radio.cloud

Radio.Cloud

it’s just smart.

[simple. mobile. agile. radio. technology.]

Presented to Broadcasters Clinic
by Jim Hammond & Shawn Gilbert

October 11, 2022

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The First Cloud-Based Automation System Certified as an Amazon Web Services Partner

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THROWBACK
102.3

AIDAradio
Meer Gefühl

SUNNY 95
94.7 fm

ENERGY
NRJ
HIT MUSIC ONLY !

KIOA
93.3

BLR

Z 95.1
WQMZ-FM
Picks you up!

RADIO
GALAXY
nur die beste neue musik

101.5 K-HITS

radio
BIELEFELD | HOCHSTIFT
WESTFALICA | LIPPE | WAF
HERFORD | GÜTERSLOH

Q99

Radio
Arabella.
Wien

THROWBACK
NATION
RADIO

radio
deinfm

HITRADIO
antenne 1

Antenne
VORARLBERG

Radio AWN
Die schönste Musik für Niederbayern

FUNKHAUS
NÜRNBERG

BAYERN
WELLE

HITRADIO OHR
EINFACH NÄHER DRAN

RADIO
MAINWELLE
104.3
UKW

Radio
Primavera

Radio
Arabella.
Niederösterreich

RADIO
Charivari
DER BESTE MIX

RADIO
TRAUSNITZ

radio
PLASSENBURG

RADIO
RAMASURI

CHARIVARI.fm
MAINFRANKENS KULTRADIO

radio
oberland

PRIMATON
Kulthits und das Beste von heute

UNSER
RADIO

radio
DAS
ORIGINAL

N90.4
BEAT

RSA
RADIO

Schwarzwald Radio
Classic Hits & Super Oldies

RADIO
PIRATE

LOKALFUNK
KOMBI
WESTFALEN

hitradio
rt1

RADIO
TOP FM

Radio
Arabella.
Oberösterreich

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Traditional Playout Pain Points	Radio.Cloud Solutions
Expensive initial hardware & software costs	Sustainability, Minimal hardware, SaaS
Repetitive manual updates to software	Automatic updates through the cloud
System interconnection between locations	Locations connected through the cloud
Minimal localization must be done manually	Ultra-localization is done automatically
More features requires more complex hardware	Heavy lifting of complex features done in cloud

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Cloud-Native, Containers, and Virtual Machines

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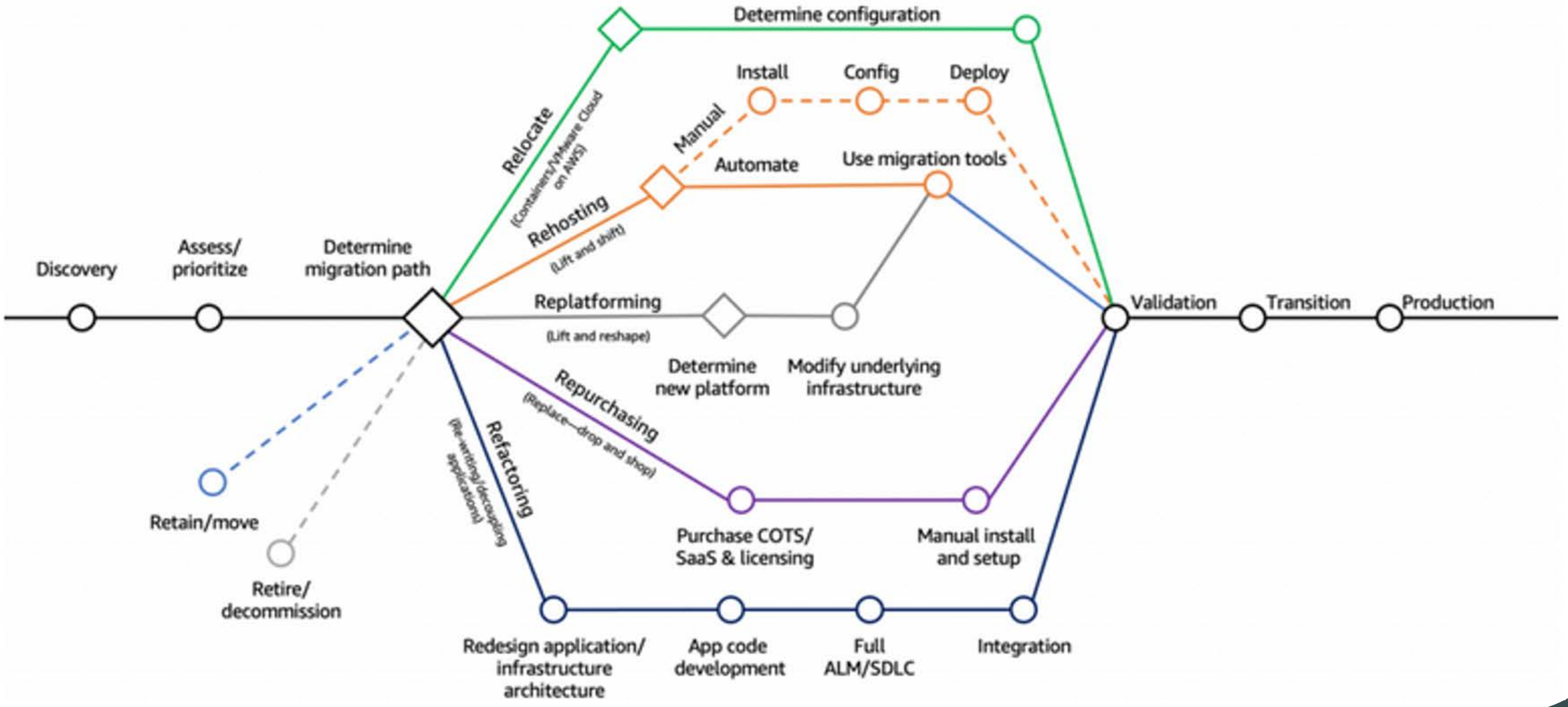
Migration Methods



Cloud-Native

- We run a full database and outsource many tasks to Amazon Simple Storage Service (S3)
- With S3 we have a backup of millions of audio files and get continual backups every five minutes
- Able to run microservices on the platform
- Attractive for its easy scalability and cost savings/optimization

Cloud-Native

- Lift-and-shift containers can run many applications/functions, but don't always harness the full power of the cloud
- Cloud-native containers are scalable and can be turned on and off when you need a certain application
- AWS Lambda: event-driven, serverless computing (available & secure)
- Examples are audio transcoding, playlist creation, saving a broadcast clock, and communication for speech to text

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Why the Cloud?

- Security: Applying to highest international standards provided by AWS
- Safety: Guaranteed stability and quick backup recovery
- Durability: The ongoing existence of your data
- Availability: The ability to access your data (system uptime)
- Reliability: The probability that a system works as intended

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Cloud-Native Formula

Cloud Infrastructure

+

Microservices

+

Containers

+

Continuous Delivery

+

Ongoing Development

=

**

The ability to run
maximum applications
on
minimum servers

**As defined by Cloud Native Computing Foundation (CNCF)

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What is Radio.Cloud?

The first to market, 100% cloud-native automation, content management, and production platform. On-air for over 4 years with 160+ affiliates.

We can interface with existing automation systems. This lets stations with large capital expenses to gradually phase out legacy systems, allowing for hybrid operation at startup.

We support both live and network programming and revolutionize the way stations can effortlessly localize content.

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Radio.Cloud Workflow

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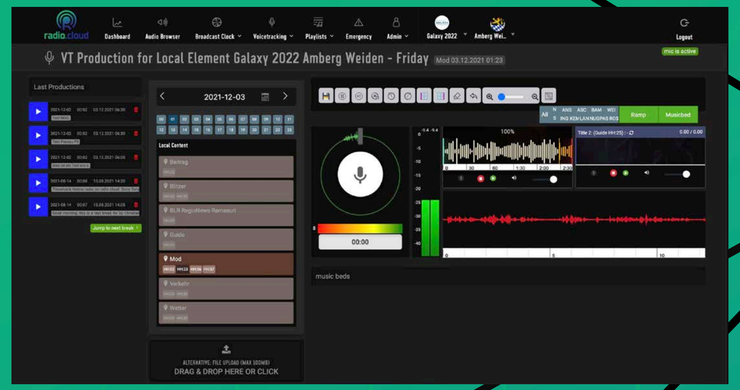
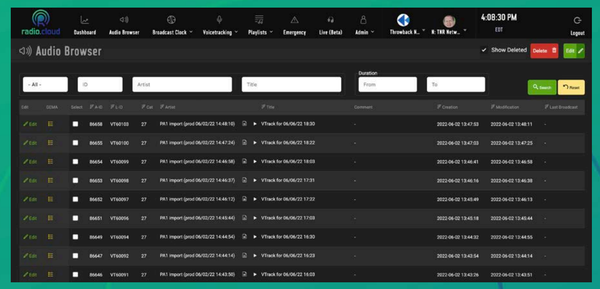
Voice Tracking



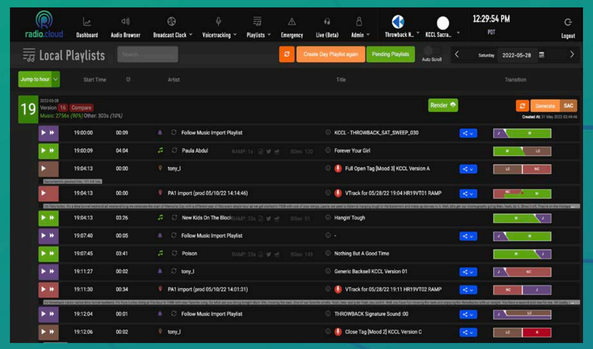
Ingest

Logs



Content Management

Playout



Playlist & Live-Assist Platform

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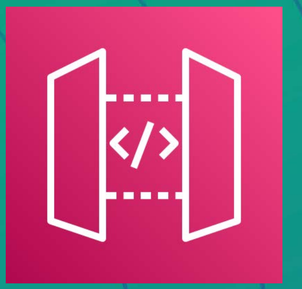
Radio.Cloud - AWS Services

AWS
Lambda

Amazon
Transcribe



Amazon
API Gateway

Amazon
S3

AWS
Managed Services

Amazon
ElastiCache

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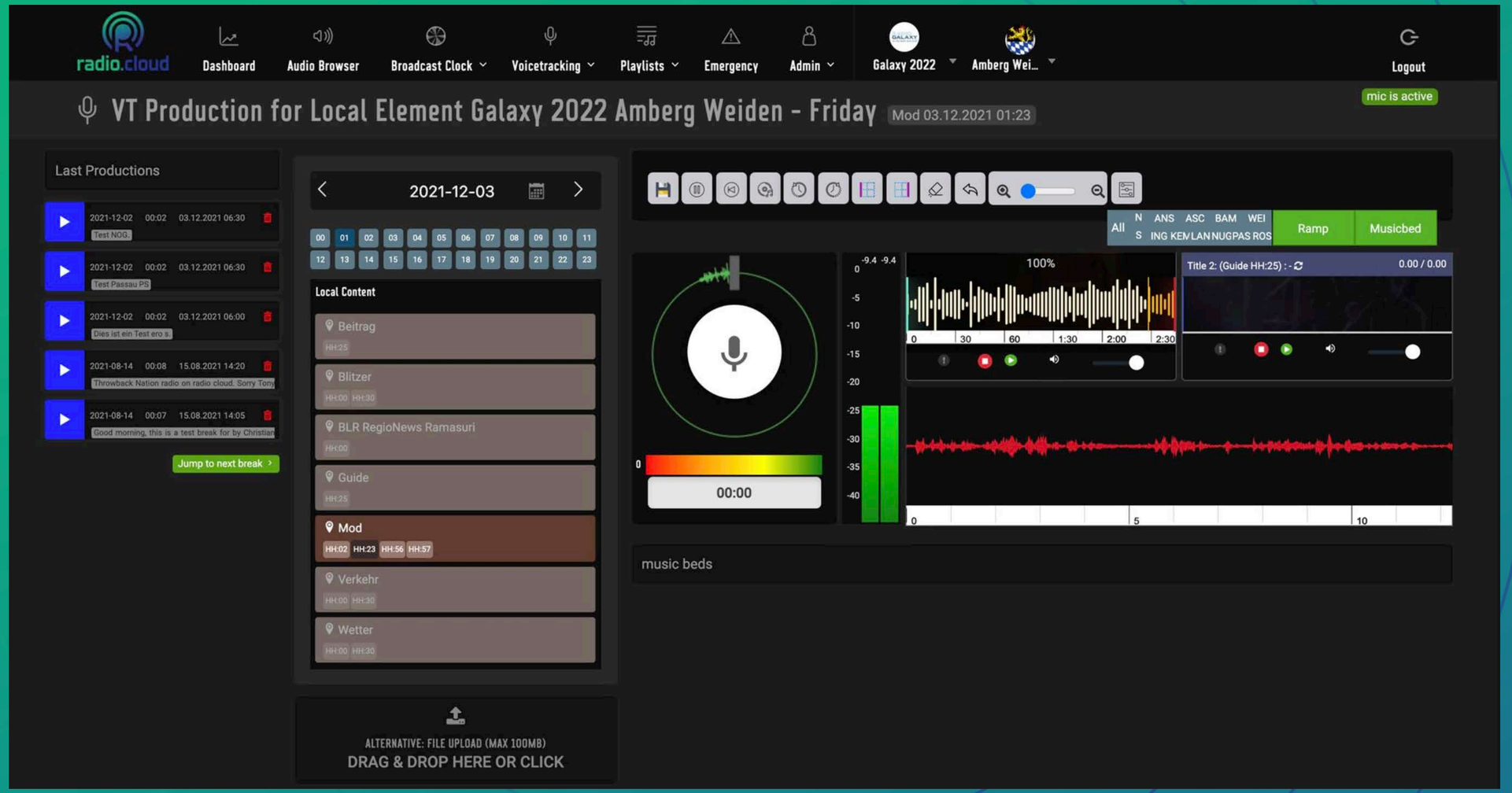
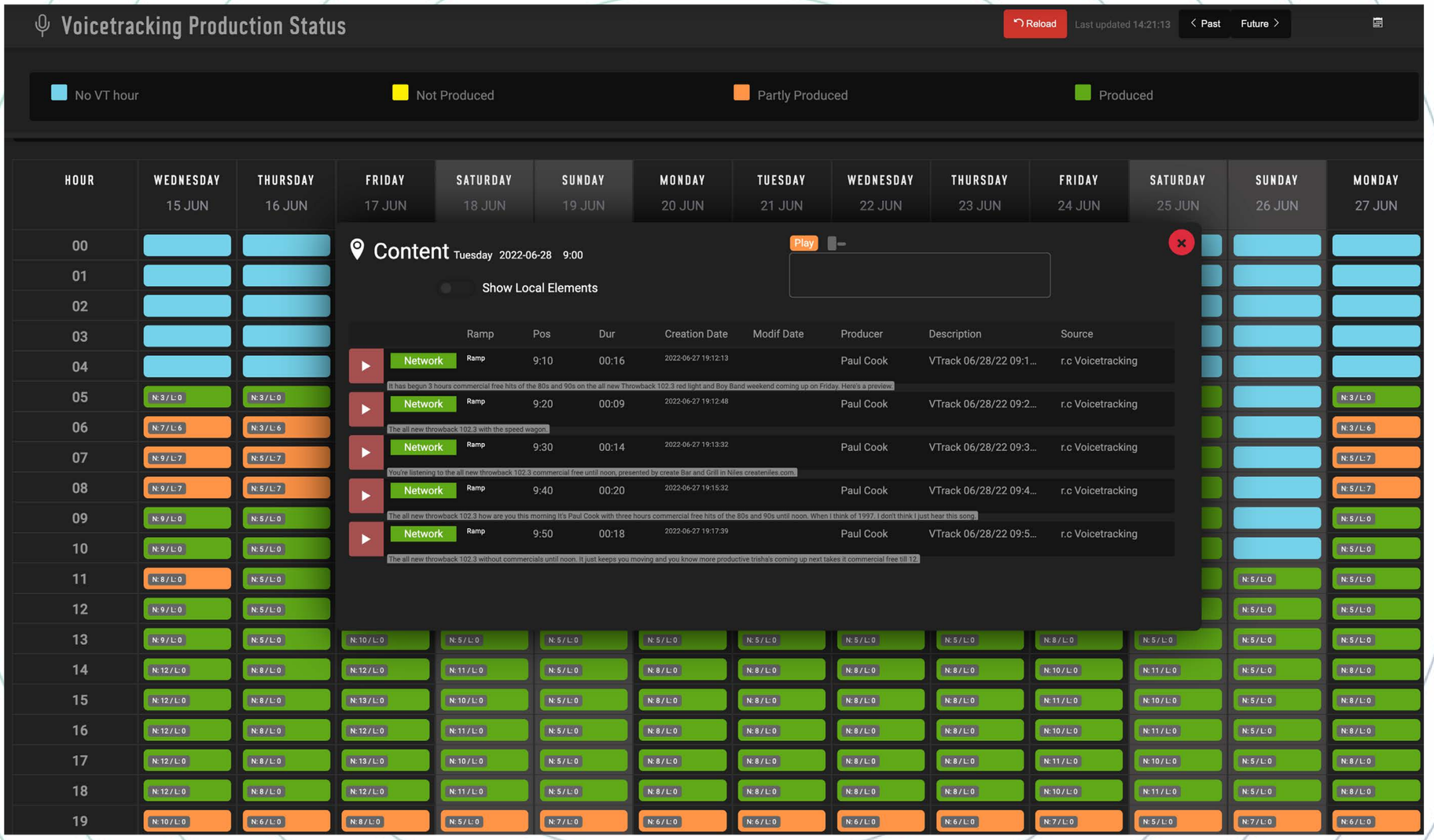
10 Radio.Cloud Highlights



Web-Based Voicetracking Module

10 Radio.Cloud Highlights



Voicetracking Status Tracker & Details

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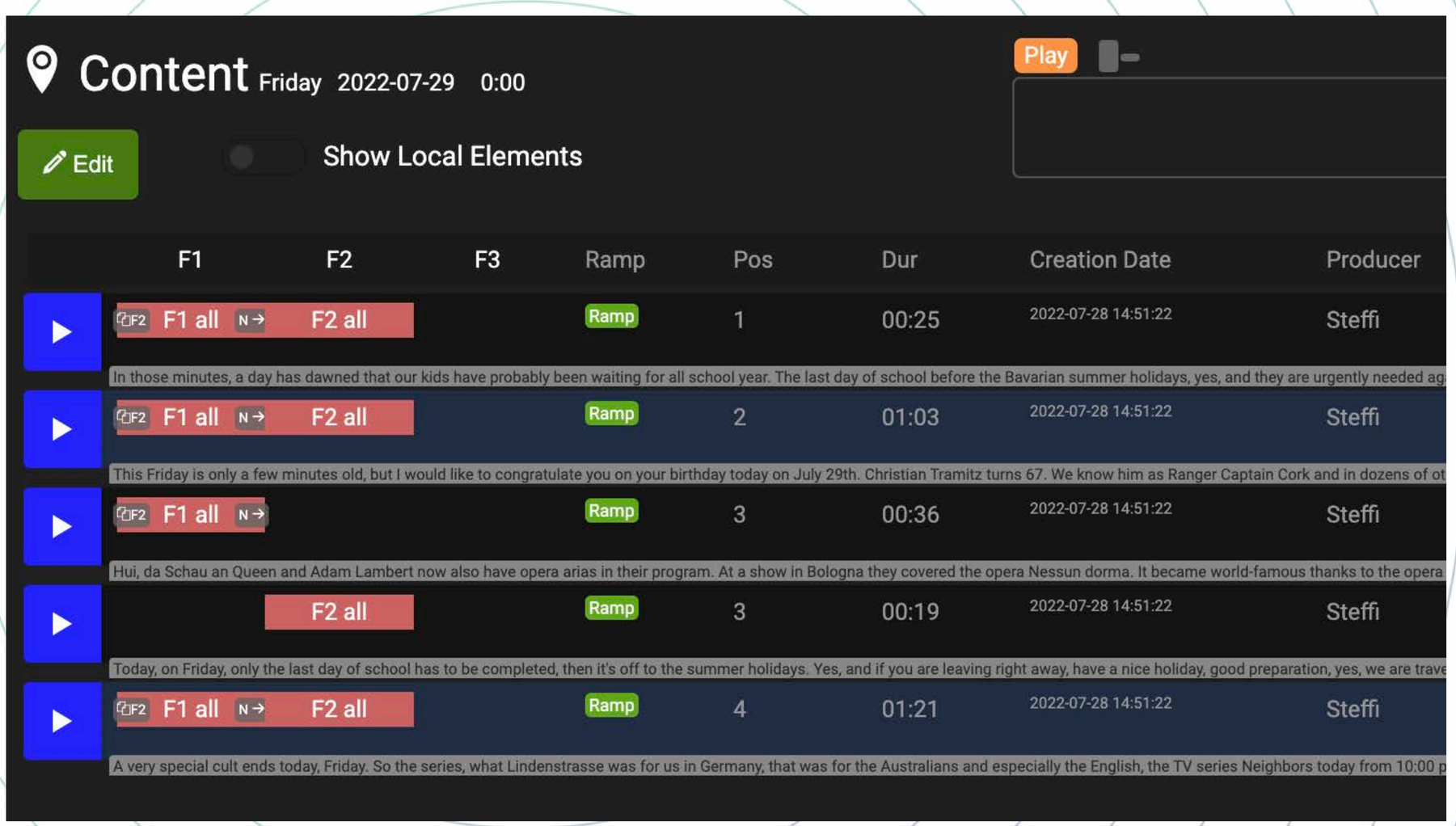
Share content between stations to work smarter, not harder



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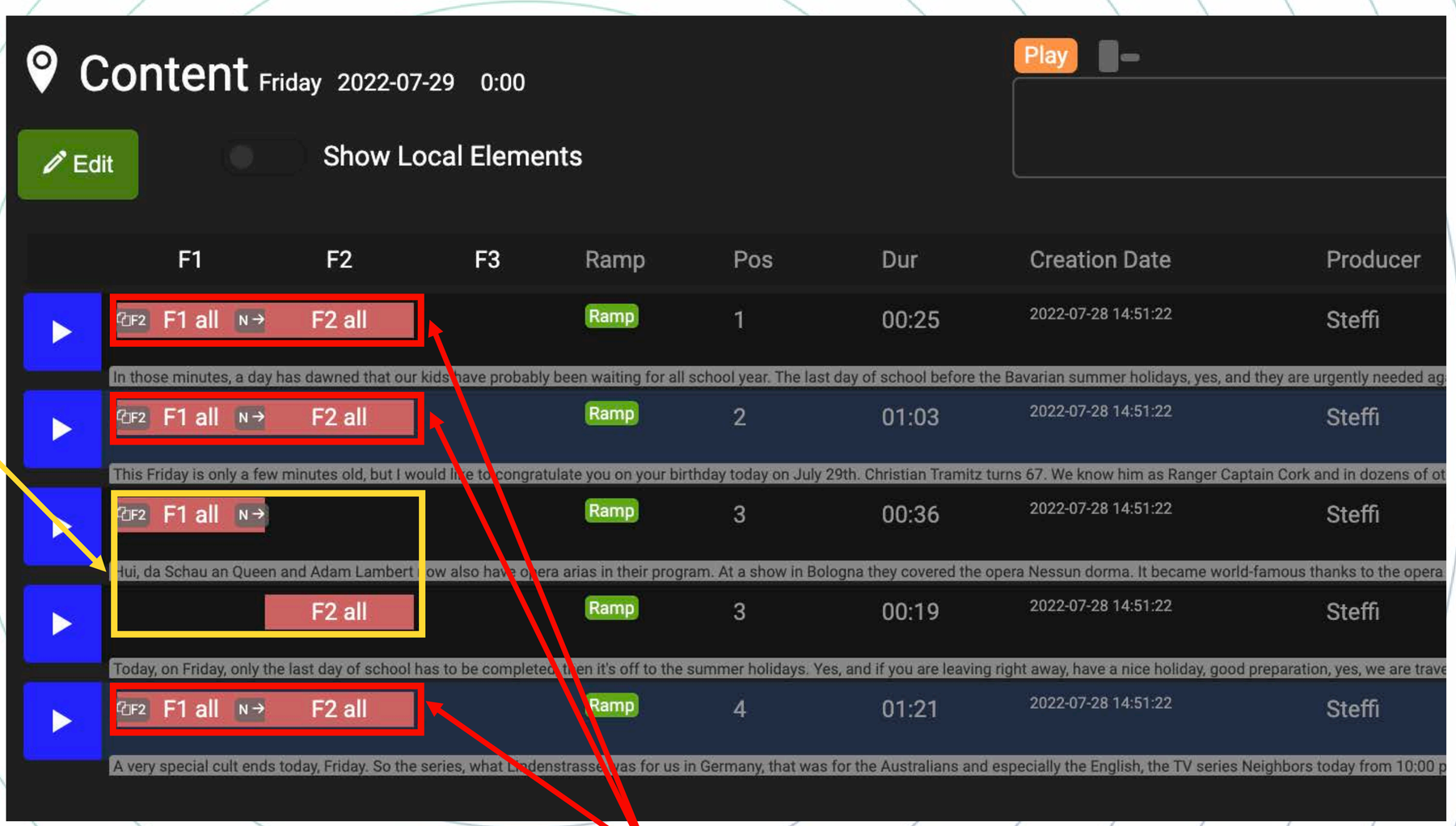
Custom local voicetracks



Shared network voicetracks

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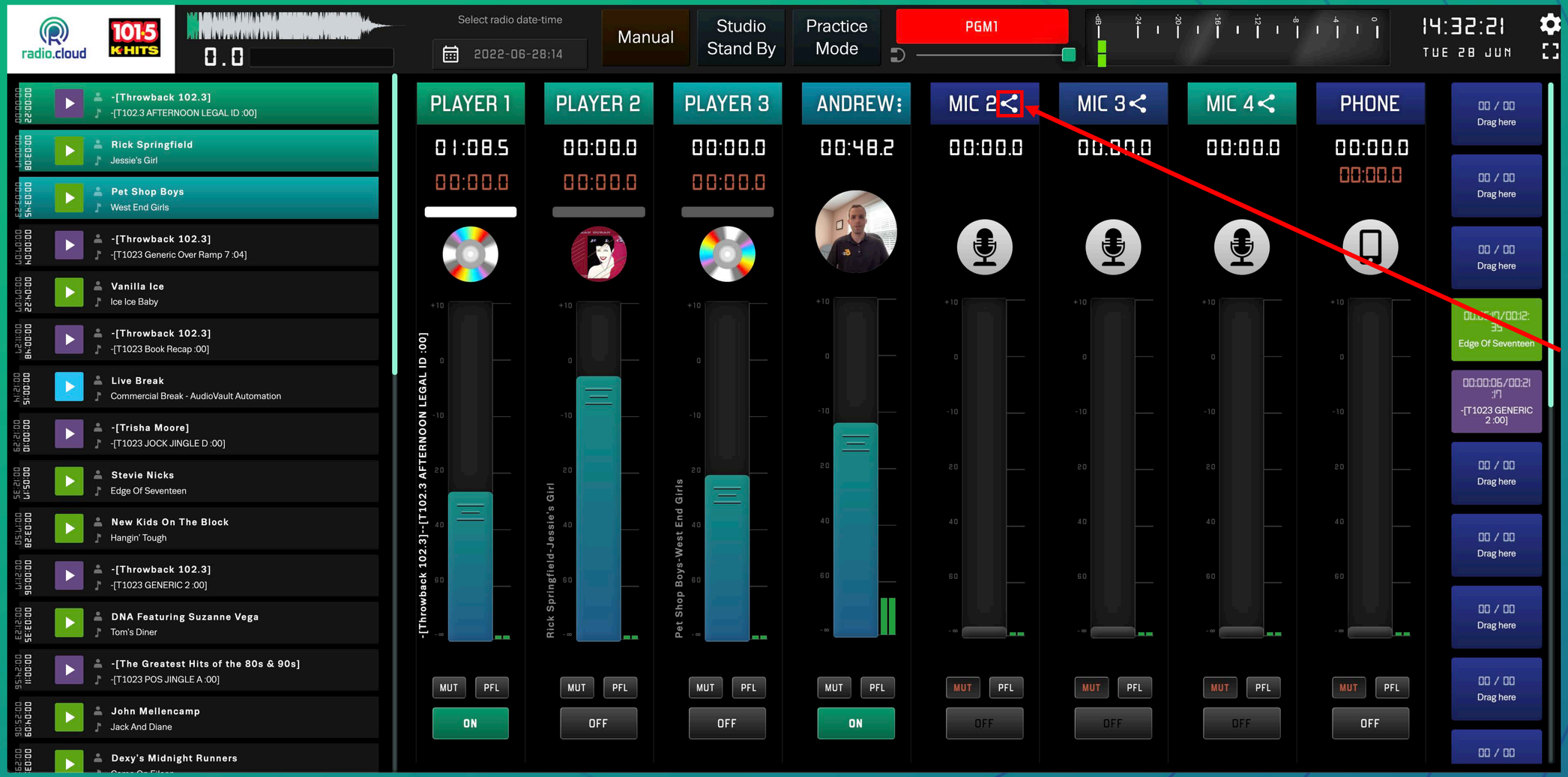
10 Radio.Cloud Highlights



Invite button

Cloud-Based Live-Assist Interface

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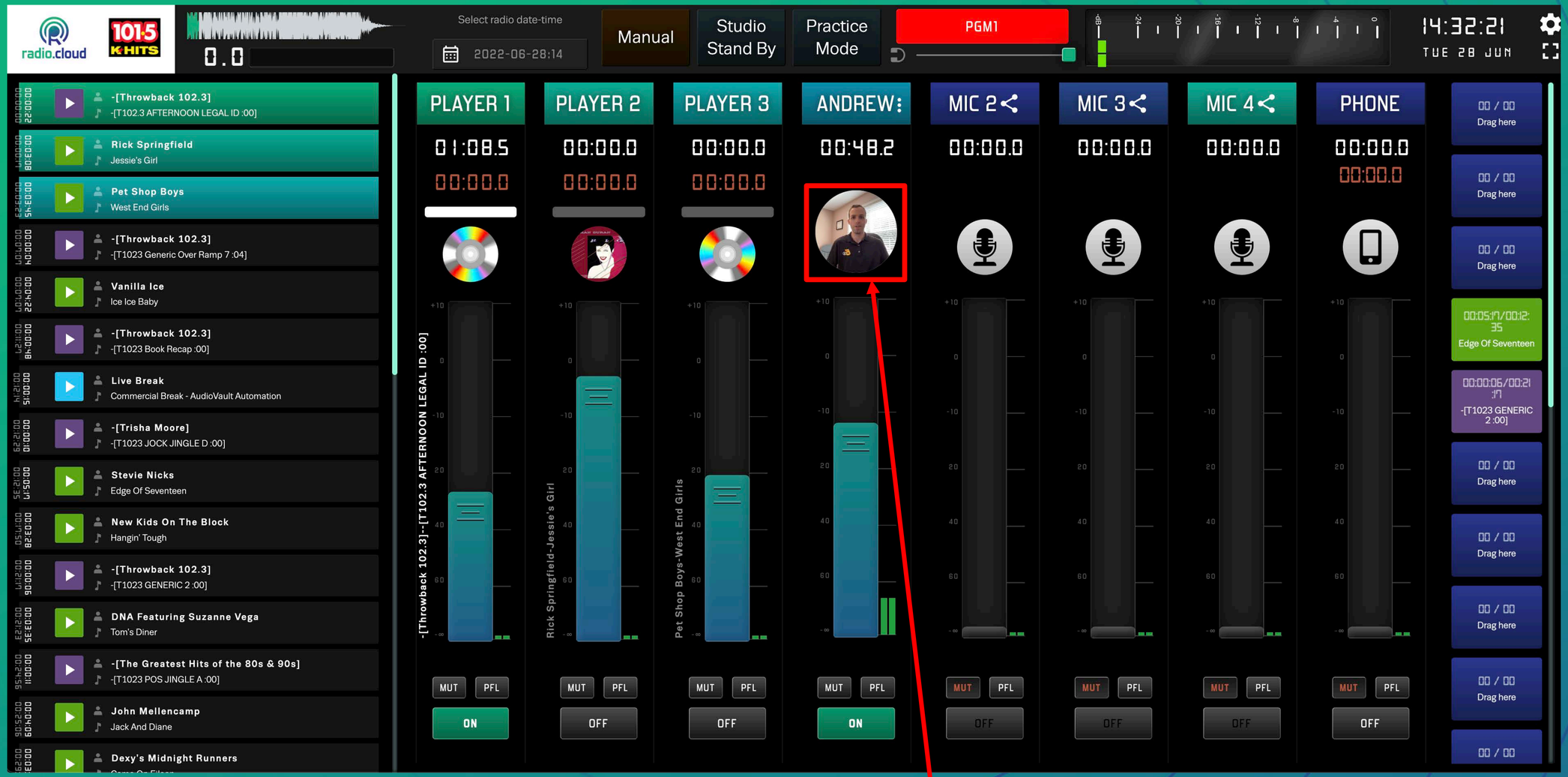

Ability to see co-hosts & guests on video

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What about Latency?

- AI supported automation system – latency not an issue
- New Live Cloud Studio – latency is our main focus and we currently run four mediaservers (East US, West US, Singapore, Germany)
- WebRTC + Opus + local mediaservers providing latency < 100...150 ms – delay for audio element or remote DJs not audible.
- Announcer microphone audio won't be routed through cloud infrastructure (limit 10 ms)

AWS Regions & Availability Zones

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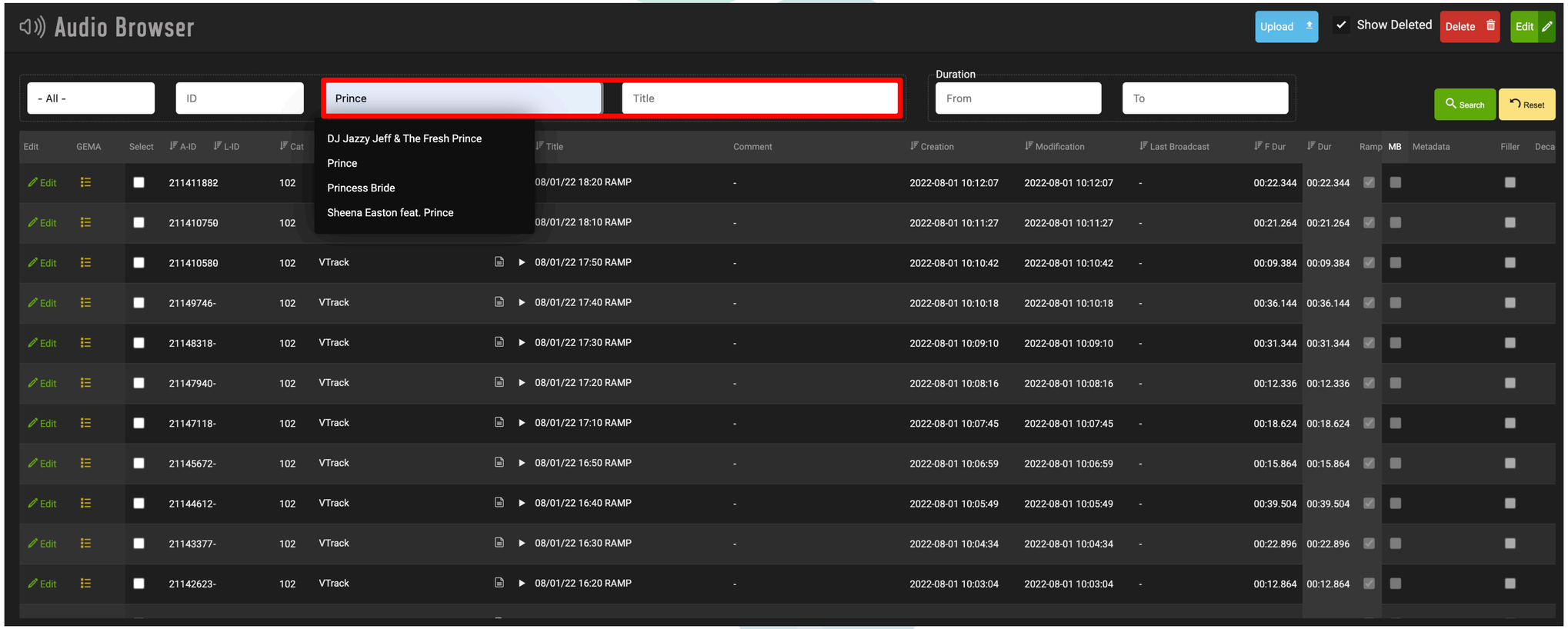
AWS Regions & Availability Zones

10 Radio.Cloud Highlights



Content Management via Audio Browser

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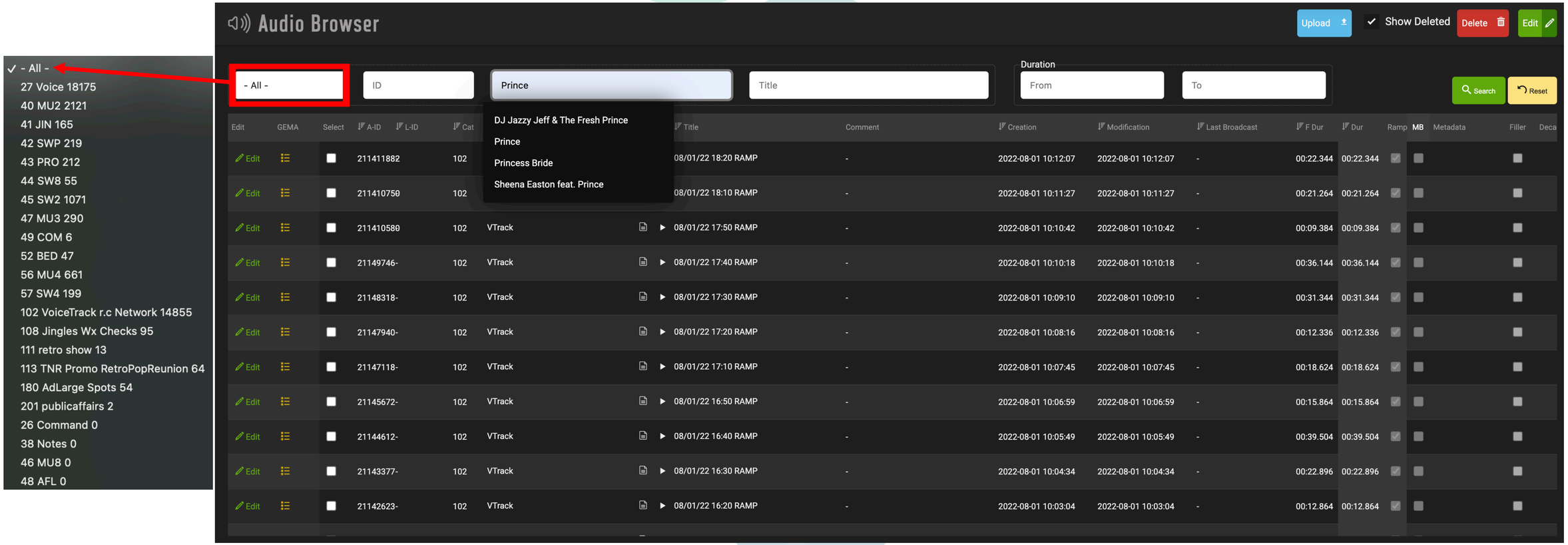
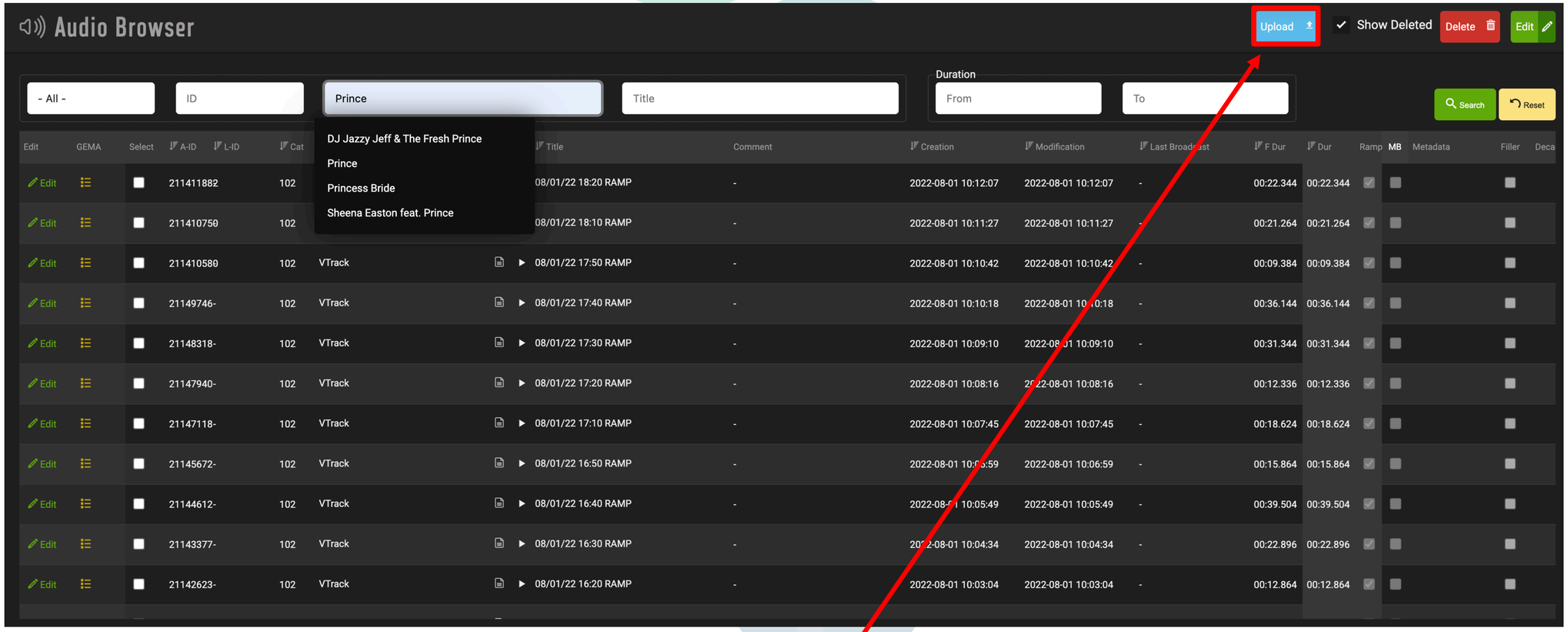


Store your audio in as many categories as you'd like

simple.
technology.
radio.cloud

simple.



Upload audio directly into your browser

technology.

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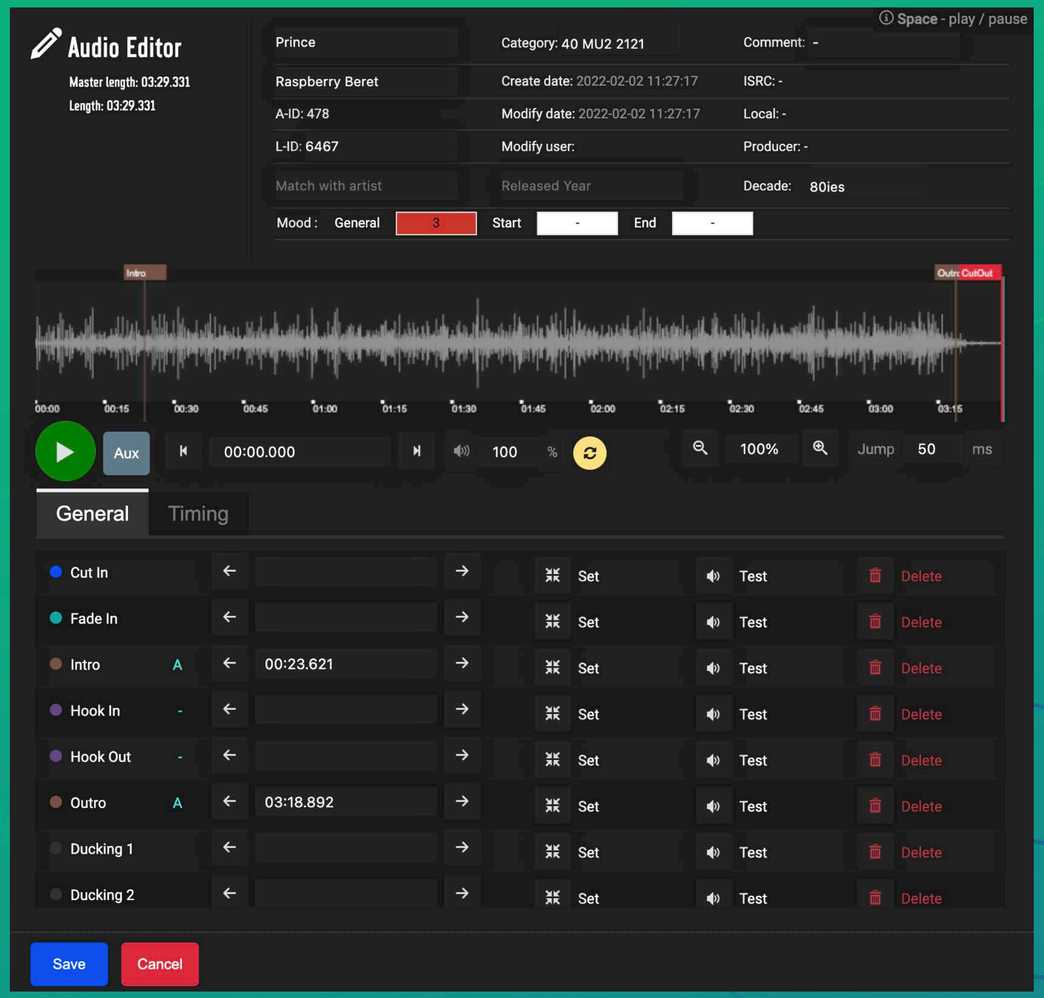
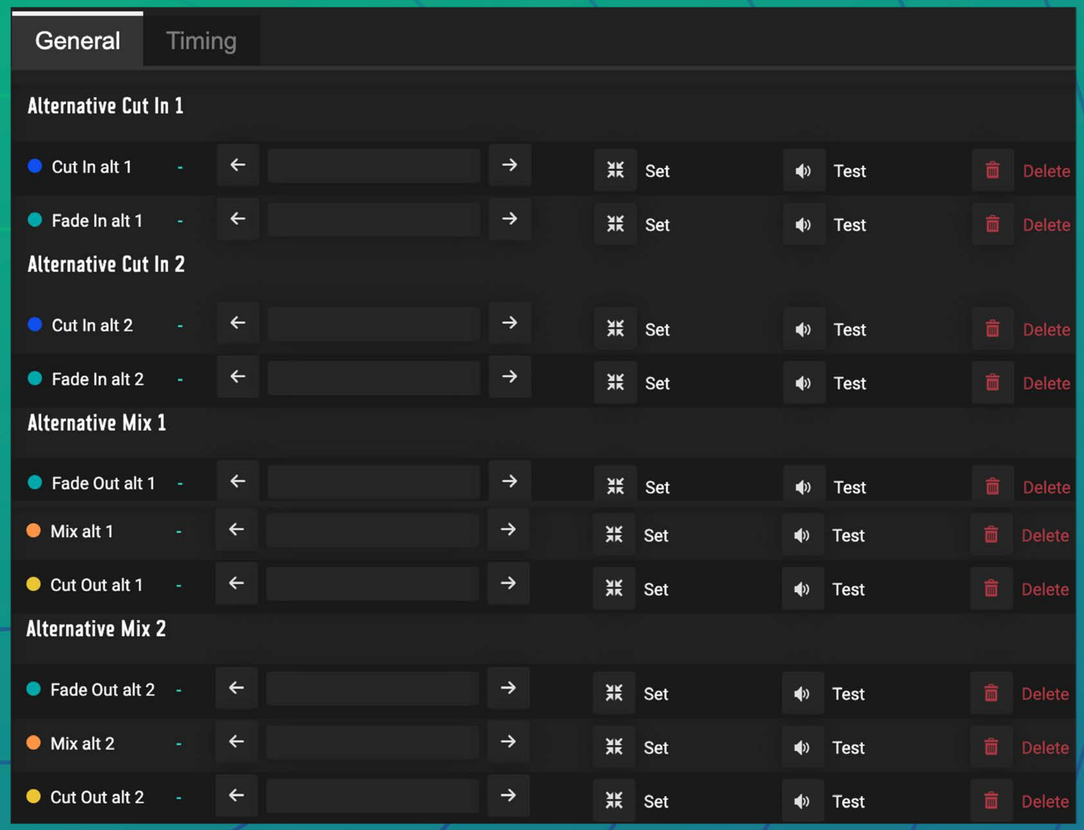
10 Radio.Cloud Highlights





Set Multiple Mixpoints with the Audio Editor

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10 Radio.Cloud Highlights

Drag & Drop Functionality to Build Clocks

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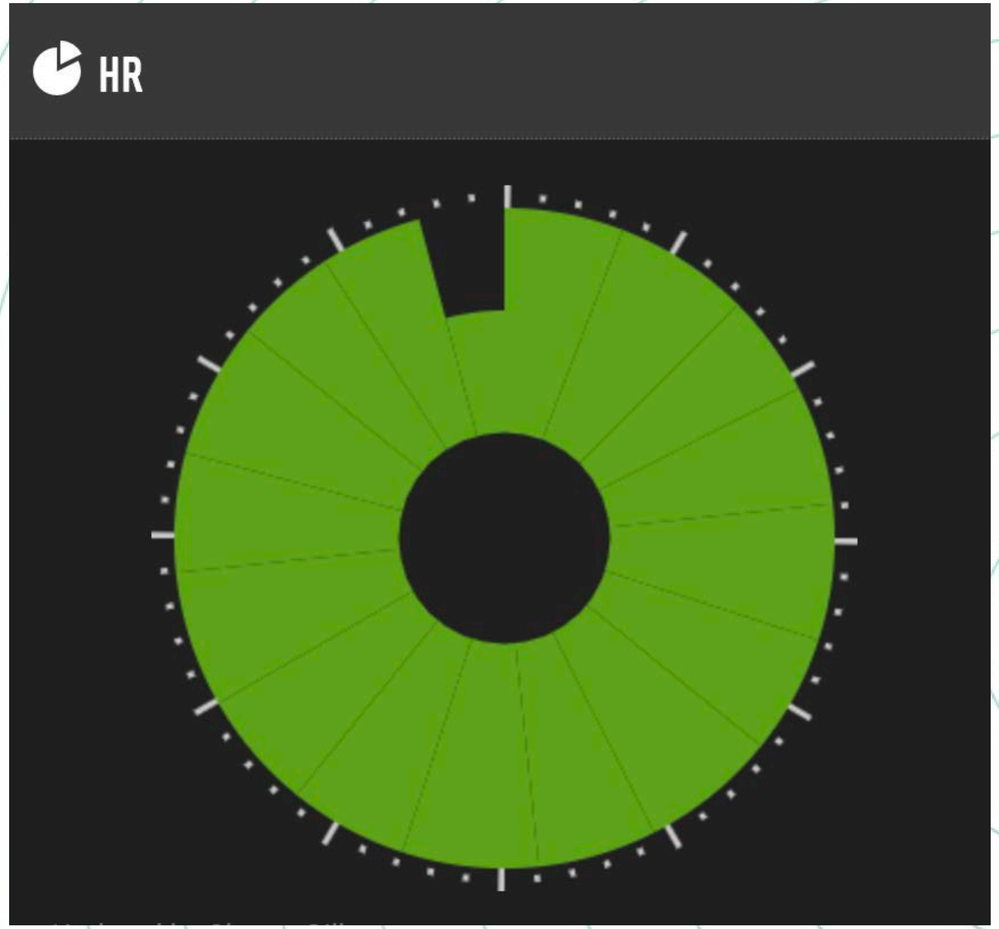

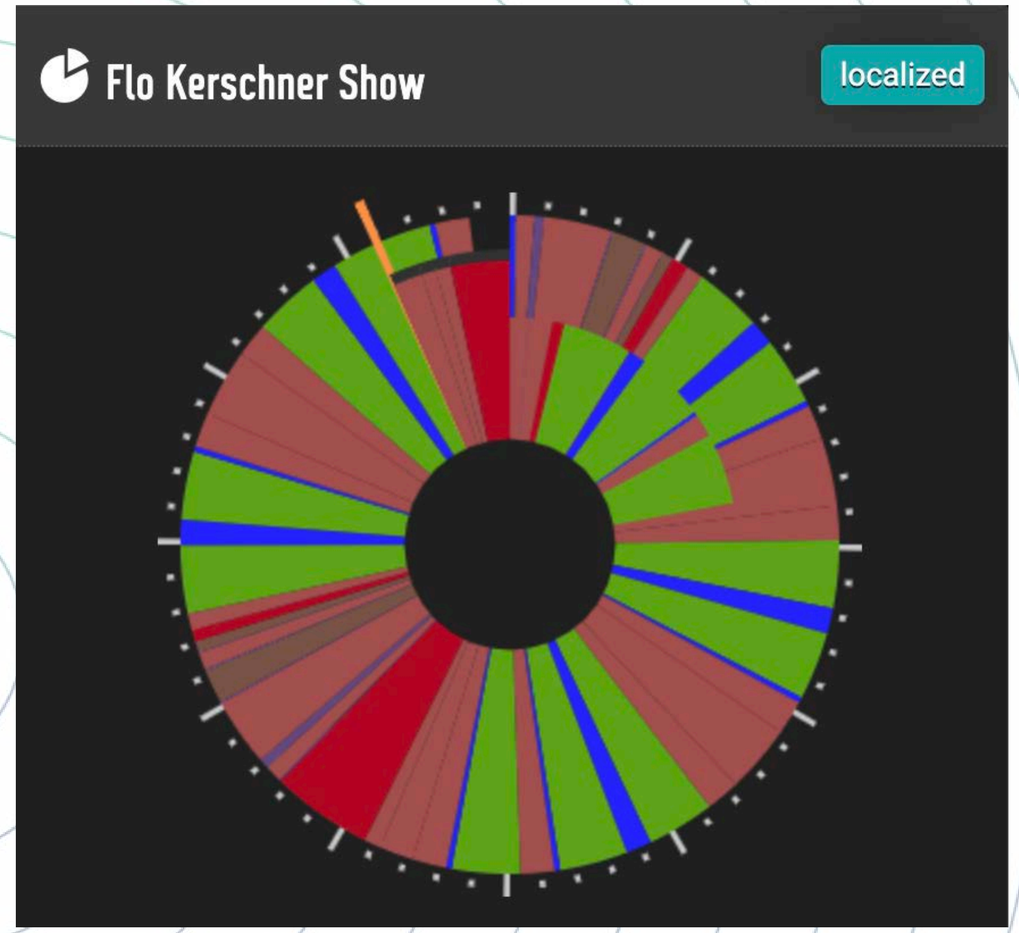

Clocks can be as simple or complex as you'd like

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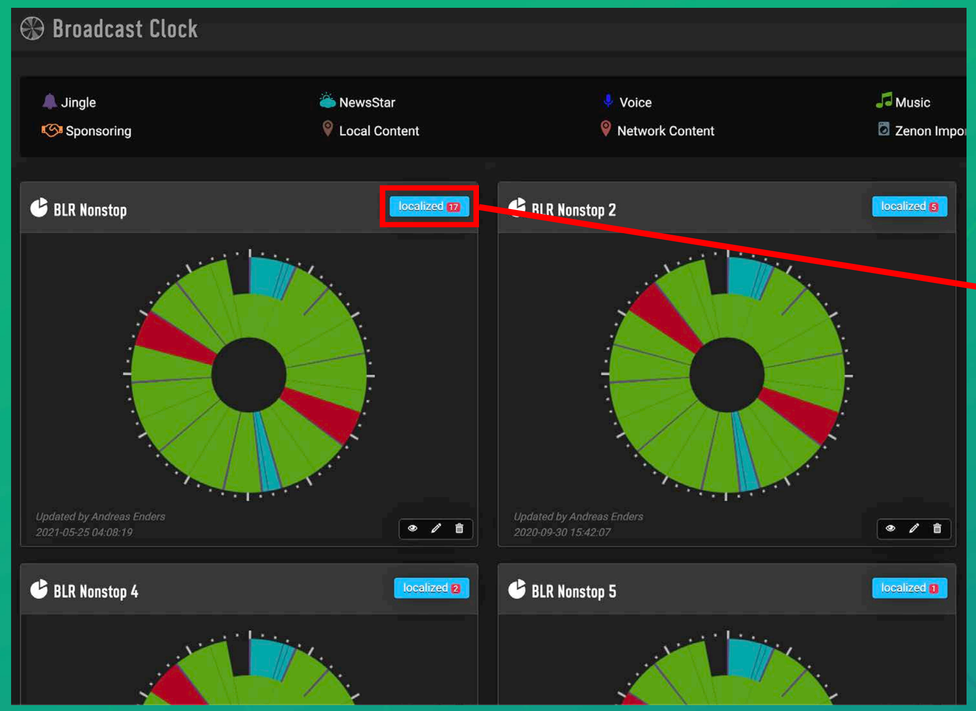
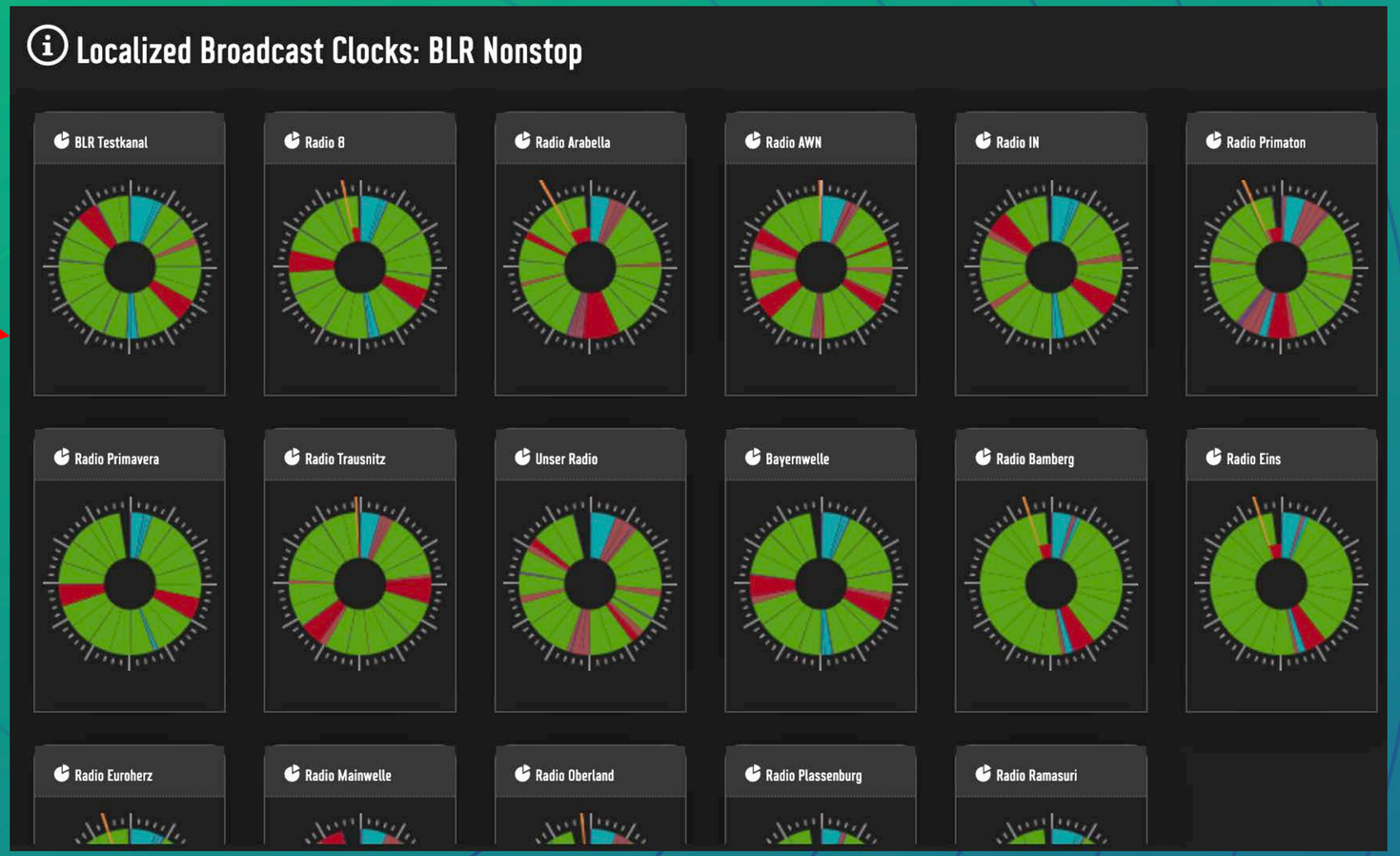
10 Radio.Cloud Highlights





Networking and Localization of Clocks

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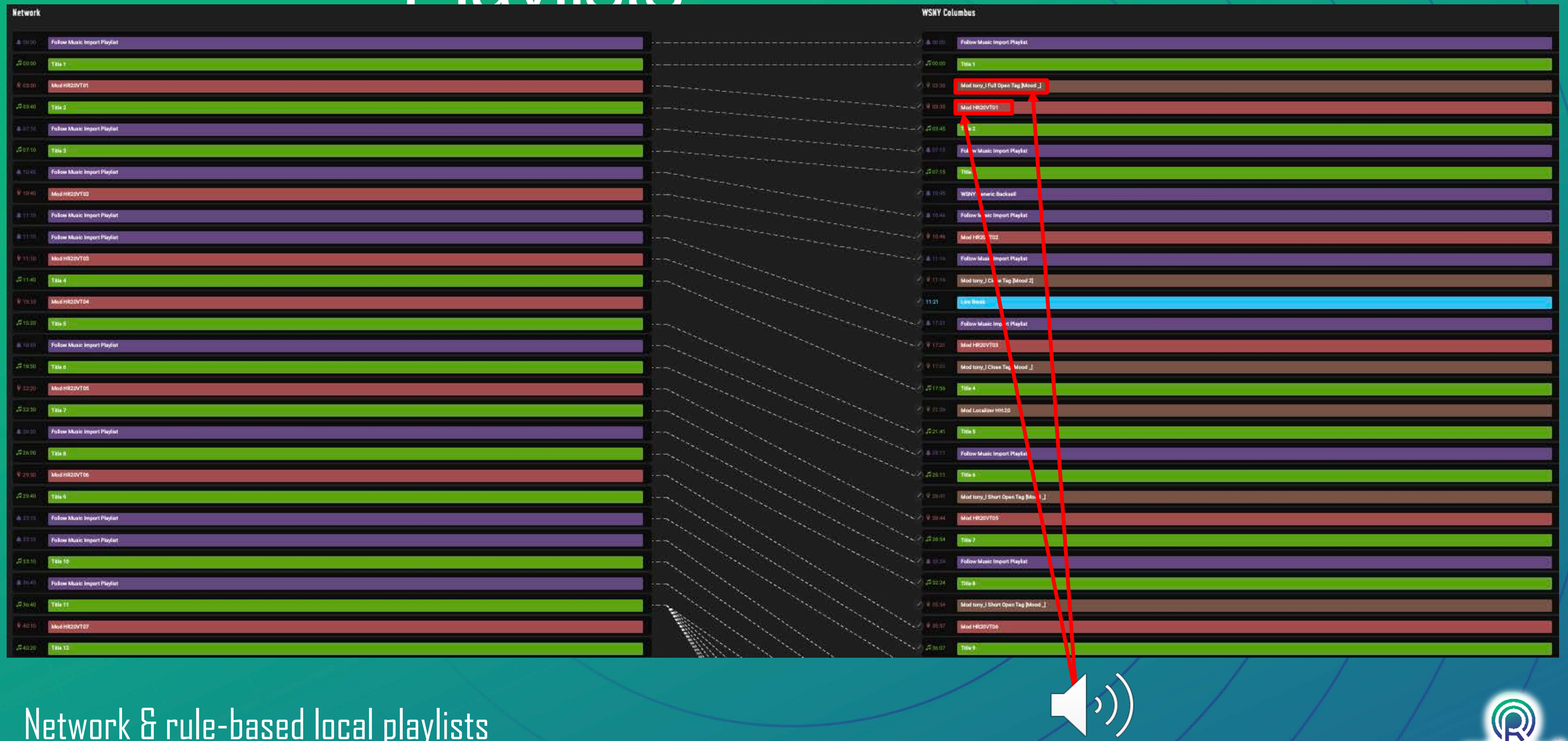
Network vs Local Playlists



Network & rule-based local playlists

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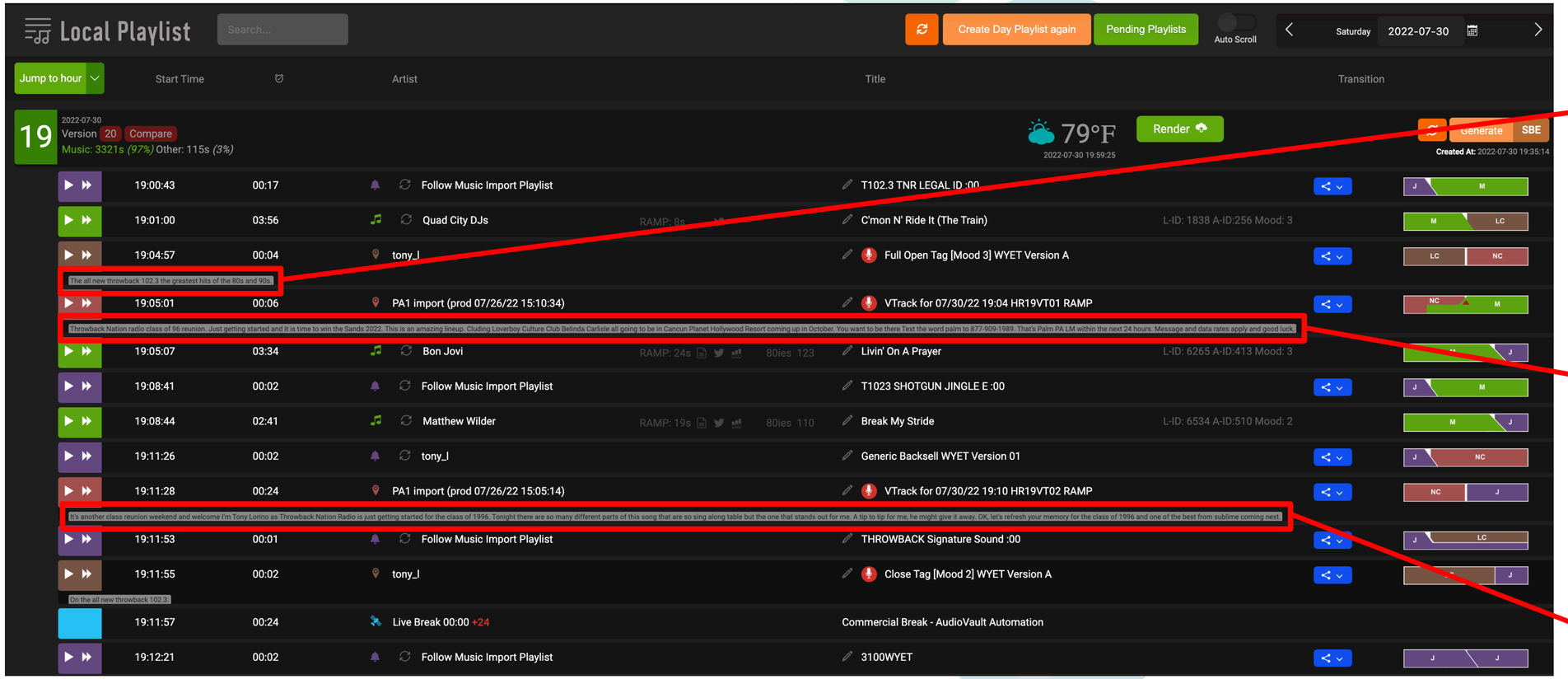
10 Radio.Cloud Highlights



Transcription

The all new throwback 102.3 the greatest hits of the 80s and 90s.

Close

Transcription

Throwback Nation radio class of 96 reunion. Just getting started and it is time to win the Sands 2022. This is an amazing lineup. Cluding Loverboy Culture Club Belinda Carlisle all going to be in Cancun Planet Hollywood Resort coming up in October. You want to be there Text the word palm to 877-909-1989. That's Palm PA LM within the next 24 hours. Message and data rates apply and good luck.

Close

Transcription

It's another class reunion weekend and welcome I'm Tony Lorino as Throwback Nation Radio is just getting started for the class of 1996. Tonight there are so many different parts of this song that are so sing along table but the one that stands out for me. A tip to tip for me, he might give it away. OK, let's refresh your memory for the class of 1996 and one of the best from sublime coming next.

Close

Amazon Transcribe on Playlist

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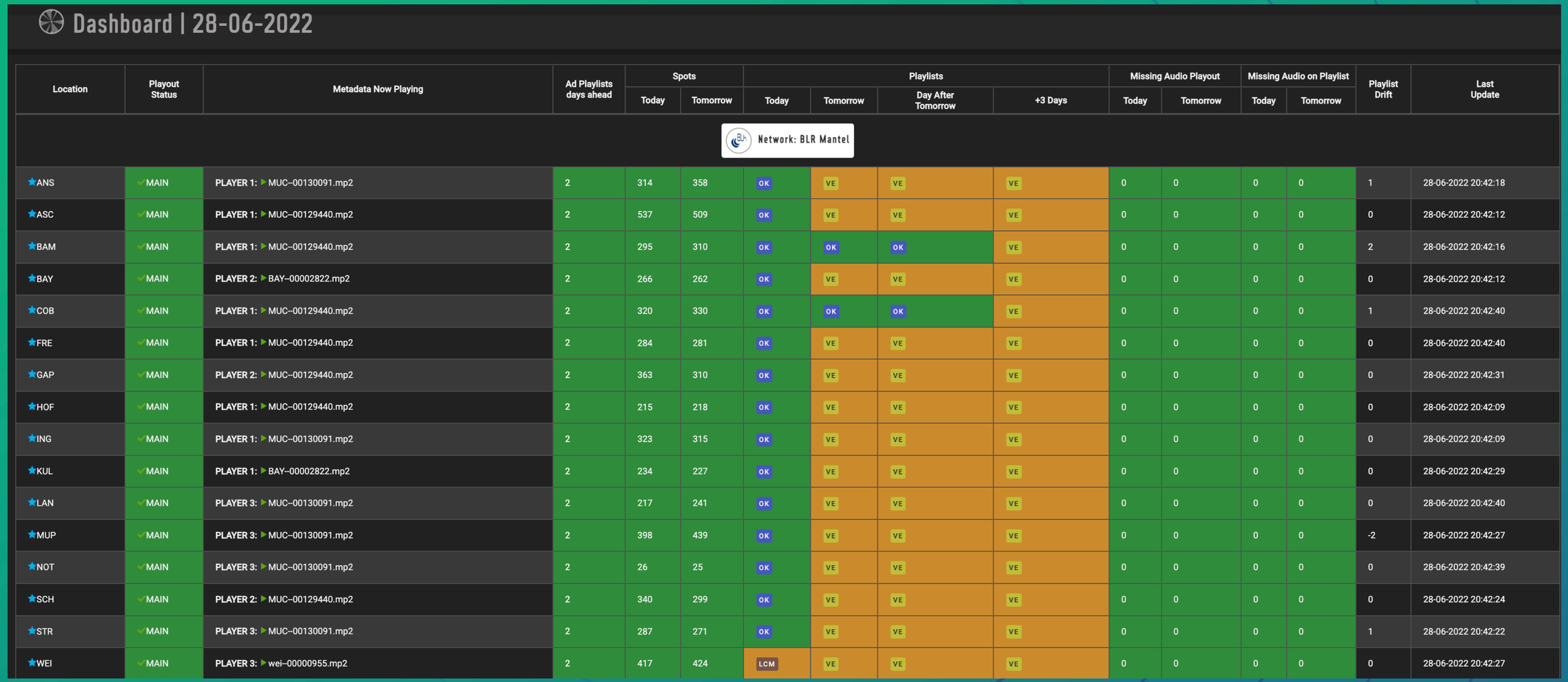
10 Radio.Cloud Highlights



Dashboard | 28-06-2022

Location	Playout Status	Metadata Now Playing	Ad Playlists days ahead	Spots		Playlists				Missing Audio Playout		Missing Audio on Playlist		Playlist Drift	Last Update
				Today	Tomorrow	Today	Tomorrow	Day After Tomorrow	+3 Days	Today	Tomorrow	Today	Tomorrow		
Network: BLR Mantel															
ANS	MAIN	PLAYER 1: MUC--00130091.mp2	2	314	358	OK	VE	VE	VE	0	0	0	0	1	28-06-2022 20:42:18
ASC	MAIN	PLAYER 1: MUC--00129440.mp2	2	537	509	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:12
BAM	MAIN	PLAYER 1: MUC--00129440.mp2	2	295	310	OK	OK	OK	VE	0	0	0	0	2	28-06-2022 20:42:16
BAY	MAIN	PLAYER 2: BAY--00002822.mp2	2	266	262	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:12
COB	MAIN	PLAYER 1: MUC--00129440.mp2	2	320	330	OK	OK	OK	VE	0	0	0	0	1	28-06-2022 20:42:40
FRE	MAIN	PLAYER 1: MUC--00129440.mp2	2	284	281	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:40
GAP	MAIN	PLAYER 2: MUC--00129440.mp2	2	363	310	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:31
HOF	MAIN	PLAYER 1: MUC--00129440.mp2	2	215	218	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:09
ING	MAIN	PLAYER 1: MUC--00130091.mp2	2	323	315	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:09
KUL	MAIN	PLAYER 1: BAY--00002822.mp2	2	234	227	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:29
LAN	MAIN	PLAYER 3: MUC--00130091.mp2	2	217	241	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:40
MUP	MAIN	PLAYER 3: MUC--00130091.mp2	2	398	439	OK	VE	VE	VE	0	0	0	0	-2	28-06-2022 20:42:27
NOT	MAIN	PLAYER 3: MUC--00130091.mp2	2	26	25	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:39
SCH	MAIN	PLAYER 2: MUC--00129440.mp2	2	340	299	OK	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:24
STR	MAIN	PLAYER 3: MUC--00130091.mp2	2	287	271	OK	VE	VE	VE	0	0	0	0	1	28-06-2022 20:42:22
WEI	MAIN	PLAYER 3: wei--00000955.mp2	2	417	424	LCM	VE	VE	VE	0	0	0	0	0	28-06-2022 20:42:27

Dashboard for Monitoring

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Pro-Active Monitoring

PRTG Monitoring System pulls new data every 30 seconds for metrics like CPU, Memory, Storage, Temperature, Age of Content, & Downtime

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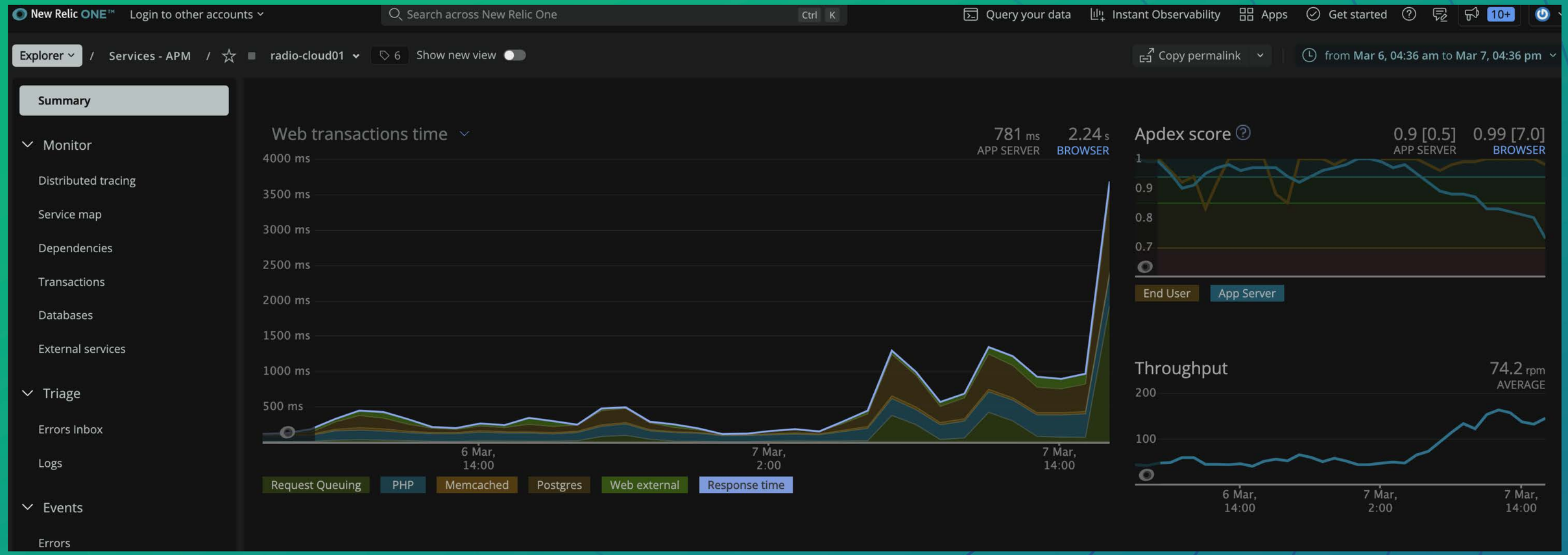
Monitoring



Multiple monitoring systems (New Relic in New York & PRTG in Germany), plus a Geo Load Balancer to distribute requests

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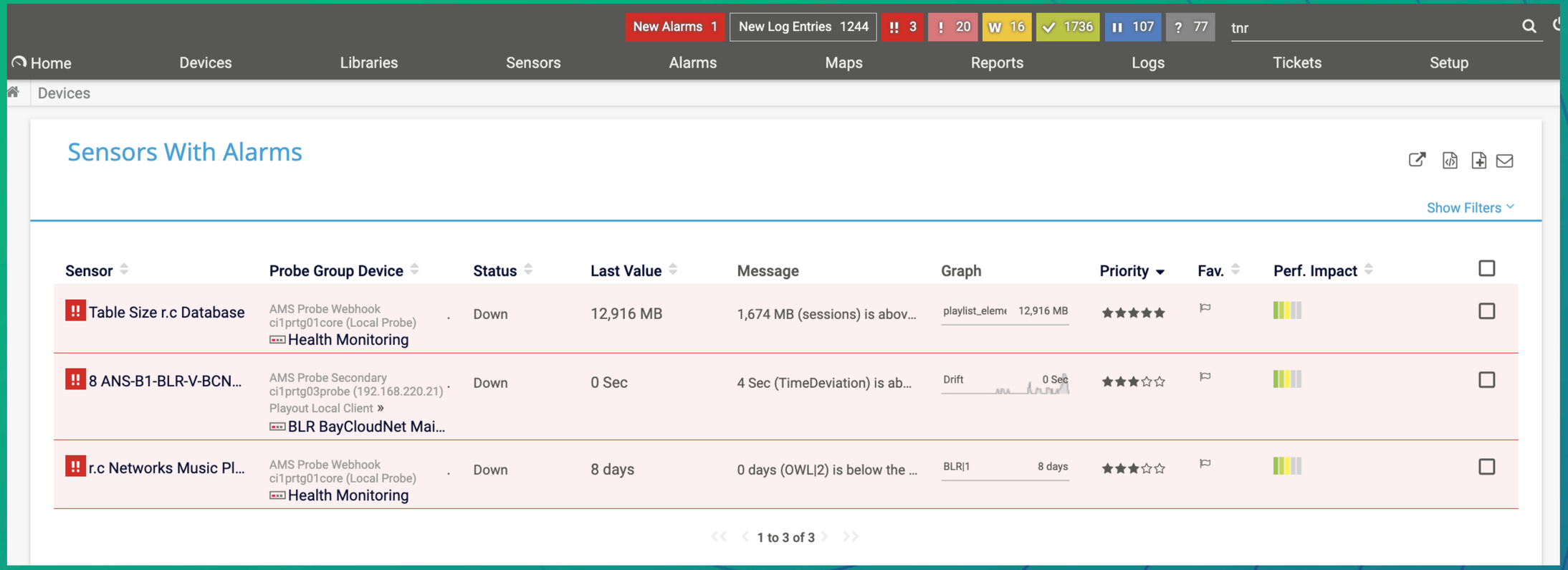
Monitoring



Nearly 2000 sensors monitor entire operation from cloud infrastructure to Edge Gateways on-site

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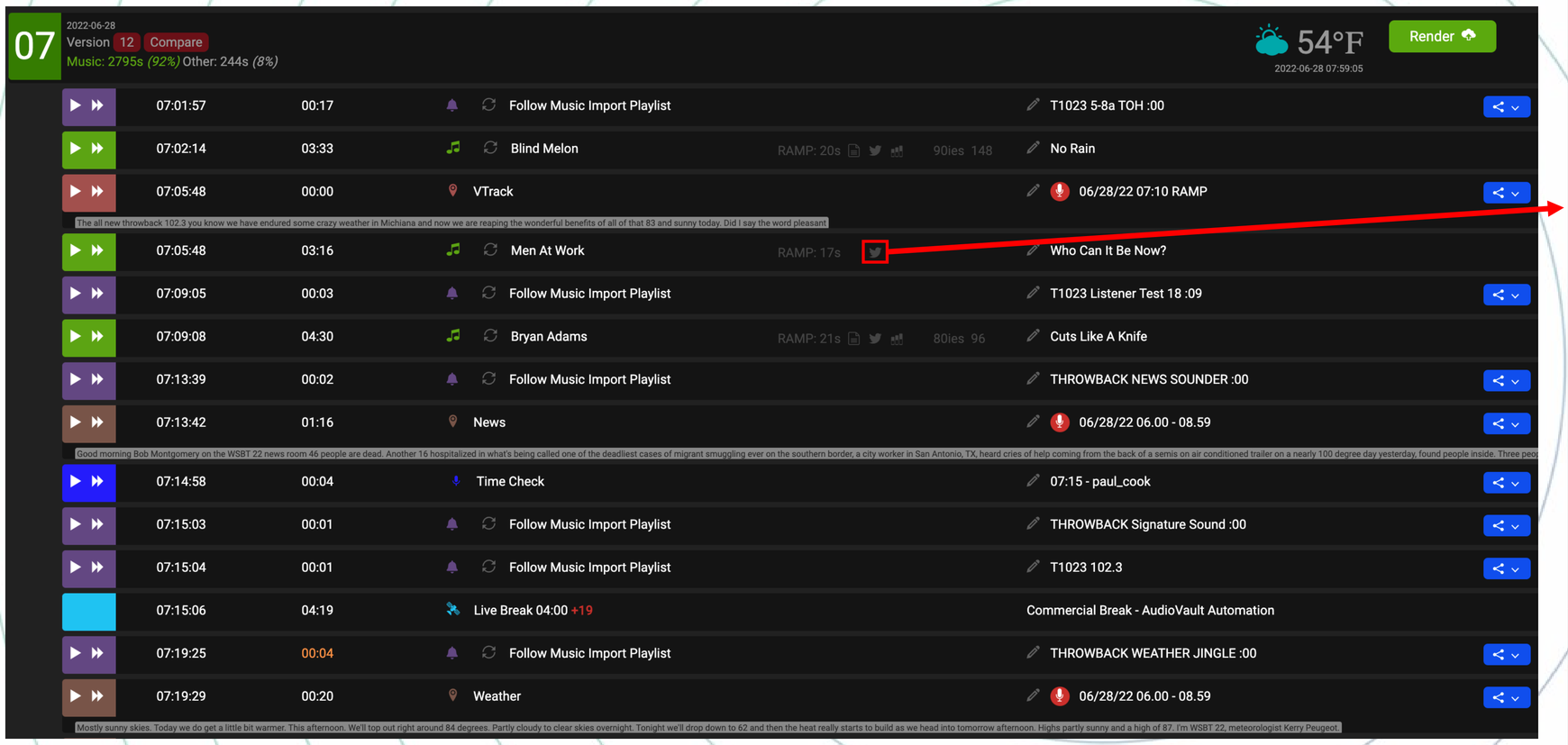
10 Radio.Cloud Highlights



Social Media API on Playlist

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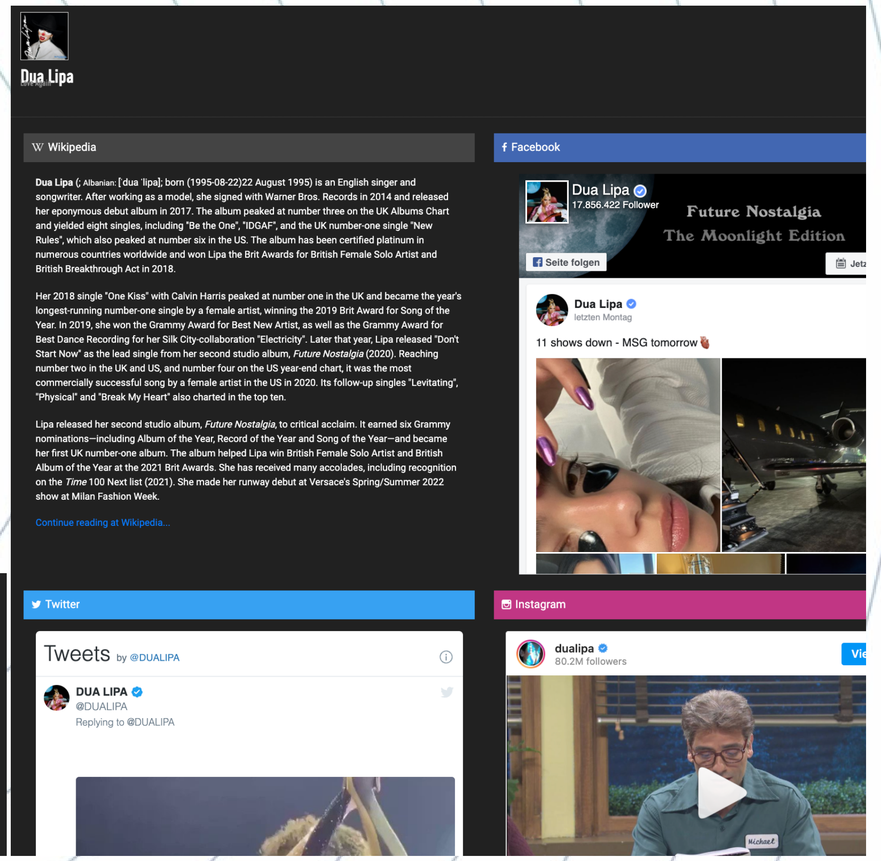
Microservices

Radio.Cloud runs its own Microservices

- Audio Transcoding: Broadcast vs Preview files
- Audio Analyzing: Cut In, Cut Out, EOM, Normalizing
- Playlist Generator Engine
- WebSocket Signaling Server
- Live Studio: Media Server or Cloud Playout



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Success Stories

Throwback 102.3 (WYET-FM/South Bend, IN)

- Increase in listenership & local sales

BLR in Germany

- Save money on satellite, share content and localized nearly 20 channels across Bavaria

- 100+ affiliates in USA within a year

Summary

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The first 100% cloud-native content management, production and automated platform for radio

Globally reliable, flexible, scalable & secure

Leveraging the power of AWS for cloud computing

radio.cloud

2022 NAB Show

Product of the Year

radio.cloud

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Questions ?

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844.444.0000

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