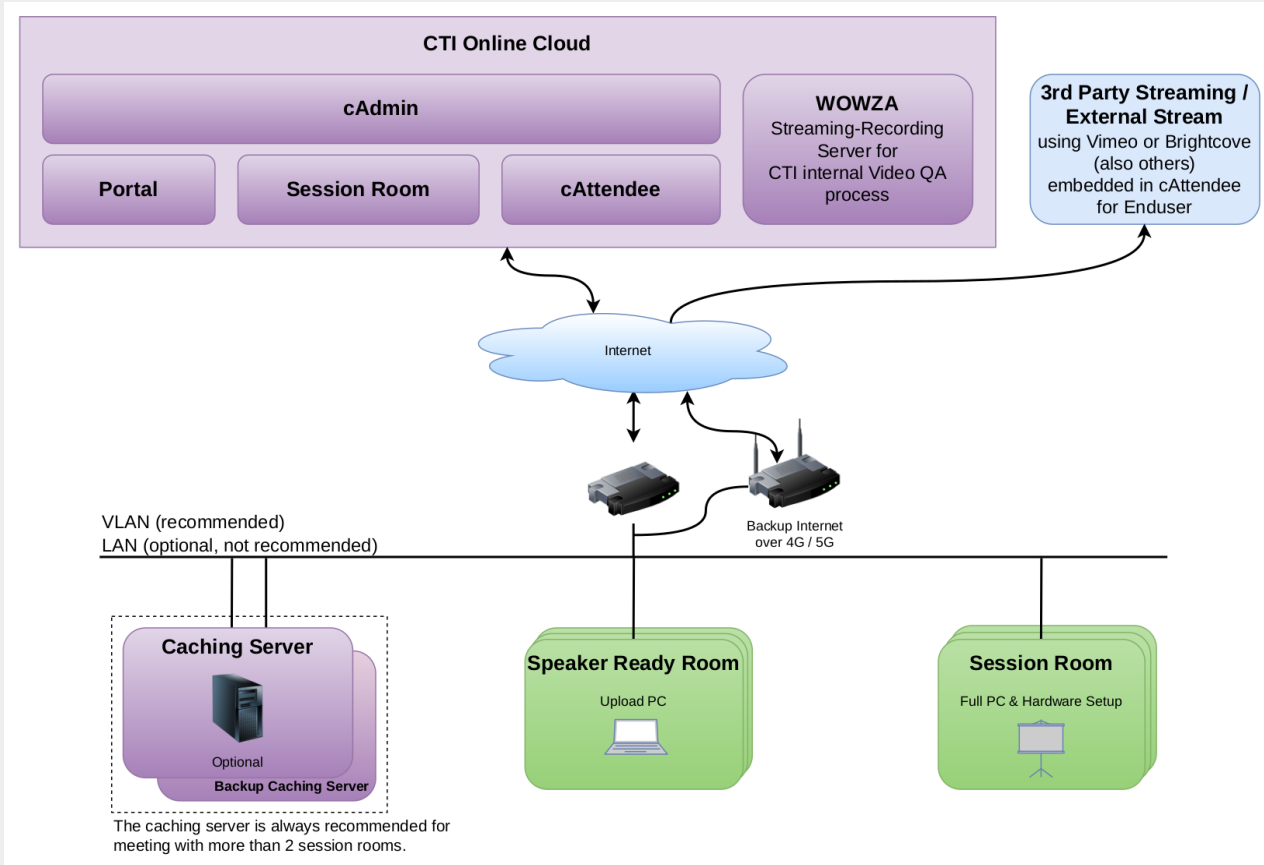
- Individual (dedicated) VLAN for presentation management, blank (no internet)
- Network access from caching server to the Speaker Ready Room and to all session rooms (VLAN MUST be solid without breakdowns)
- Separate internet connection in Speaker Ready Room
- Public IP address is necessary to have access to CTI caching server from outside of the VLAN for maintenance and support *(to be provided in advance)*
- Internet port: 1935
- 1 Gbit/s VLAN recommended (minimum 100 Mbit)
- 1 network drop per device

### Internet Back-up

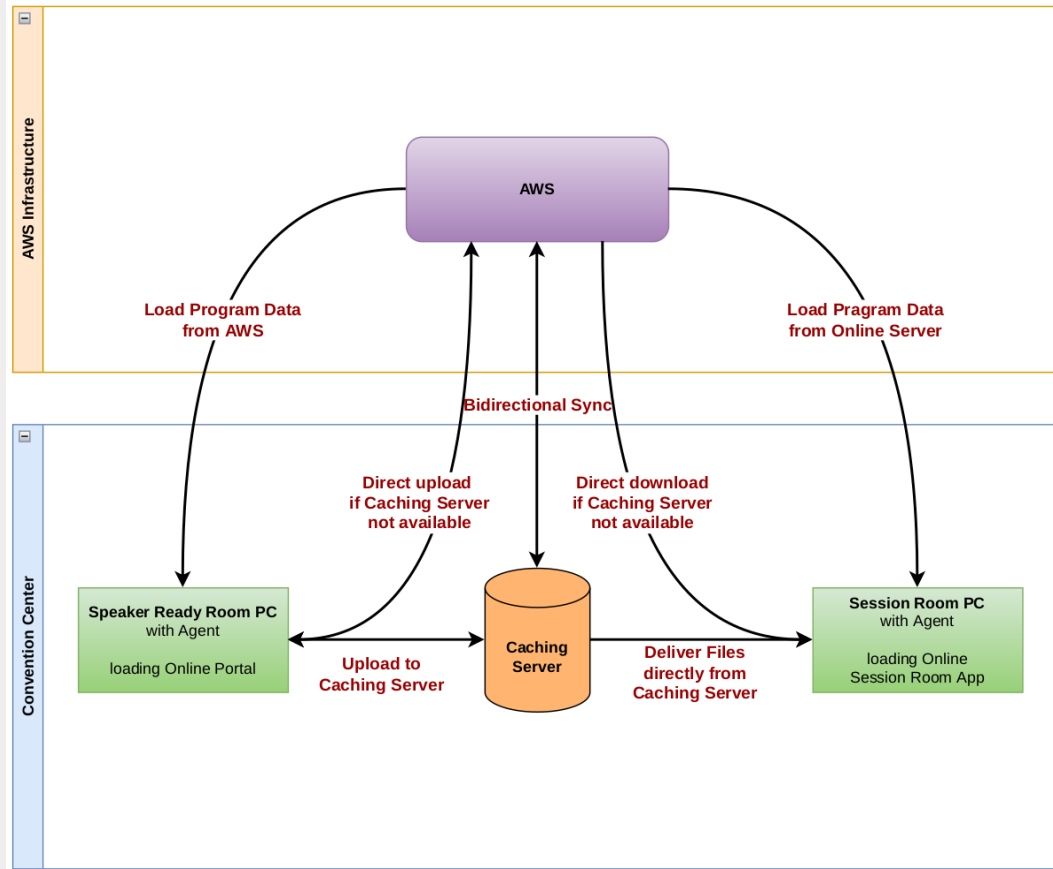
- The Presentation Management application requires a minimum level of internet connectivity to function, even when using a caching server. A back-up device using 4G/5G such as this [example](#) is recommended.



# Onsite Network Topology



# Presentation File Flow Topology





# Presentation Management Set-up Diagrams

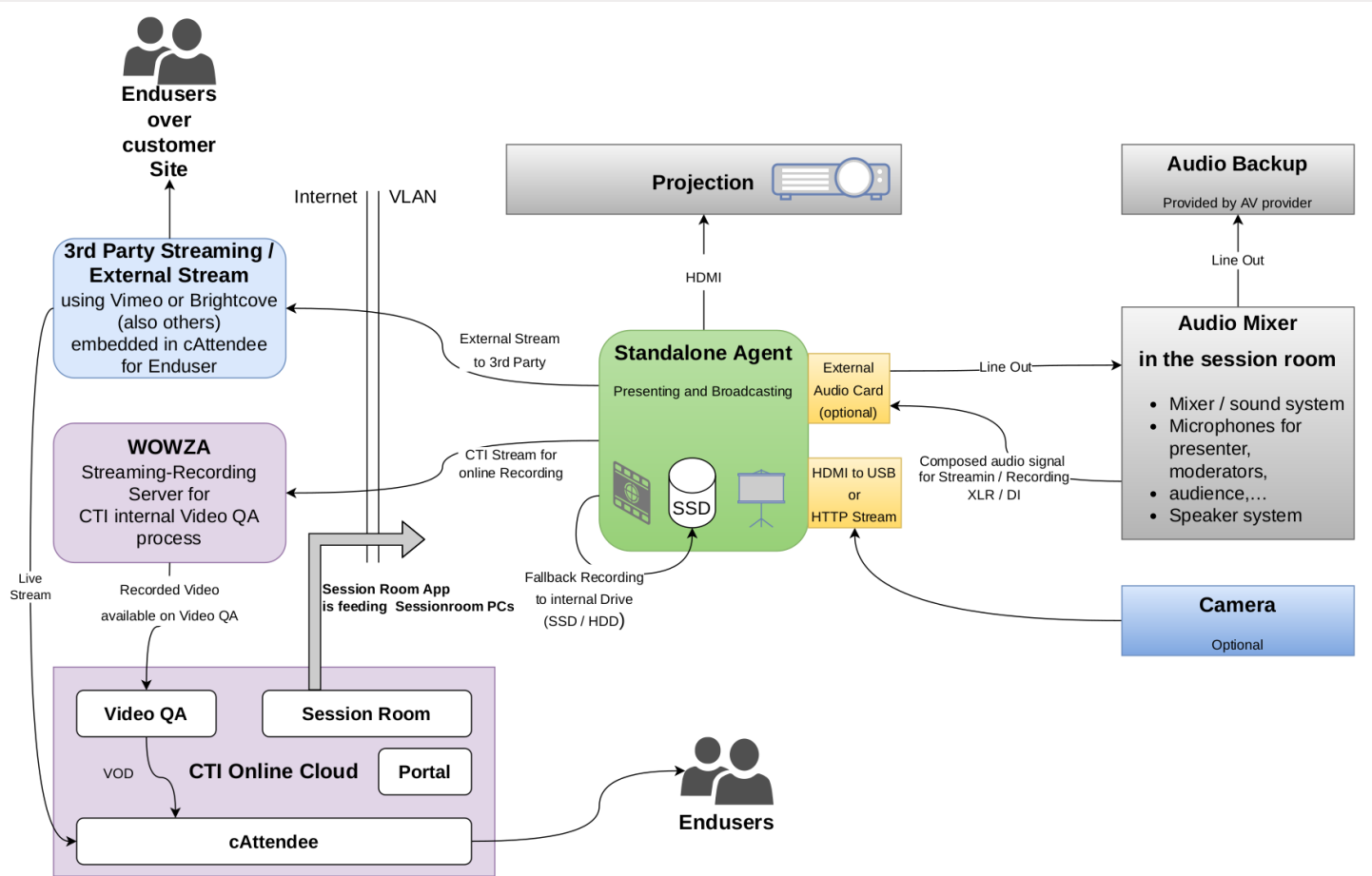


# CTI Onsite Agents

Agent Modes		
Mode	Functions	Usecase
<b>Standalone Agent</b>	<ul style="list-style-type: none"><li>• Synchronizing Presentations</li><li>• Presenting via Session Room App</li><li>• Showing Slides on Projector via second Screen (HDMI)</li><li>• Streaming Session</li><li>• Fallback Recording</li></ul>	Mostly recommended to use for Onsite events where streaming to external attendees are secondary
<b>Presenting Agent</b>	<ul style="list-style-type: none"><li>• Synchronizing Presentations</li><li>• Presenting via Session Room App</li><li>• Showing Slides on Projector via second Screen (HDMI)</li><li>• Display Capturing and Forwarding via NDI (or HTTP stream)</li></ul>	Use Presenting and Broadcasting Agent together and also a Broadcaster software to compose a content for Hybride and Virtual meetings
<b>Broadcasting Agent</b>	<ul style="list-style-type: none"><li>• Receiving internal Session stream via NDI (or HTTP stream)</li><li>• Streaming Session</li><li>• Fallback Recording</li></ul>	

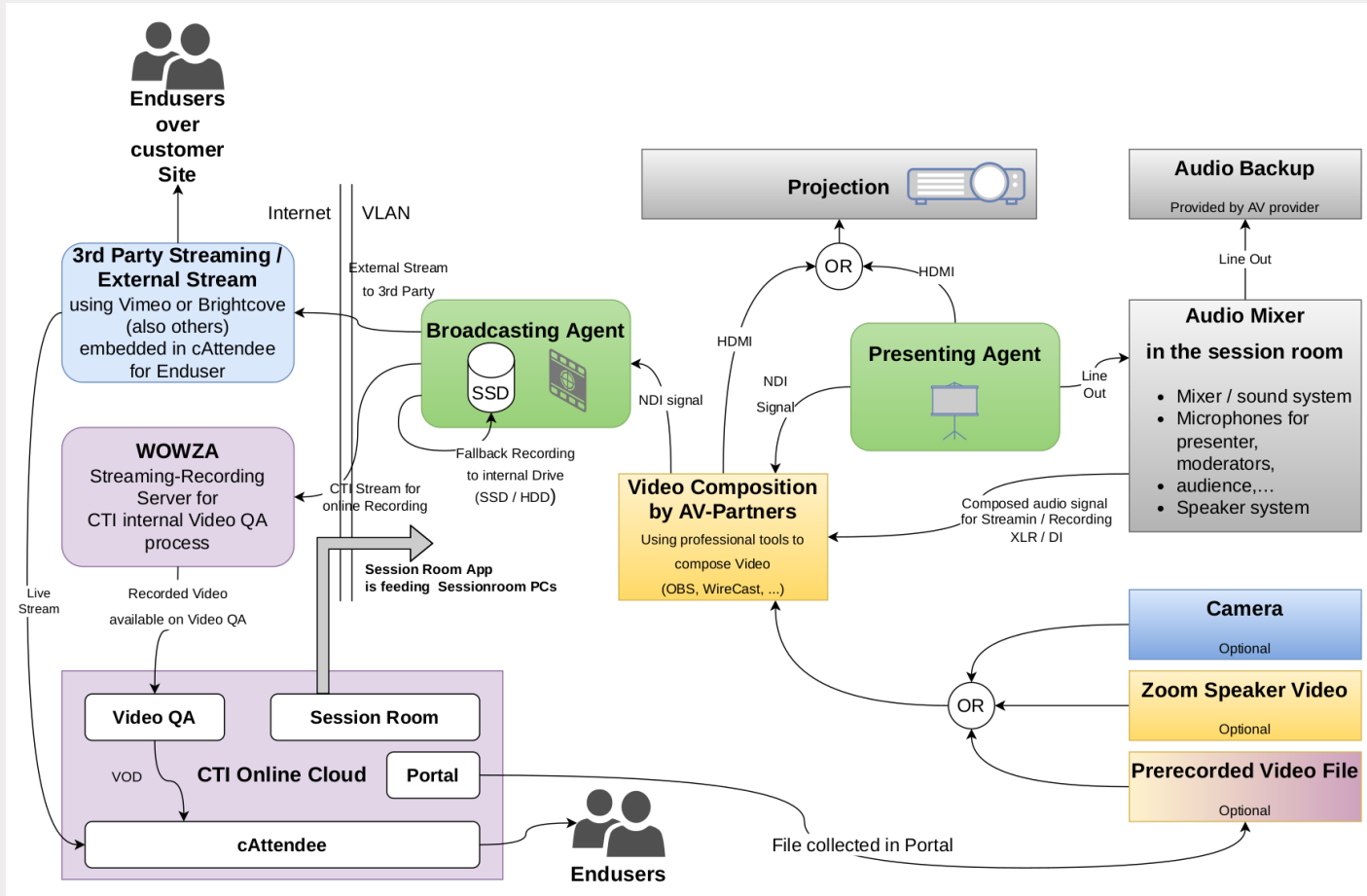


# Recommended Session Room Setup for Onsite Meetings



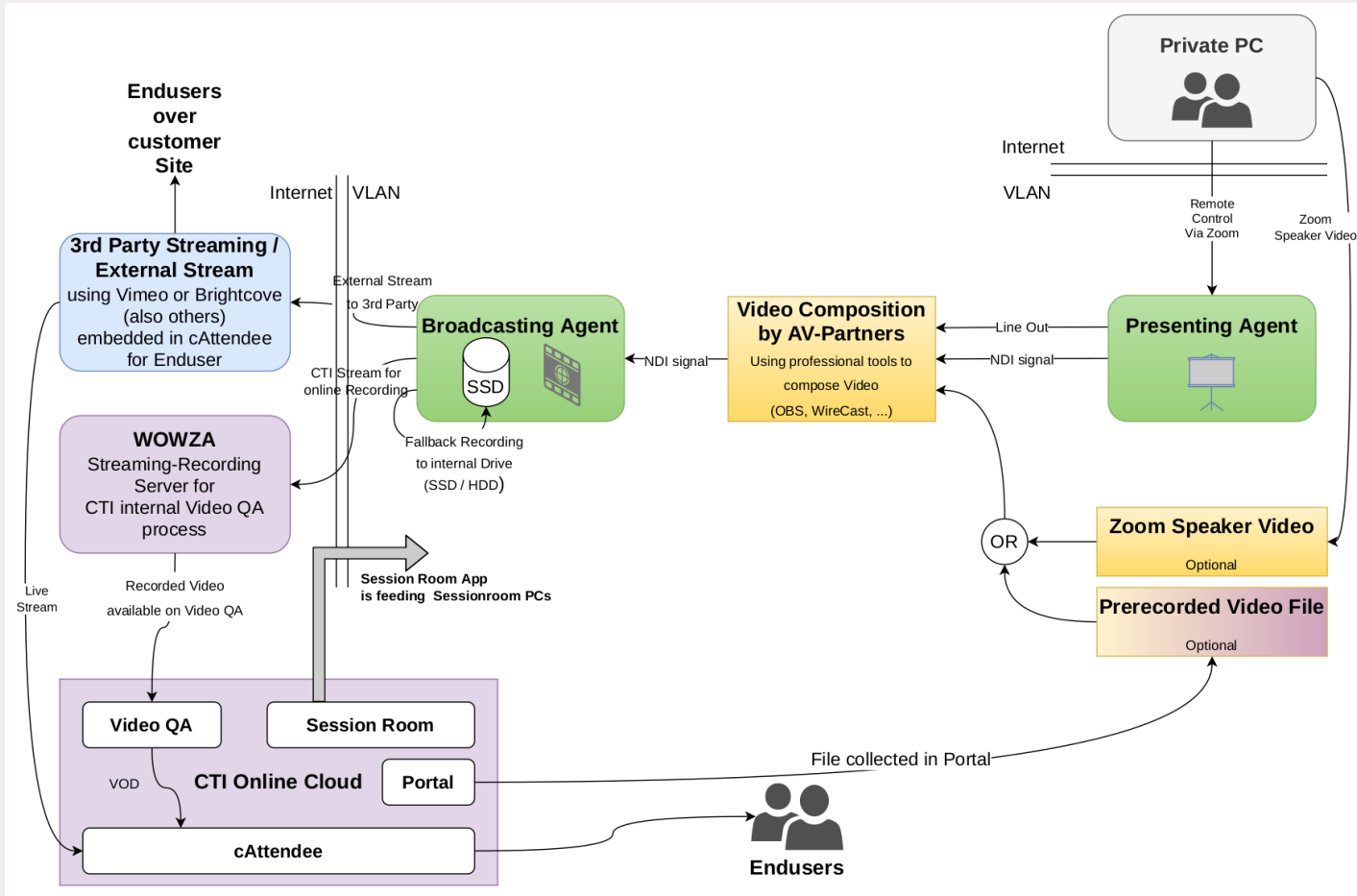


# Recommended Session Room Setup for Hybrid Meetings





# Recommended Virtual Session Room Setup







# External Sound Card Recommendations

Audio setup for Streaming or Recording  
*(an external sound card is not required for presentation-only)*

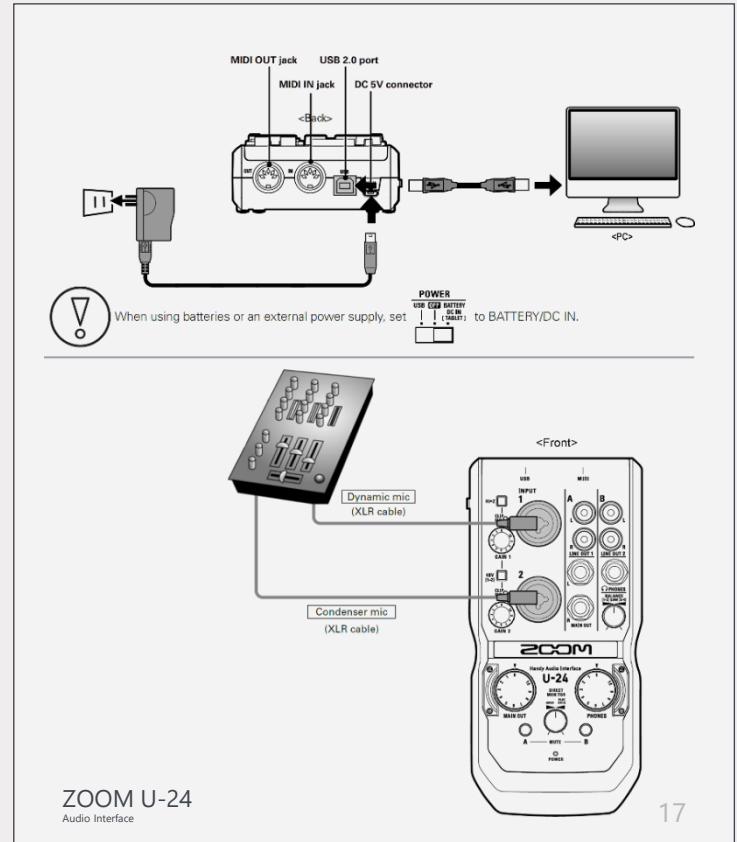
## External Sound Card

CTI recommends using an external sound card with external power supply comparable to **Zoom U24**.

## Set up of a session room with external sound card (see diagram at right)

USB cable connects external sound card to the presenter PC  
Session Room mixer is connected via XLR cables to the external sound card

(See Slide 14)





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Thank you!