

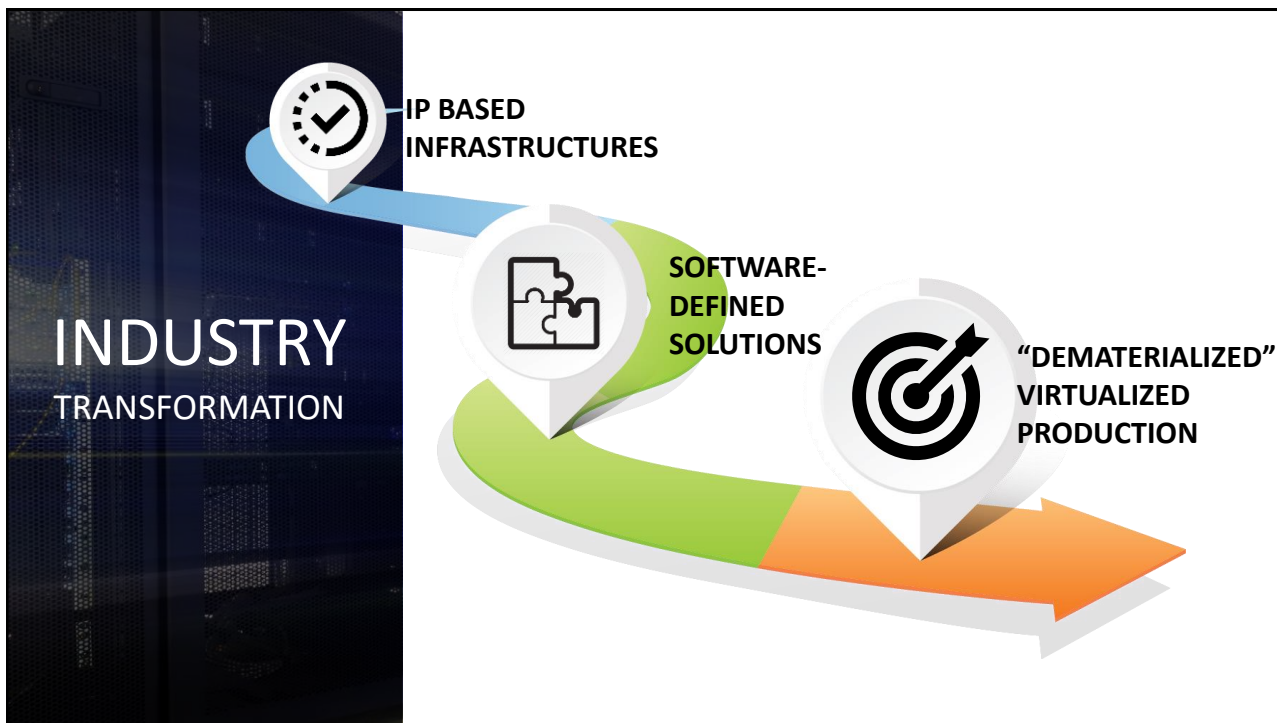


How IP and Software-Based Workflow Design Will Herald the Next Generation of Live Productions

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VP Product Marketing



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





STATIC ENDPOINTS WOULD MAKE OUR LIFE MISERABLE!

- ✓ Virtualized environment
- ✓ No Point to Point
- ✓ High engineering efforts



AND COMPLEXITY

COMMAND LINE?
I can't see if this is
the problem or not

```
Nexus-5k-1# conf t
Enter configuration commands, one per line. End with CNTL/Z.
Nexus-5k-1(config)# int e1/9
Nexus-5k-1(config-if)# switchport mode
^
% Invalid command at '^' marker.
Nexus-5k-1(config-if)# switchport ?
host Set port host
Nexus-5k-1(config-if)# switchport
```

WANTED
IP systems
that consume
our life in
configuration
time

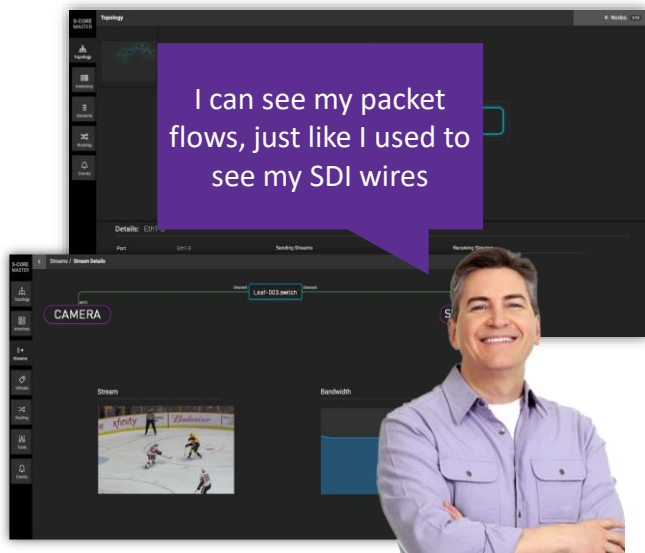




IP ROUTING ABSTRACTED FOR BROADCAST

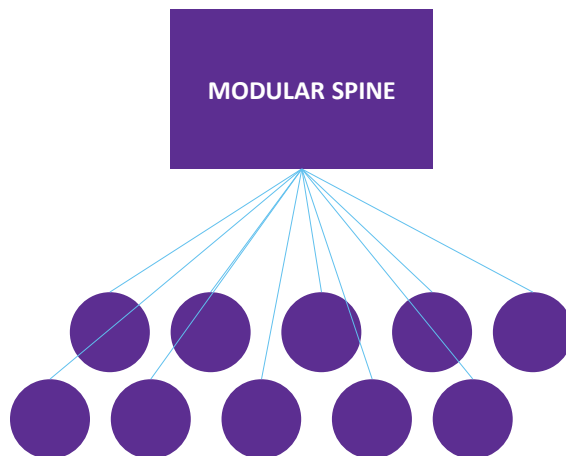
- ST2110 or ST2022 underneath
- NMOS or other protocols
- The right level of abstraction to manage live audio/video production
- We need a familiar and easy way to troubleshoot, fast.

BECAUSE WE ARE ON-AIR!



FAMILIAR STYLE NETWORK TOPOLOGIES

- Start like an all-in-one frame like broadcast facilities are familiar with
- Routing system that scales like IT

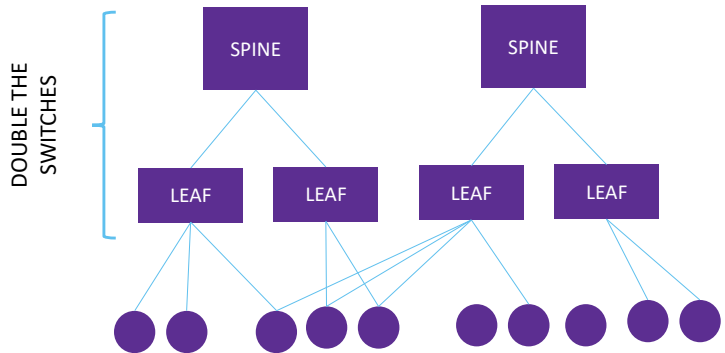




DISTRIBUTED NETWORK TOPOLOGIES - REDUNDANCY

- ST 2022-7 network redundancy support
- Opportunities to sell more enterprise switching as they grow

DUAL REDUNDANT NETWORK



HOW DO WE START WITH AN IP INFRA???



Broadcast Controller Software



- POC system seeds the initial investment
- When ready to go live, grow your fabric
 - Add more leaf switches
 - Expanded Spine switch
 - Increasing needs for UHD-4K just means upgrading the needed switches
- Redundancy
 - Double the fabric to suffice redundant routing of video/audio flows





IP BRINGS SIMPLIFICATION



Hello, I am endpoint DYVI-XXX
 I am a video switcher server
 I expose the following active sources :

PGM 1 :
 Video : ST2110-20
 Resolution, Framerate, HDR, etc...
 Audio 1 : AES67
 Label : International
 ...

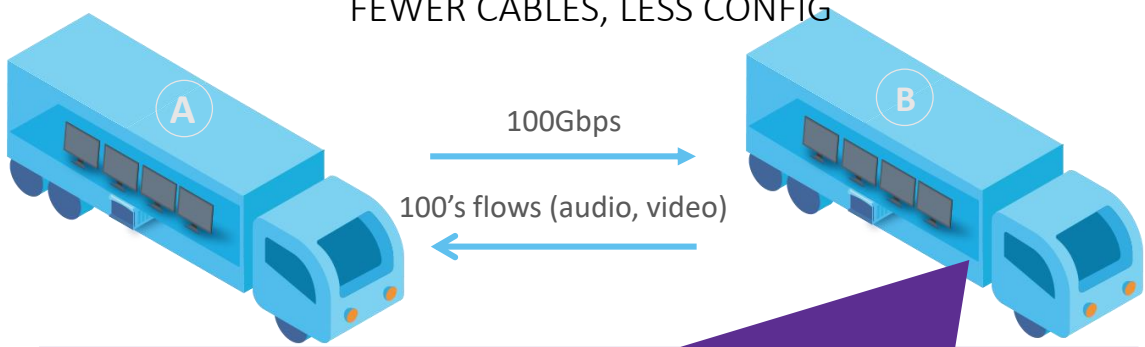
My data interfaces are :
 XX and YY
 Now, you know where it is
 connected on the IP Fabric

Also, I can expose the
 following sources {...}
 But these are not active for
 the moment

A smart switcher
 declares it's
 contributions to
 society...!"



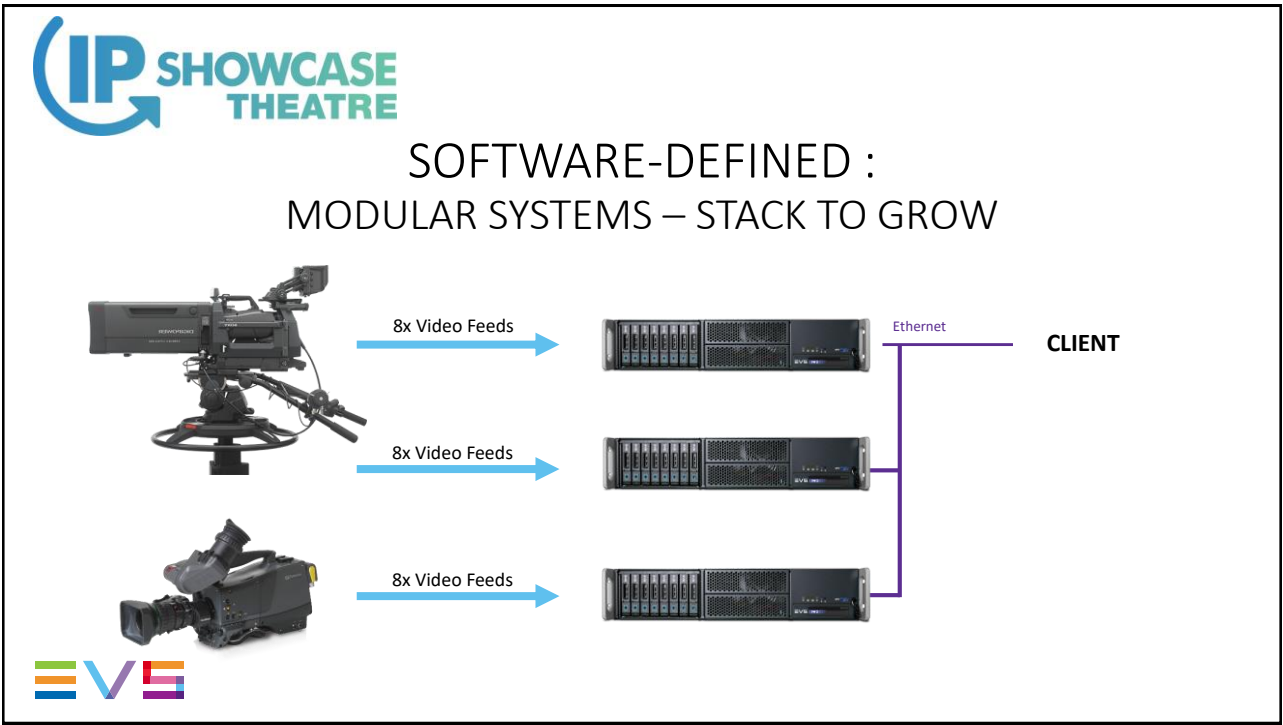
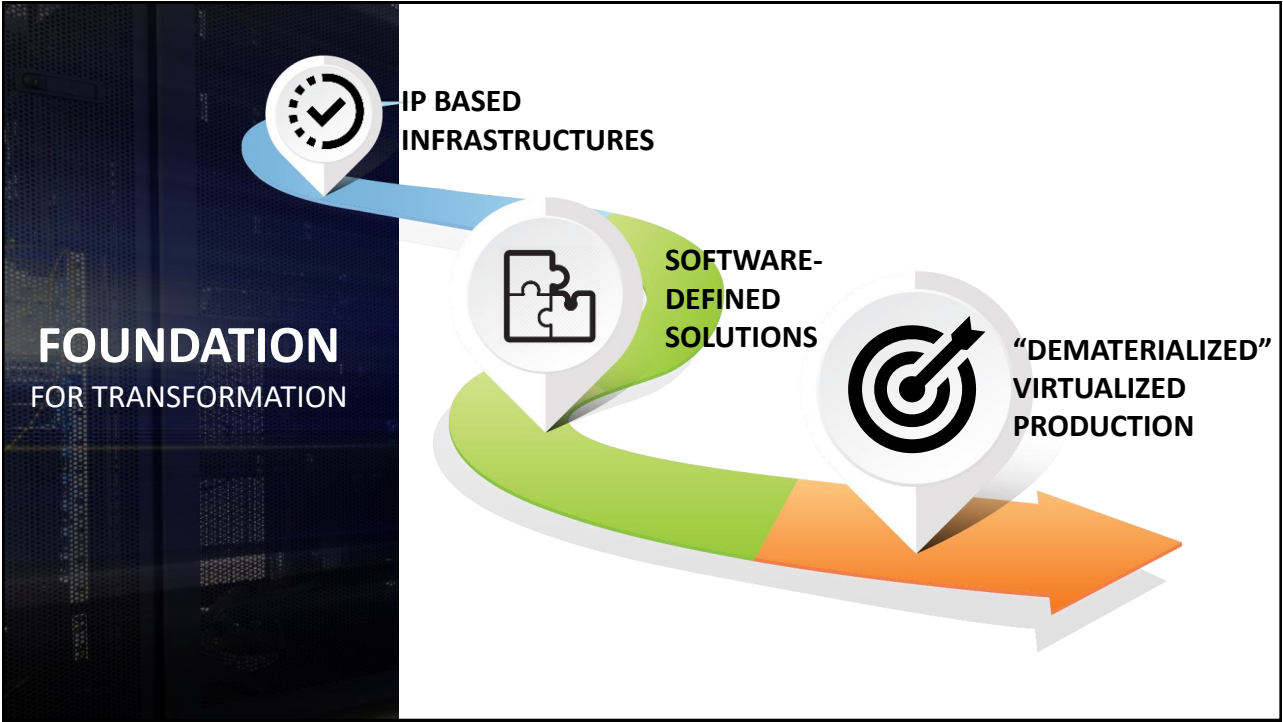
INTERCONNECTIONS FEWER CABLES, LESS CONFIG



I am Truck B and I have made available the following sources for you {...}

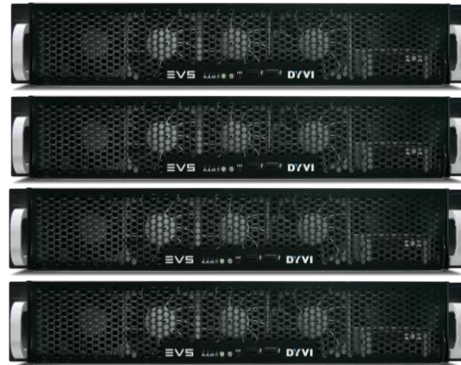
These sources will change dynamically and labels will be updated automatically



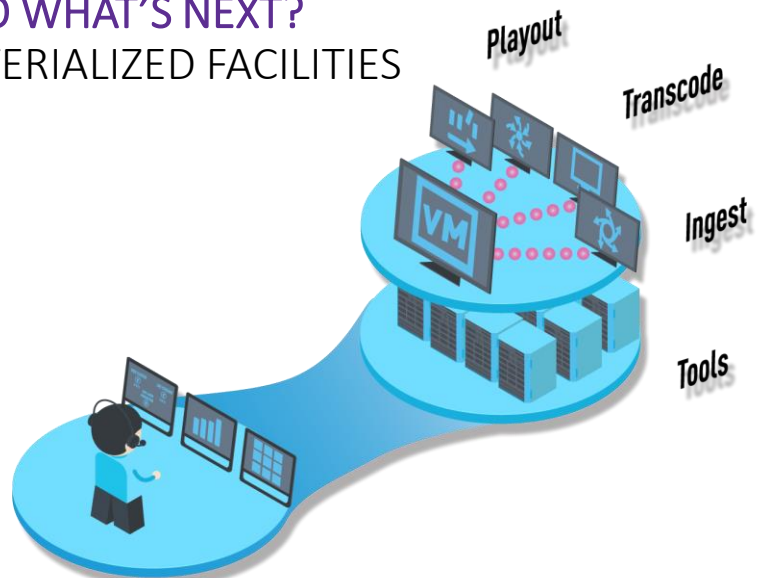




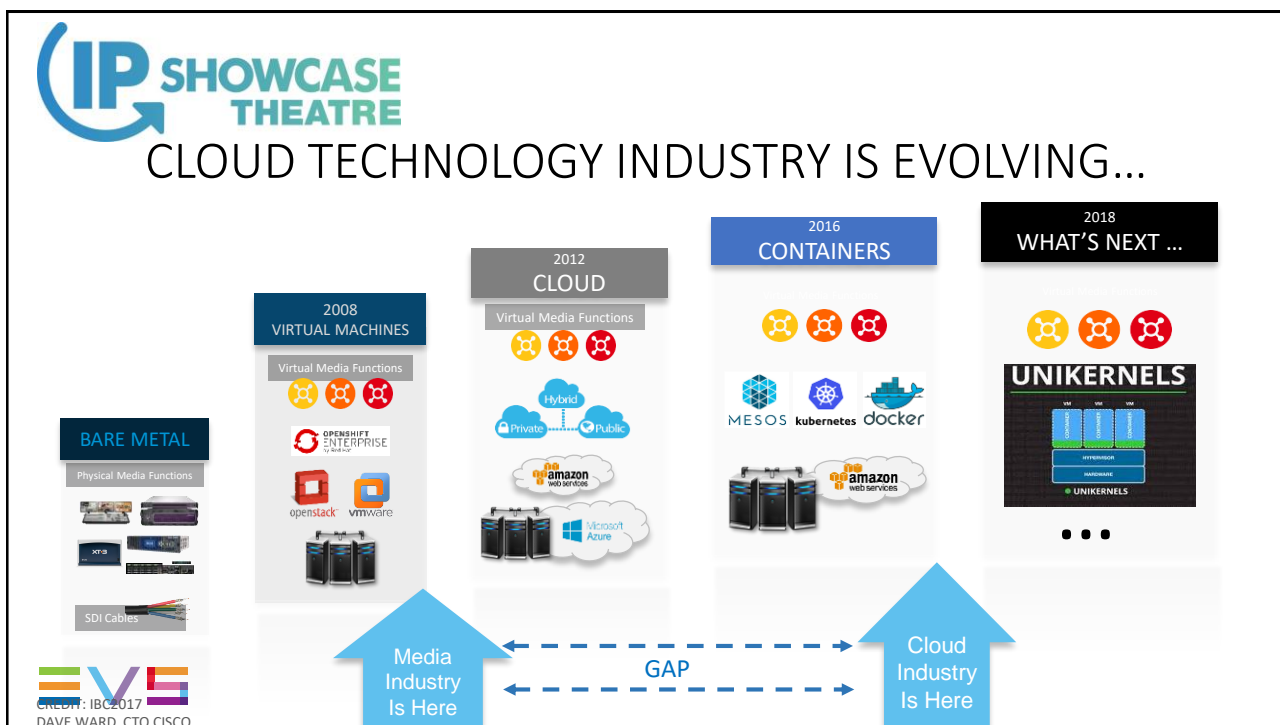
SOFTWARE-DEFINED : MODULAR SYSTEMS – STACK TO GROW



SO WHAT'S NEXT? DEMATERIALIZED FACILITIES



IP SHOWCASE THEATRE		VIRTUALIZED PRODUCTION	MONOLITHIC PRODUCTION
Software defined		Hardware laden	
Opex based		Capex model	
Cost optimized		Investments at high-water mark	
Easily scalable		Costly hardware additions	
On-demand applications		Fixed capabilities	
Quick deployments		Long Lead times	
Cloud migration possible		Locked to on-premise	

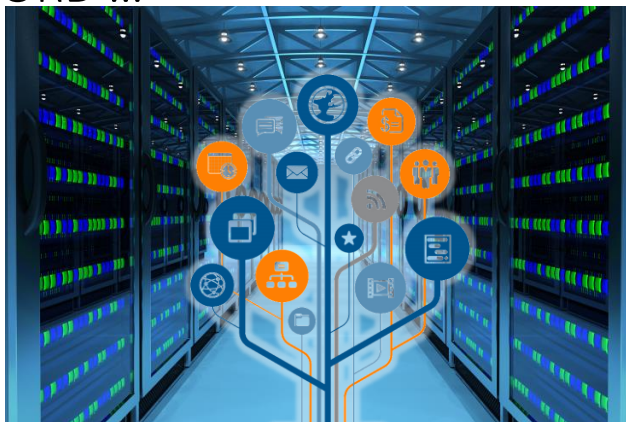




SECURITY IS THE KEYWORD ...

- Smaller surface area
- Less room for attackers
- Restartable with less impact
- Dockers, Containers, etc

**Focus on smaller units
than a VM**

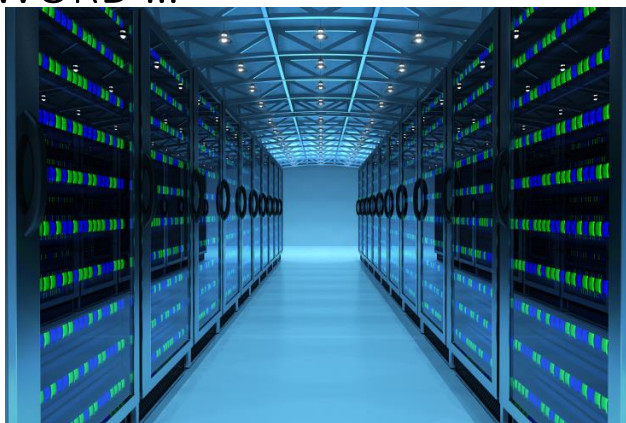


FLEXIBILITY IS THE KEYWORD ...

- Use the same infrastructure for multiple functionalities



**MULTIPURPOSE
INFRASTRUCTURE**



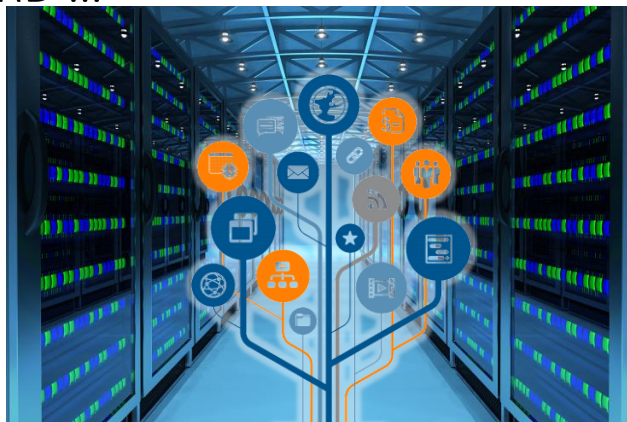


AGILITY IS THE KEYWORD ...

- Deploy functions on demand



NEED EASY-TO-DEPLOY FUNCTIONALITIES



... OUR INDUSTRY NEXT STEPS ARE SUPPORTED BY TECHNOLOGY ENABLERS FOR POOLED RESOURCES ...

