Next Generation SDN media network

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Who are Arqiva?
Why it’s time to evolve

Commercial flexibility – Enables new opportunities and opens new markets

Faster delivery of services – Catalogue based, right first time service deployment

Flexible infrastructure - Enables us to adapt quickly to customer and technology evolution

Location agnostic – flexibility to move functions to the most appropriate location

Vendor agnostic - select vendors based on strengths

Arqiva's technology principles

Embrace IP and industry standards

Implement software-defined networking and functions

Use COTS and Cloud infrastructure where appropriate

Orchestrate and automate, via APIs

Become location agnostic

Bake-in security
Automation is key to delivering our vision

- The technology is becoming more complicated
- Spend less time on repetitive tasks and get it right first time
- A need to deliver services quickly
- Ensures security policies can be efficiently managed
- Enables more efficient use of assets
- Lowers the costs of delivering services

We set ourselves a goal...

“I look forward to June 2019 when we are able to instantaneously provision and manage secure broadcast grade services, through the art of a “drag and drop” for our customers, using software defined networks and common IT equipment”

Keith Frost, Arqiva Media and Data Networks
Director - Jan 2017
Building our All-IP foundations

Reprogrammable, flexible media edge, enabling a hybrid IP and SDI environment
Off-the-shelf, high performance Ethernet switching
End-to-end service orchestration
Service & Infrastructure management
Capacity management
Vendor agnostic, open interfaces
Secure, intuitive user interface

End-to-end multi-domain orchestration

- complex multi-domain lifecycle service orchestration (LSO)
- multiple technologies & vendors
- multi-tenant operation
- globally interconnected - massive scale
- multi domain (networks and edges)
- multi-service & SDN controlled
- requires intelligent routing algorithms (e.g. lowest cost path – Dijkstra)
- NFV at the edges (dyn. deployment models)
- requires advanced resource management (availability, capability, capacity)

- Flow monitoring based on sFlow, netflow, routing tables, snooping tables, LLDP, etc.... : multiple sources from multiple API's
- Standardization still on-going (AMWA, ONAP, MEF, ...), so need a solution that can evolve easily
complex multi-tenant workflows – OSS integration

- state-of-the-art multi-vendor service orchestration solution
- manages services independently from the underlying infrastructure (bespoke, virtualized or hybrid deployments on- and off-premises)
- interoperates with any hardware technology, appliances and software functions (NFV) from any vendor
- full stack orchestration: infrastructure, platform services, media services and SLA’s
- resource capacity and capability management of all resources in the system
- intelligent and deterministic SDN orchestration of IP flows (e.g. Dijkstra)
- operates independent of media and transport formats (SMPTE 2022, 2110)
- integration with broadcast controllers (proprietary, AMWA IS-06 in the future)
- DataMiner is fully integrated with other OSS/BSS functions, such as incident handling (tickets), planned maintenance, CMDB, ERP systems, scheduling systems, etc.
- integration into open frameworks on-going (e.g. MEF, ONAP)
service & resource mgt go hand in hand

use drag & drop to easily model and design e2e services, straight across any vendor and technology boundaries

provision services automatically into your operation, instantly or on a scheduled basis, without worrying about capabilities or availability of resources throughout your entire ecosystem

intuitively control any of your active services instantly with the click of a button in a uniform manner, across all type of services and parts of your operation

proactively monitor all your active services e2e with powerful graphical presentations, enabling you to interact with all involved resources instantly, and full-featured alarm management

keep track of all historical services, including their performance

FIFA Feed 1

Real-time flow setup
Scheduled flow setup (deterministic)
Permanent and OU
Any media format
SMPTE 2022 SDN flow orchestration
Red and blue network segments
Network redundancy using 2022-7
Schedule-aware service assurance monitoring

Lowest cost dynamic path calculation (Dijkstra)
At time of booking or pre-roll
Full resource capacity and capability management
Resource reservation timelines
Infrastructure elements
Network and port capacity
IP address, VLAN, ... resource pools
NFV virtual functions including last minute deployment

Flow and route lookup
Flow monitoring
Dynamic platform visualization
From IP Showcase Theatre at IBC 2018

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Thank You

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