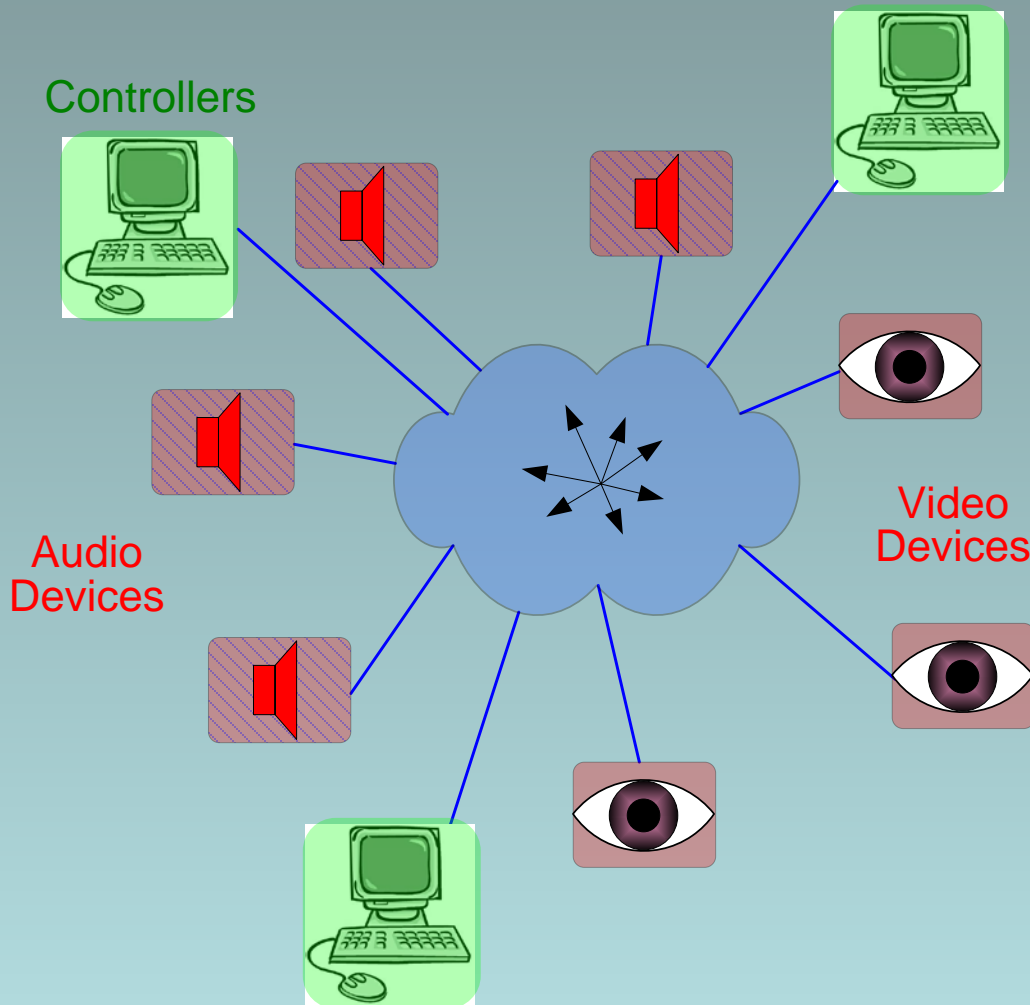


OCA

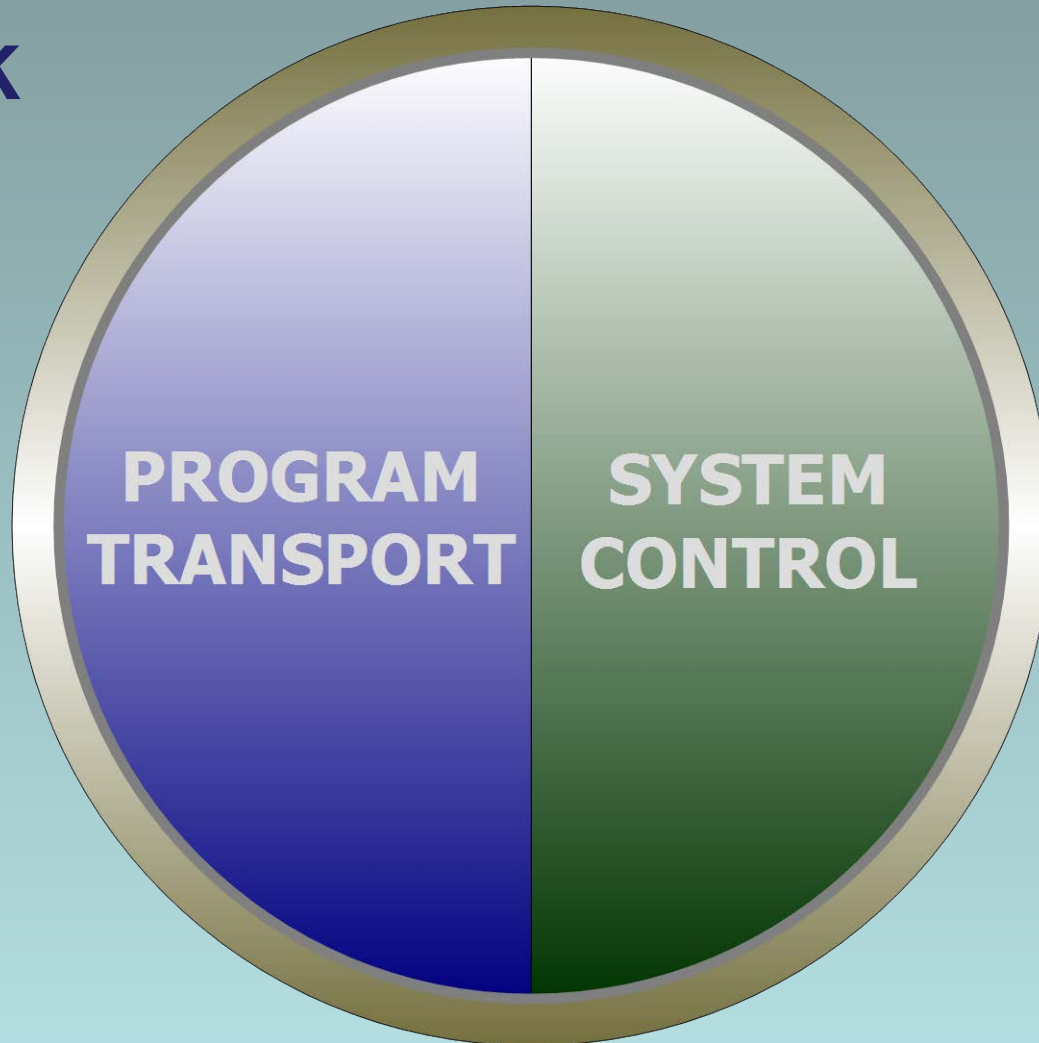
The Open Control Architecture

The OCA Alliance
www.oca-alliance.com

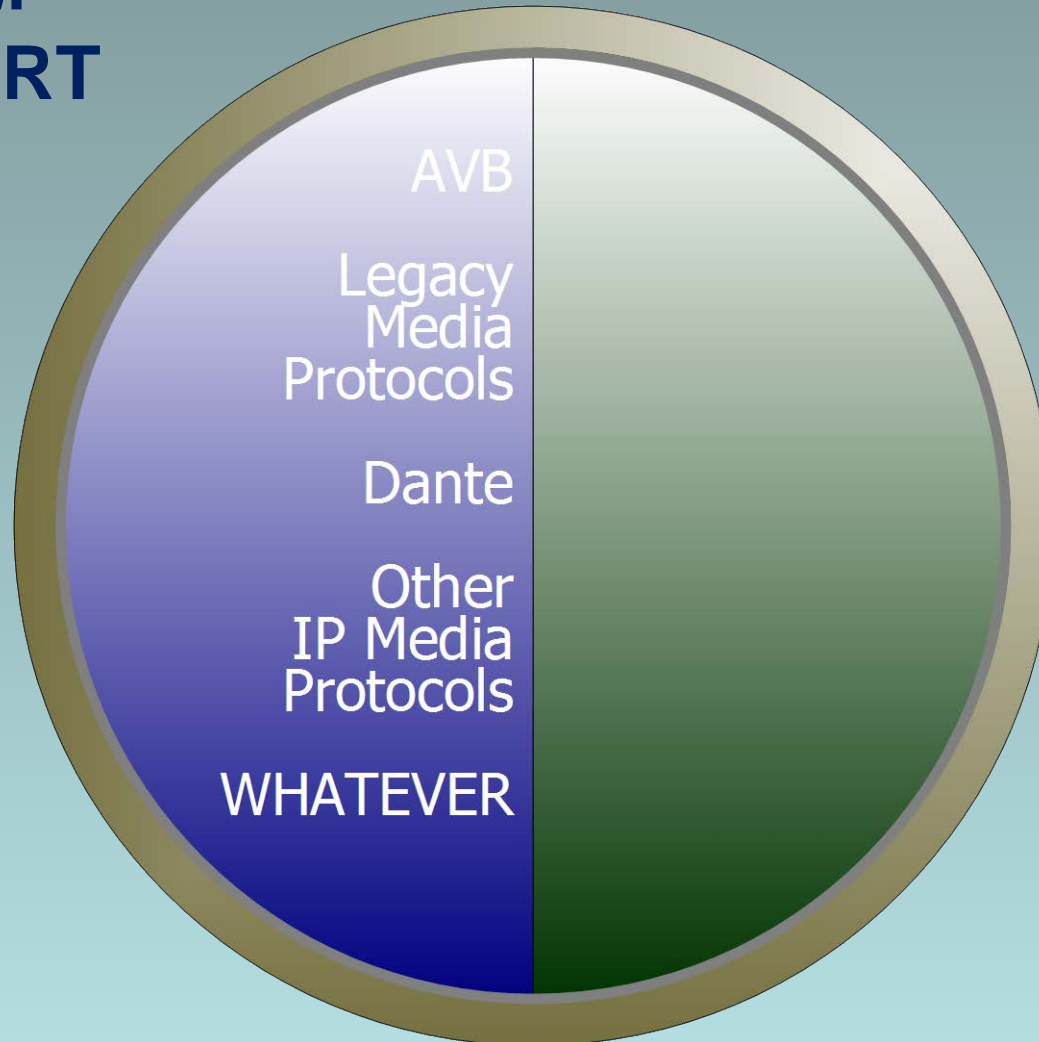


**You can easily
move a signal
from A to B,
but what are
you going to
do with it
when it gets
there?**

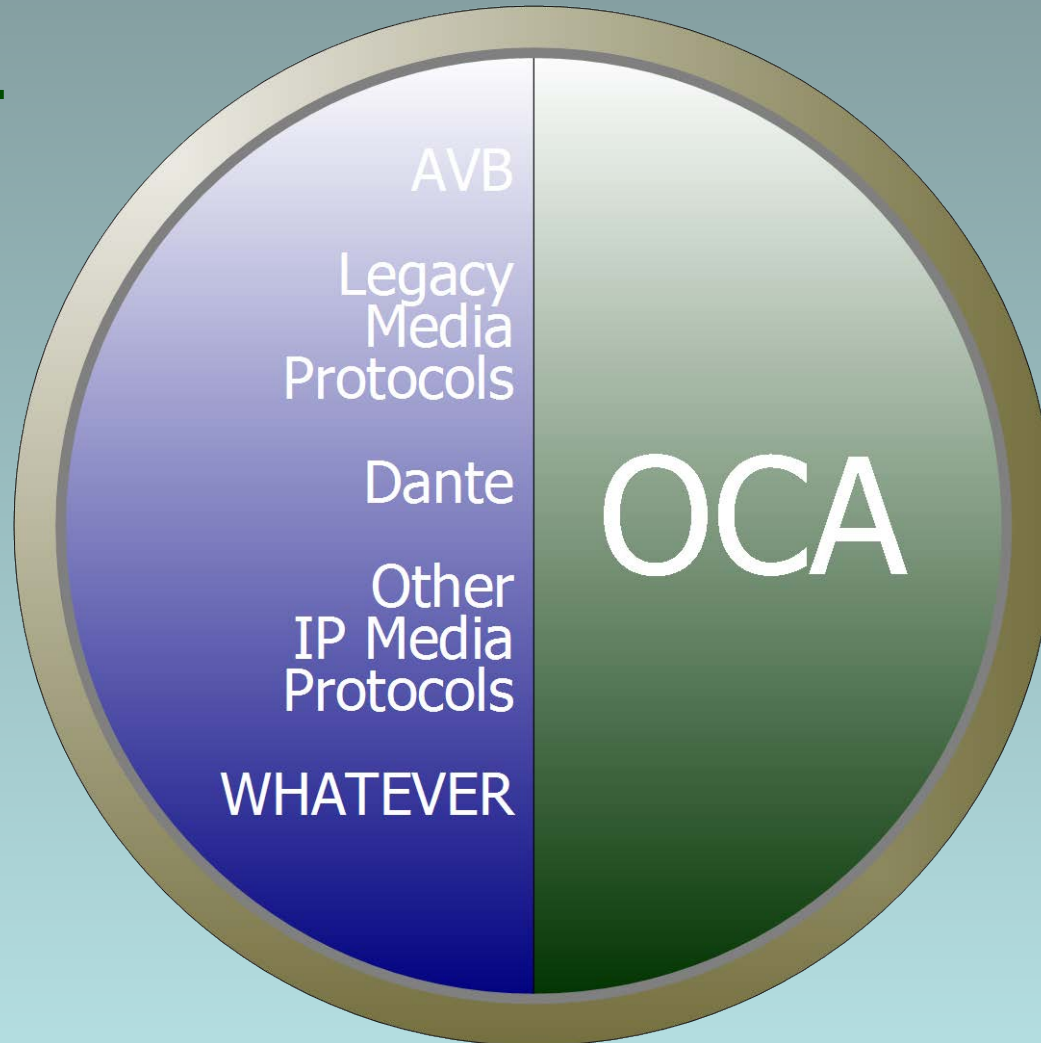
**MEDIA
NETWORK**



PROGRAM TRANSPORT



**SYSTEM
CONTROL**



Why another control standard?

- OCA is the only control architecture that is *all* of the following:
 - Pro application oriented
 - Scalable up to huge network sizes
 - Suitable for mission-critical applications
 - Compatible with proprietary product features
 - Futureproof
 - Secure
 - On track to become an open public standard.

OCA In Action: Concert tour

Concert tour sound system

- Touring system, possibly incorporating equipment from prime contractor and various subcontractors.
- Multiple ad-hoc connections, varying from place to place, ideally using network audio. For example:
 - Prime contractor provides main loudspeakers, subcontractors provide delay systems, fills, woofers, etc.
 - Connected to resident venue system for area fill.
 - Connected to show video systems, radio, TV, & internet broadcast systems, recording systems, & press.
- System configured modularly, with multiple mix and loudspeaker/ amplifier subsystems, variously deployed from rental house(s) for different tours.
- Media transport may be mix of Ethernet, AES3, MADI, AVB, Dante, etc.

OCA Benefits

Central wired & wireless control of multiple network(s).
Multivendor support. High reliability. Media flexibility.

OCA In Action: Large Install Venue

Large installed sound system

- Example: stadium, multipurpose arena, large auditorium
- Multiple program sources, control stations, loudspeaker clusters, and external interfaces.
- Interfaces to paging, signage, security, emergency (fire), show video, security, and other internal systems.
- Interfaces to external systems - broadcast, internet, user devices (tablet, smartphone).
- Evacuation standards compliance may be required.
- Security may be required.
- Network infrastructures are typically administered by central IT.
- Large to very large network diameters.

OCA Benefits

Control of large & complex networks. Security. Public standards compliance for Evac. Multivendor systems.

OCA In Action: Broadcast Intercom

Network Broadcast Intercom System

- Example: major television network production intercom
- Thousands of intercom stations, multiple control points.
- Transcontinental networks using private leased data lines.
- Interfaces to broadcast mixing equipment.
- VoIP interfaces
- Portable and fixed-location stations.
- Many subnets - multiple sites, multiple work environments within buildings, multiple remote locations.
- Network infrastructures may be administered by production intercom departments or by central IT.
- Frequent reconfiguration.
- Critical function - must not fail (millions of dollars at stake)

OCA Benefits

High reliability. Much simplified cabling. Ability to use corporate network(s). Multivendor systems.

OCA In Action: Bar Band

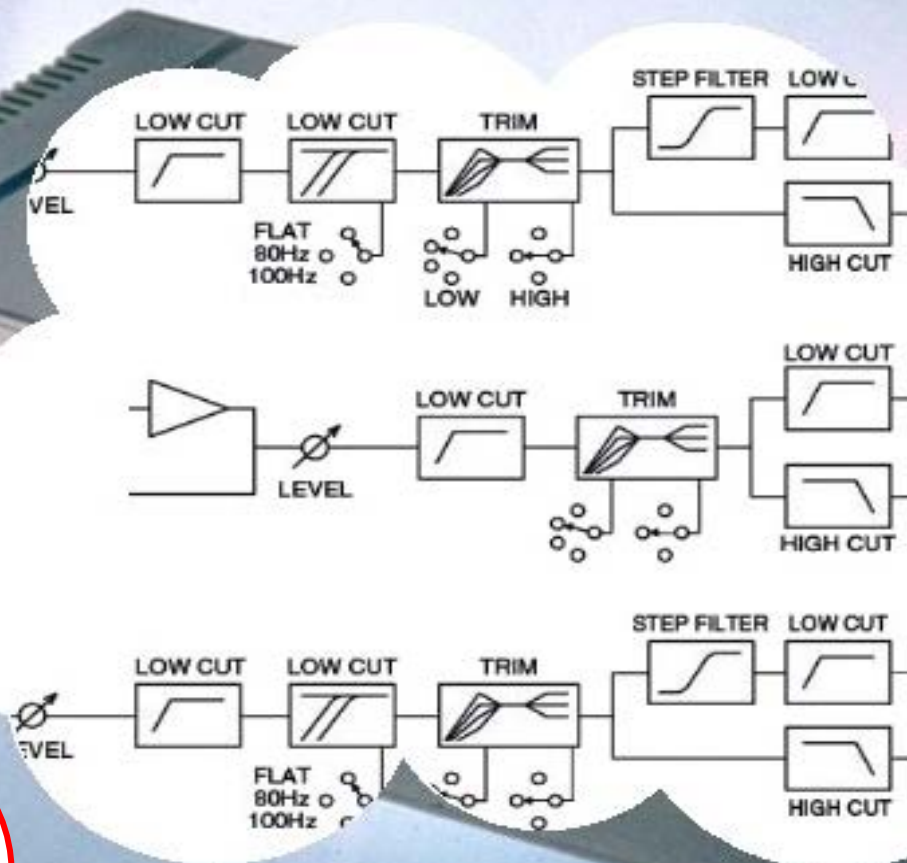
Tiny Sound System for Small Music Acts

- Single media network connecting everything
- Four house speakers, two stage monitors, mixers, mics, ancillary gear
- In-ear monitoring system optional
- Powered loudspeakers, network-connected
- One main house mixer, tablet-based (no big mixing desk)
- Onstage monitor mixers for each musician - small tablets on mic stands
- Wired microphones connect through stage box on network
- Wireless microphones connect through receiver(s) on network
- In-ear monitors connect through transmitter(s) on network
- Wireless access to main house mix is an option
- Optional external interfaces, both analog and digital, to house systems
- Optional multitrack digital recorder on network
- Optional webcasting interface on network and on internet

OCA Benefits Much simplified cabling. Improved diagnostic functions/features. Easy reconfiguration.

A Peek Under the Hood

OCA Device Model

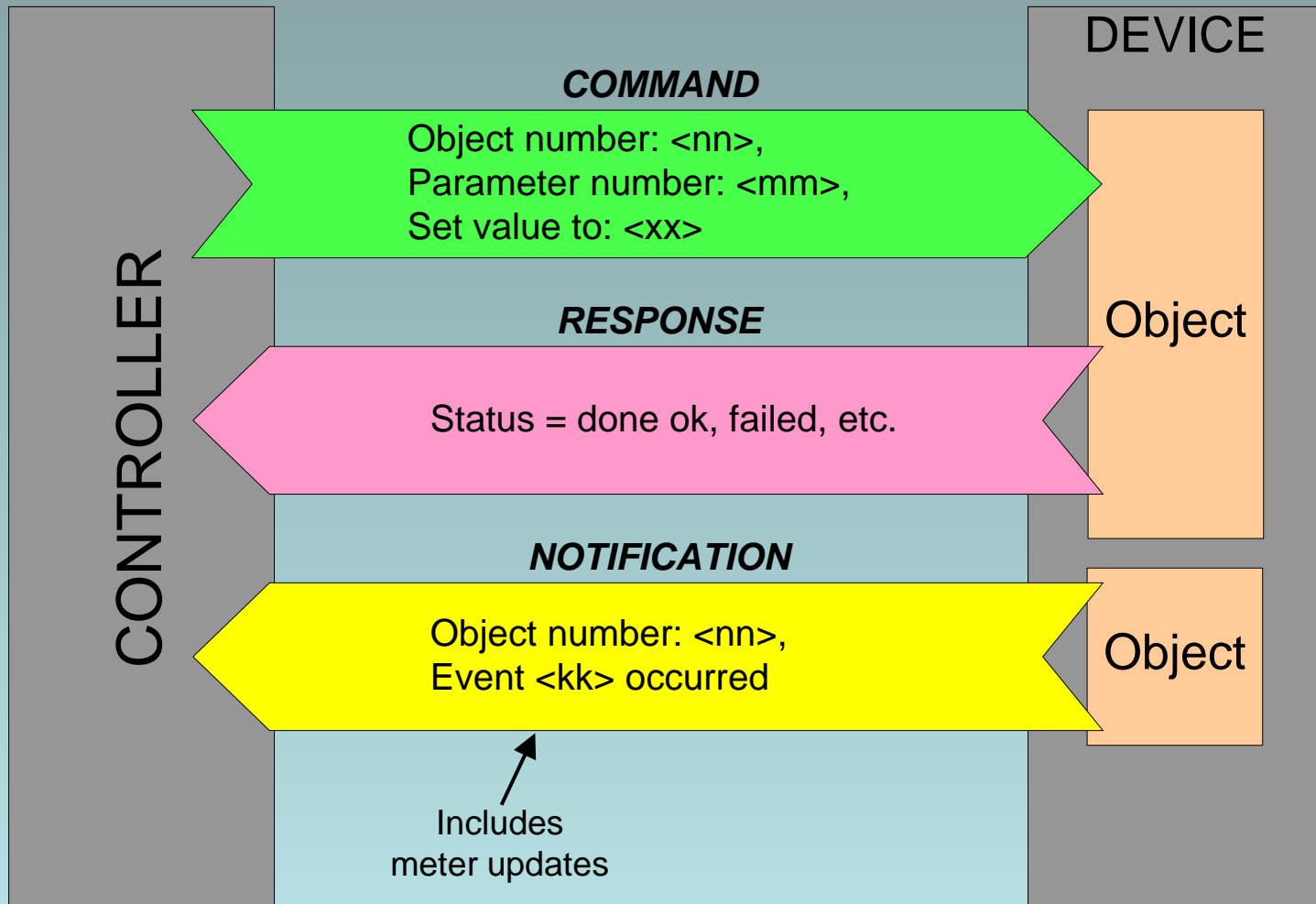


Box of Objects

OCA Control Repertoire (v.1.1)

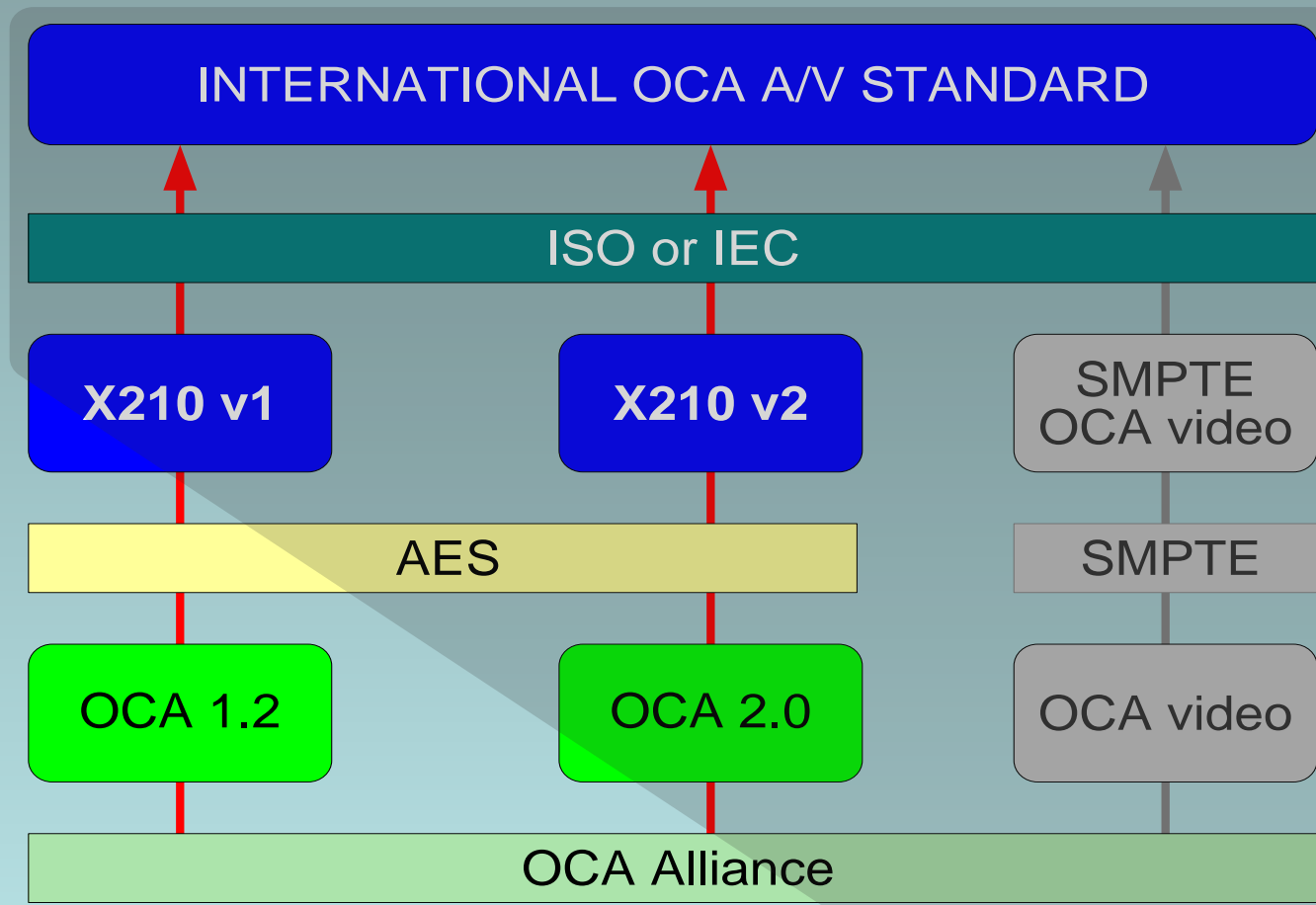
- Gain controls
- Mutes
- Switches (n-position)
- Delays
- Equalizers
- Filters (IIR & FIR)
- Limiters & Compressors
- Expanders & Gates
- Levelers
- Matrices
- Signal generators
- Arbitrary numeric parameters
- Level sensors (meters)
- Frequency sensors
- Time interval sensors
- Temperature sensors
- Grouping (~VCA groups)
- Crossfading
- Media connections & routing
- Proprietary extensions

OCA Network Traffic



Status & Plans

OCA Standardization Strategy



2011 2012 2013 2014 2015

Alliance
formed

OCA 1.2
Spec

OCA 2.0
Spec

AES
X210v1
Std

AES
X210v2
Std

OCA Products

The OCA Alliance

- Attero Tech
- Audinate
- Bosch Communications Systems
- d&b audiotechnik
- Duran Audio
- LOUD Technologies
- Presonus
- RCF spa
- Salzbrenner Stagetec Mediagroup
- TC Group
- Waves Audio
- Yamaha Corporation

Get with OCA

- Use OCA in your products
- Participate in AES X210 standards work
- Join the Alliance

www.oca-alliance.com