# IBM CLOUD VIDEO STREAMING

Presented By K.Anu

IBM Watson Media's video streaming solutions offer a wide range of features for use with live and on-demand video content. This experience is managed from a browser-based dashboard that allows companies and content owners to create live channels or manage ondemand videos. Below is an extensive list of the features.

	IBM Video Streaming: Silver / Gold / Platinum	IBM Video Streaming: Custom plan	IBM Enterprise Video Streaming
Multi-CDN Video Delivery	<b>✓</b>	<b>✓</b>	<b>✓</b>
Live Transcoding and Adaptive Streaming	<b>✓</b>	<b>✓</b>	<b>✓</b>
Multiple Admins and Permissions	×	<b>✓</b>	<b>✓</b>
Video Review and Approval Workflow	×	×	<b>/</b>
Simultaneous Live Streaming	<b>✓</b>	<b>✓</b>	<b>✓</b>
Multilanguage Audio Tracks for Live Streams	×	<b>✓</b>	<b>✓</b>

4K Video Streaming	×	<b>/</b>	<b>/</b>
Automatic Closed captions for VOD	<b>✓</b>	<b>✓</b>	<b>✓</b>
WebVTT Caption File Support	<b>✓</b>	<b>✓</b>	<b>✓</b>
Watson Live Captioning	×	<b>✓</b>	<b>\</b>
CEA-608 Caption Support	<b>✓</b>	<b>✓</b>	<b>✓</b>
Cisco Webex Integration	×	<b>✓</b>	<b>\</b>
BlueJeans Integration	×	<b>✓</b>	<b>✓</b>
RTMP Encoder Support / Device Passwords	<b>✓</b>	<b>✓</b>	<b>✓</b>
Live Stream Slides	<b>✓</b>	<b>✓</b>	<b>✓</b>
Simulated Live	<b>✓</b>	<b>✓</b>	<b>\</b>
Auto Archiving	<b>✓</b>	<b>✓</b>	<b>✓</b>
Aspera Connect Integration	×	<b>✓</b>	<b>✓</b>
Video Editing / Trimming	<b>/</b>	<b>✓</b>	<b>/</b>

Custom Metadata Fields	✓		<b>/</b>
Dynamic and Manual Video Playlists	<b>/</b>	<b>✓</b>	<b>\</b>
HTML5 Player	<b>✓</b>	<b>/</b>	<b>/</b>
HLS.js Player*	<b>✓</b>	<b>/</b>	<b>/</b>
Responsive Video Player Embedding	<b>✓</b>	<b>✓</b>	<b>/</b>
Embed Code Restrictions	<b>/</b>	<b>✓</b>	<b>/</b>
Twitter Inline Video Playback	<b>✓</b>	<b>✓</b>	<b>/</b>
Playback Speed Control	<b>✓</b>	<b>✓</b>	<b>/</b>
Continue Watching	<b>✓</b>	<b>/</b>	<b>/</b>
Registration Gate	<b>✓</b>	<b>✓</b>	<b>/</b>
Email Confirmation / add to calendar	×	×	<b>/</b>
SSO Integration / Authentication	×	×	<b>/</b>
Geo-blocking	<b>/</b>	<b>✓</b>	<b>/</b>

Password Protection	<b>✓</b>	<b>/</b>	<b>/</b>
Chat / Q&A	<b>/</b>	<b>/</b>	<b>\</b>
Breakout Chat Rooms	<b>✓</b>	<b>✓</b>	<b>✓</b>
Live Polling	<b>/</b>	<b>/</b>	<b>\</b>
Live CTA Video Overlays	<b>✓</b>	<b>✓</b>	<b>/</b>
Video Chapters	<b>/</b>	<b>/</b>	<b>\</b>
White Label	<b>✓</b>	<b>/</b>	<b>/</b>
Channel Page Branding	<b>/</b>	<b>/</b>	×
Video Portal with Access Control	×	×	<b>/</b>
<b>Event Microsite</b>	×	×	<b>\</b>
Al-driven Search in Video Portal	×	×	<b>/</b>
User Generated Content*	×	×	<b>\</b>
File Sharing	<b>/</b>	<b>/</b>	<b>/</b>

Slack Notification Integration	<b>✓</b>	<b>✓</b>	<b>/</b>
DTLS Streaming Protocol Add-on Integration	×	<b>✓</b>	<b>✓</b>
Virtually Real-time Analytics	<b>✓</b>	<b>✓</b>	<b>/</b>
Individual Viewer Tracking	<b>/</b>	<b>✓</b>	<b>/</b>
IBM ECDN Integration	×	<b>✓</b>	<b>/</b>
Video Channel APIs	<b>✓</b>	<b>✓</b>	<b>/</b>
Viewer Authentication APIs	×	×	<b>/</b>
Analytics and Viewer Tracking APIs	<b>/</b>	<b>✓</b>	<b>✓</b>
Direct HLS Video Streaming to M3U8	×	<b>✓</b>	<b>/</b>
Live Monitoring Panel	<b>✓</b>	<b>✓</b>	<b>✓</b>
Marketo/Salesforce Integration	×	×	<b>/</b>

#### Multi-CDN video delivery

A worldwide, multiple CDN (Content Delivery Network) infrastructure is used to deliver video content. This includes IBM's own CDN and third party CDNs. Software defined QoS (Quality of Service) logic is used for scale, optimizing the end viewer experience to avoid buffering and mitigate outages before they happen. Has been used to deliver Content to over a million simultaneous viewers.

### Live transcoding and adaptive streaming

Live transcoding is available to make content accessible across virtually any device and to enable adaptive bitrate Streaming, where the optimal bitrate is automatically selected based on a viewer's connection speed.

#### Multiple admins and permissions

Higher level plans can create a management structure inside their accounts. This can include granular permissions, Such as setting someone up so they can manage published videos but prevent them from deleting or publishing Content.

#### Video review and approval workflow

Setup custom roles that designate users as moderators of content, reviewing and approving with automated email Notifications to content generators.

#### Simultaneous live streaming

Create multiple channels and conduct live streams simultaneously across them.

### Multilanguage audio tracks

Live stream video in multiple languages, appearing as language tracks during the live stream and for on-demand Version.

### **4K video streaming**

Create 4K resolution live video streams or upload 4K video files.

#### **Automatic closed captions for VOD**

Closed captions can automatically be generated by IBM Watson, recognizing spoken word across 11 different Languages. Besides being automatically associated with the video, these captions can be downloaded as VTT files.

### WebVTT caption file support

Support for VTT caption files across a wide range of languages. Multiple captions can be associated with each video, Presented as a drop down for viewers to select from.

### **Watson Live Captioning**

Through an integration, live streams can be setup to have automated captions by using the speech-to-text process of IBM Watson. This includes being able to train the AI ahead of time, such as teaching it new words to improve Accuracy.

#### **CEA-608 caption support**

Support for CEA-608 captions, which can be presented during a live broadcast.

### **Cisco Webex integration**

Login and stream directly from Cisco Webex Meetings to IBM's video streaming solutions.

#### **Bluejeans integration**

Login and stream directly from Bluejeans to IBM's video streaming solutions.

#### RTMP encoder support / device passwords

Broadcast using virtually any RTMP encoder, from Telestream Wirecast to Zoom. Device passwords allow granting Windows of access to broadcast, such as a 20-day timeframe to a contractor.

#### Live stream slides

Slide decks can be uploaded and, through the dashboard, shown to viewers in a picture-in-picture style. The Audience manages the view in the video player, able to go full screen on the deck or change the emphasized picture.

#### **Simulated Live**

Simulate a live broadcast using previously recorded video. Choose one or multiple videos and schedule a start time From an experience that is presented as a live stream.

#### **Auto archiving**

After a live broadcast the video is automatically archived and saved as an on-demand video. This video can be setup To publish automatically for viewers or can setup to be approved first before being available.

#### **Aspera Connect integration**

Integrate with the Aspera Connect software, unlocking a faster video upload speed that also offers a more secure Upload process. Enables being able to upload larger file sizes or bulk upload numerous videos.

#### Video editing / trimming

On demand videos can be edited through the online dashboard. This can be used to remove unwanted parts at the Start or end of video content. These edits are nondestructive and can be reverted at any time. Segments can also be Saved as separate videos, as teasers or to break up long form content.

#### **Custom metadata fields**

Content owners can add custom metadata fields with criteria such as "multiple choice" or a numeric value to be Associated with video assets.

### **Dynamic and manual video playlists**

Create video playlists, a collection of on demand video content. These can be created manually or dynamically, Evolving automatically with content based on assigning metadata criteria.

#### HTML5 video player

A mobile friendly video player is used for live and on-demand video content. The player is built to be accessible, as it Can be fully operated with the keyboard.

#### **HLS.js video player\***

A mobile friendly video player is used for live and on-demand video content. \*Note: this feature is currently in beta On select accounts.

### Responsive video player embedding

The video player can be placed on websites using an iframe embed code. The code can be responsive by setting the Iframe tag's width and height to 100% and using a div container with css parameters of "position:absolute; top:0; Left: 0".

#### **Embed code restrictions**

Limit what websites, based on their URLs, are allowed to embed the video player.

#### Twitter inline video playback

Post channel page URLs to Twitter and allow followers to watch video content directly from the social media Platform through inline video playback.

#### Playback speed control

Inside the player is an option to control the playback speed of ondemand videos. This allows viewers to slow Videos down or do the opposite and speed up the rate of the video for playback.

#### **Continue watching**

Video on demand content has the playback position saved locally, and will start from the moment the viewer left off From if they return to the content within three months.

#### **Registration gate**

Leverage a mandatory or optional registration gate, requiring users to enter details like their name, email address or Phone number before accessing video content or attending an online event.

#### **Email confirmation / add to calendar**

When registration gate form is submitted, an email confirmation can be automatically sent to the registrant along with an add-to-calendar link.

#### SSO integration and viewer authentication

Link up to a corporate directory for single sign-on (SSO), leveraging existing providers like Okta or OneLogin, that is

used for viewer authentication and tracking.

#### **Geo-blocking**

Limit what countries can access your live and on demand video content. Setup up whitelists or blacklists of approved or blocked countries.

#### **Password protection**

Password protect live and recorded videos, requiring viewers to input a password before viewing.

#### **Chat module**

An embeddable text chat module can be shared on websites or via channel pages. Full moderation is available.

#### **Breakout chat rooms**

Spin off additional text chat rooms that live inside the same player experience, offering the ability for watch parties or separate topic discussion.

#### **Q&A** module

A Q&A module with moderation features is provided. Can be embed on websites or featured on channel pages.

### Live polling

Broadcasters can push a live poll inside the video player to audiences. Virtually real-time results are given.

#### **Live CTA video overlays**

A call to action (CTA) can be presented inside the video player as an overlay, leading viewers to a URL when clicked.

#### **Video chapters**

Create chapter points inside previously recorded video that viewers can click on to jump to key moments.

#### White label

The embeddable video player and provided channel pages or video portal can be customized, removing IBM branding or adding custom branding.

#### **Channel page branding**

Channel pages can be customized with unique headers and cover images, hand selected featured videos and about sections with support for adding outside links.

#### Video portal with access control

A customizable video portal with SSO integration built in. Access control is included to manage an individual user's access to specific videos. Customizable features, like a custom header and featured videos, are available.

#### **Event Microsite**

A customizable event page with lobby, multiple stages that support simultaneous event tracks, calendar, Registration and access control.

#### Al-driven search in video portal

The video portal includes the ability to search across the portal for content, with results automatically populated Based on IBM Watson analyzing spoken word inside the videos.

### User generated content (UGC)\*

Through the video portal, employees can upload their own video content to an account. This content then needs to Be approved by an appropriate manager or admin. Note: this feature is currently in beta on select accounts.

#### File sharing

Presenters and attendees can share files with others, such as presentation decks or other assets. This can be Downloaded from the interactive module that houses the chat, and can be embedded with the video player.

### Slack notification integration

Integrate a Slack account and automatically push notifications to Slack channels when a broadcast goes live.

### **DTLS Streaming Protocol add-on integration**

IBM's video streaming solutions can work with a virtually secure streaming protocol. This provides DTLS (Datagram Transport Layer Security) encryption from the encoder, sending the live streaming content, to the Ingest servers at IBM receiving it. Note that this is an added service.

### Virtually real-time analytics

See near real-time metrics related to your live streams, including overall viewership and demographic data like Geographic location and device used to watch.

#### Individual viewer tracking

See per user data for leads, through the registration gate, or users access content after authenticating in. Tracks Usage, such as content access and how much consumed, that is tied back to specific email addresses.

#### **IBM ECDN integration**

Leverage IBM's ECDN (Enterprise Content Delivery Network) technology for local delivery scale, using the virtual Appliance to cache video assets to reduce network strain at the location.

#### **Video Channel APIs**

Manage channels remotely or customize the viewing experience using channel APIs.

#### **Viewer authentication APIs**

Leverage APIs to extend how and where approved users can access restricted content.

#### **Analytics and viewer tracking APIs**

A set of APIs is available that allows developers to take metrics related to their video content and infuse them into Other applications.

#### **Direct HLS video streaming to M3U8**

Direct HLS video streaming can be provisioned for accounts, allowing for an associated M3U8 manifest file.

#### Live monitoring panel

Monitor your live streams in virtually real-time inside the dashboard for troubleshooting. Check the health of the Stream, indicating if the broadcaster is having connection issues, and how many viewers are buffering.

## **Benefits**

#### **Automate with AI**

Leverage AI to take video a step further while reducing manual effort. Automate live stream captioning, unlock video analytics, power video search and more.

### **Reliable Worldwide Delivery**

Reach virtually unlimited live streaming audience sizes across the globe and keep attendees connected. By using a multi-CDN (Content Delivery Network) infrastructure, you can.

#### **Protect Confidentiality**

Protect your company brand from event eavesdroppers, while supporting viewers across devices, like iOS and Android. Multiple layers of protection and encryption help instill confidence in digital experiences.