The JT-NM Roadmap and what it shows

- **Which** standards and specifications enable the JT-NM Reference Architecture

- **How** the range of underlying technologies is expected to evolve

- **When** it is expected that those standards and specifications be widely available to build interoperable multi-vendor systems
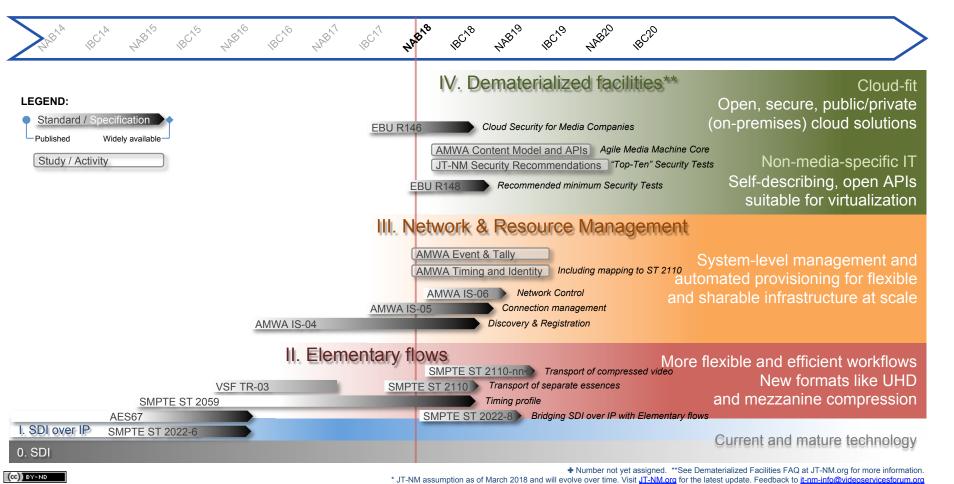
Note that timescales shown are approximate and may vary depending on the speed of industry developments.

JT-NM Roadmap of Networked Media Open Interoperability*

AMWA EBU SMPTE VSF

Timeline: NAB14 · IBC14 · NAB15 · IBC15 · NAB16 · IBC16 · NAB17 · IBC17 · **NAB18** · IBC18 · NAB19 · IBC19 · NAB20 · IBC20

LEGEND:
- Standard / Specification
  - Published — Widely available
- Study / Activity

IV. Dematerialized facilities**

Cloud-fit
Open, secure, public/private
(on-premises) cloud solutions

EBU R146 — *Cloud Security for Media Companies*

AMWA Content Model and APIs — *Agile Media Machine Core*

JT-NM Security Recommendations — *"Top-Ten" Security Tests*

EBU R148 — *Recommended minimum Security Tests*

Non-media-specific IT
Self-describing, open APIs
suitable for virtualization

III. Network & Resource Management

System-level management and
automated provisioning for flexible
and sharable infrastructure at scale

AMWA Event & Tally

AMWA Timing and Identity — *Including mapping to ST 2110*

AMWA IS-06 — *Network Control*

AMWA IS-05 — *Connection management*

AMWA IS-04 — *Discovery & Registration*

II. Elementary flows

More flexible and efficient workflows
New formats like UHD
and mezzanine compression

SMPTE ST 2110-nn+ — *Transport of compressed video*

VSF TR-03

SMPTE ST 2110 — *Transport of separate essences*

SMPTE ST 2059 — *Timing profile*

AES67

SMPTE ST 2022-8 — *Bridging SDI over IP with Elementary flows*

I. SDI over IP

SMPTE ST 2022-6

Current and mature technology

0. SDI

+ Number not yet assigned. **See Dematerialized Facilities FAQ at JT-NM.org for more information.
* JT-NM assumption as of March 2018 and will evolve over time. Visit JT-NM.org for the latest update. Feedback to jt-nm-info@videoservicesforum.org

Dematerialized Facilities

Two main sub-categories

 Cloud-fit – suitable for use in a cloud-based environment

- **On Demand – scalable, elastic, meterable**
- **Security from the outset – Internet best-of-breed**
- **Generic cloud infrastructure – ubiquitous/resilient/public API**
- **Self-describing APIs – well documented, fully functional**
- **Multi-cloud – private/public/multi-cloud vendor**

 Non-media specific IT

- **Software-only**
- **Virtualizable – runs on virtual machines**
- **COTS Hardware – entirely COTS or COTS w/specialised boards**
- **Layered & open architecture – follows current best practices**

New Activities

- AMWA Event & Tally
  A simple protocol for signaling and/or becoming aware of time-critical events
- AMWA Identity & Timing
  Support user requirement to identify and synchronise separate but related content throughout a workflow ("end-to-end")
- AMWA Content API
  In a Dematerialised facility, allows access to read, write and make grains on-the-fly. Provide a RESTful mapping to HTTPS and other protocols
- JT-NM Security Recommendations
  A "Top Ten" list of basic security recommendations that may be verified during upcoming JT-NM Interop events

Changes since previous version (September 2017)

- Refreshed "Dematerialized facilities" layer with:
  - EBU R148 Recommended minimum set of security tests
  - AMWA "Content API"
  - JT-NM Security Recommendations
- Updated "wide availability" dates to latest market information:
  - IS-04, IS-05, IS-06
  - SMPTE ST 2110, SMPTE ST 2059
- Changed name of Auto-Provisioning layer to Network & Resource Management
  - Changed descriptive text at far right on Network & Resource Management to, "system level management and automated provisioning for flexible and sharable infrastructure at scale"
- Refreshed "Network and resource management" layer with:
  - AMWA "Identity and Timing"
  - AMWA "Event and Tally"
- Refreshed "Elementary Flows" layer with:
  - SMPTE ST 2022-8 (Bridging SDI over IP with Elementary flows)
  - SMPTE ST 2110-nn* (Transport of compressed video)
    * number not yet assigned (← added this text to the legend at the bottom)
- Moved the red line to NAB 2018
- Updated date to March 2018
- Small cosmetic and editorial changes

Changes since previous version (April 2017)

- Expanded section IV. Dematerialized facilities & added Cloud-fit & Non-media-specific IT sub-categories
- Added short description and other items to Dematerialized facilities lane
- Added JT-NM Activity (e.g. Identify Best Practices) to Dematerialized facilities
- Added reference (**) to Dematerialized Facilities FAQ
- Decreased size of 0. Current SDI & I. SDI over IP lanes & reduced detail
- Added 'Study/Activity or other.' to "LEGEND"
- Added AMWA and EBU document numbers & titles for IS-05/6 & R146.
- Removed AMWA NMOS generic arrow
- Combined discrete elements of ST 2110 into a single arrow
- Move the red line to IBC 2017
- Updated date to August 2017
- Small cosmetic changes