



Joint Task Force on Networked Media

Dematerialised Facilities

What is the Joint Task Force on Networked Media (JT-NM)?

The Joint Task Force on Networked Media is a joint effort of the

- **AMWA** (Advanced Media Workflow Association)
- **EBU** (European Broadcasting Union)
- **SMPTE**[®] (Society of Motion Picture and Television Engineers[®])
- **VSF** (Video Services Forum)

The mission of the JT-NM is to help to drive development of a packet-based network infrastructure, in an open, participatory environment, for the professional media industry. This is achieved by bringing together manufacturers, broadcasters and industry organizations (standards bodies and trade associations) with the objective to create, store, transfer and stream professional media.

What does the JT-NM Roadmap Show?

- **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 will be widely available to build interoperable multi-vendor systems

What is a Dematerialised Facility?

A “dematerialised facility” is a broadcast facility operating on generic IT equipment, and in some cases, housed in remote locations operated by others. The dematerialised facility uses Internet technology, which allows the rapid scale-up and scale-down of these facilities, and has security built-in from the beginning. Users demand open facilities which are composed of any combination of private on-premises technical facilities owned by the broadcaster and multiple off-premises cloud technology providers.

Why are there sub-categories under “dematerialised facilities” in the JT-NM Roadmap?

The JT-NM felt that the category of “dematerialised facilities” could be further broken down into the sub-categories of Cloud-fit, and Non-media-specific IT. Cloud-fit applies to solutions that have been built from the ground up to run in a cloud infrastructure. Non-media-specific IT refers to those solutions and applications that, while perhaps not 100% cloud-fit, subscribe to key principles that help support their use in dematerialised facilities.

For further information

Visit www.jt-nm.org

Or write to jt-nm-info@videoservicesforum.org

What are some typical characteristics of Cloud-fit?

Key characteristics of Cloud-fit architectures and applications are:-

- **On Demand** – scalable, elastic, measurable
Solutions should allow broadcasters to deploy capacity as required and on demand. As such, these solutions should be able to operate over a wide range of scale, they should be elastic (meaning that they can scale up and scale down quickly) and they should be measurable (allowing the broadcaster to monitor the usage of various micro-services deployed as part of a cloud-fit solution).
- **Security from the outset** – Internet best-of-breed
Cloud-fit solutions should employ security that has been included from the beginning, not added as an afterthought. The approach to security must employ Internet best-of-breed and must be capable of reacting quickly to changing threats.
- **Generic cloud infrastructure** – ubiquitous, resilient, public APIs
Cloud-fit solutions operating on generic cloud infrastructures using ubiquitous, resilient, public APIs.
- **Multi-cloud** – private, public, multi-cloud vendor
It is a critical requirement that cloud-fit solutions be designed to operate on different vendor's cloud infrastructure in addition to operating on infrastructure owned by the broadcaster and located at the broadcaster's facility.

What are some typical characteristics of Non-media-specific IT?

Key characteristics of broadcast applications operating on non-media-specific IT include:-

- **Self-describing APIs** – well documented, fully functional
It is imperative that solutions employ self-describing APIs that use best practices for documentation. These APIs must be fully functional and should not require special knowledge of functionality within the application in order to use the API.
- **Software-only**
This characteristic describes solutions that are based solely upon software and that do not rely upon bespoke, media-specific hardware; for example specialised processors, highly optimized storage solutions, etc.
- **Virtualizable** – runs on virtual machines
Solutions built to run in virtual environments. These solutions are designed to run alongside other applications, on their own virtual machine, but sharing common, non-media-specific IT hardware.
- **Security** - best current practices
Security should be top of mind as vendors migrate applications to IT platforms. Security solutions should be multi-layered and should follow the best current practices.
- **COTS Hardware** – entirely COTS or COTS with specialised boards
COTS (Commercial Off The Shelf) hardware refers to the ability of a solution to operate either entirely on commodity, generic hardware, or to use commodity hardware with some specialised boards to interface with SDI, Timecode or other mainstream media signals.
- **Layered and open architecture** – follows current best practices
The JT-NM Roadmap anticipates that dematerialised facilities will rely on current best practices in the IT world for layered, open architectures that facilitate the development of applications that can be easily integrated and rapidly deployed in current IT environments.