Introducing Discovery and Registration

JOINT INTEROPERABILITY DEMONSTRATION Align 2016

TRADITIONAL INFRASTRUCTURE



Production Switcher

Sources and destinations are identified by, and limited by, connectors on router matrix



STATIC NETWORKED INFRASTRUCTURE



Production Switcher

We *could* use network switches as though they were SDI routers, with similar limitations



DYNAMIC NETWORKED INFRASTRUCTURE



Production Switcher

IP aids scalability, on-demand provisioning and automation

but adds the challenge of discovery

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POTENTIAL BENEFITS OF IP

- Commodity infrastructure
- Support for multiple formats, current and future
- Flexibility of location through distributed infrastructure
- On-demand provisioning of production resources
- More scope for automation
- Simplifies integration with IP-based delivery



DISCOVERY

What is it?

Ensure parts of a networked media system can find each other

Why does it matter?

It's an essential part of automation and reducing manual overhead

From small plug-and-play cases... ... to on-demand provisioning in a data centre



JT-NM DISCOVERY AND REGISTRATION FRAMEWORK

- Outlines requirements
- Defines terminology
- Describes a logical approach for:
 - Registering information about devices, capabilities, sources ...
 - Announcing that there is information available
 - Querying that information
- Builds on JT-NM's "strong identity" approach



AMWA NETWORKED MEDIA INCUBATOR

- Enable open, multi-vendor interoperability in professional media networks.
- Get early tangible results through collaborative working
- ...and testing of specific technical areas
- Produces NMOS specifications





AMWA NMOS IS-04 SPECIFICATION

- Based on JT-NM RA¹ discovery and registration framework
- REST HTTP / WebSocket registration and query APIs
- DNS-SD² discovery of API
- Registered and peer-to-peer operation





INTEROPERABILITY

- 1) <u>R</u>eference <u>A</u>rchitecture
- 2) <u>D</u>omain <u>N</u>ame <u>S</u>erver <u>S</u>ervice <u>D</u>iscovery

INCUBATOR WORKSHOPS





NMOS WORKSHOPS

Successful participants in one or more workshops in
London (Jan 2016), Salford (Mar 2016), Wuppertal and Houston (Aug 2016)

AJA Arista Atos Avid BBC COVELOZ Dalet EBU Embrionix glitch.digital Grass Valley Harmonic InSync Technology Lawo-ALC Macnica Mellanox Nevion NHK

Panasonic Riedel Communications Ross Video Snell Advanced Media Sony Stordis Streampunk Media Suitcase TV Telos Alliance Utah Scientific



THIS DEMO





JT-NM NETWORKED MEDIA ROADMAP OF OPEN INTEROPERABILITY



Roadmap is the current projection as of June 2016 and will evolve over time. Visit JT-NM.org for the latest update.



- IS-04 to complete AMWA specification process
- Develop additional NMOS specifications that make use of discovered information:
 - Connection management
 - Control and configuration



FIND OUT MORE

NMOS.tv github.com/AMWA-TV/nmos

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