Solutions Guide:
Media for Religious Organizations

Content

01 / Industry Dynamics
02 / Live on AWS Solution
03 / VOD on AWS Solution
04 / Machine Learning Solutions
05 / Partner Solutions
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SPIRITUALITY AND WORSHIP IS DECLINING, ESPECIALLY IN THE YOUNG…

Christian Youth Dropout

-64%

Of young adults with a Christian background had dropped out of church at some point during their 20s. [1]

Decline of Christianity

-12%

Decline in Americans identifying as Christians. +9% increase in Americans who are religiously unaffiliated (to 26%). [2]

Screen vs Spiritual Content

9.5x

More hours per year using screen-driven media than taking in spiritual content. [3]

1 Barna, “Church Dropouts Have Risen to 64%—But What About Those Who Stay?”, Source:
2 Pew Research Center, “In U.S., Decline of Christianity Continues at Rapid Pace”, Source: https://www.pewforum.org/2019/10/17/in-u-s-decline-of-christianity-continues-at-rapid-pace/
3 Barna, “Digital Babylon: Our Accelerated, Complex Culture”, Source: https://www.barna.com/research/digital-babylon/

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…BUT TECHNOLOGY CAN ALSO RESTORE HOPE

Online Presence

84%

Churches already have a website and a Facebook page. [1] 59% of practicing Christian millennials search for spiritual content online. [2]

Connecting via Video

54%

Christian millennials watch online videos about faith or spirituality.[2]

Connecting via Video

20%

People who said watching live streaming video makes them feel like a part of an event. [3]

1 Lifeway, “Facts & Trends”, Source: https://factsandtrends.net/2018/01/09/churches-like-facebook-dont-follow-twitter/
2 Barna, “ ”, Source: https://www.barna.com/research/how-technology-is-changing-millennial-faith/#.UmFdf2R4b5l
3 eMarketer, “For Some, Live Streaming Video Is Already a Constant”, Source: https://www.emarketer.com/Article/Some-Live-Streaming-Video-Already-Constant/1016137

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"One of the most positive trends among Millennials is that they want faith that is holistically integrated into all areas of life—including their technology. ***How the Church acknowledges and engages the digital domain—and teaches faithfulness in real-life to young adults as well—will determine much about its long-term effectiveness among Millennials****."*

David Kinnaman, president of Barna Group

VIDEO DRIVING TRANSFORMATION IN HOUSES OF WORSHIP

Congregation becoming tech-savvy

Adopt video, podcasting, social media

Spread gospel beyond existing locale

Rely on non-physical distribution channels

Multilingual and hearing impaired

Live transcription and translation of spoken word

Deployment costs rapidly decreasing

Low cost physical and virtual capital expenditures

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TYPICAL LIVE VS VOD USE CASES

LIVE

Sermons

Bible studies

Live events

TV channel

VOD

Service capture

Remote teaching & learning

Transcription & translation

User-generated content

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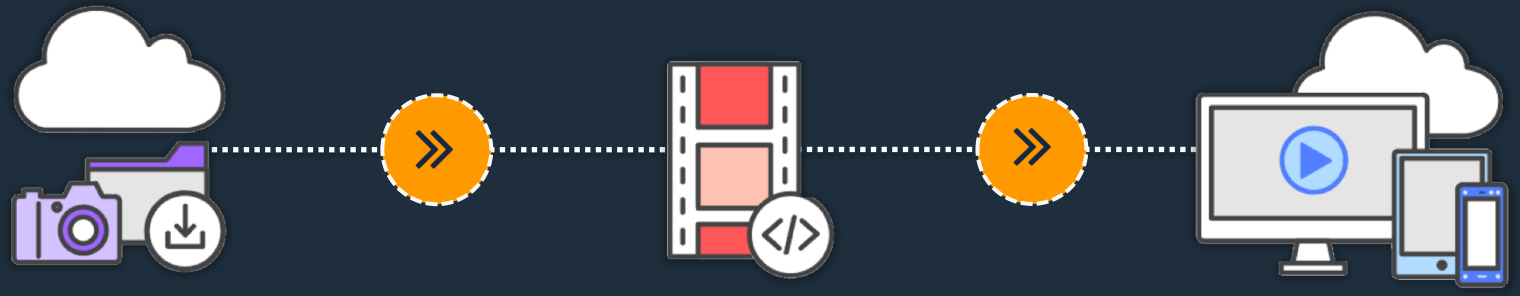
Video At A Glance

In a simple video streaming workflow, a high-quality live camera feed or a pre-recorded video file is uploaded into the AWS cloud via a contribution encoder. That video is processed into renditions, packaged into the right formats, then stored in a CDN such as Amazon CloudFront for playout on all compatible devices and video players.

Depending on your needs, you may want to use digital rights management (DRM) or watermarking for content protection, or you may wish to extend the offering with user management systems or a content personalization capabilities. Regardless of the requirement, AWS or an AWS partner has a solution or service that fits the need.



Originate source content (live feed or VOD files)

Prep, process and protect (e.g. DRM, watermark) content using AWS Media Services

Deliver content via Amazon CloudFront

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Support for a variety of deployment models

Depending on your needs, you can build your media workflows on top of AWS using AWS media solutions and services, leverage our partner ecosystem, or create a bespoke offering.

BUILDING BLOCKS

Design your own media offerings with dedicated solutions for video transport, processing, packaging, delivery & distribution.

TECHNOLOGY PARTNERS

Choose commercially proven solutions for video delivery with help from an AWS technology partner.

SOLUTION STARTER KITS

Use reference architectures, implementation guides, templates, source code, and documentation to deploy production workflows.

CONSULTING PARTNERS

Work with AWS experts who design and maintain cloud video infrastructure tailored to specific customer requirements.

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Benefits of using the Solution Starter Kits

1. ONE-CLICK LAUNCH

The AWS media solutions are templatized workflows which you can deploy and get started with quickly with just one click, launching fully-tested solutions in your AWS account. This saves the resources of developing a solution from the beginning.

2. WELL-ARCHITECTED

AWS solutions are designed with best practices to ensure the solutions are deployed with application security, has monitoring capabilities, and can support multiple users at scale and with high resiliency.

3. EXPAND AND ADD

Use the framework and available guides to expand the solution starter kit based on your needs.

4. ACCELERATE MONETIZATION

The net result of launching a fully-tested, well-architected solution in one-click which can be expanded with complementary services such as personalization and ad insertion is that educational organizations can experiment with varying business models to optimize the monetization potential of its content.

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Benefits of using Partner Solutions

1. BEST IN CLASS

Built on AWS, partner solutions are both well-architected and designed for specific higher education use cases, delivering innovative capabilities which fit your workflow.

2. FULLY-MANAGED

Partner solutions are managed by dedicated teams who monitor their solutions' performance and metrics to ensure its reliability and scalability, and are committed to your success.

3. FAST DEPLOYMENT

Built on the AWS cloud, partner solutions can be deployed very quickly, without the need to provision hardware and develop the end-to-end solution.

4. CUSTOMIZABLE & EXTENDABLE

With dedicated engineering and professional services teams to focus on customizing and extending the capabilities of partner solutions, you can be rest assured that the out-of-the box solutions can be customized for your workflows.

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02

Live Streaming on AWS Solution

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Live Streaming Use Cases

Events

- Broadcasts of live sermons online and satellite churches
- Communication of bible studies
- Live events (concerts, gatherings)

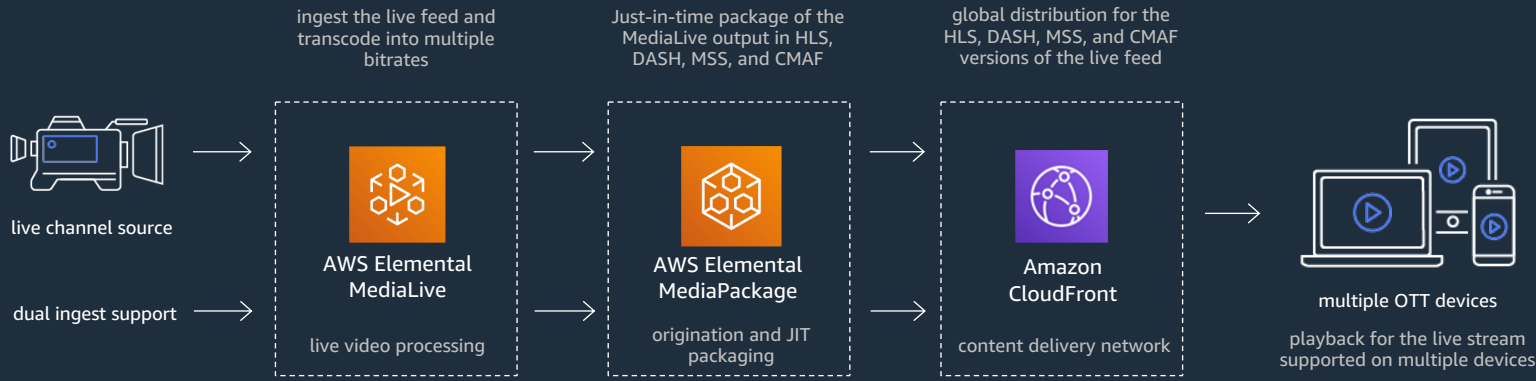
Channels

- Live broadcast of 24x7 channels
- Aggregation and sharing of content with broadcast partners

Solution: Live Streaming on AWS

As the name implies, the Live Streaming on AWS starter kit enables you to stream live streaming video to any device using a solution AWS calls a “CloudFormation Template”. With one click from the AWS console, you can deploy the entire workflow below and customize it to accommodate your workflow.

A live stream is fed into AWS Elemental MediaLive and AWS Elemental MediaPackage to encode and package the videos into the appropriate formats, and Amazon CloudFront to store the content for delivery to various devices. The net result is an end-to-end real-time video delivery workflow for highly resilient and scalable streaming worldwide.



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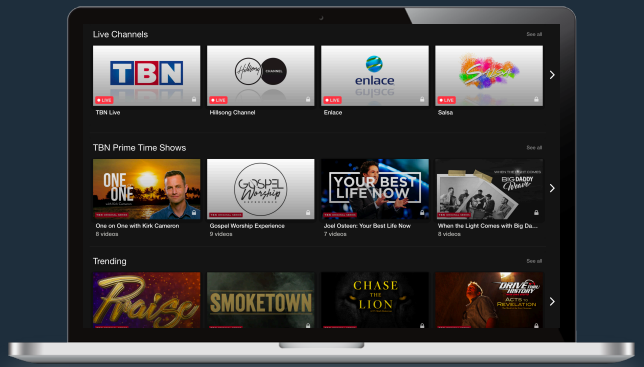
Trinity Broadcasting Network

Multi-streaming Linear Programming for Multi-Platform Delivery

Trinity Broadcasting Network (TBN), the world's largest religious television network, offers a wide range of original programming and faith-based films from various distributors. TBN has 30 broadcast networks world-wide.



PROBLEM STATEMENT

TBN needed to live-stream 11 channels to an over-the-top domestic and international audience across multiple platforms, reliably delivering high broadcast quality with parameter control beyond the typical limited set of basic pre-determined configurations.

BUSINESS BENEFITS

- **Video Quality** – AWS Elemental provides a plethora of options including video positioning & correction for various international satellite source feeds
- **Reliability** – highly reliable encoding & relevant encode logs simplify troubleshooting including monitoring alerts
- **Flexibility & Support** – easily manage AWS Elemental Live encoders from mobile devices and receiving support from an intelligent community & resources

USE OF AWS

- AWS Elemental Live delivers multi-ABR encodes to TBN and Hillsong Channels along with nine additional station source feeds via satellite & broadcast playout decks, delivered to Vimeo OTT, Pluto TV and Glorystar satellite network
- AWS Elemental's flexible configurations provide simple ways to condense (multi-stream) and re-route I/O

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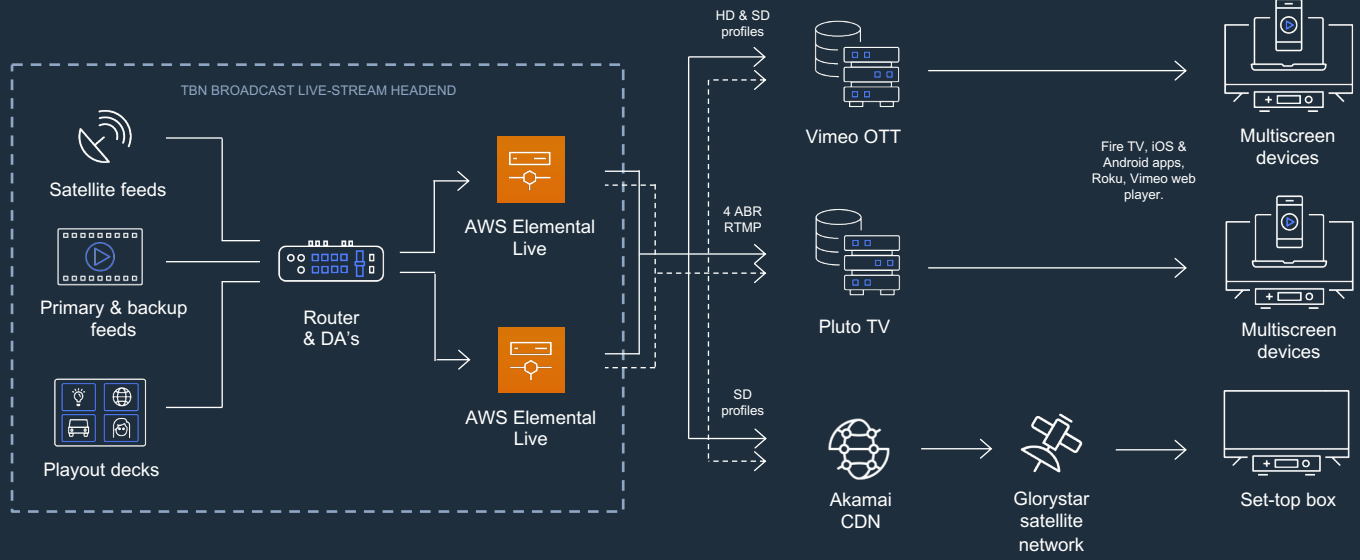
Trinity Broadcasting Network

Multi-streaming Linear Programming for Multi-Platform Delivery

AWS Elemental Live encoders deliver ABR transrated pass-through streams to eliminate cloud transcoding, reducing operational cost



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Harvest Christian Fellowship

harvest

Streaming live and on-demand videos of ministry

Harvest Christian Fellowship wanted to stream live and on-demand 8-9 weekly sermons and Bible studies to its congregation, satellite and affiliate churches, and highly connected audience at high video quality and with high reliability at a reasonable cost.

PROBLEM STATEMENT

The infrastructure and costs needed to be reliable, extensible, and manageable with minimal technical knowledge and staff overhead. Needed to accommodate weekly sermons as well as annual outreach events such as SoCal Harvest which has over 200,000 online visitors over 3 days

BUSINESS BENEFITS

- High reliability, scalability of AWS with quality of service and experience
- Simple, fast deployment timeframe for entire workflow with limited ministry resources
- Innovate with constantly improving AWS services and low risk

USE OF AWS

- Live sermon and bible study streamed over AWS Elemental Live on-prem encoders converting MP4 to HLS with bitrates to accommodate multiscreen devices
- AWS Elemental Live encoders also converted live stream to VOD for on-demand consumption, and to RTMP for social distribution
- S3 and S3 Glacier for on-demand and archival storage

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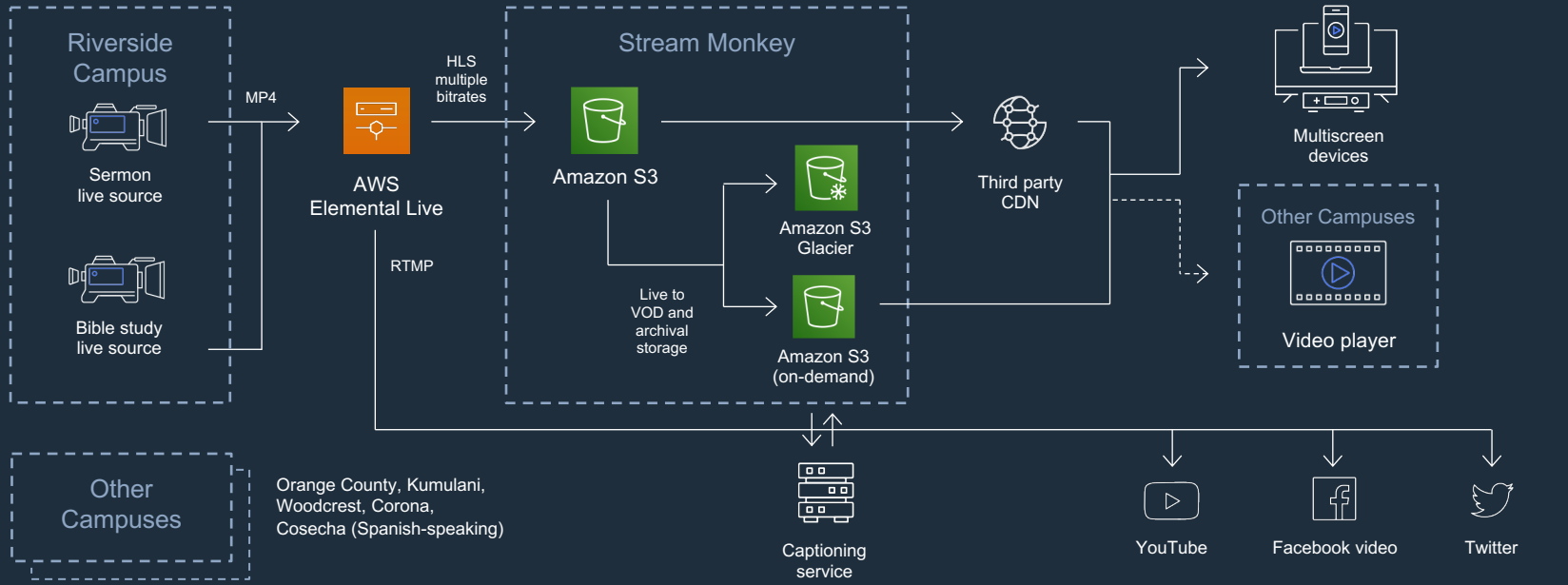
Harvest Christian Fellowship

harvest

Streaming live and on-demand videos of ministry

- AWS Elemental Live's for on-prem bitrate laddering to deliver HLS to multiscreen devices and live-to-VOD conversion
- Amazon S3 and Amazon S3 Glacier for on-demand and archival storage



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"The Harvest mission is knowing God and making Him known. The AWS live and on-demand video streaming services allow us to fulfill that mission by making our ministry accessible to a multitude of devices from any location around the world. We're at an inflection point where innovation helps spread the word of God."

Josh Morris, Director of Marketing & Communications, Harvest Christian Fellowship

03

VOD on AWS Solution

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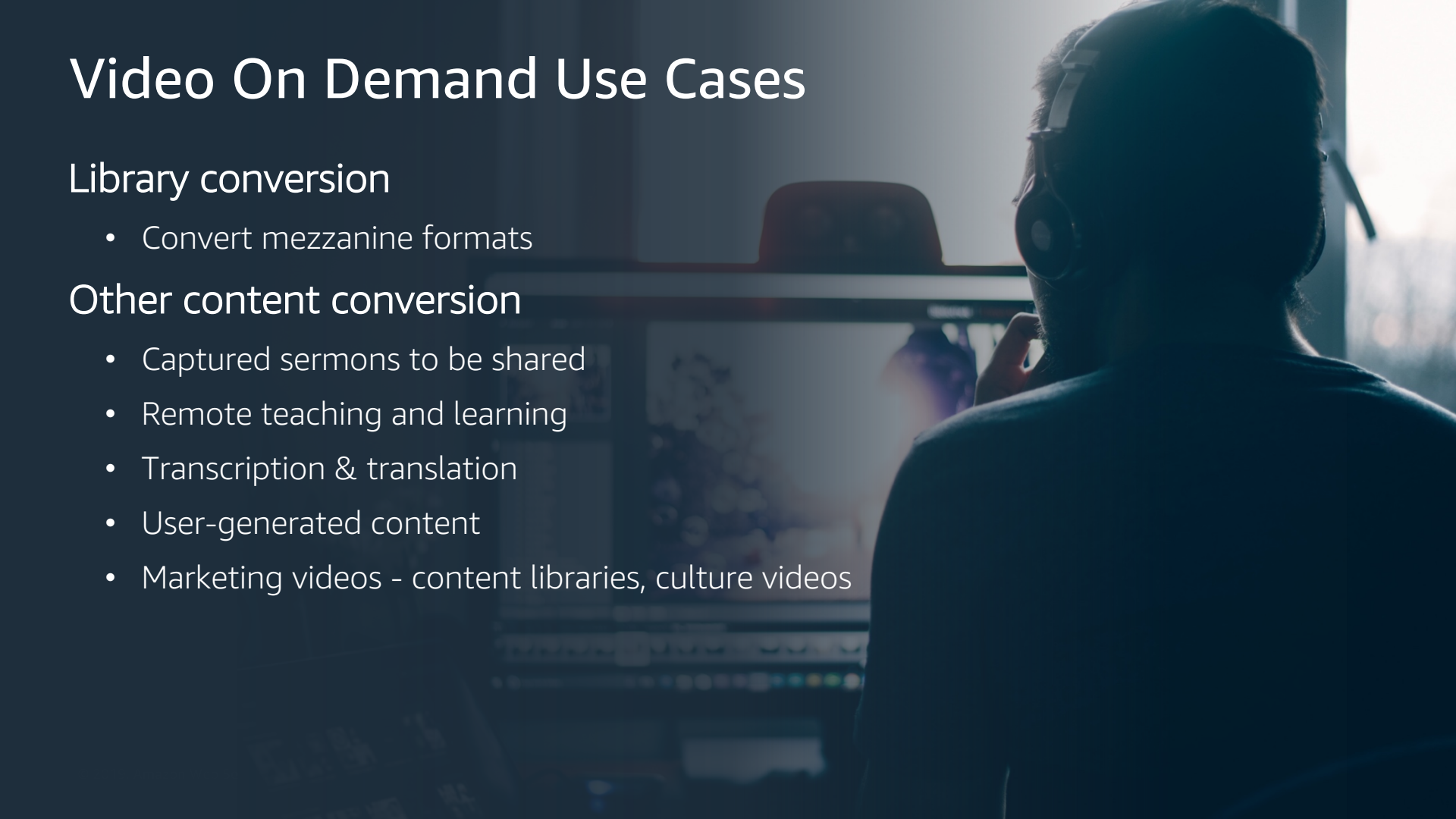
Video On Demand Use Cases

Library conversion

- Convert mezzanine formats

Other content conversion

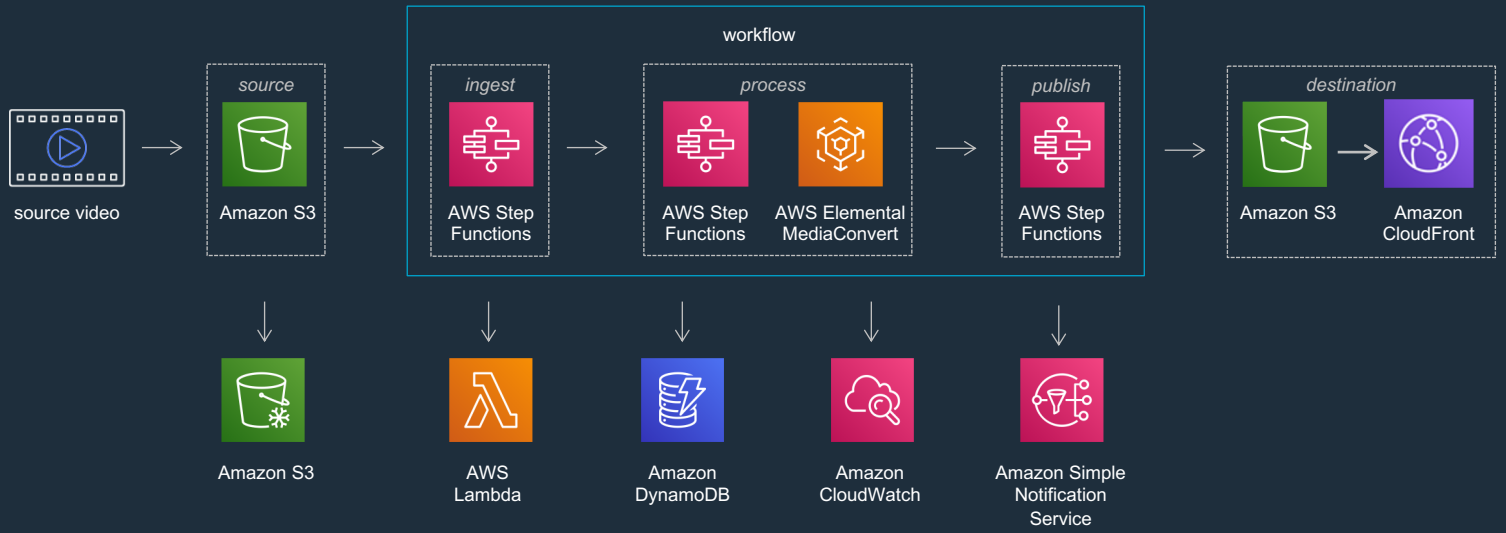
- Captured sermons to be shared
- Remote teaching and learning
- Transcription & translation
- User-generated content
- Marketing videos - content libraries, culture videos



Solution: Video on Demand on AWS

Creating a VOD library of your video assets is now made simpler with the Video On Demand (VOD) on AWS Cloud Formation Template. The VOD solution ingests metadata files and source videos, processes the videos for playback on a wide range of devices, stores the transcoded media files, and delivers the videos to end users through Amazon CloudFront or other CDN.

As with other AWS solutions, the VOD on AWS solution is simple to deploy and customize to meet your specific needs.



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Moody Bible Institute

Simplifying live and on-demand event streaming from remote facilities

Moody Bible Institute (MBI) is a Christian institution with a mission to train students for full-time ministry in churches and parachurch organizations. The evangelism-focused event Missions Conference attracts thousands of video viewers and students from international backgrounds across six continents. Additionally, Founder's Week attracts 30K viewers a day and includes streams for American Sign Language (ASL), Spanish translation.

PROBLEM STATEMENT

MBI needed to live stream its conferences and events as well as make its internal broadcasts available to its students and employees across the globe. Early vendors struggled with reliability, capacity, and accessibility issues.

BUSINESS BENEFITS

- Scalable & configurable – from simple HDMI feed to microwave signal broadcasting from remote facility, BoxCast's workflow distribution process and setup accommodates varying levels of technical sophistication
- Simplified simulcasting – the BoxCast platform facilitates simultaneous streaming to any social, mobile, OTT, and RTMP destination
- Simulated live – enables broadcast of scheduled, pre-recorded content during week-long events to simulate continuous live event broadcast

USE OF AWS

- BoxCast is an easy, flexible live streaming platform built using AWS services
- Amazon Elastic Container Services (ECS) ingest the stream, Amazon EC2 G3 instances transcodes them into bitrate ladders, and publishes the live or VOD HLS stream to multiscreen devices. A RTMP pathway publishes to social
- Amazon Route 53 load balances live streams while Amazon S3 stores on-demand streams, delivering via Amazon CloudFront as origin

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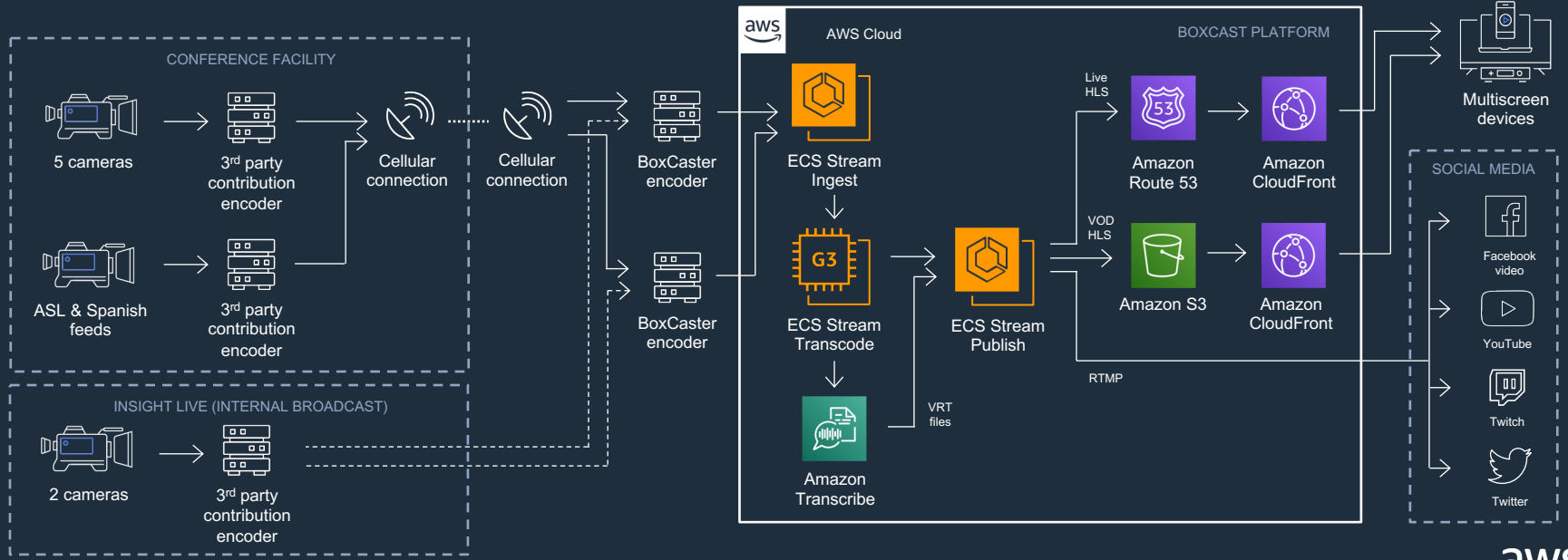
Moody Bible Institute

Simplifying live and on-demand event streaming from remote facilities

- 5 camera multicam remote feed from its conference facility delivers streams from contribution encoders via cellular to the BoxCast cloud platform
- Insight Live (weekly internal chapel meetings): 2 camera feed into BoxCast service for on-demand employee and student reference



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MOODY
BIBLE INSTITUTE™

"Running on the BoxCast platform on the AWS cloud allows MBI to scale from simple internal broadcasts to live conferences streamed from remote facilities and attended by thousands of participants from six continents. ***We can now focus on our mission of training students for full-time ministry rather than technical infrastructure.***"

Drew Smith, Product Manager, Moody Bible Institute

04

Machine Learning Solution

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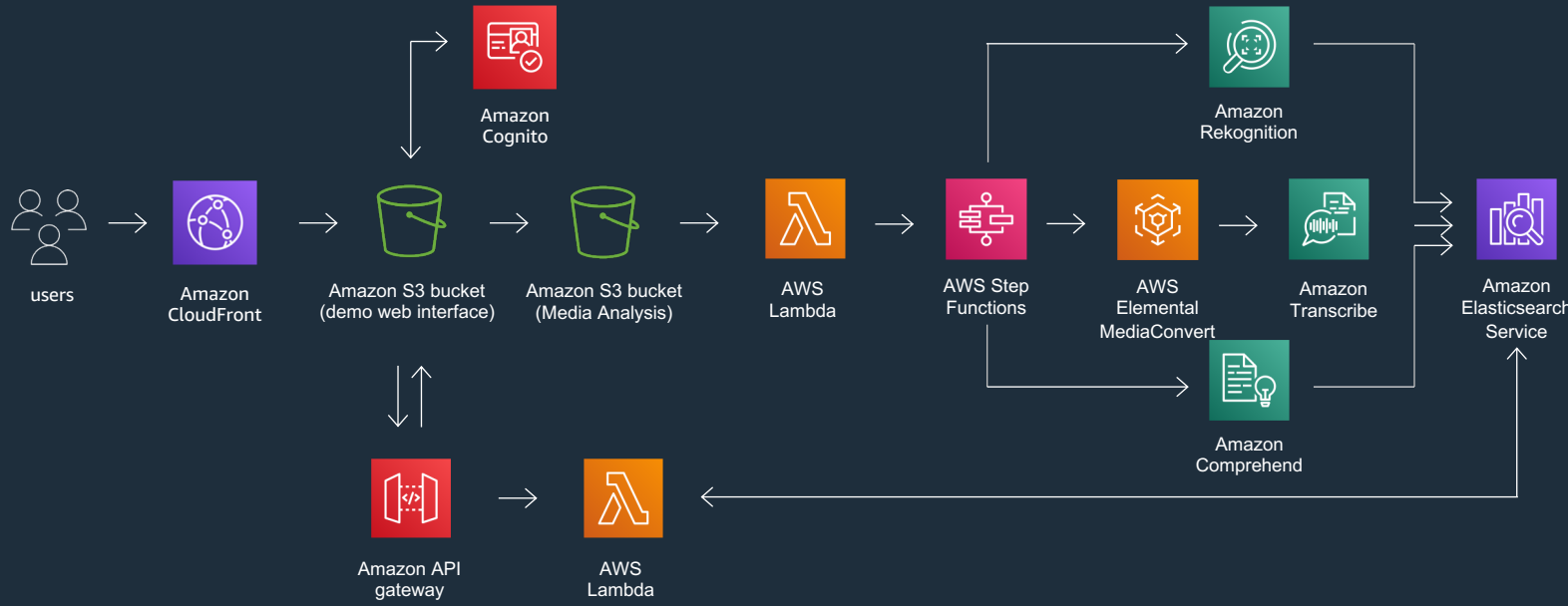
Solution: MediaAnalysis

This machine language-driven Cloud Formation Template automates the recognition of persons such as pastors so that the metadata can be captured and re-purposed for different uses, such as key words for search and other classification mechanisms in your content management solution.



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C-SPAN Archives

Automated footage tagging

The C-SPAN – Cable Satellite Public Affairs Network, an American public TV network – is responsible for indexing speakers and creating closed captioning in C-SPAN video content across its eight networks.

PROBLEM STATEMENT

Manual process performed by a team of indexers and closed-captioning providers could only index 50% of C-SPAN's footage at a slow pace

USE OF AWS

- Amazon Rekognition
- Amazon Simple Storage Service (S3)
- Index of 99,000 faces created in one day using live video with frame sampling

BUSINESS BENEFITS

- Redesigned workflow in just 3 weeks to automate the indexing of recognized individuals at an expedited pace
- Saved 9,000 hours a year in manual curation costs
- Enables users to search recorded video streams for public officials found in indexed metadata

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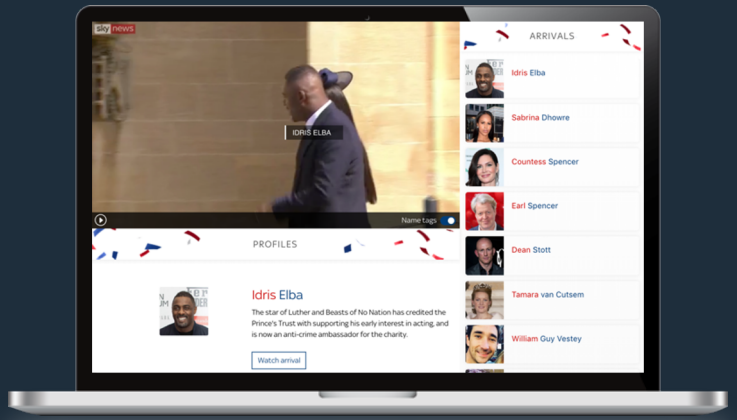
Sky News

Automated metadata tagging

Sky News delivers breaking news, headlines, and top stories from business, politics, entertainment, and more in the UK and worldwide. Sky News app "Who's Who Live" function will immediately present details about guests' connection to the bride and groom with on-screen captions and graphics.



PROBLEM STATEMENT

Sky News wanted a mobile-first experience providing a way for viewers to know who's who as they arrived at the Royal Wedding. Sky had 3 months to deliver Facial recognition combined with additional metadata – Bios, News, Fashion, Emotions.

USE OF AWS & PARTNERS

- Elemental Live contribution encoder feeds MediaLive and MediaPackage for encoding and packaging
- Amazon CloudFront as CDN distribution for video and metadata
- GrayMeta combined with Amazon Rekognition, EC2, SNS, SQS, RDS, to train, process and recognize celebrities from video key frames and AWS S3 to host web content and bios of celebrities

BUSINESS BENEFITS

- Sky garnered significant press coverage before the event as it was the first usage of facial recognition on streamed news in the UK
- Automated facial recognition with human moderation to approval accuracy of identification
- Increased engagement with Sky News app users without interrupting live video of celebrity procession

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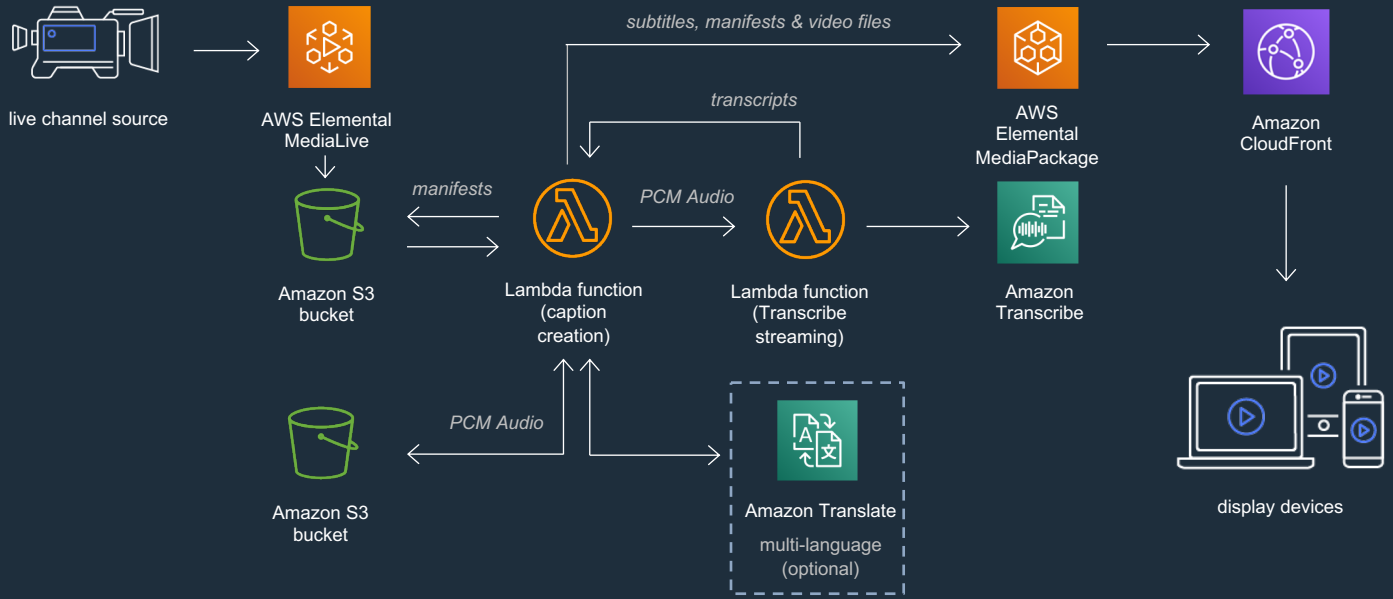
Solution: Live Streaming with Automatic Multi-language Subtitling

This solution provides real-time subtitling for live streaming video content utilizing Amazon Transcribe, Amazon Translate, and other services to build a serverless architecture that automatically generates multi-language subtitles for your live streaming videos.



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Partner Solutions

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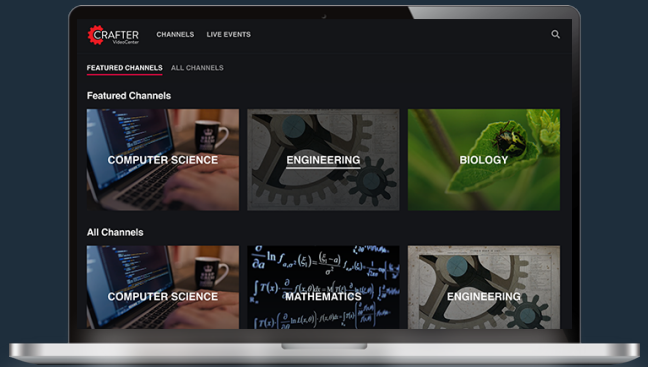
Crafter Software: Video Center on AWS

CMS-powered enterprise video platform built on AWS Media Services

The Crafter Video Center on AWS solution is a cloud-based, customizable enterprise video solution which enables companies to manage and publish both live and on-demand video.



BUSINESS BENEFITS

- End-to-end solution for fully functional, branded and secure video experiences
- Personalize and optimize the video experience for any type of user role/persona
- Create any type of video experience, from VOD portals to live stream video events
- Deliver high quality, engaging video content to any device on a global scale
- Highly cost effective and simple to deploy and operate

PRODUCT DIFFERENTIATORS

- Cloud-native, user-friendly CMS interface for building, customizing and optimizing the end user viewing experience
- Craft unique experiences for all types of events, video assets, and use cases
- Developer-friendly platform and APIs to build your own extensions and customizations

AWS SERVICES USED

- Crafter CMS is built on top of AWS utilizing AWS Elemental Live, AWS Elemental MediaConvert, AWS Elemental MediaPackage and Amazon CloudFront
- Also uses Amazon EC2, Amazon S3, Amazon EKS, and easily integrates with AWS AI/ML services for smart video applications (transcription, recognition)
- Integrates with enterprise Single Sign-On (SSO) systems

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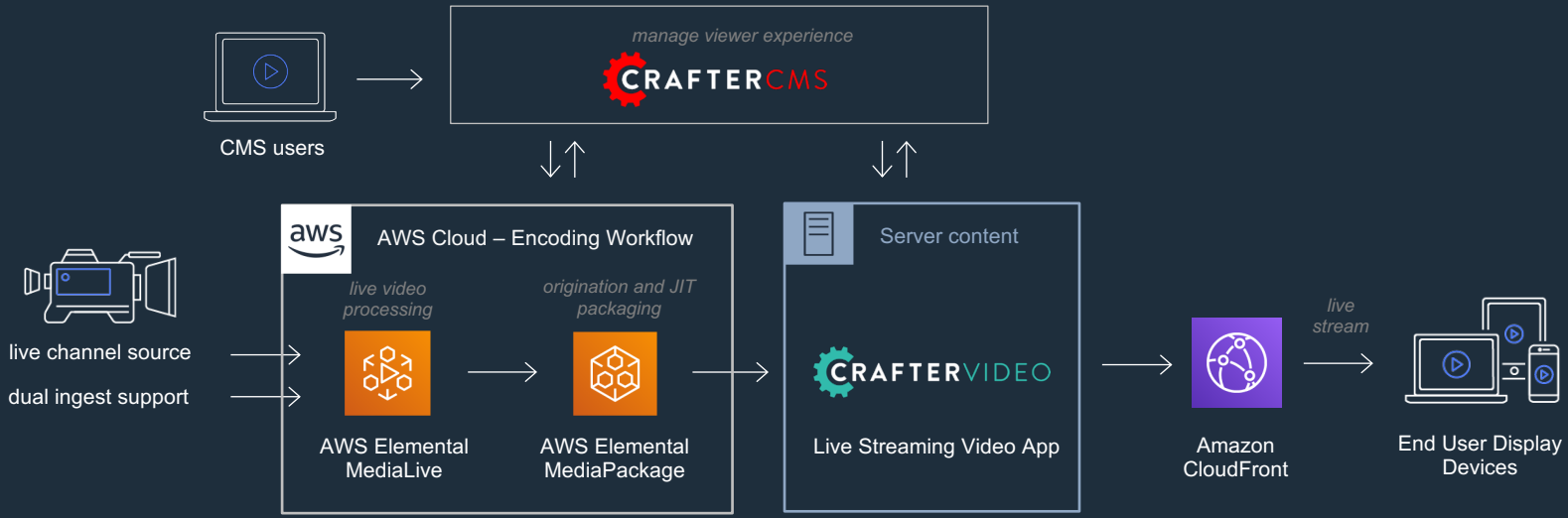
Crafter Software: Video Center on AWS

Live Streaming

- Deliver customized, branded, high quality and full-featured live streams on a global scale, optimized for performance, across multiple devices and platforms with a CMS-enabled, cloud native solution
- Supports both Live and Live-to-VOD workflows, with DVR-like playback to maximize user engagement and optimize the viewing experience



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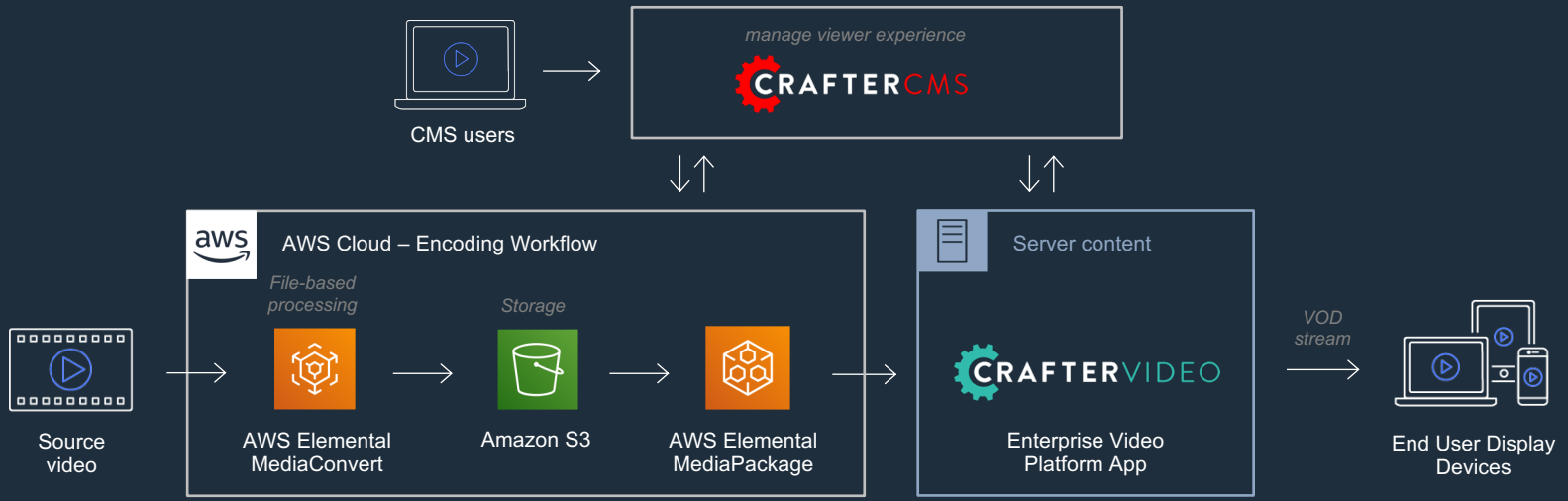
Crafter Software: Video Center on AWS

Enterprise Video Platform

- Create and optimize digital video experiences for your entire enterprise, personalized for your audience
- From VOD portals to live streamed events, for any type of use case – training and learning, product marketing and launch events, CEO messages and other corporate communications, employee/partner/customer engagement



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KnowledgeVision: Knovio

The smart media platform for live and on-demand video presentations

Knovio's powerful and flexible video presentation platform supports live and on-demand multimedia presentations for learning, communications, and marketing. Its proprietary and patented viewer-level analytics provide insight into content performance and viewer engagement.

BUSINESS BENEFITS

- Anytime, anywhere access to interactive multimedia content without special software
- Rapid development/deployment of live and on-demand multimedia content
- Deep analytics identify most/least engaged viewers, assess content performance
- Engaging just-in-time video content when and where needed

PRODUCT DIFFERENTIATORS

- Customizable interactive multimedia players encourage maximum engagement
- Proprietary & patented viewer-level tracking provides analytics and 3rd party connections
- NeverLate® feature offers synchronized DVR-like experience on live-streamed programs
- Easy-to-build multimedia showcases organize and manage access to video collections
- Instant conversion of live to on-demand assets, even while livestream is in progress

AWS SERVICES USED

- Knovio core service: EC2, S3, Cloudfront, RDS, Elasticache
- Live streaming: Elemental MediaLive, MediaStore, Lambda
- Auto-narrate & auto-translate: Amazon Polly & Amazon Translate
- Search: Elasticsearch

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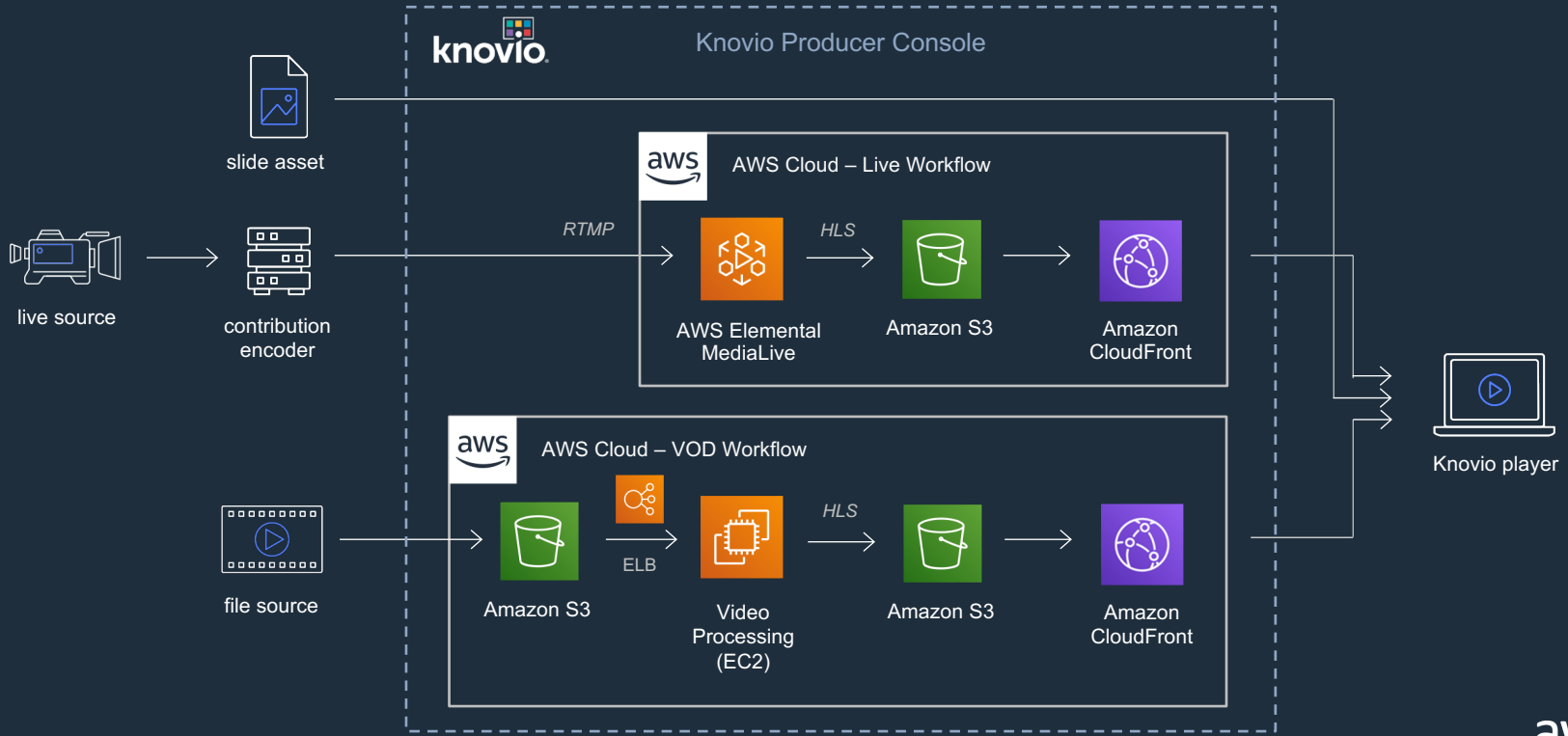
KnowledgeVision: Knovio

The smart media platform for live and on-demand video presentations



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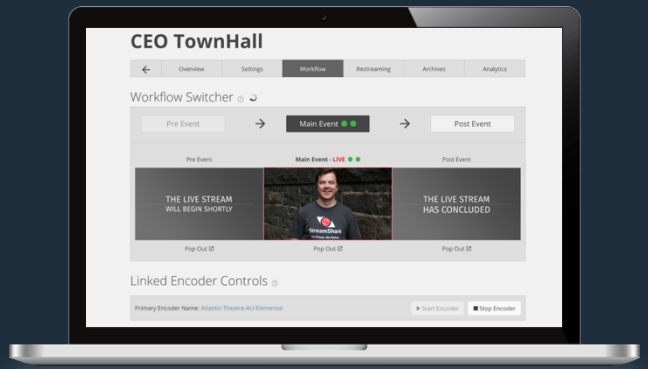
StreamShark

End-to-end live streaming with encoder management for confidential and public events

End-to-end live streaming solution with reliable low-touch workflows for enterprises and broadcasters. StreamShark Encoder Management automates AWS Elemental Live across intranets and internet via remote configuration, control and turnkey live streaming to broadcast and social channels.



BUSINESS BENEFITS

- Secure workflows for broadcasting internal events to employees and public events to fans and followers on social media
- Process efficiencies from signal acquisition to playout for live events
- Unparalleled reliability, security and scale in delivery of confidential/public live events

PRODUCT DIFFERENTIATORS

- Single workflow for managing events, privacy, social permissions, and rights
- Remote configuration, control and monitoring of AWS Elemental Live encoders
- SSO-protected access to encoders behind corporate firewall, portal, video player, live stream manifest, and video segments
- Redundancy built into every level of the platform (Dual-DNS, Multi-CDN delivery)

AWS INTEGRATION WITH STREAMSHARK ENCODER MANAGEMENT

- Push commands directly to encoders accessible over the public internet or behind a firewall, or encoders poll StreamShark for commands (requires agent)
- AWS Elemental Live API used to enable real-time remote configuration of key encoder settings and control of encoders for live events
- Monitor status of AWS Elemental Live encoders and linked events at a glance, with rapid encoder failover in seconds

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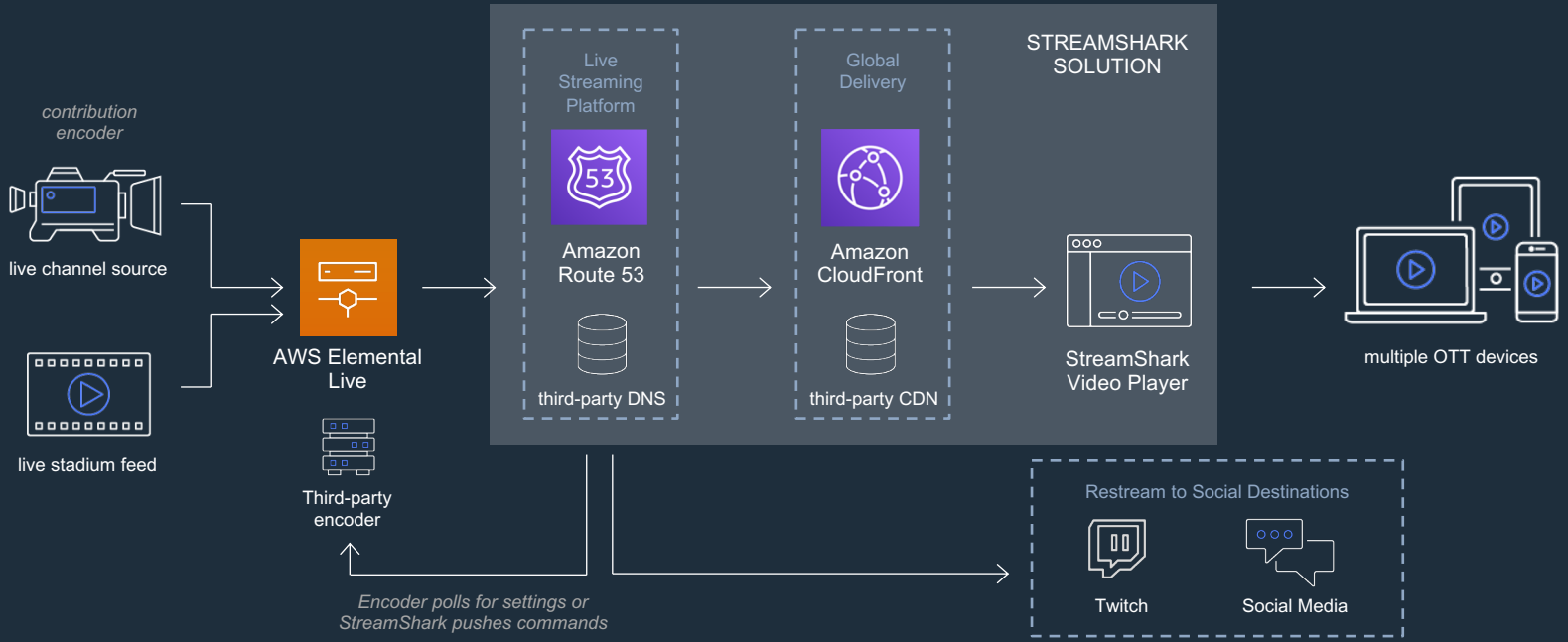
StreamShark

Encoder management solution to stream live confidential and public events



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Conclusion

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AWS enables faster deployment and innovation

Faster

- Shorten time-to-market to test new approaches
- Instant global availability with no commitment
- Scale as your media and compute needs grow, not as a physical data warehouse allows

Smarter

- Fully integrated AI and ML to unlock the value of your content
- Focus resources on your business, not on hardware provisioning and maintenance

More Efficiently

- On-demand, pay-as-you-go compute, storage, and video services scaling to demand
- Handle unpredictable and bursty media needs
- Automated supply chains reduce manual processes and cut costs

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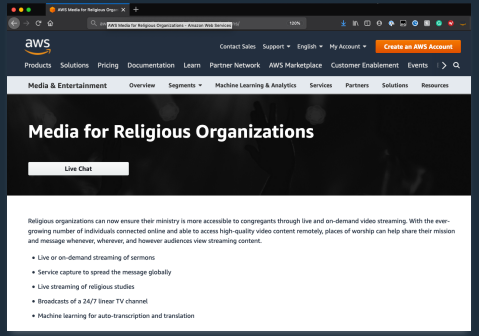
Resources

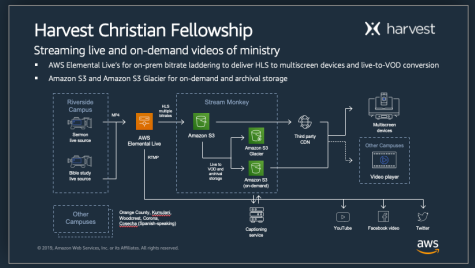
Media for Religious Organizations industry page
https://aws.amazon.com/media/resources/religious-organizations/

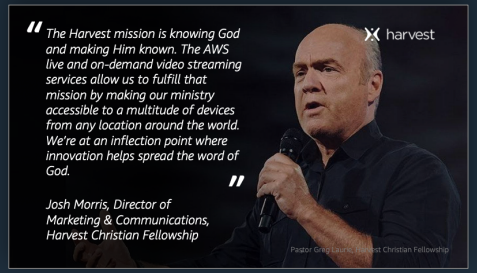
Media Blog postings related to Religious Organizations
https://aws.amazon.com/blogs/media/tag/religious-organizations/

Case Studies:

- Trinity Broadcasting Network
- Harvest Christian Fellowship
- Moody Bible Institute







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Resources (cont)

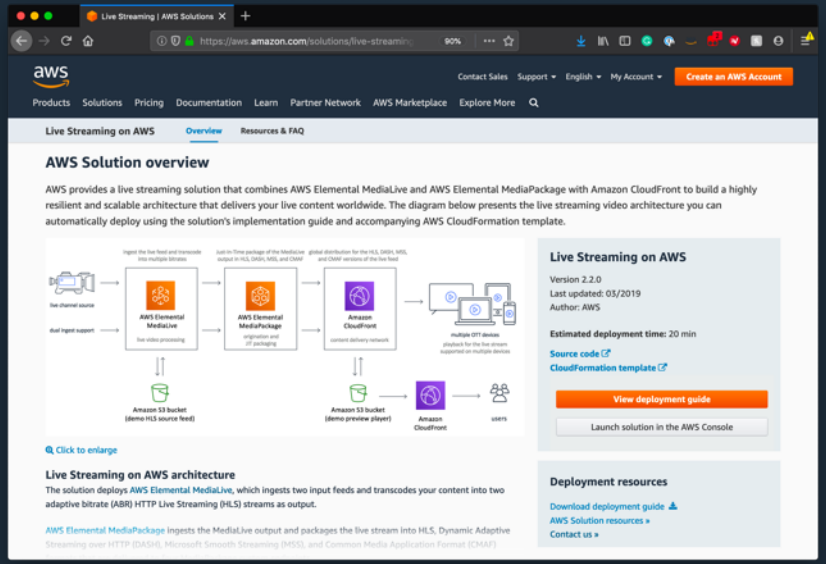
Solution: Live Streaming CFT
https://aws.amazon.com/solutions/live-streaming-on-aws/

Solution: On-Demand CFT
https://aws.amazon.com/solutions/video-on-demand-on-aws

Solution: Live Streaming with Automated Multi-Language Subtitling CFT
https://aws.amazon.com/solutions/live-streaming-with-automated-multi-language-subtitling

Solution: Media Analysis CFT
https://aws.amazon.com/solutions/media-analysis-solution

Media Services Training Path:
https://aws.amazon.com/training/path-mediaservices/



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Get Started Today

AWS media solutions can be quickly deployed in a very lightweight manner for testing, prototyping, or as a live offering. Contact us with any questions, to have an initial discovery call, or to receive self-service links, trial credits, and more. Simply send an email to media-insidesales@amazon.com to get started today.

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Thank You!