SCASAT Audio Distribution:
Best of Satellite, Best of WAN

Dan Jackson
Head of Audio Operations
Southern Cross Austereo

Australia’s largest commercial radio broadcaster
World’s First...

Sat-WAN parallel audio distribution / contribution network.
LEGACY SYSTEMS
6 Distribution Technologies

DUPLICATION / OVERLAP
Duplication but no redundancy

NO INTEGRATION
Systems didn’t work together

SINGLE FAILURE POINTS
Many weak links

BEYOND END OF LIFE
15 - 25 year old equipment and systems

Technology Snapshot
From Mergers & Acquisitions

DISPARATE TECHNOLOGIES
From acquisitions and mergers
- Analog Satellite
- ISDN
- Public Internet
- Jackfields
- Audio Routers
- More Satellite
Define Project

Search Begins

Consultants

Manufacturers

Dealers

RFP

Seek Solutions

[Diagram showing the flow of project definition, search, and selection of consultants, manufacturers, and dealers.]

[Abstract representation of the process with interconnected nodes and arrows indicating the progression.]
INTEGRATED SOLUTION
Multiple Vendors

Telos
Multi-Channel IP-Audio Codecs

AXIA
IP-Audio Routing

AVC
Scheduling Software & Integration

Final Solution: SCAsat

Satellite IP Encoders & Receivers
KEY EQUIPMENT
Select the best fit equipment

Codec X
Codec Y
Codec Z
Other Ideas

Telos
iPort

Codec Audio & GPIO Density
A single Telos iPort codec contains up to 16 audio codecs, each with the ability to send redundant IP-audio streams to multiple destinations.

Multiple Delivery Paths
A single iPort decoder can accept IP-audio streams from multiple simultaneous network paths. As long as the audio stream is valid on one of these paths, the decoder will produce audio.

Multiple Time Zone Delay
SCA’s network crosses four different time zones in Australia - five time zones in summer - and the Telos iPort can delay any incoming stream - including metadata and GPOs - for a configurable period of time.

Telos iPort PLUS
To meet the technical requirements of Southern Cross Austereo, Telos further developed the iPort multi-codec gateway into what is now the iPort PLUS.
DUAL-PATH DISTRIBUTION
Dual Technology Redundancy

WAN
Redundant Uplinks plus Ten Network Source Sites

Fixed Uplinks Sydney and Melbourne
Identical program streams via Sat + WAN

Selected uplink: Sydney Sat + WAN
RECEIVE SITES
Redundant Stream Ingest/Decode Equipment
DUAL STREAM PATHS
Redundant Audio/Data Streams

Identical IP-Audio Streams Available via Separate Networks
DUAL NETWORKS - DIFFERENT PACKET TYPES

Redundant Audio/Data Streams

All 18 Multicast IP-Audio Streams

Only Requested IP-Audio Programs

IP-Audio Program Stream Requests

Multicast WAN

All Multicast IP-Audio Streams
Only 1 Encode/Decode Cycle - AAC or aptX Enhanced
GPIO & Metadata
Time-Aligned & Redundant
GPIO & Metadata
Time-Aligned with Redundant Transport
SCHEDULING SOFTWARE
Created by AVC
SCHEDULING SOFTWARE
Created by AVC

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PLANNED FOR THE FUTURE

SCAsat

- Redundant Reliability
- Dual-Path Delivery
- Excellent Audio Quality
- More Audio Channels, with Metadata
SUMMARY
SCAsat

- Replace Incompatible Legacy Systems
- Investigation, Consultation, Partnering with Developers
- Testing and Deployment
- Best Technologies for Dual-Path, Multi-Channel Delivery and Contribution
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