

MAKING THE SWITCH: NEW IT-BASED TECHNOLOGY MEETS TODAY'S LIVE SWITCHING NEEDS

2015 Wisconsin Broadcasters Clinic
WBA/SBE

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www.evs.com



20 years ago



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- 1996 - Vicki Way
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- 1994 - James Stellpflug
- 1993 - Tim Trendt, Andy Rothschedel, Kurt Miller, Matt Mommaerts
- 1991 - Robb Hagen



IP4 *Live*



**SMART
TRANSITION
TO IP**

THERE ARE MANY GOOD REASONS TO EMBRACE IP

COST
OPTIMIZATION



TAP LARGER
INDUSTRIES



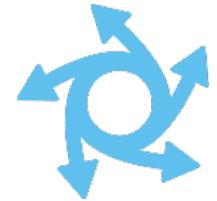
NECESSITY



FUTURE-
PROOF AGILITY



UNIFORMITY
SYNERGIES



nevision

&

OPEN

Imagine
COMMUNICATIONS

INTEROPERABLE

 grass valley
A BELDEN BRAND

BEST OF BREED

SMPTE 2022
INTEROP

COMPRESSION

END-TO-END

 EVE

LIVE PRODUCTION OVER COTS EQUIPMENT

PROVING IT WORKS

SIMULTANEOUS WORKFLOWS

SDN FOR CONTROL

SAME USER EXPERIENCE



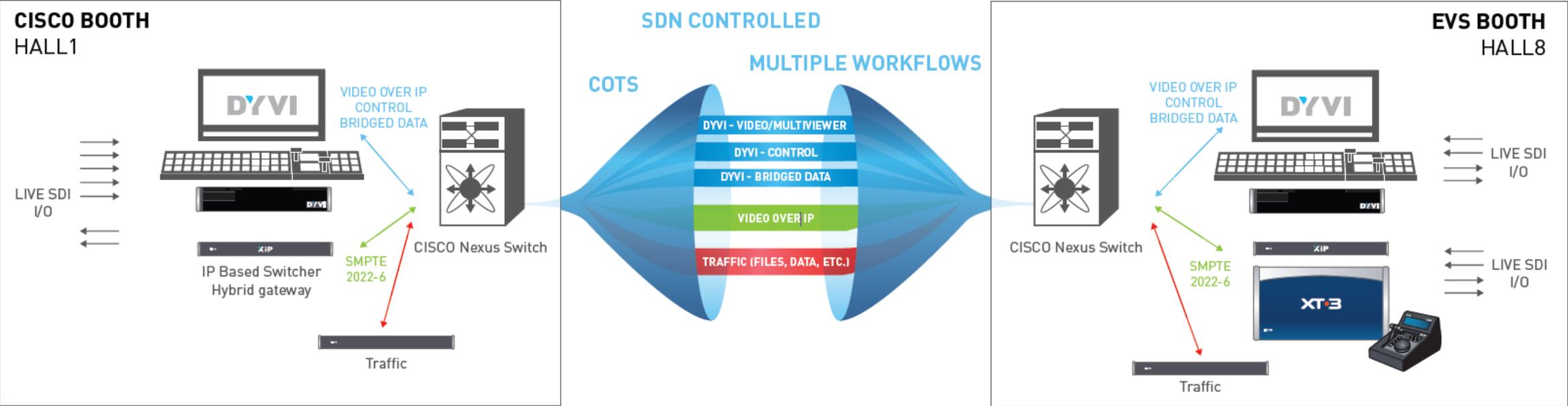

CISCO™

ARISTA

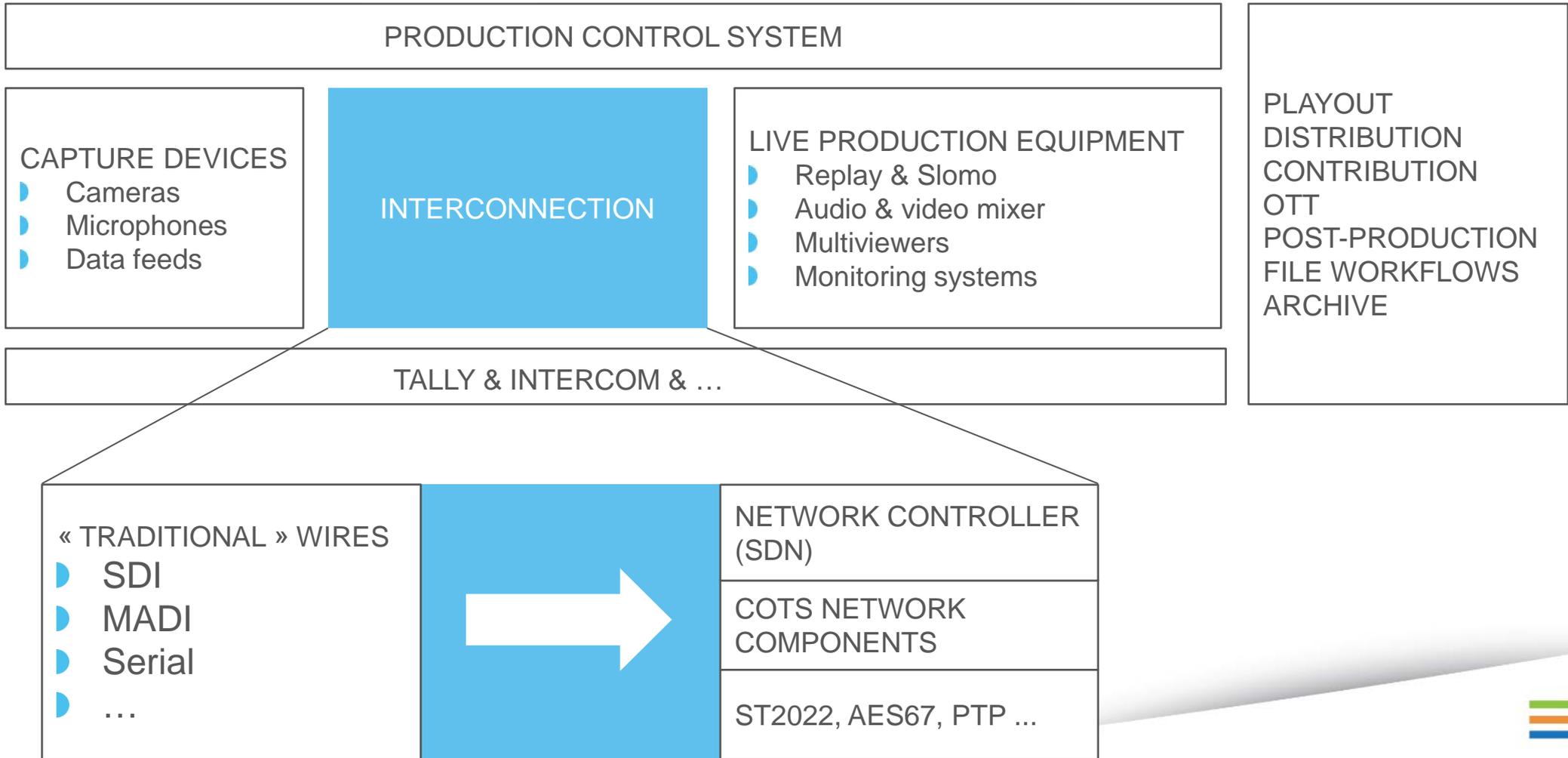
EVS



AMSTERDAM - 2015



HIGH-LEVEL ARCHITECTURE FOR IP-BASED LIVE PRODUCTION IS KNOWN



PROVING FULL-IP STUDIOS WORK

LIVE IP

Welcome to the LiveIP Project, a VRT Sandbox initiative! The Live IP project is a collaboration

SAND
BOX+

OPEN - CONNECT - COLLABORATE

DWESAM
creative engineering

GENELEC®

EVS

vr|2

AXON

grass valley
A BELDEN BRAND

LSIB

LAWO

trilogy

Tektronix®

neviON

EBU

KEY SUCCESS FACTORS

OPEN &
INTEROPERABLE



HYBRID
APPROACH



EASE OF USE



IT BASED PRODUCT DESIGN ENABLES FLEXIBLE COMPOSITING

Numbers of ME's, keyers, wipes, DVE's

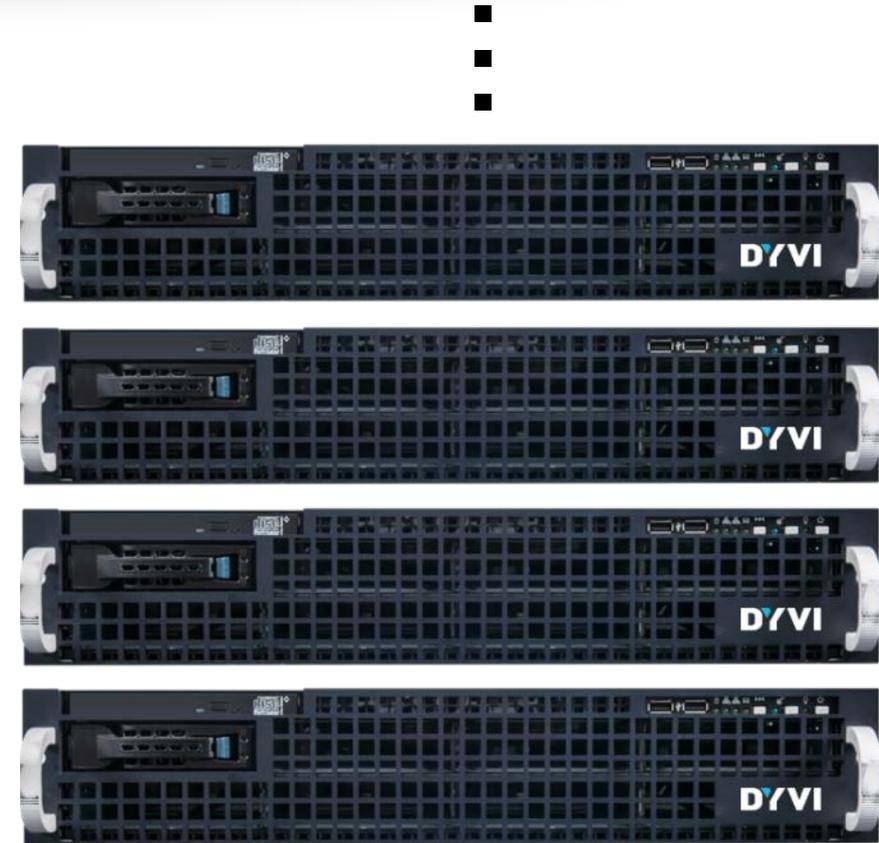
- ▶ Normal numbers are related with circuits installed on boards
- ▶ Next generation based on software & GPUs,
 - eliminate pre-defined limits for those functionalities.
- ▶ Allows distributed Processing Power
- ▶ The operator can use the Processing Power for any purpose

- ▶ ME's are replaced for flexible sizing
- ▶ Keyers are replaced for flexible power



IT BASED PRODUCT DESIGN ENABLES SCALABILITY

- ▶ Traditional switchers always have physical limits
- ▶ Software designed switchers do NOT
- ▶ Enable scale through deployment of Processing Modules (PM)
- ▶ Unlimited stack using IP network
- ▶ Inputs/outputs become shared



IT BASED PRODUCT DESIGN ENABLES CAPABILITIES THAT SEEM LIKE MAGIC

Back to back recall is usually a problem because memories address the same physical resource

- ▶ By using a GPU it enables things like:
- ▶ Complex scenes are **totally independent** one from each other
- ▶ Recalls can be performed **back-to-back**
- ▶ One **scene** can even be used as a source in another one.

- ▶ Magic becomes possible :
Use a scene inside another scene without having delay between the content or where to park it.



SOFTWARE DEFINED PANELS

CONTROL...

WHAT IS TRENDING?

- ▶ Less is more!
- ▶ New jetliner cockpits contain less control buttons
- ▶ Screens display only what's needed and when



CONTROL...

NEW CONCEPTS IN CONTROL PANELS

- ▶ The operator **only sees what he needs** at that time
- ▶ Total flexibility: assign **any button to any function**
- ▶ Classic mode for a smooth learning curve



CONTROL... NEW ERGONOMIC STANDARDS



- ▶ All functions can be controlled by one or multiple GUI's, or via built in touch screens

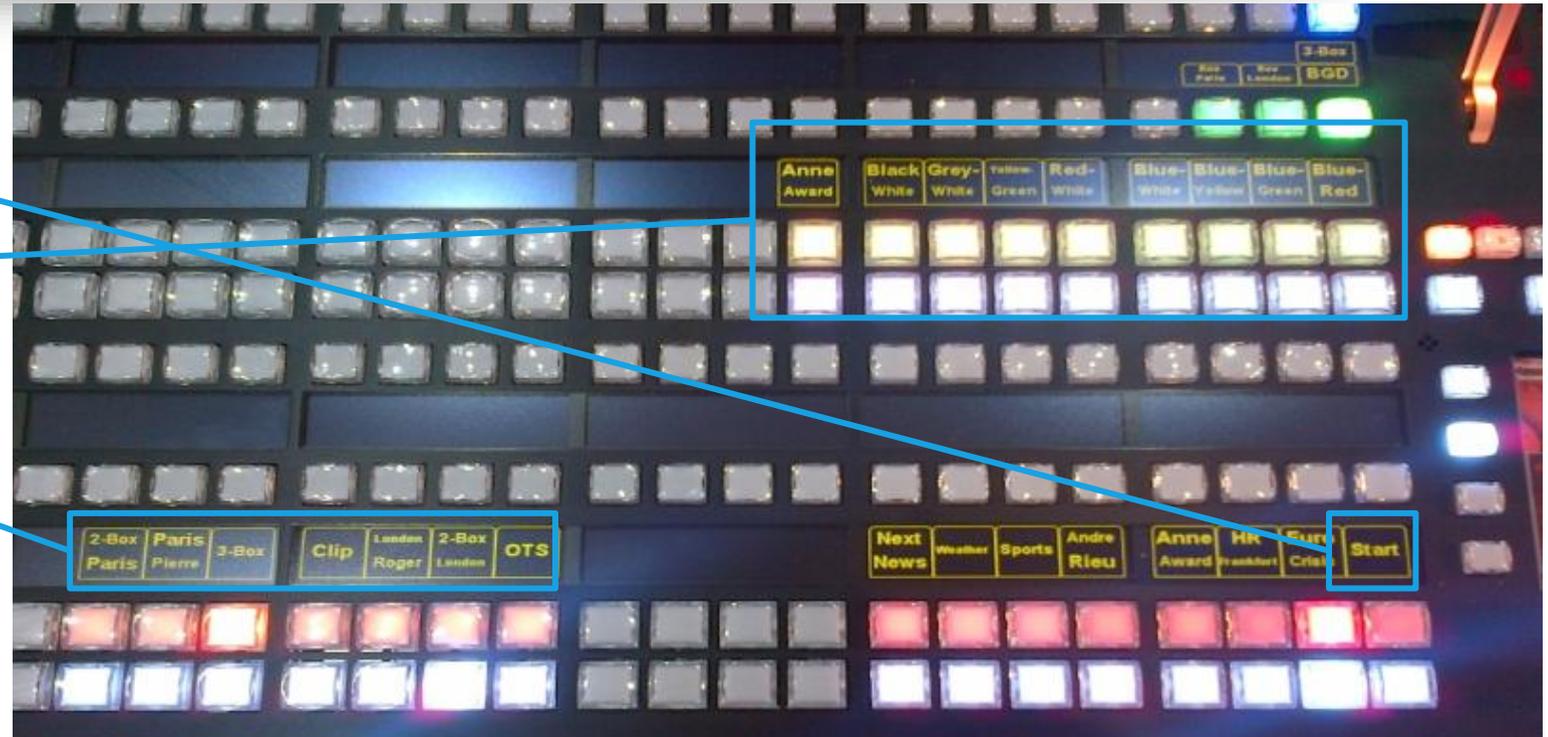


- ▶ Unique color changing T bar shows delegation at a glance.

CONTROL...

THINK ABOUT SWITCHING IN A "STORY MODE"

Story	Scene	Modifier
Start	Opening	
	Host	
Euro Crisis	OTS	
	2 boxes London	
	London Roger	
	Clip	Studio/Paris/London
	3 boxes	
	Paris Pierre	
	2 boxes Paris	
HR Frankfurt	OTS	FRA pgm
	2 boxes Frankfurt	FRA pgm
	Frankfurt HR	FRA pgm
Anne award	OTS	
	First clip	title
	Second clip	title
Andre Rieu	OTS	
	Clip one	title
	Clip two	title
Sports	OTS	
	Match 1	title
	Match 2	title
	Live Bayern	
Weather	OTS	
	Clip	
Next News		



- Typical NRCS rundown example in the switcher
- Intuitive to the way a producer works

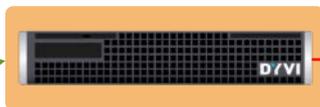
CREATE...

BASIC SYSTEM : ONE FRAME + ONE PANEL

Local studios

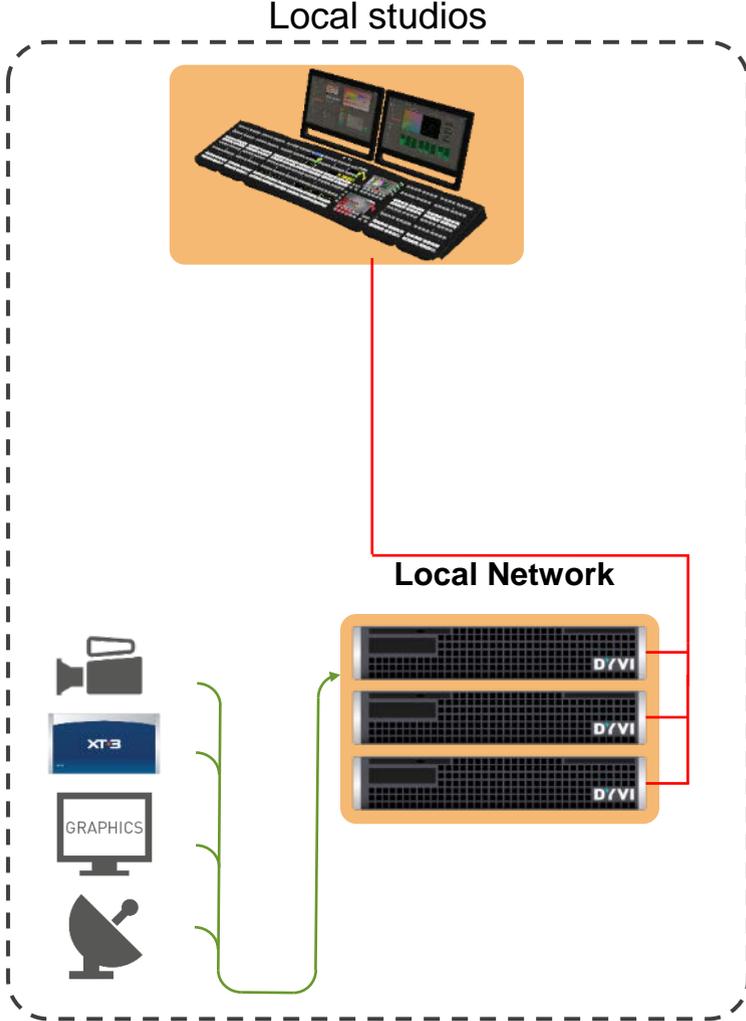


Local Network



CREATE...

NEED MORE PROCESSING POWER? ADD ONE OR MORE FRAMES



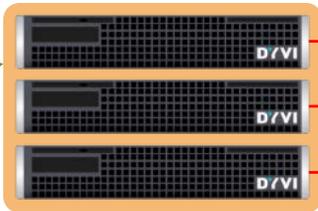
CREATE...

PARALLEL CONTROL OF SHARED PROCESSING POWER...

Local studios

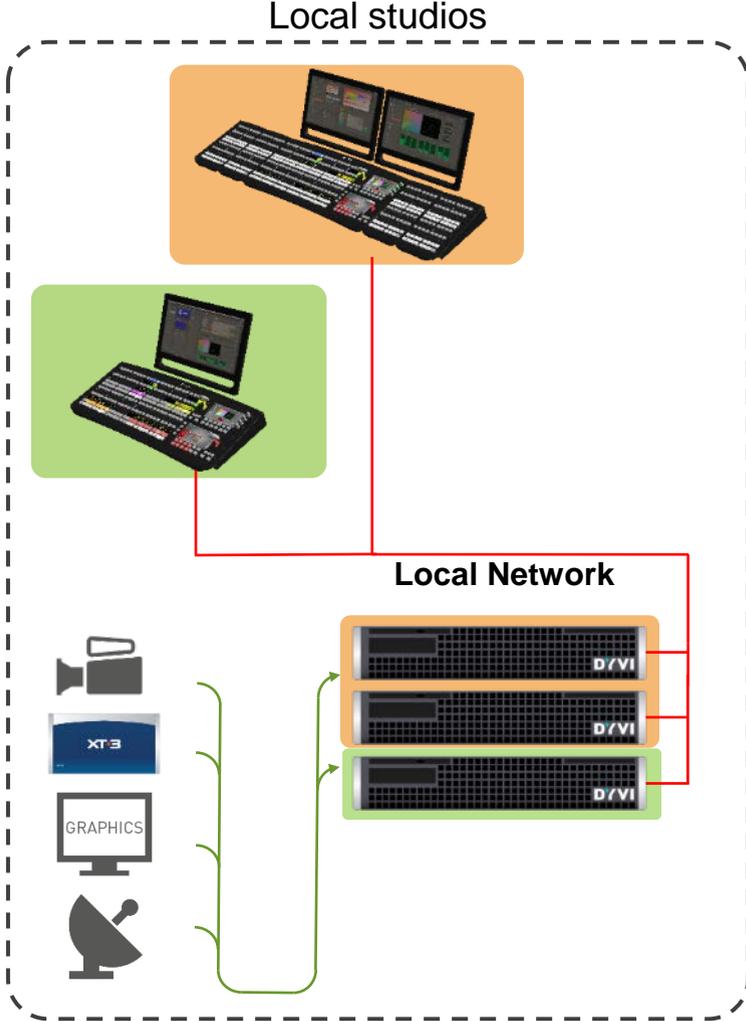


Local Network



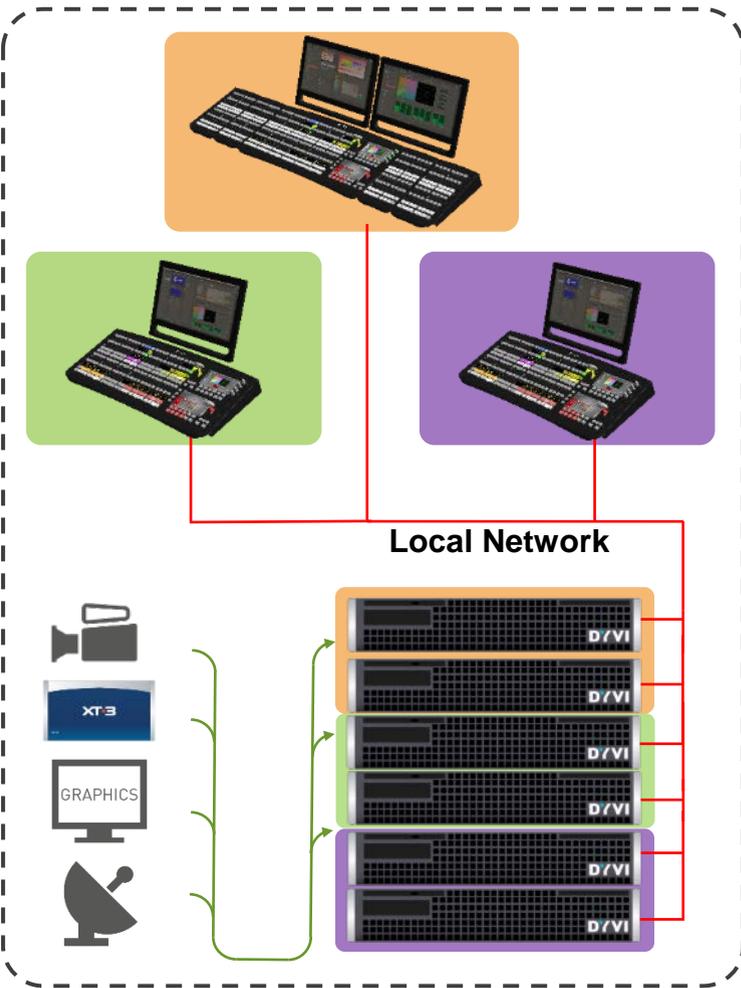
CREATE...

... OR PROCESSING POWER ASSIGNED TO DIFFERENT PRODUCTIONS.



CREATE... MORE PRODUCTIONS, MORE PROCESSING POWER

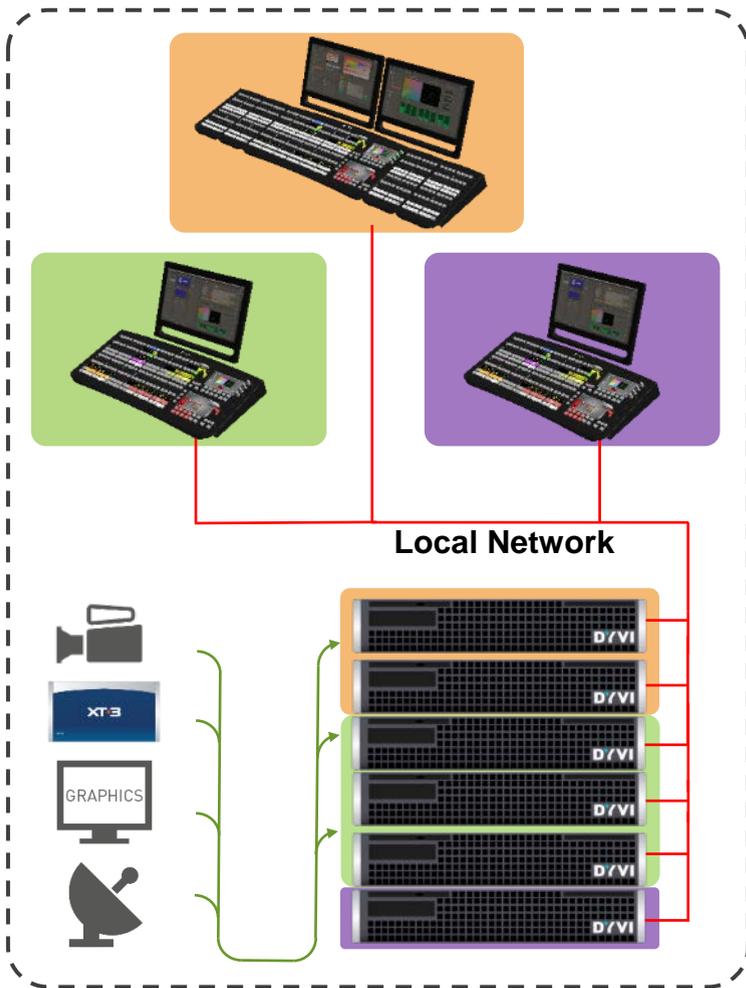
Local studios



CREATE...

TOTAL FLEXIBILITY IN PROCESSING POWER ASSIGNMENT...

Local studios



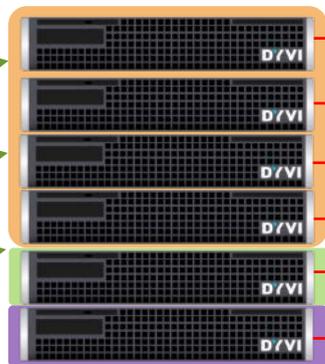
CONNECT...

... CAN BE INSTANTLY CHANGED.

Local studios



Local Network



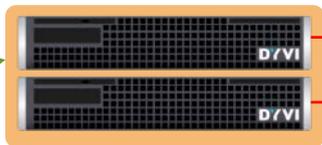
CREATE...

SHARING OVER LONGER DISTANCE?

Local studios



Local Network



What if your control rooms separated by miles?

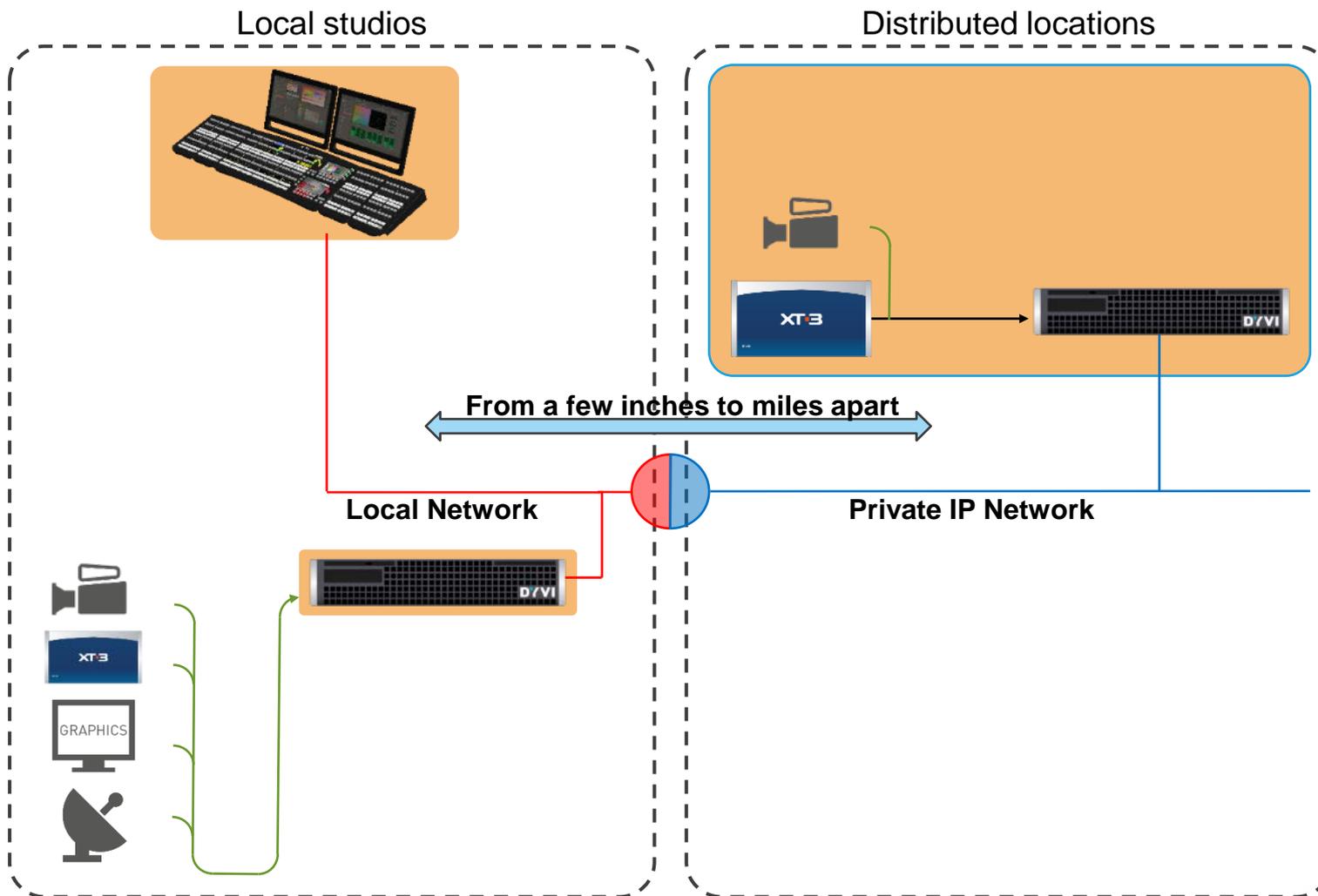
- ▶ Copper network is no longer suitable

The solution:

- ▶ Use an IP network

CONTROL...

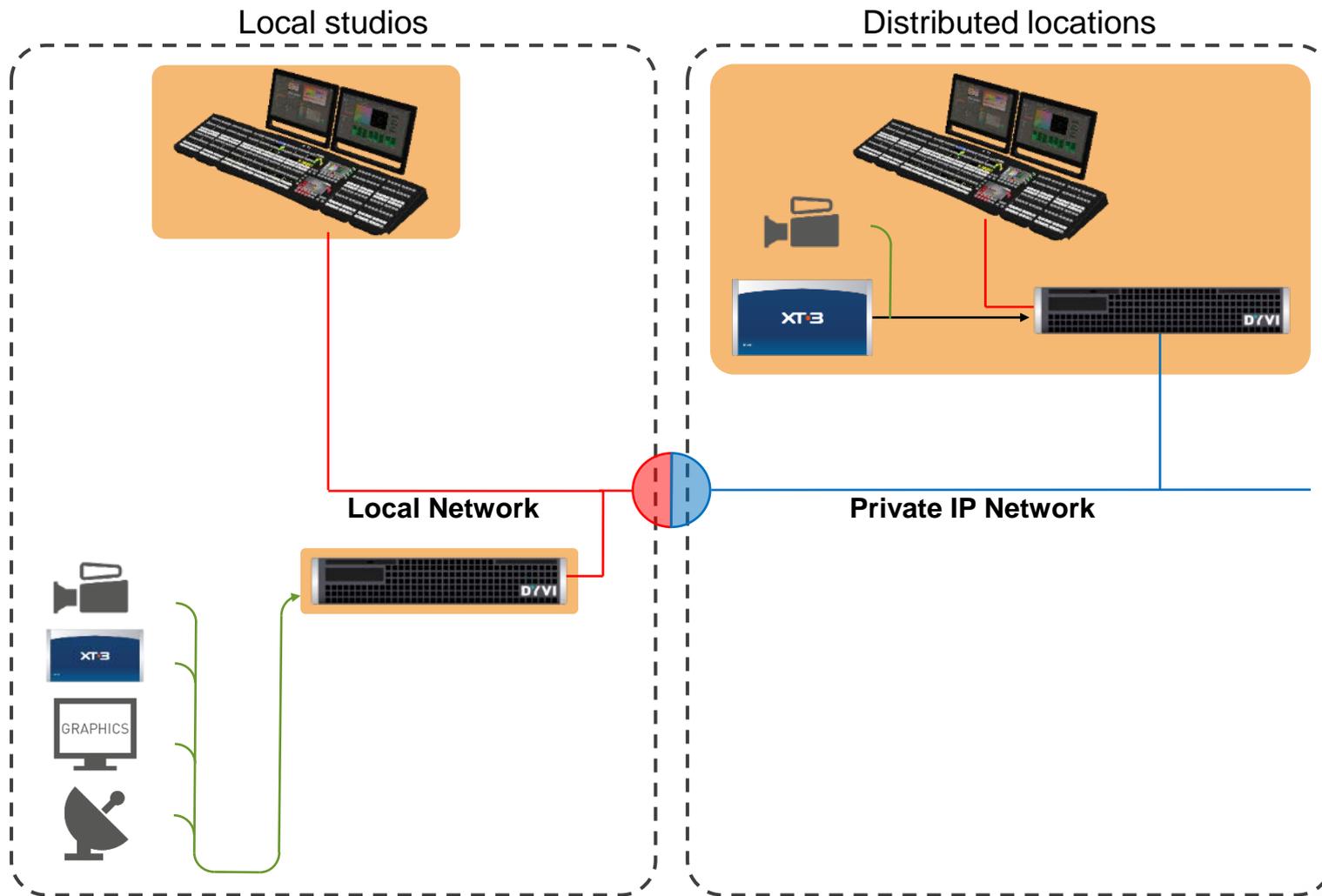
DISTRIBUTED ARCHITECTURE : SHARING SOURCES BETWEEN VENUES



- ▶ Sources and processing shared as if they were local.
- ▶ No difference from operating point of view
- ▶ Ideal for Media city campus or wide studio complexes.
- ▶ Same latency as a local system.

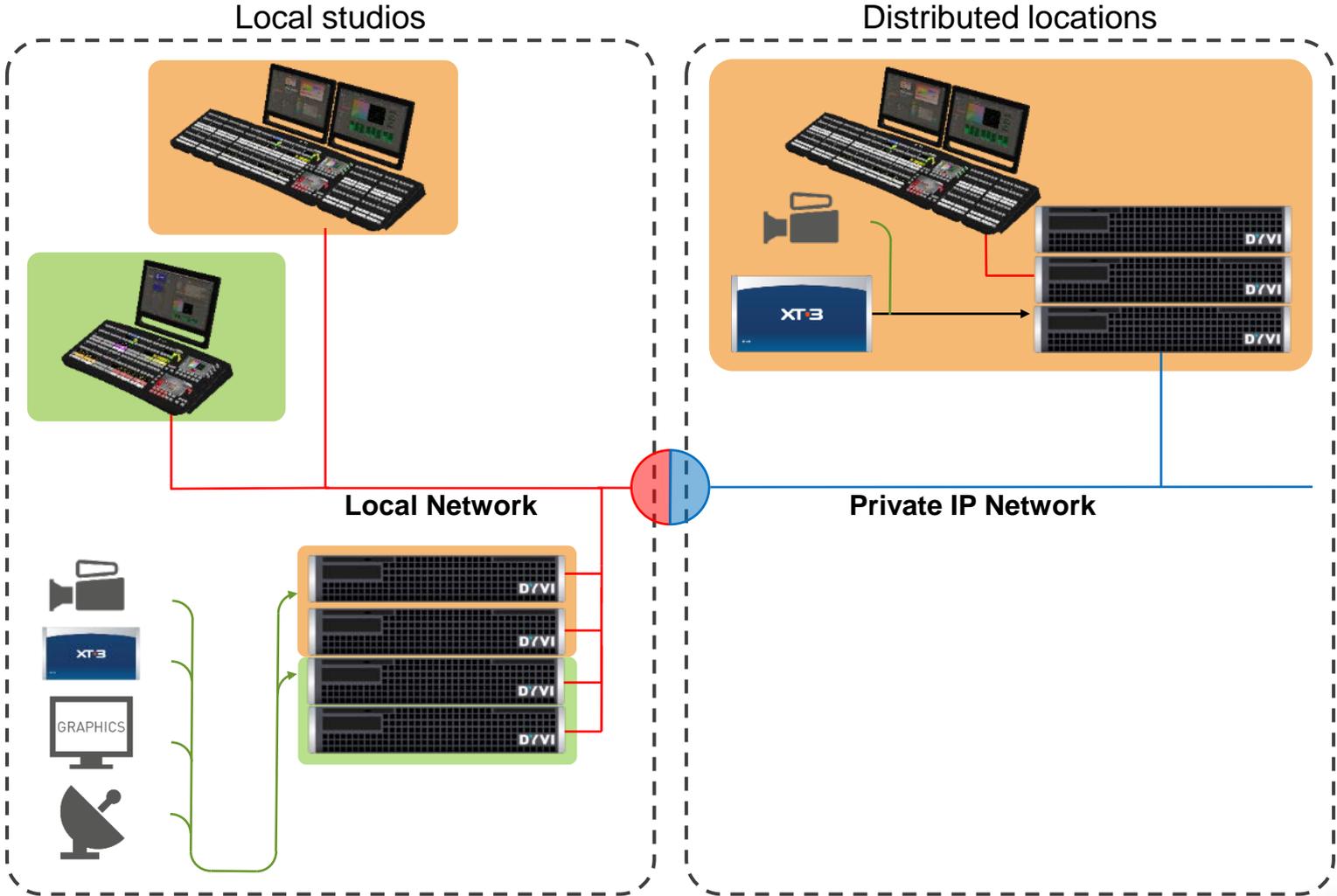
CONTROL...

DISTRIBUTED ARCHITECTURE : CONTROL CAN ALSO BE SHARED



CONTROL...

LOCAL AND DISTRIBUTED PRODUCTIONS CAN CO-EXIST

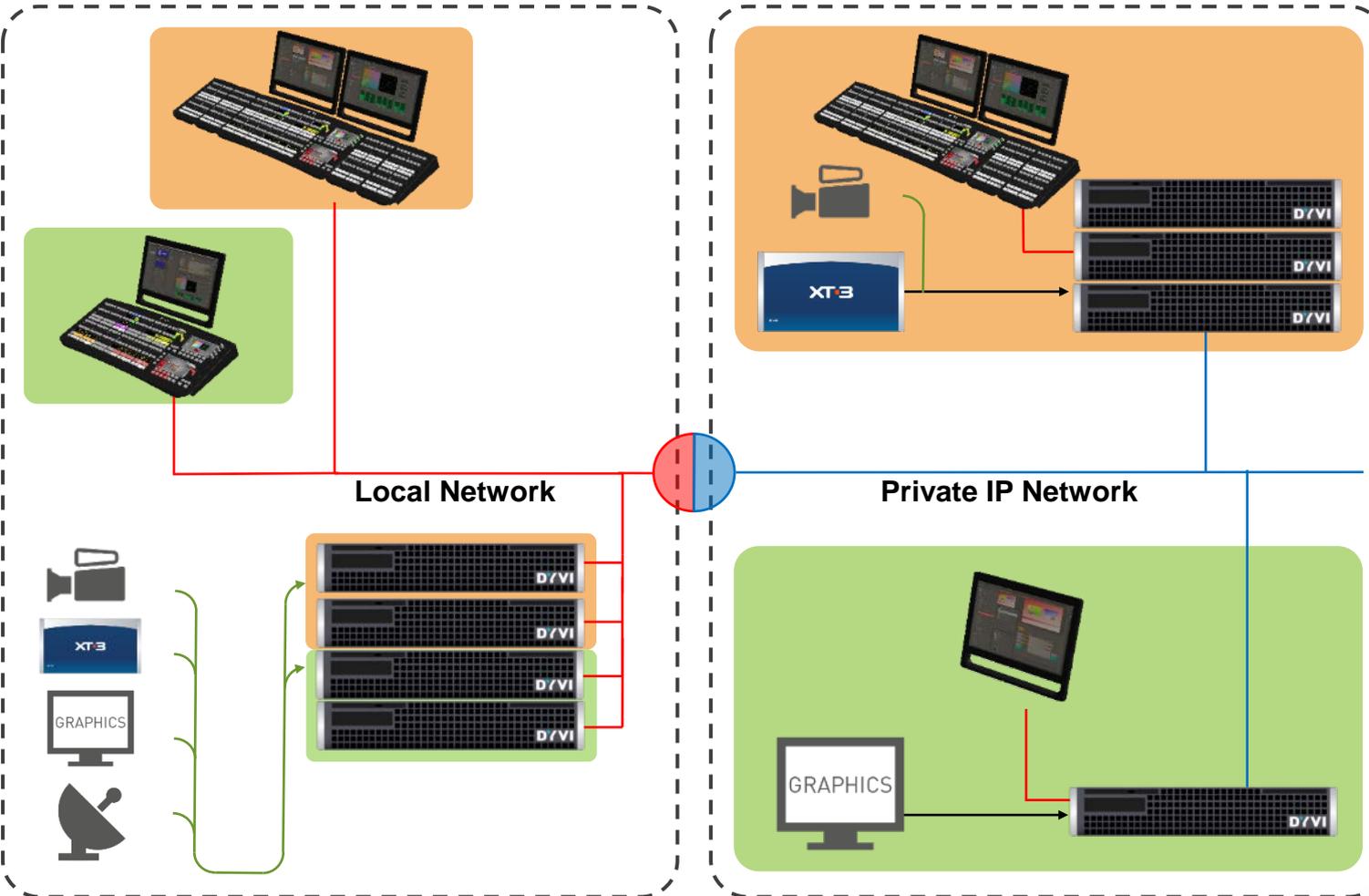


CONTROL...

A GRAPHICS ROOM CAN BE EASILY INTEGRATED INTO A PRODUCTION

Local studios

Distributed locations



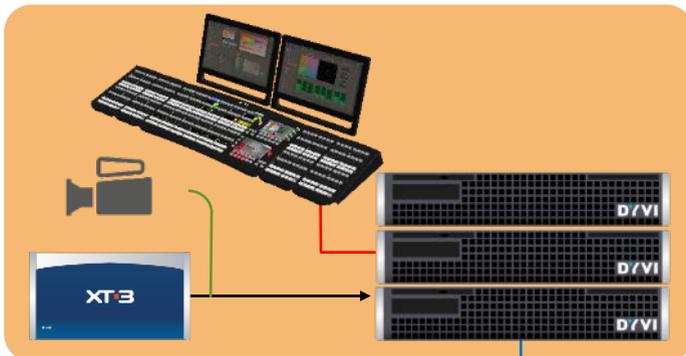
CONTROL...

GOING FURTHER THAN YOUR PRIVATE NETWORK.

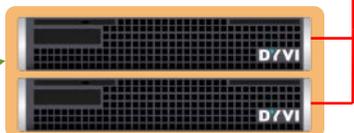
Local studios



Distributed locations

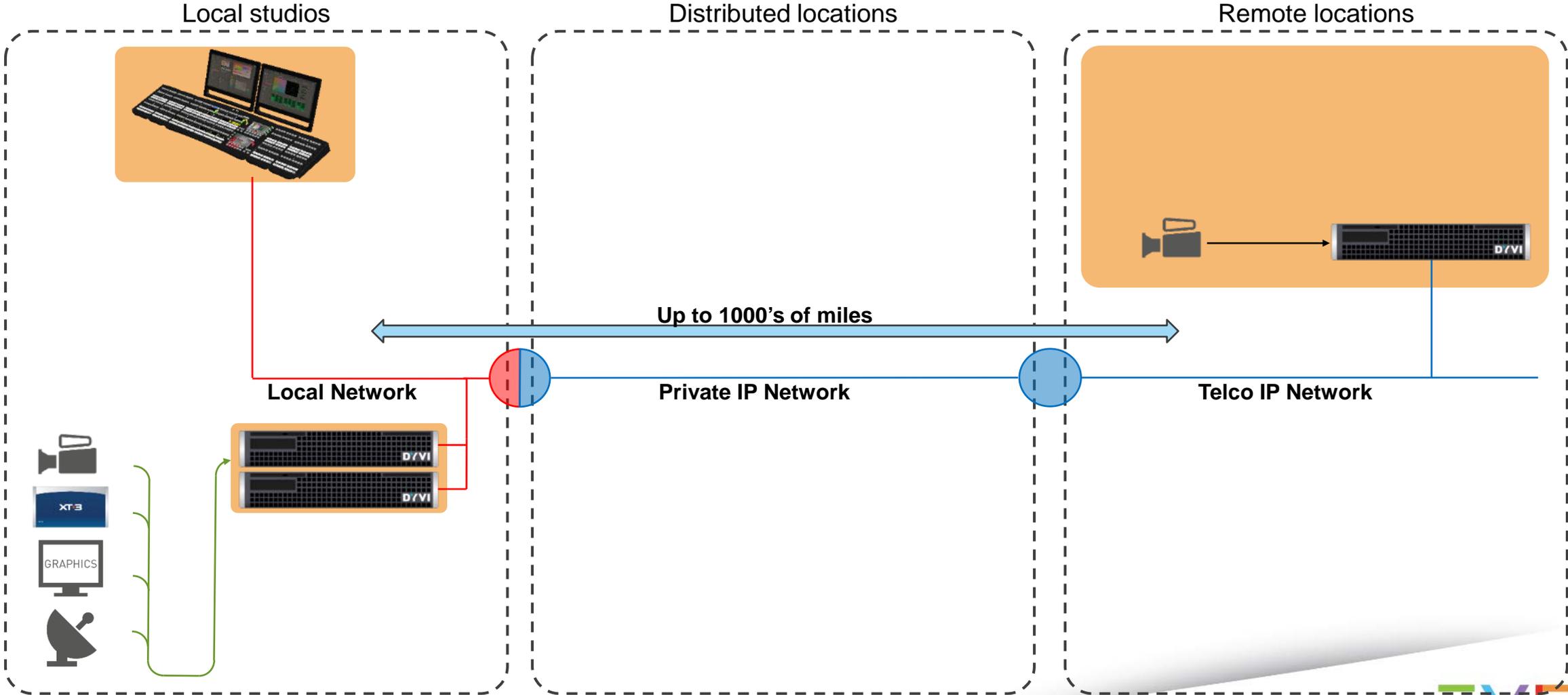


Local Network



Private IP Network

CONNECT... REMOTE PRODUCTION



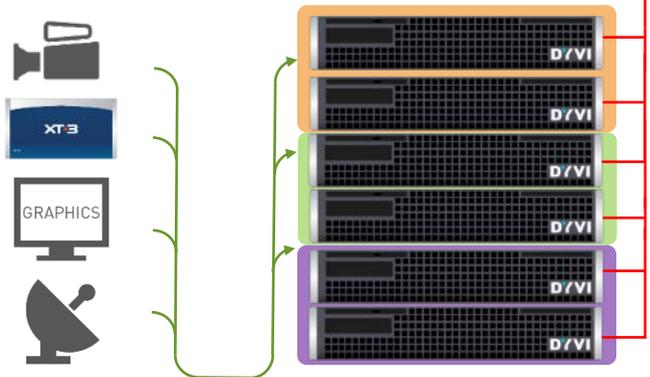
CONNECT...

COMPLEX AND SHARED WORKFLOWS ARE POSSIBLE...

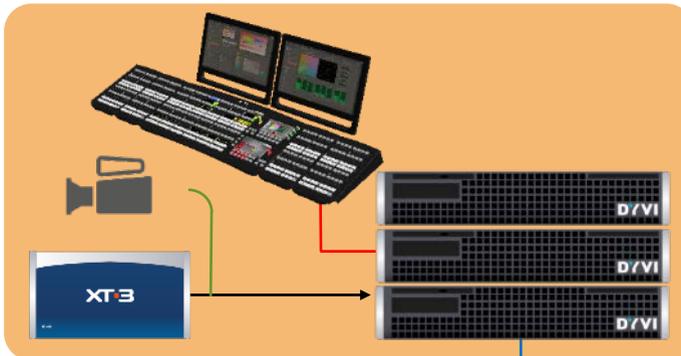
Local studios



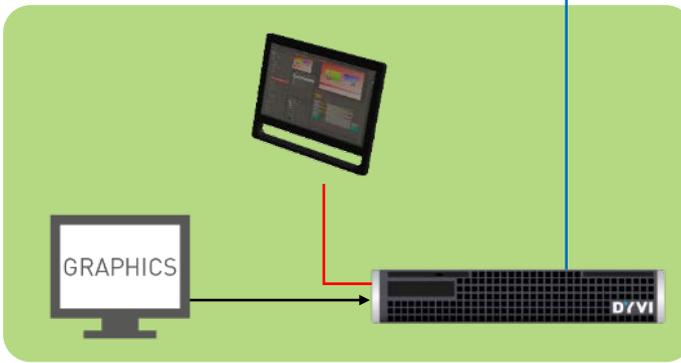
Local Network



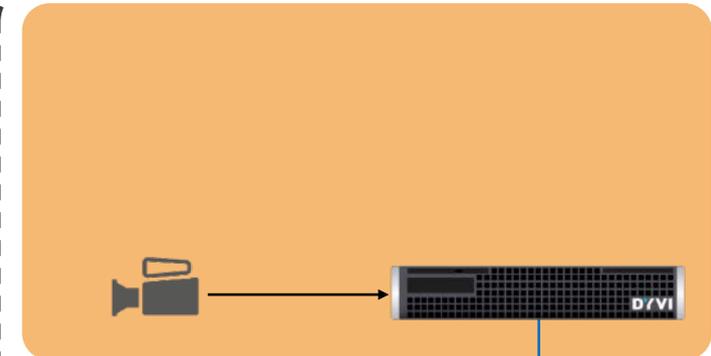
Distributed locations



Private IP Network



Remote locations



Telco IP Network

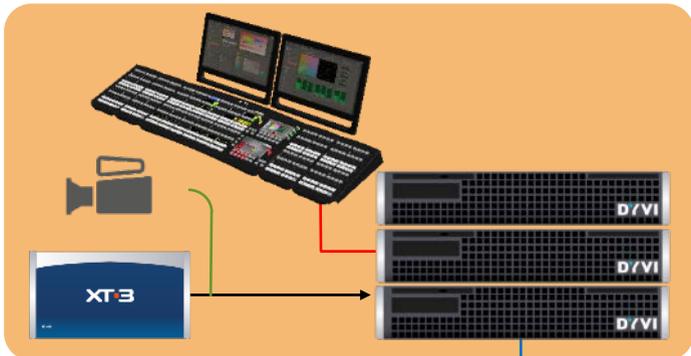


CONNECT... ... WITH TOTALLY FLEXIBLE ASSIGNMENT.

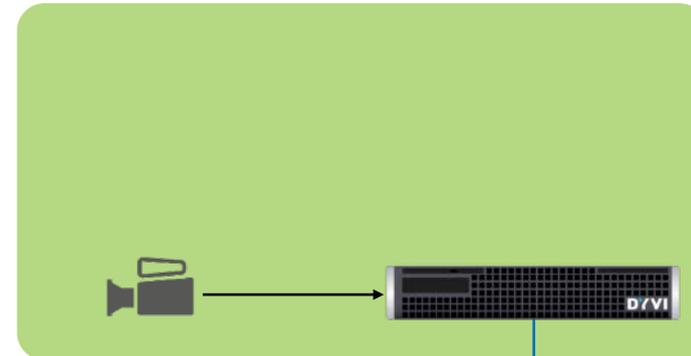
Local studios



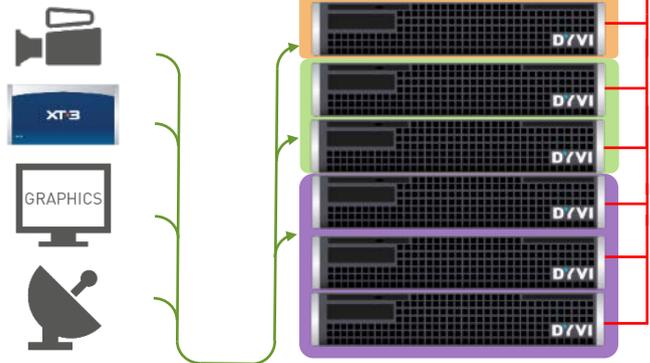
Distributed locations



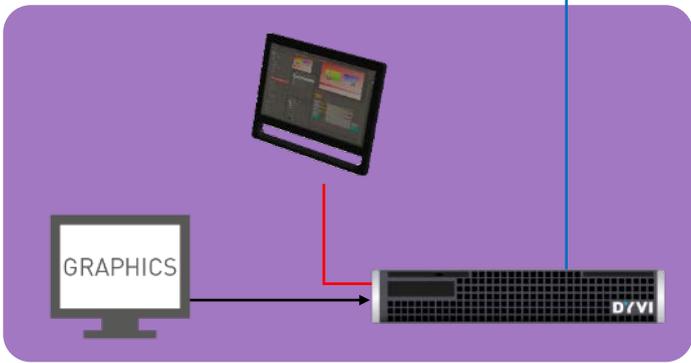
Remote locations



Local Network

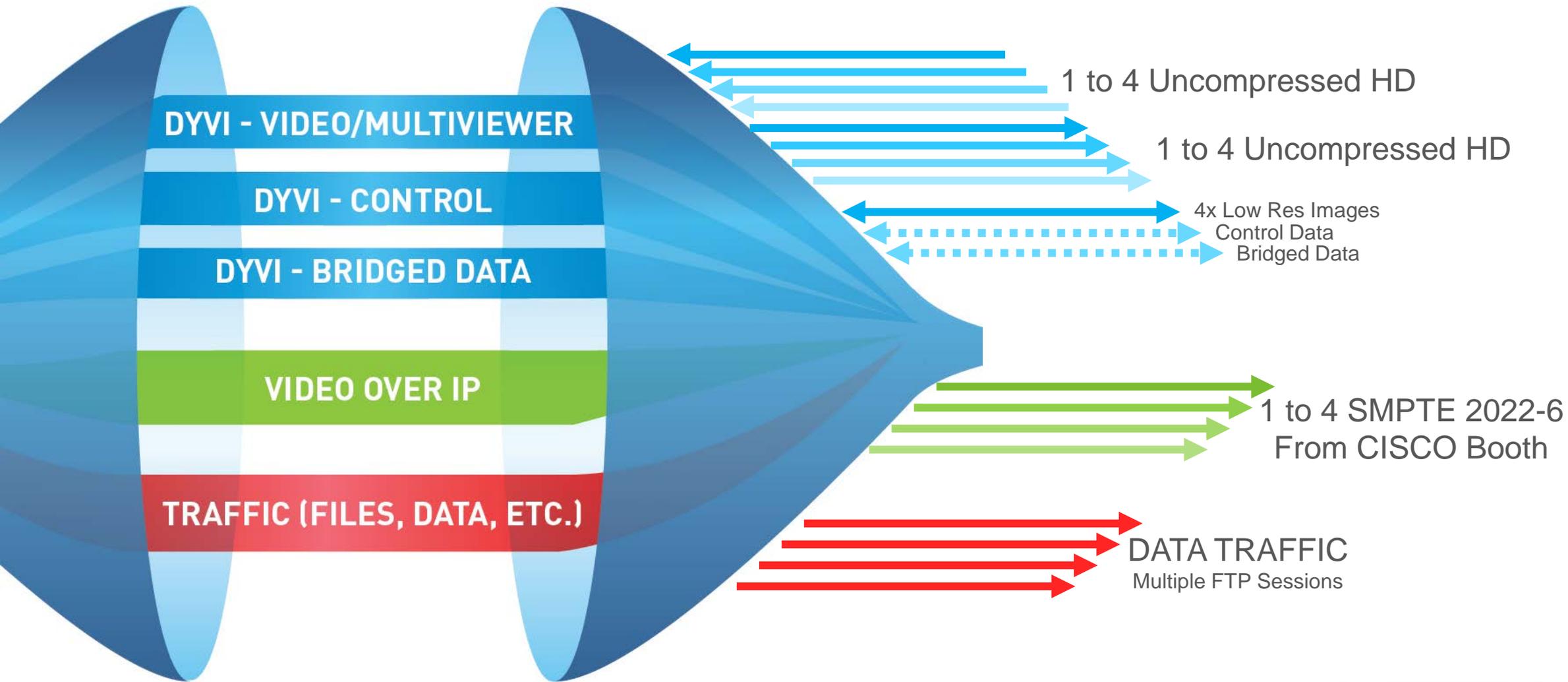


Private IP Network



Telco IP Network





PRESENT

PAST

FUTURE



EMBRACE IT TECHNOLOGIES TO THE BENEFITS OF LIVE PRODUCTION

VIRTUALIZATION



SOFTWARE DEFINED APPROACH

THANK YOU

COME GET A DEMO IN THE NEXT ROOM

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DYVI

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