IP SHOWCASE THEATRE

CURATED BY VSF VIDEO SERVICES FORUM

Next Generation SDN media network

skyline communications
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VP Product Marketing

arqiva
Nathan Dixon
Principal Consultant

IP SHOWCASE THEATRE AT IBC – SEPT. 14-18, 2018

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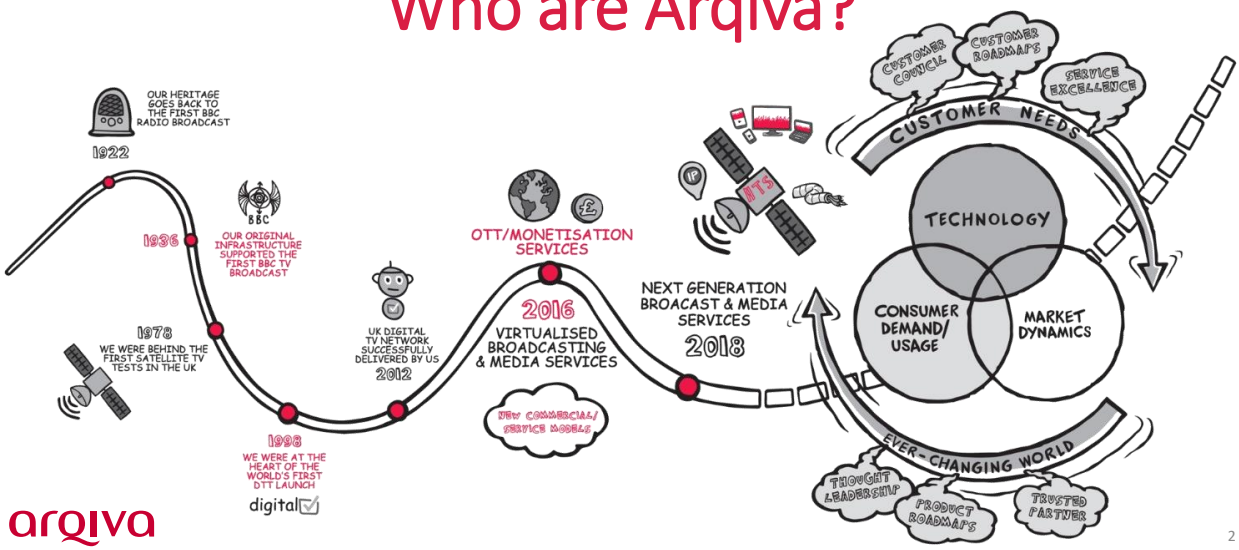
Who are Arqiva?



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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

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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

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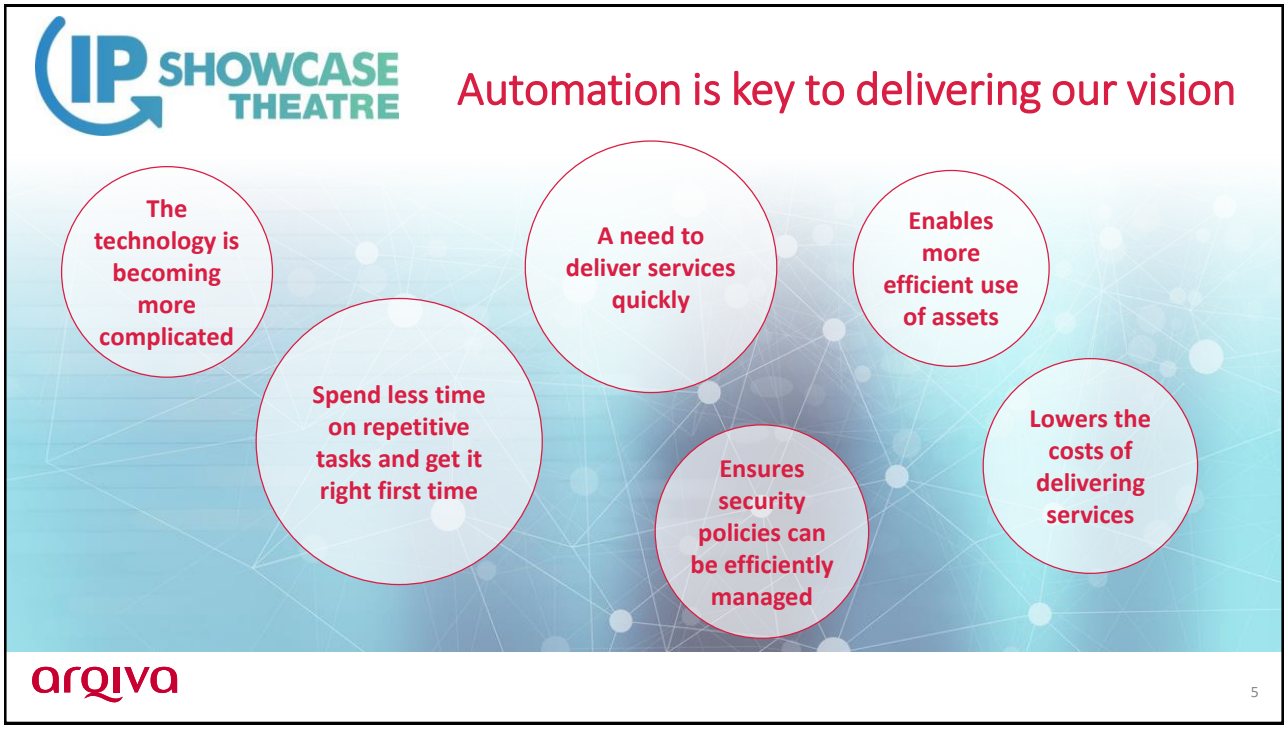
IP SHOWCASE THEATRE
Automation is key to delivering our vision
The technology is becoming more complicated
A need to deliver services quickly
Enables more efficient use of assets
Spend less time on repetitive tasks and get it right first time
Ensures security policies can be efficiently managed
Lowers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

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

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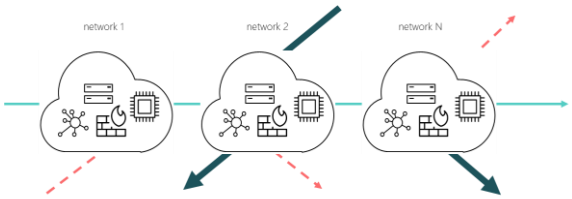
End-to-end multi-domain orchestration

- 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

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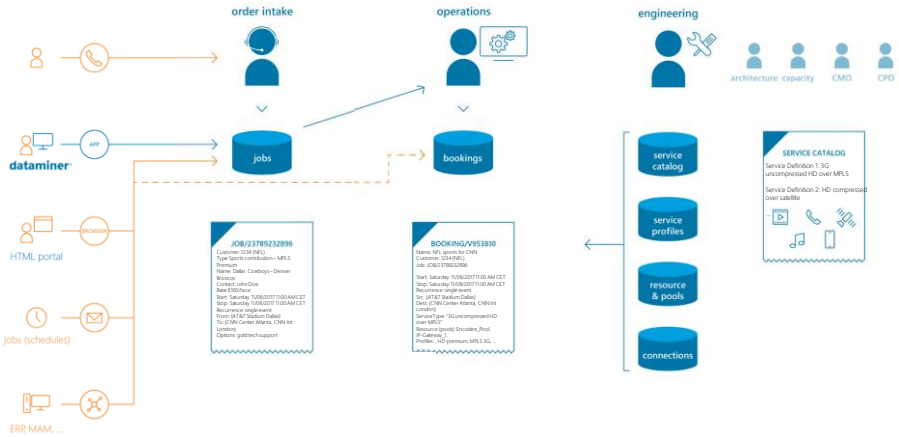
complex multi-tenant workflows – OSS integration



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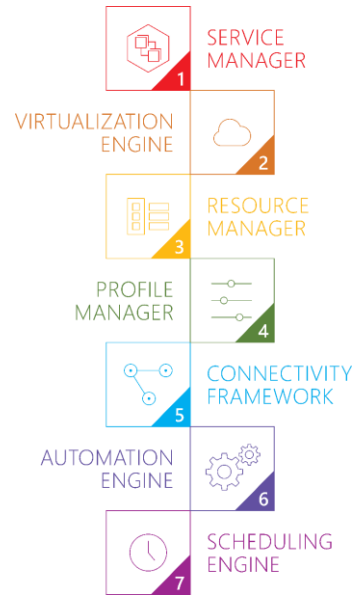
service & resource mgt go hand in hand

- 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)



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IP SHOWCASE THEATRE service & resource mgt go hand in hand

model

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

instantiate

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

manage

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

monitor

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

archive

keep track of all historical services, including their performance

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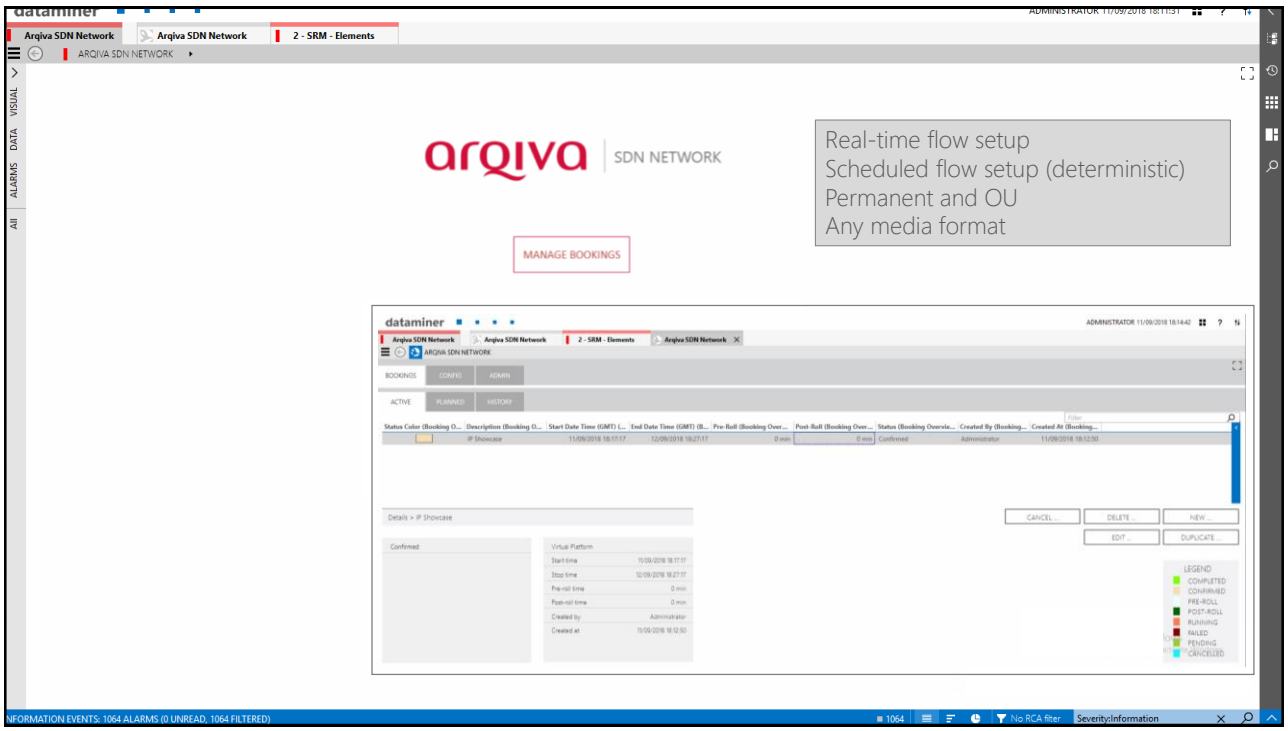
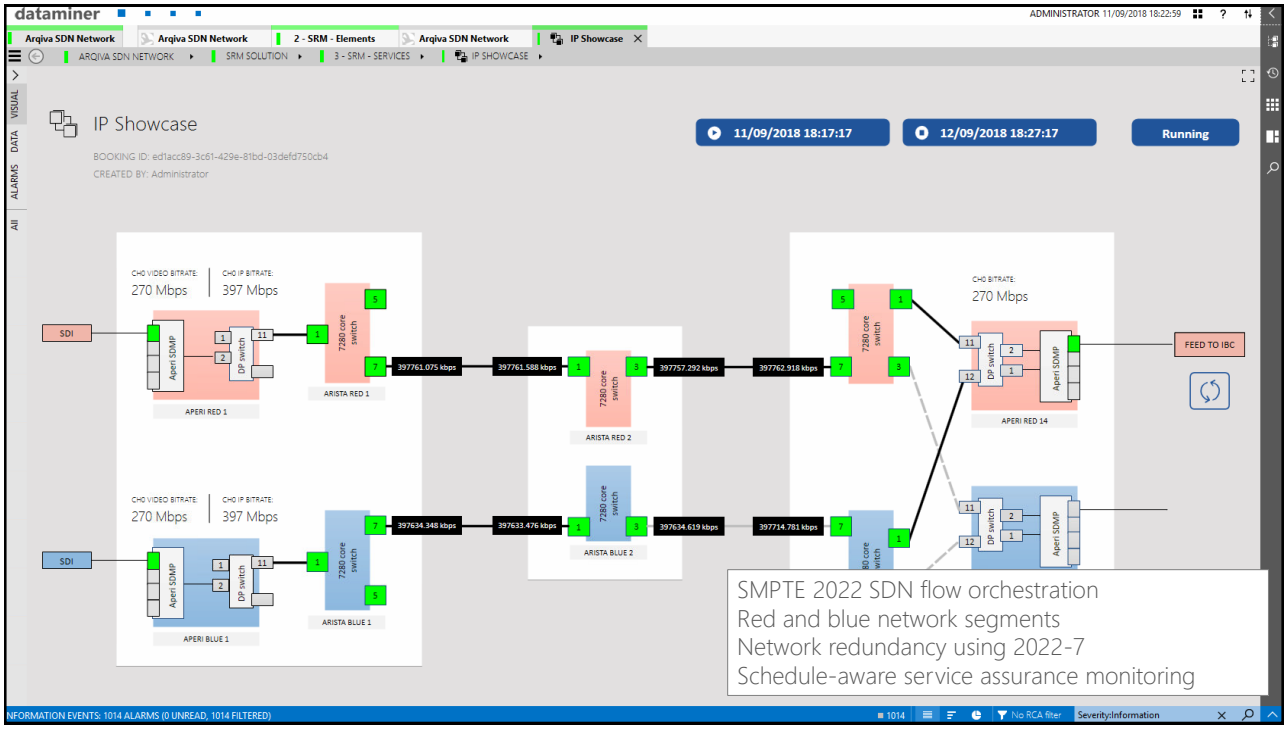
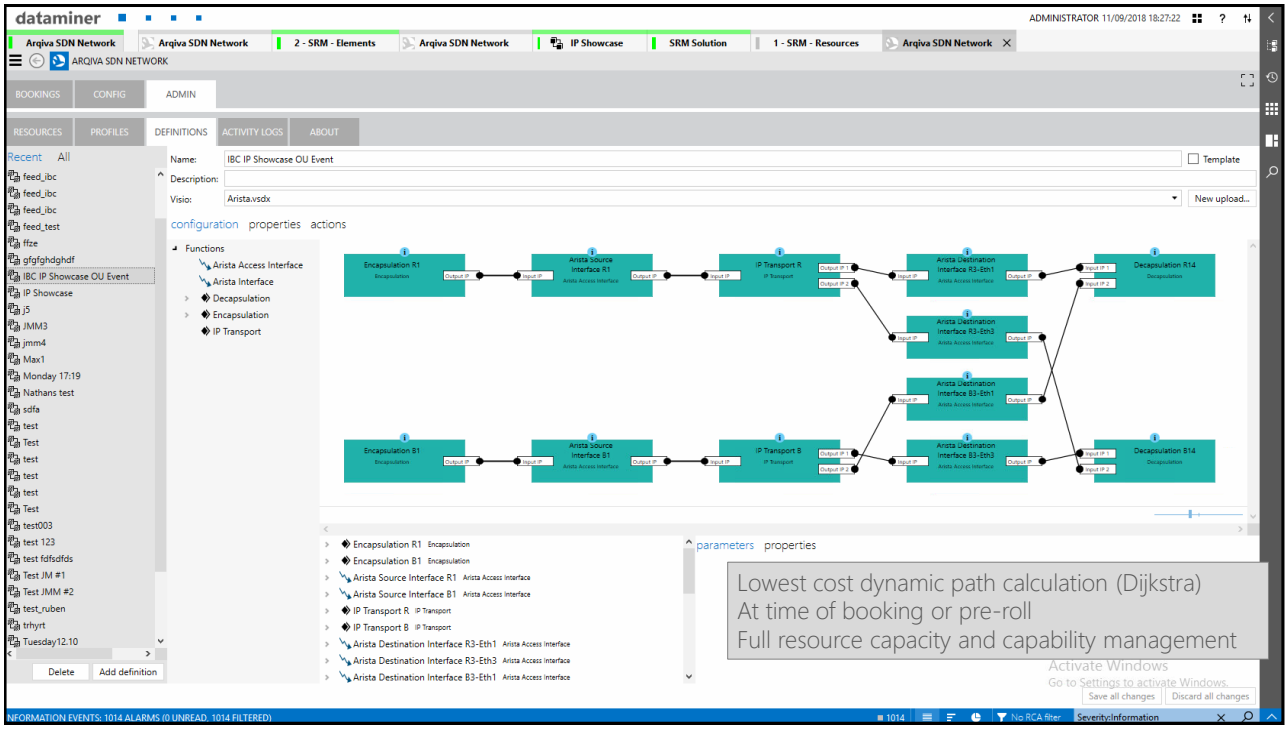
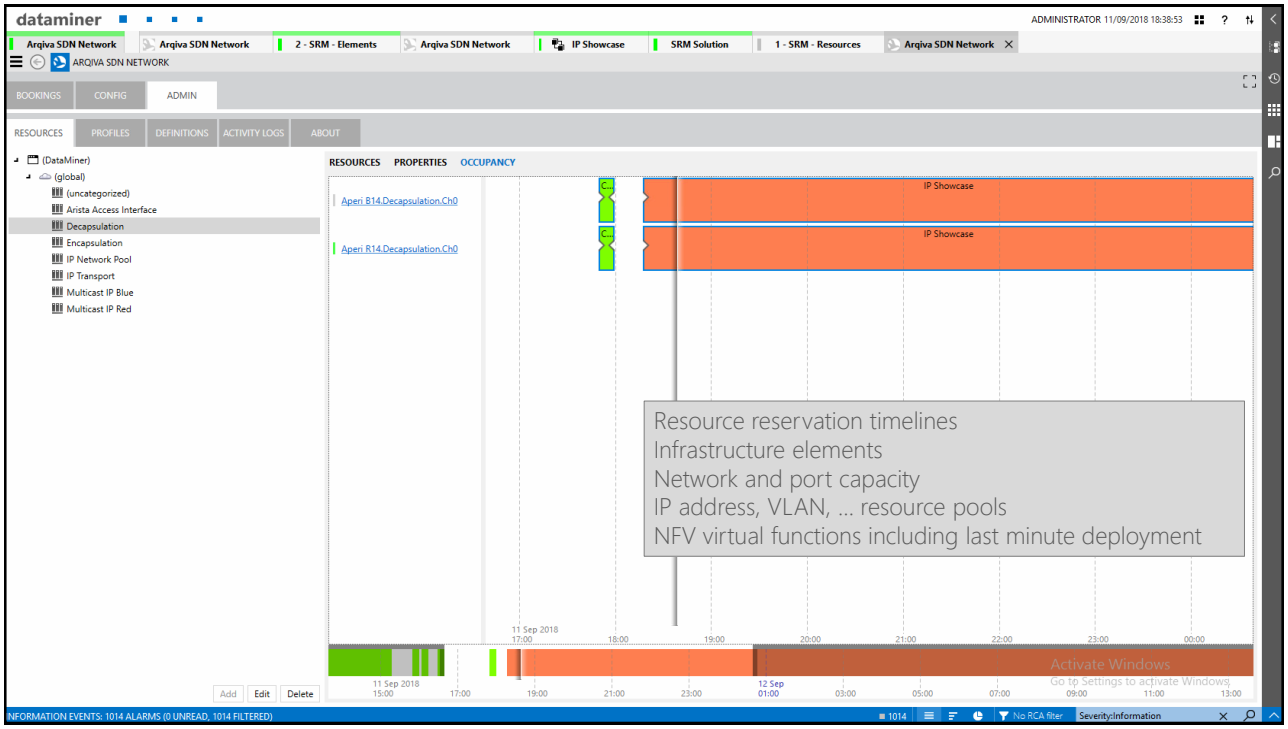
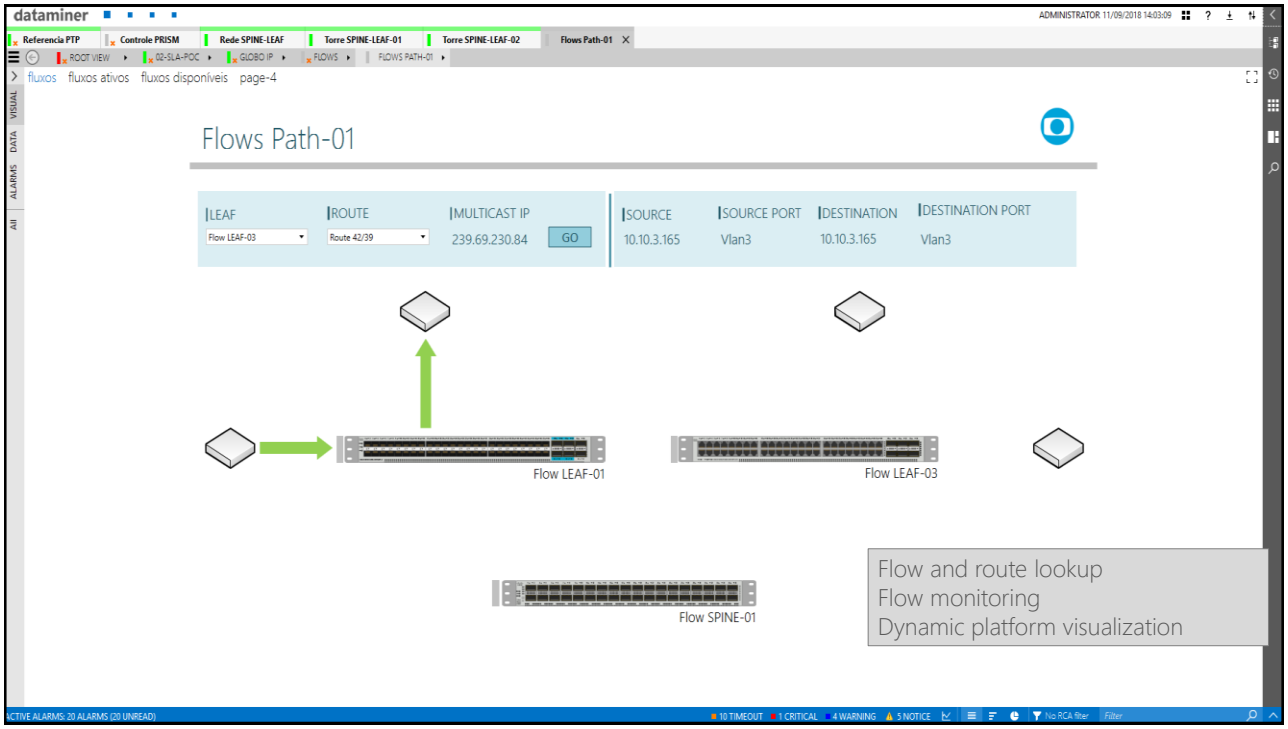
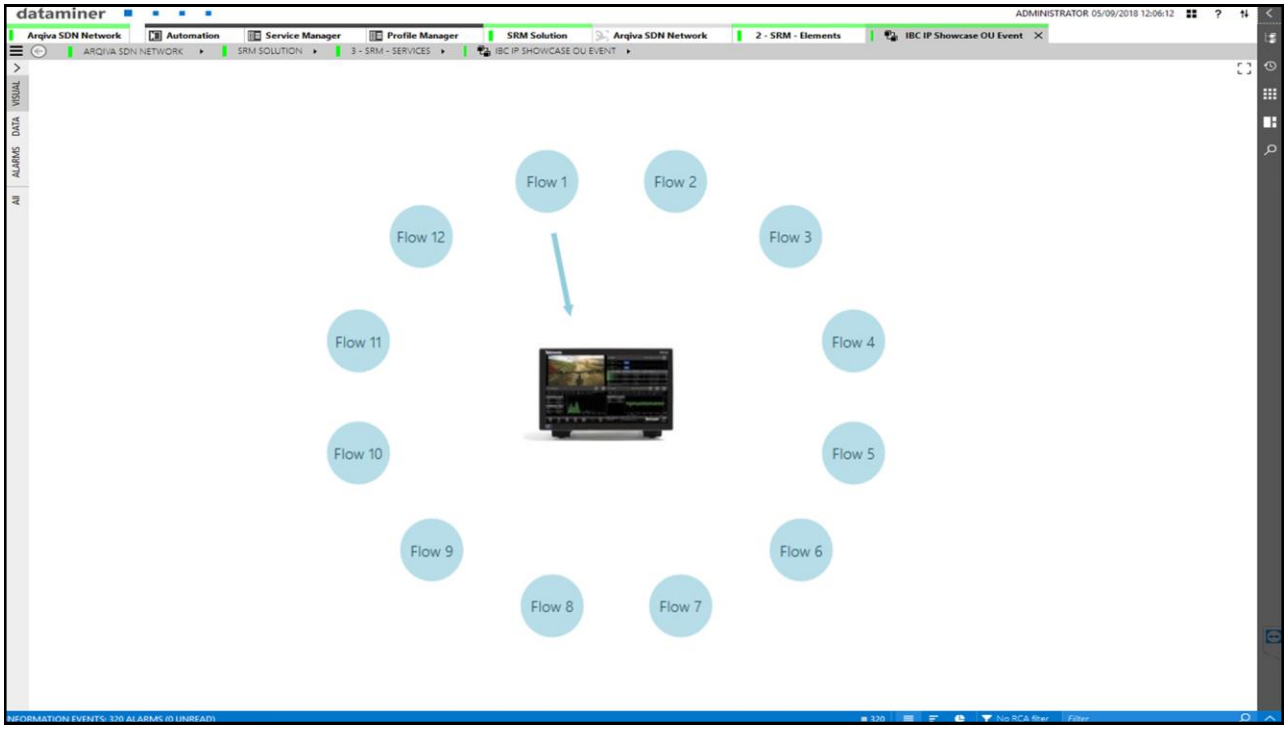



dataminer
IP Showcase
11/09/2018 18:17:17
12/09/2018 18:27:17
Running
SDI
APERI RED 1
ARISTA RED 1
ARISTA RED 2
APERI RED 14
FEED TO IBC
APERI BLUE 1
ARISTA BLUE 1
ARISTA BLUE 2
SMPTE 2022 SDN flow orchestration
Red and blue network segments
Network redundancy using 2022-7
Schedule-aware service assurance monitoring


dataminer
Arqiva SDN Network
ARQIVA SDN NETWORK
BOOKINGS
CONFIG
ADMIN
RESOURCES
PROFILES
DEFINITIONS
ACTIVITY LOGS
ABOUT
IBC IP Showcase OU Event
configuration
properties
actions
parameters
properties
Lowest cost dynamic path calculation (Dijkstra)
At time of booking or pre-roll
Full resource capacity and capability management


dataminer
Arqiva SDN Network
ARQIVA SDN NETWORK
BOOKINGS
CONFIG
ADMIN
RESOURCES
PROFILES
DEFINITIONS
ACTIVITY LOGS
ABOUT
(DataMiner)
(global)
(uncategorized)
Arista Access Interface
Decapsulation
Encapsulation
IP Network Pool
IP Transport
Multicast IP Blue
Multicast IP Red
RESOURCES
PROPERTIES
OCCUPANCY
Aperi B14.Decapsulation.Ch0
Aperi R14.Decapsulation.Ch0
IP Showcase
IP Showcase
Resource reservation timelines
Infrastructure elements
Network and port capacity
IP address, VLAN, ... resource pools
NFV virtual functions including last minute deployment
Activate Windows


dataminer
fluxos
fluxos ativos
fluxos disponíveis
page-4
Flows Path-01
LEAF
ROUTE
MULTICAST IP
239.69.230.84
GO
SOURCE
SOURCE PORT
DESTINATION
DESTINATION PORT
10.10.3.165
Vlan3
10.10.3.165
Vlan3
Flow LEAF-01
Flow LEAF-03
Flow SPINE-01
Flow and route lookup
Flow monitoring
Dynamic platform visualization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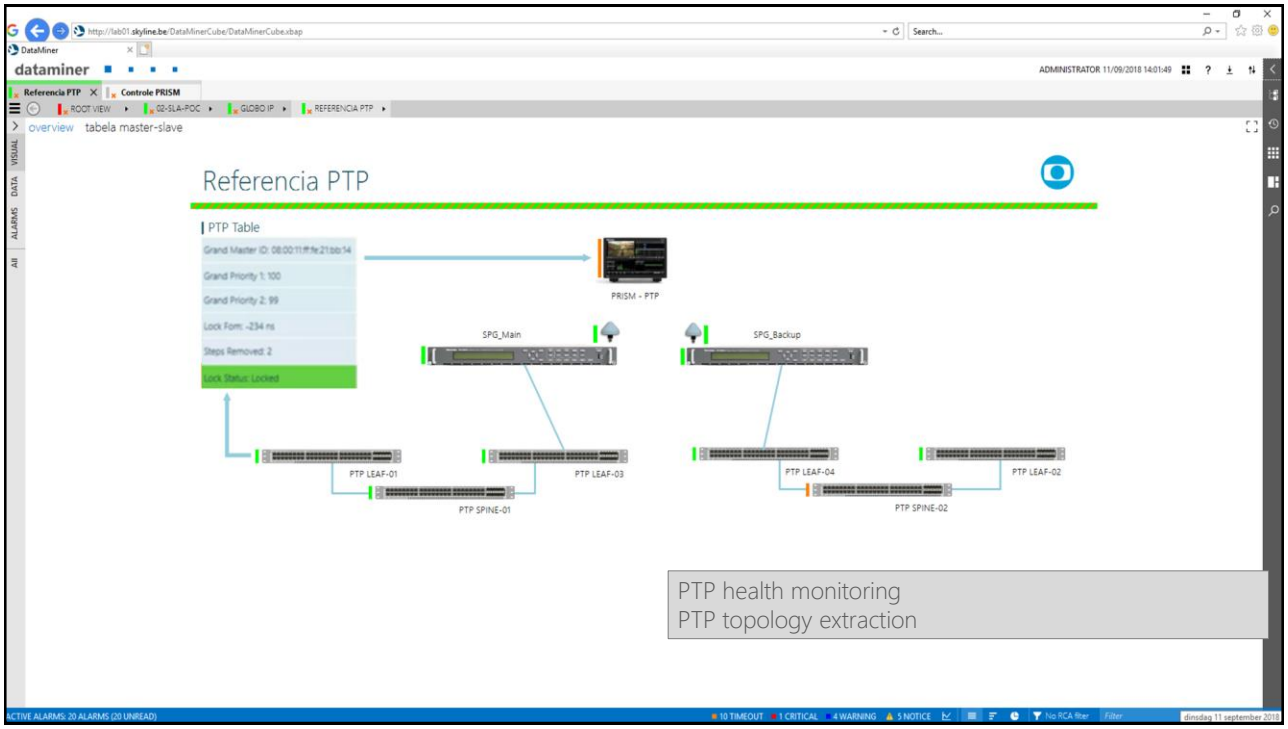
Flow 1
Flow 2
Flow 3
Flow 4
Flow 5
Flow 6
Flow 7
Flow 8
Flow 9
Flow 10
Flow 11
Flow 12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overview
tabela master-slave
Referencia PTP
PTP Table
PRISM - PTP
SPG_Main
SPG_Backup
PTP LEAF-01
PTP LEAF-03
PTP LEAF-04
PTP LEAF-02
PTP SPINE-01
PTP SPINE-02
PTP health monitoring
PTP topology extraction

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Come and see media over IP action !

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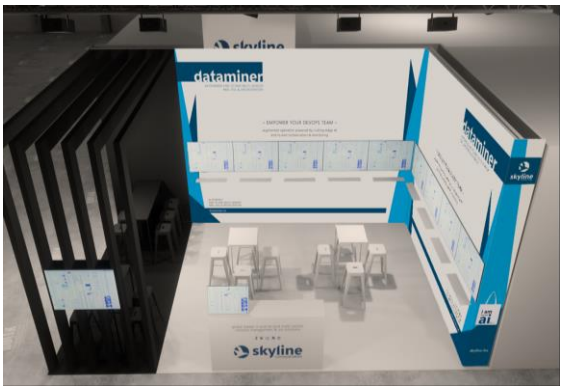

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Thank You

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