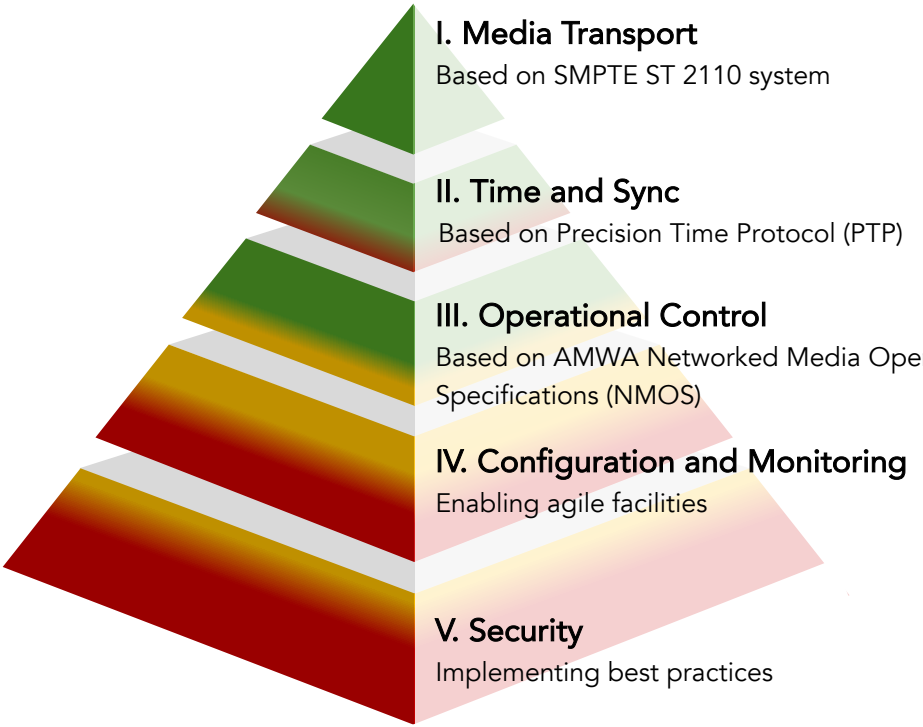
THE TECHNOLOGY PYRAMID FOR MEDIA NODES

Minimum User Requirements to Build and Manage an IP-Based Media Facility using Open Standards & Specifications

EBU



The *Technology Pyramid for Media Nodes* represents the requirements of the user community regarding IP-based facilities. It specifies the ensemble of technologies that SMPTE ST 2110 media devices need to support to enable them to design and build, operate and maintain a real size facility.

The *Media Node Maturity Checklist* at the back is meant to help discussions between customers and vendors and to quickly assess the level of maturity of a product for suitable large deployment.

Details of each criteria are described in the EBU Tech 3371 available at tech.ebu.ch/pyramid.

Endorsed by:

NABA · World Broadcasting Unions · JT-NM · AMWA Networked Media. Working. · SMPTE · VSF Video Services Forum

MEDIA NODES MATURITY CHECKLIST

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Brand / Product / Date:		
I. Media Transport	1. Single link video SMPTE ST 2110-20/22	
	2. Software-friendly SMPTE ST 2110-21 Wide & Asynch video receivers	
	3. Universal, multichannel and low latency audio SMPTE ST 2110-30 Level B	
	4. Stream protection with SMPTE ST 2022-7	
II. Time and Sync	1. PTP Performance & monitoring	
	2. PTPv2 configurable within SMPTE and AES profiles	
	3. Multi-interface PTP redundancy	
	4. Synchronisation of audio, video and data essences	
III. Operational Control	1. Discovery and Registration: AMWA IS-04	
	2. Connection Management: AMWA IS-05	
	3. Device Control: Open Methods and AMWA IS-12	
	4. Audio Channel Mapping: AMWA IS-08	
	5. Topology discovery: LLDP	
IV. Configuration and Monitoring	1. IP assignment and low-level configuration: DHCP	
	2. Open configuration management – e.g. OpenConfig, Open API, SSH …	
	3. Open monitoring protocols – e.g. OpenTelemetry / OpenConfig, MQTT, Syslog, SNMPv3, …	
V. Security	1. EBU R 148 Cybersecurity Controls	
	2. Authentication & Authorization	
	3. Vulnerability & Product Lifecycle Management	
	4. Encrypted Control Communications	

Note that any claims from vendors has not been verified by the EBU and it is recommended that the customer make their own tests and verification with the actual implementations before buying.