

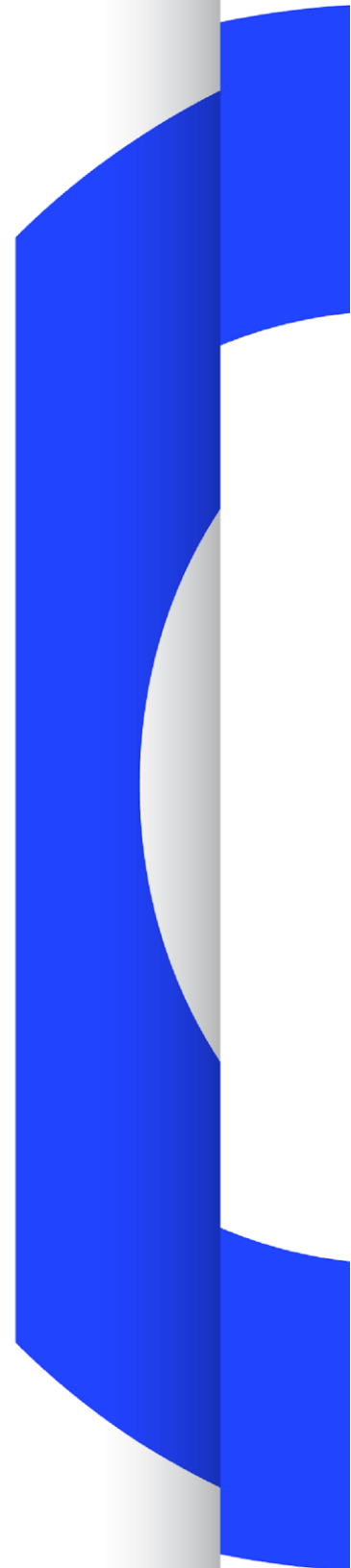


OPERATING EUROVISION AND EURORADIO

WHITE PAPER

THE DYNAMIC MEDIA FACILITY - MEDIA VALUE CHAIN TRANSFORMATION

Geneva
April 2023



The Dynamic Media Facility - media value chain transformation

Executive Summary

In the fast-paced, ever-evolving world of media production, the European Broadcasting Union (EBU) envisions a future where organizations adopt a highly flexible and dynamic technology approach.

By focusing on interoperable platform- and hardware-agnostic Software Media Functions (SMF) rather than on purpose-built hardware units, EBU Members aim to create a seamless media production process. This approach encourages the use of a unified infrastructure that enables customizable workflows, cost-effective scalability, and enhanced operational efficiency.

The Evolving Media Technology Landscape

The media production industry is experiencing a significant shift in its operational approach, primarily driven by rapid advancements in IT technologies. Once reliant on the Serial Digital Interface (SDI) as broadcast-specific point-to-point interface technology, the broadcasting industry is steadily and rapidly transitioning to IP networks and Cloud technologies, revolutionizing live (and non-live) production creation. These changes are just the beginning, as there are still numerous solutions and formats for media transport, control, and data, each with its specific purpose and use case.

The Problem with Traditional Media Production

Traditional media production processes often rely on numerous vertical products, each with unique interfaces, applications, operating systems, and specialized hardware. While the operating system and hardware are necessary for the application to function, they generate significant overhead and can burden support teams. This outdated approach limits flexibility and adaptability, making it difficult for organizations to keep up with the ever-changing demands of the media landscape.

The EBU's Vision for a Dynamic Media Factory

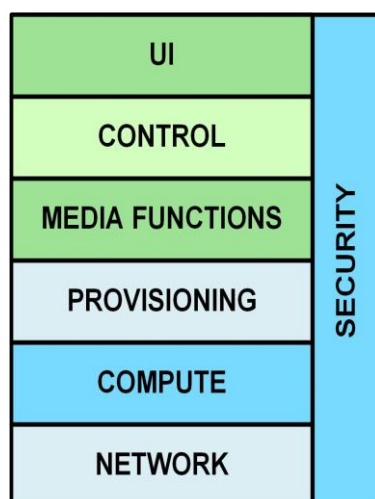


Figure 1: Layered Vision of a unified Media Production Infrastructure

The EBU recommends the adoption of an IT-focused approach with best practices that involve developing solutions using a layered architecture and creating a unified infrastructure for media production.

By leveraging advancements in hardware and provisioning technology, organizations can implement a container-based infrastructure that supports a variety of Software Media Functions (SMF).

These SMFs, such as vision switching, colour correction, and audio/video monitoring, can be delivered as separate container building blocks (or blocks), each offering specific capabilities that can be hosted on generic compute platforms backed by the industry-standard IT solutions such as containerization, and container orchestration, all based on either bare metal on-prem servers, seamlessly extended into a public cloud or both.

This flexible approach enables a more dynamic, efficient, cost-effective media production process. Media-specific functionality such as the control API, media flow management, codecs, operational control, timing, etc., are now the functions of a generic, standardized platform that media companies are enabled to assemble using the generic building blocks.

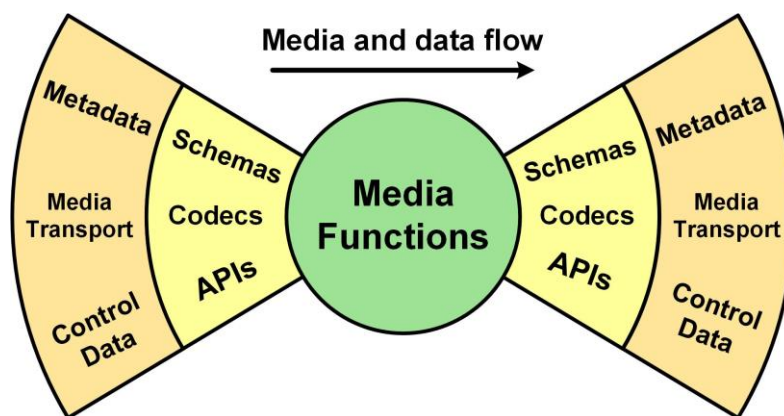


Figure 2: Media function in/out context - the “bowtie” diagram

Implementing the EBU's Recommendations

To achieve the EBU's vision of a Dynamic Media Factory, EBU Members recommend the following:

1. Encourage the media industry to focus on building interoperable Software Media Functions (SMF) instead of purpose-built hardware units, while considering the granularity of components and the stability of their interfaces to ensure seamless integration and adaptability.
2. Enable media organizations to assemble multi-vendor, scalable platforms that abstract the border between public cloud and on-prem hardware by making products available as interoperable Software Media Functions (or containers), and carefully specify platform and vendor mobility to avoid lock-in situations.
3. Adopt a dynamic media factory layered model using well-established standard IT tools and frameworks (e.g., Kubernetes) to allow the assembly of open platforms.
4. Adopt a common control framework that enables the unrestricted design of customized, flexible workflows and user interfaces, providing operational benefits to teams using the system.
5. Ensure that solutions are conceived and constructed with the capability to monitor and report their carbon footprint, allowing for effective management of their environmental impact and promoting carbon efficiency in operation as required.

APPENDIX

Acknowledgements

This publication was prepared by the System Design and Automation group within the Media Infrastructures and Cybersecurity strategic programme.

The group was chaired by Peter Brightwell (BBC), Phil Tudor (BBC), and Willem Vermost (VRT) with key contributions from: Anthony Castreuil and Arnoud Delparte (VRT), Dominique Lestrade and Edouard Tran (France TV), Helmut Kraus, Matthias Schickentanz and Jan Krusch (WDR), Hugo Ortiz (RTBF), Ivan Hassan, Peter Brightwell and Phil Tudor (BBC), Kurt Mathiasen (TV2 DK), Mike Matton, Kevin Moolenschot and Willem Vermost (VRT)

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