

SONY



问鼎当下 执耳未来

“Ready Today, Open for Tomorrow”



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May 25th, 2017

Media Segment Business Div. Professional Solutions & Services Gp.
Sony Imaging Products & Solutions Inc.

内容制作行业发展趋势 Media Industry Trend

Content Creation

内容制作

News



Sports



Concert/Event



Drama



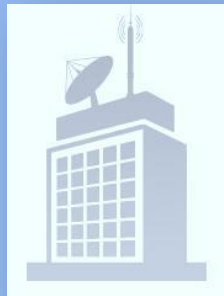
Information



Merger of Broadcast & Communication

媒体融合

(Broadcast · Distribution · Package)



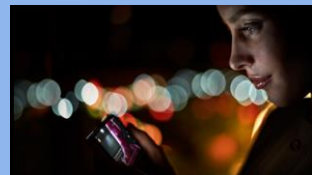
Multi Media Viewing

多屏观看

Living Room



Mobile



Theater

Public Viewing



需要更多高质量的内容
Need more high quality contents

索尼专业制作发展方向 Sony Direction for Live Production

提升内容价值

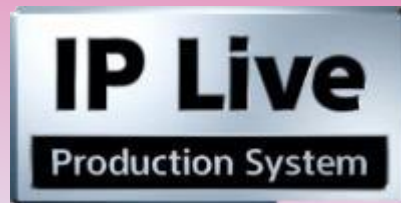
Contents Value



4K·8K

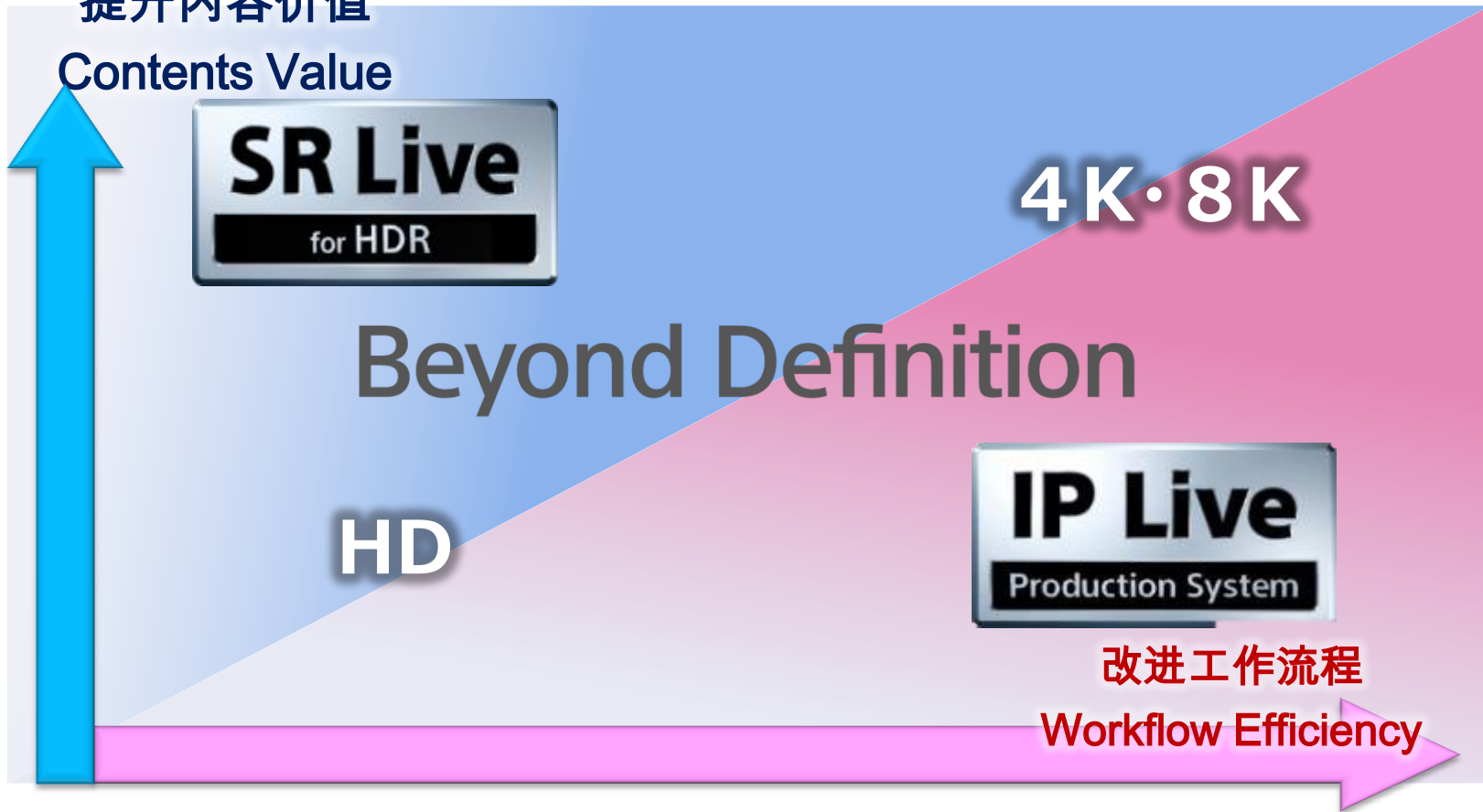
Beyond Definition

HD



改进工作流程

Workflow Efficiency



高动态范围 High Dynamic Range (HDR)

内容价值 Contents Value



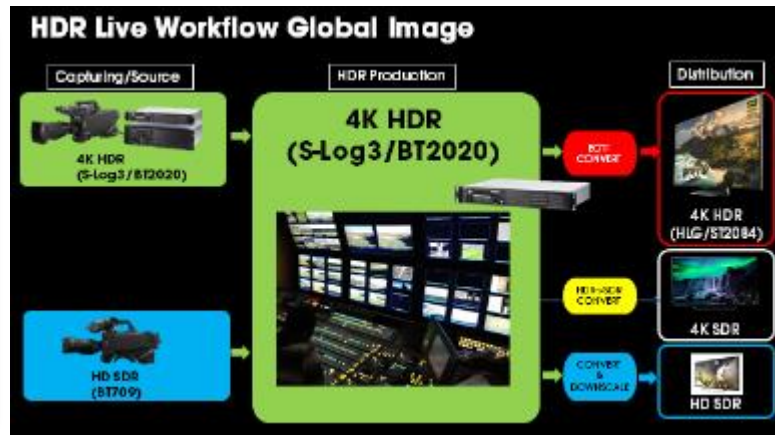
场景参考 Scene Referred

重现实际的自然景观 Reproduce the scene as it looks

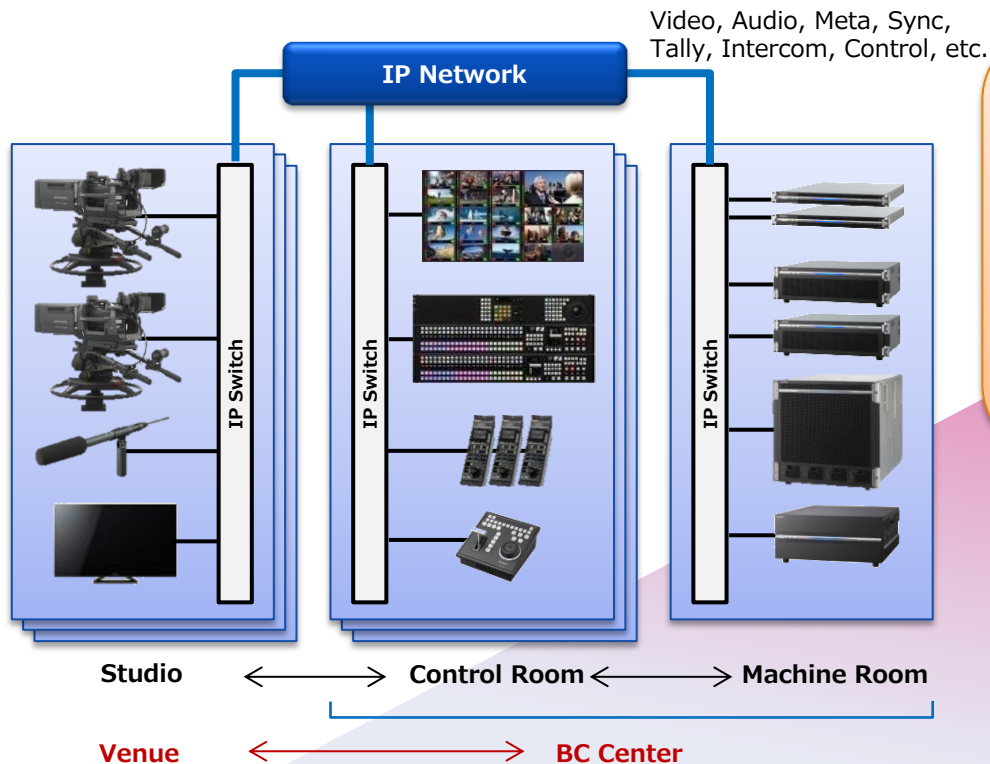
超级真实 Super Reality

再现超级真实的图像 Perform the presence beyond reality

- 4K高动态/HD标准动态同播
4K HDR/SDR & HD Simultaneous Production



IP Live 节目制作 IP Live Production



全部IP化及通用IP平台 All IP & COTS Use

系统设计及连接简洁

Simple system design/connection

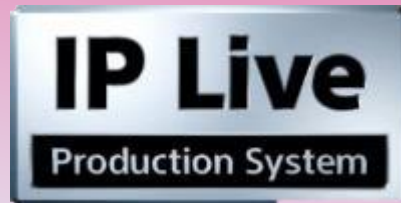
实时和文件域归一

Unified real-time & file infrastructure

跨区域集成 REMI Remote Integration

远程、资源共享、数据中心

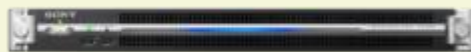
Remote, resource share, data center



Workflow Efficiency

[Ready Today] 全系列的IP现场制作产品线 End-to-end IP Live Production

Operation



PWS-110NM1
IP Live System Manager

Acquisition



HDC-4800



BPU-4800



HDC-4300



HDC-P43



BPU-4500



HDCU-4300
HKCU-IP43F

4K/HD System Camera

Production



XVS-6000 XVS-7000 XVS-8000
w/ QSFP+ (40GbE) I/O Boards

4K/HD Production Switcher



PWS-4500

4K/HD Production Server



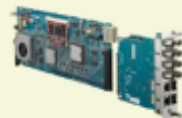
Processing



NXL-FR318
Signal Processing Unit



NXLK-IP40F
SDI-IP Converter Board



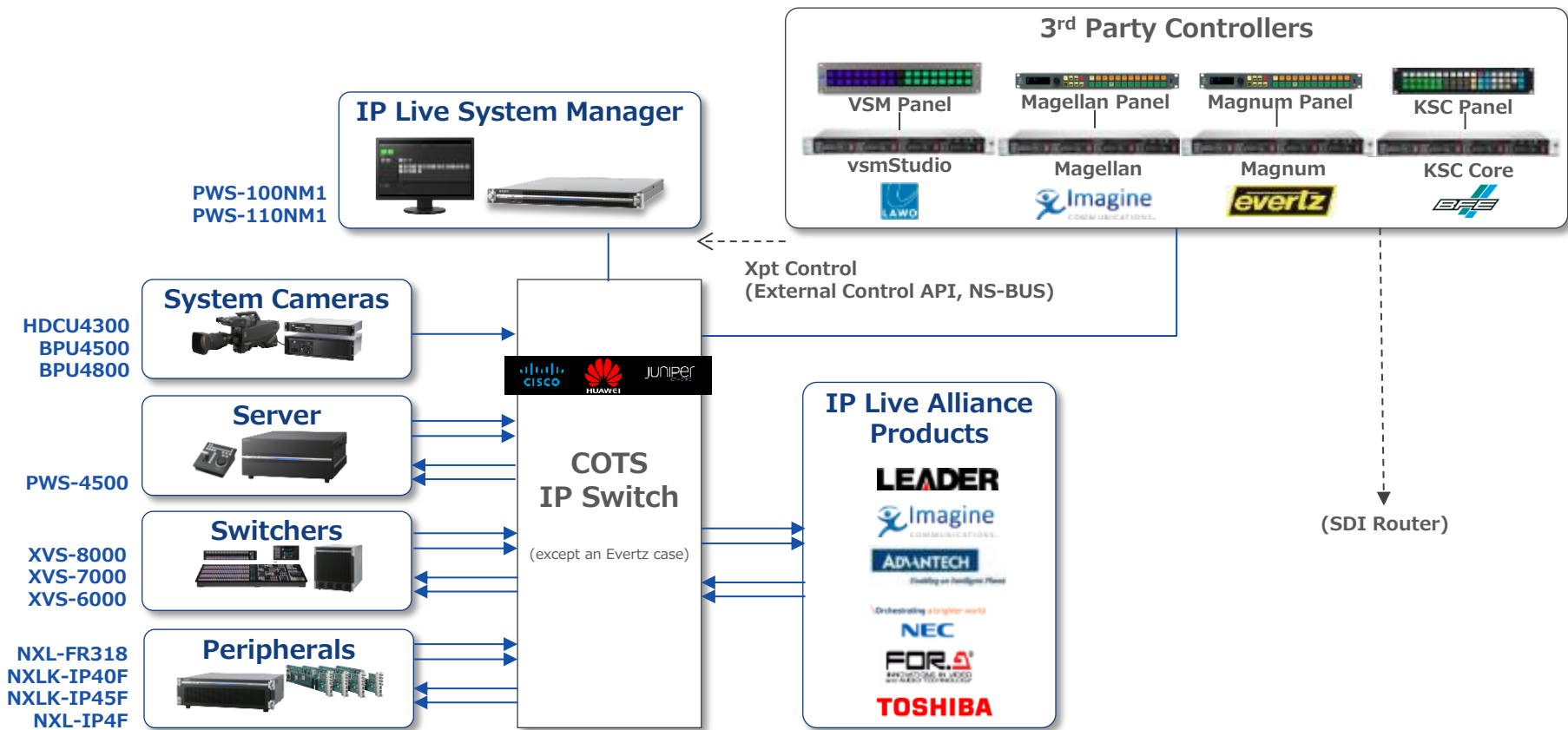
NXLK-IP45F
AV Multiplexer/DeMultiplexer Board

Monitoring



NXL-IP4F
SDI-IP Converter Unit

[Ready Today] 与其他厂家实现互通互连 Interconnection with other vendor



[Ready Today] 项目案例 Case Study

World 1st 4K/IP OB Truck
TV Globo



4K HDR Production over IP
@ Carnival de Rio (Feb, 2017)



[Ready Today]项目案例Case Study

4K/IP OB Trucks in China 4K Garden, Production for Alibaba



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中央电视台4K/IP转播车
切换台主机接线状态

[Ready Today]项目案例Case Study

4K Broadcasting IP Router for SkyPerfectTV

SONY

News & Information.

Sony Business Solutions Corporation.,
1-7-1 Kōnan, Minato-ku.,

Nov. 16, 2016.

Sony will deliver to SKY Perfect JSAT 4K-Broadcast IP Routing System.
—IP Approach Delivers Reliable and Extensible 4K Video Transmission and Monitoring—

Sony Business Solutions (Minato-ku, Tokyo, Japan) will deliver SKY Perfect JSAT an industry-leading 4K-broadcast IP routing system...

The system uses IP transmission to output and monitor 4K broadcast video. Incorporating an HDRC-4000, HDR production converter unit, the system enables integrated 4K and HD operations and leads the way to 4K HDR production in the scope of mainstream 4K broadcasting.

With its recent efforts of actively embracing leading-edge broadcast technologies and high-quality content, SKY PERFECT JSAT continues making a significant contribution to the 4K broadcasting IP technology that the system uses for both 4K and HD will provide SKY PERFECT JSAT with the flexibility to add more video lines and to easily change its transmission formats, allowing for the configuration of highly extensible transmission and monitoring. While the use of IP itself offers significant flexibility and scalability, SKY PERFECT JSAT's decision was also driven by trust in Sony's recognized expertise in the area of industry-leading 4K solutions.

Delivery was completed in March 2017, with the system to be brought online in several steps...

Sony continues its efforts in the development and mainstreaming of IP Live production systems—and of the underlying core technologies in Networked Media Interface. The centralized network-based management offered by these systems points the way to both excellent operational efficiency and the ability to produce high-value-added content.

By using COTS (commercial off-the-shelf) network switches as basic infrastructure, this IP Live approach allows for configuration of highly functional systems with cost-performance. Systems can easily be extended through addition of more switches: transmission channels can be added, and transmission formats changed, with a simple way to reconfigure the infrastructure itself. Implementation of redundancy is also very straightforward—allowing for immediate switchover to backup components in the event of a system failure without interruption of video transmission.

Sony's IP Live production systems offer a powerful of combination flexibility, scalability, and reliability.

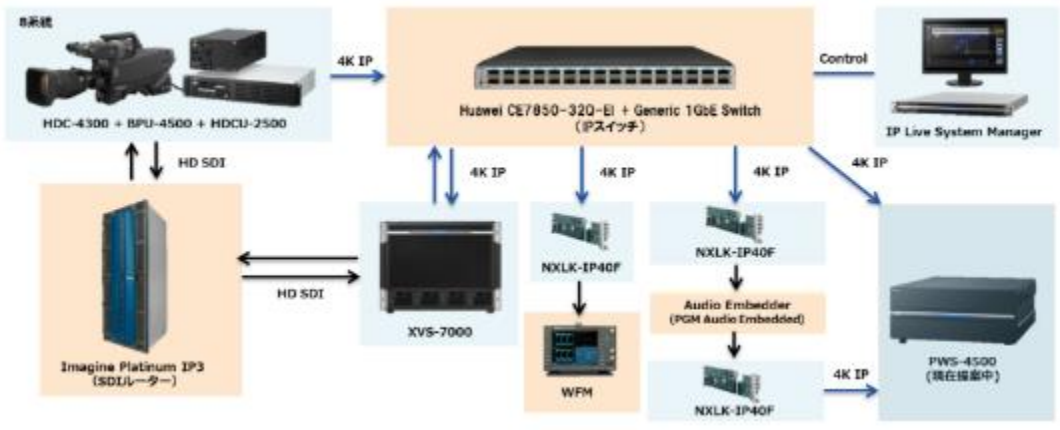
System Overview.

- PWS-100NMI IP Live System Manager.
- NXL-FR318 Signal Processing Unit.
- NXLK-IP40F SDI-IP Converter Board.
- HDRC-4000 HDR Production Converter Unit.

[Ready Today] 项目案例 Case Study

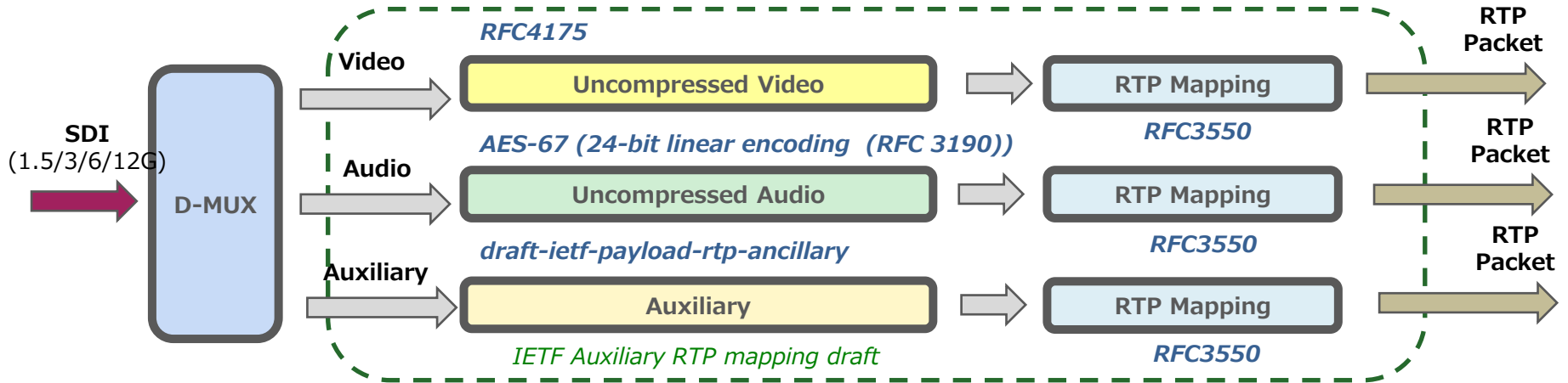
BBC London 4K/IP Studio

- **Total 3 Studio Systems (1x 4K/IP studio)**
 - 22x Camera, 3x XVS, Many monitors, etc.
- **BBC & PSE press released on Jan 26th**
 - Many articles from medias; SVG-Europe, etc.
- **PoC in DMPCE**
 - BBC accepted the performance in PoC test at DMPCE

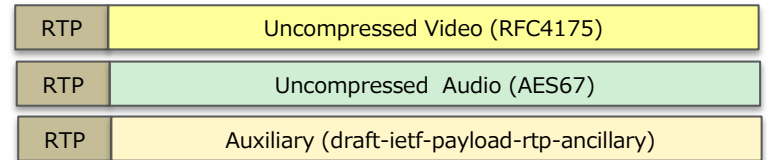


IP Standardization “ST2110 under development”

- VSF TR-03(/04) → SMPTE ST 2110-xx
- Essence Independent Transport based on RTP

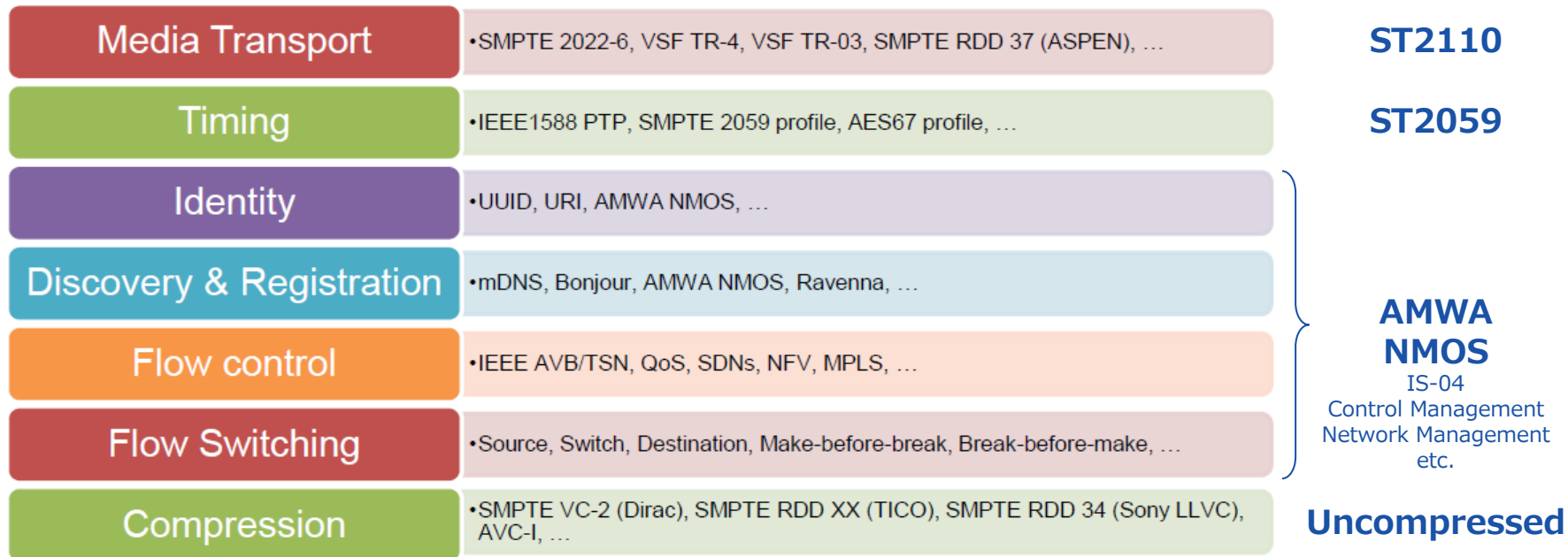


- ST 2110-10: System
- ST 2110-20: Uncompressed Video (-21: Traffic Profile)
- ST 2110-30: AES67 Compatible Audio (-31: AES3)
- ST 2110-40: Auxiliary
- ST 2110-50: Synchronization with ST 2022-6



EBU's 7 Layers for Interoperability

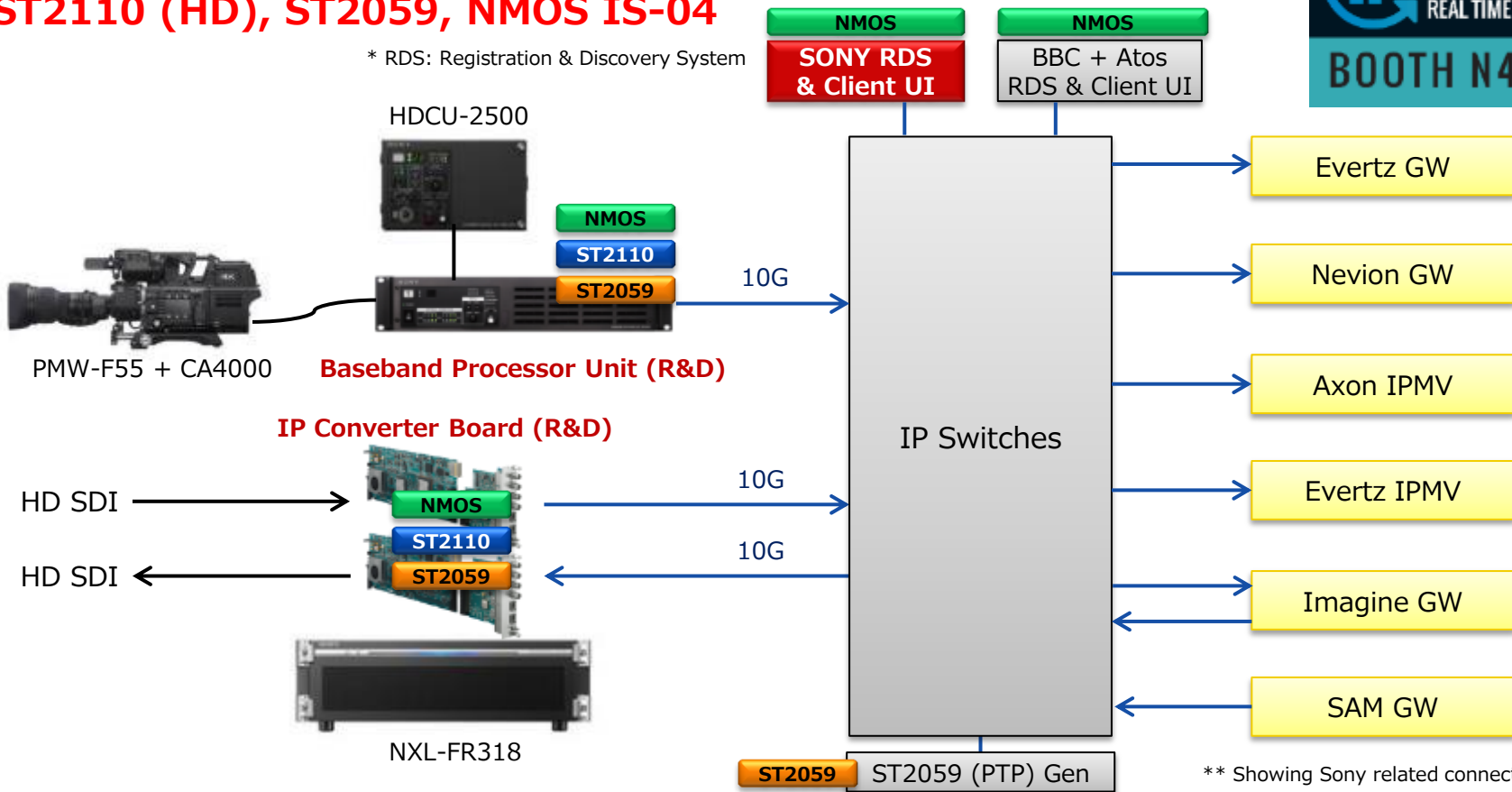
THE KEY PLANES OF INTEROPERABILITY* AND THE MANY STANDARDS**



Sony@IP Showcase @NAB2017

ST2110 (HD), ST2059, NMOS IS-04

* RDS: Registration & Discovery System

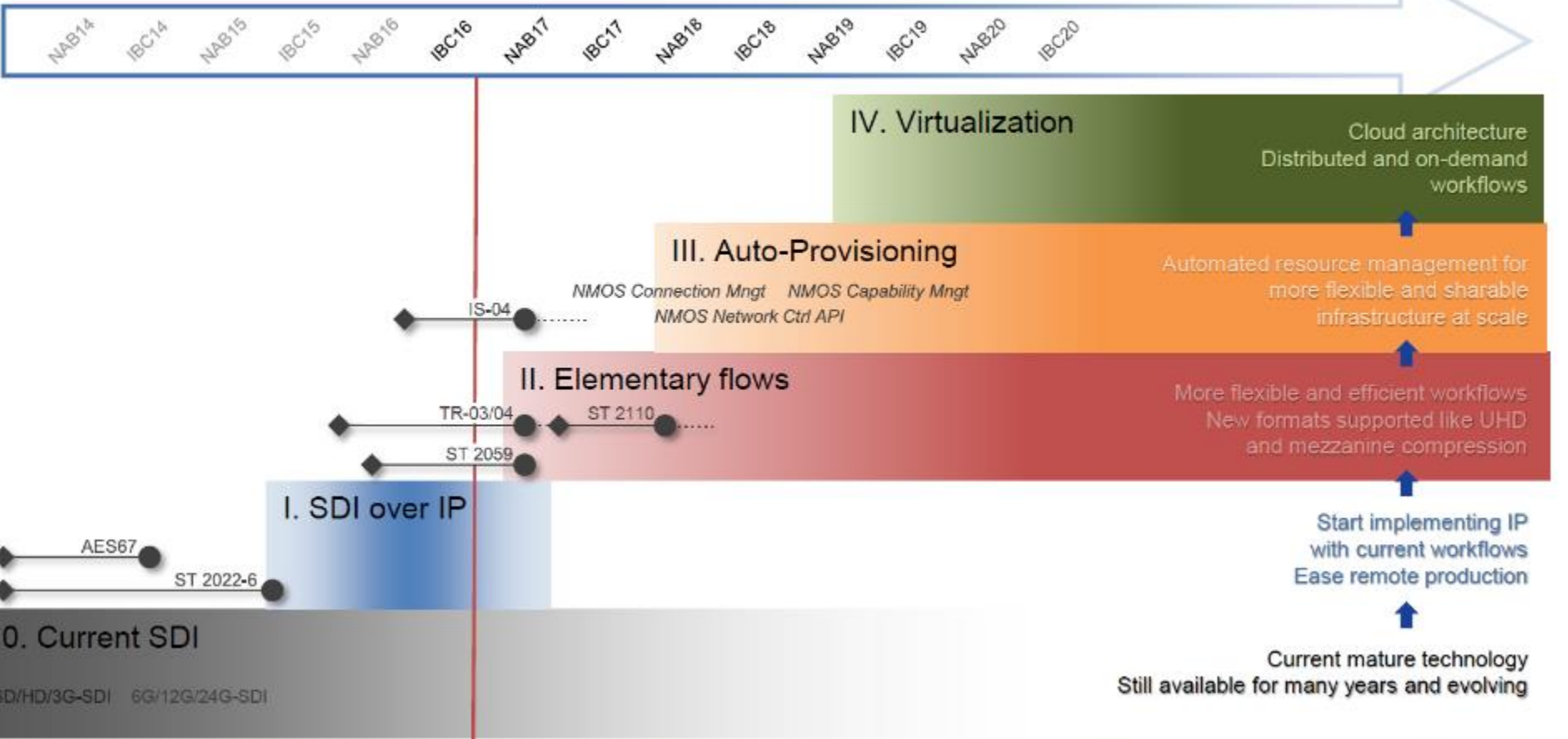


** Showing Sony related connections only.

Sony@IP Showcase @NAB2017



JT-NM Roadmap of Networked Media Open Interoperability*

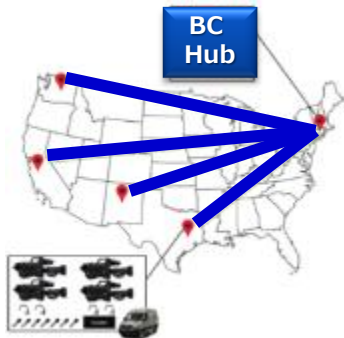


Std / Spec Products

* JT-NM assumption as of November 2016 and will evolve over time. Visit JT-NM.org for the latest update. Feedback to jt-nm-info@videoservicesforum.org

跨区域集成的定义 REMI Definition

减少前方人员
Minimize On-site Equipment & Staff
to reduce Production Cost



IP Network

共享制作+数据中心
Shared Production
+Broadcast Data Center



IP Network

IP Network



Control Room



Equipment Rm
/Data Center

远程制作Remote Production



Studio

在低价低廉的地区投入，统一管理
Data Center in lower land cost place,
maximize efficiency of equipment use,
etc.

Sports Broadcasters & Productions

Sports

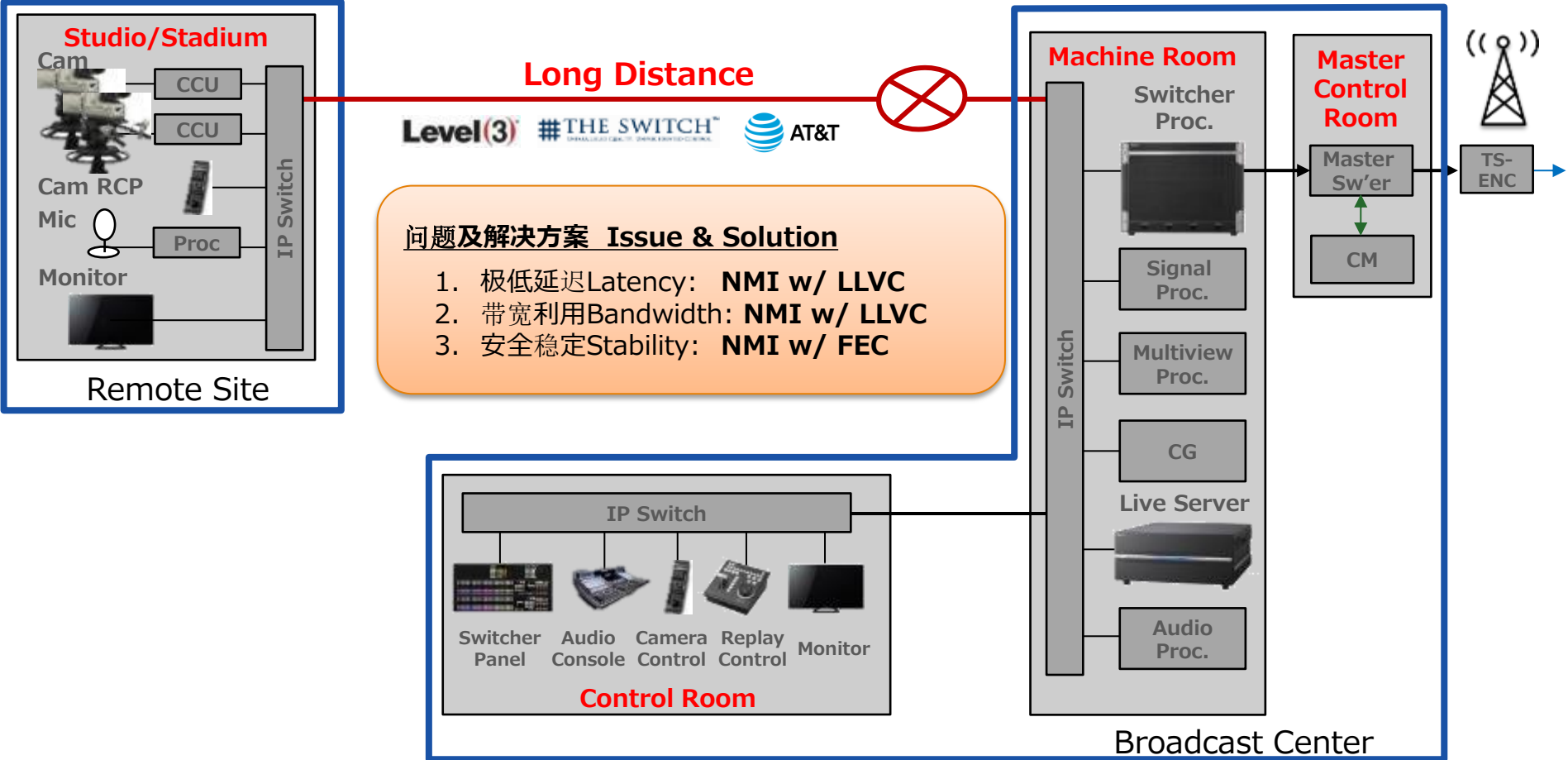
- ① 体育和综艺 Major Sports or Large Events
→ Keep Large OB Truck Style
- ② 小型体育转播 Minor Sports Production
→ Remote Production

Key Broadcasters

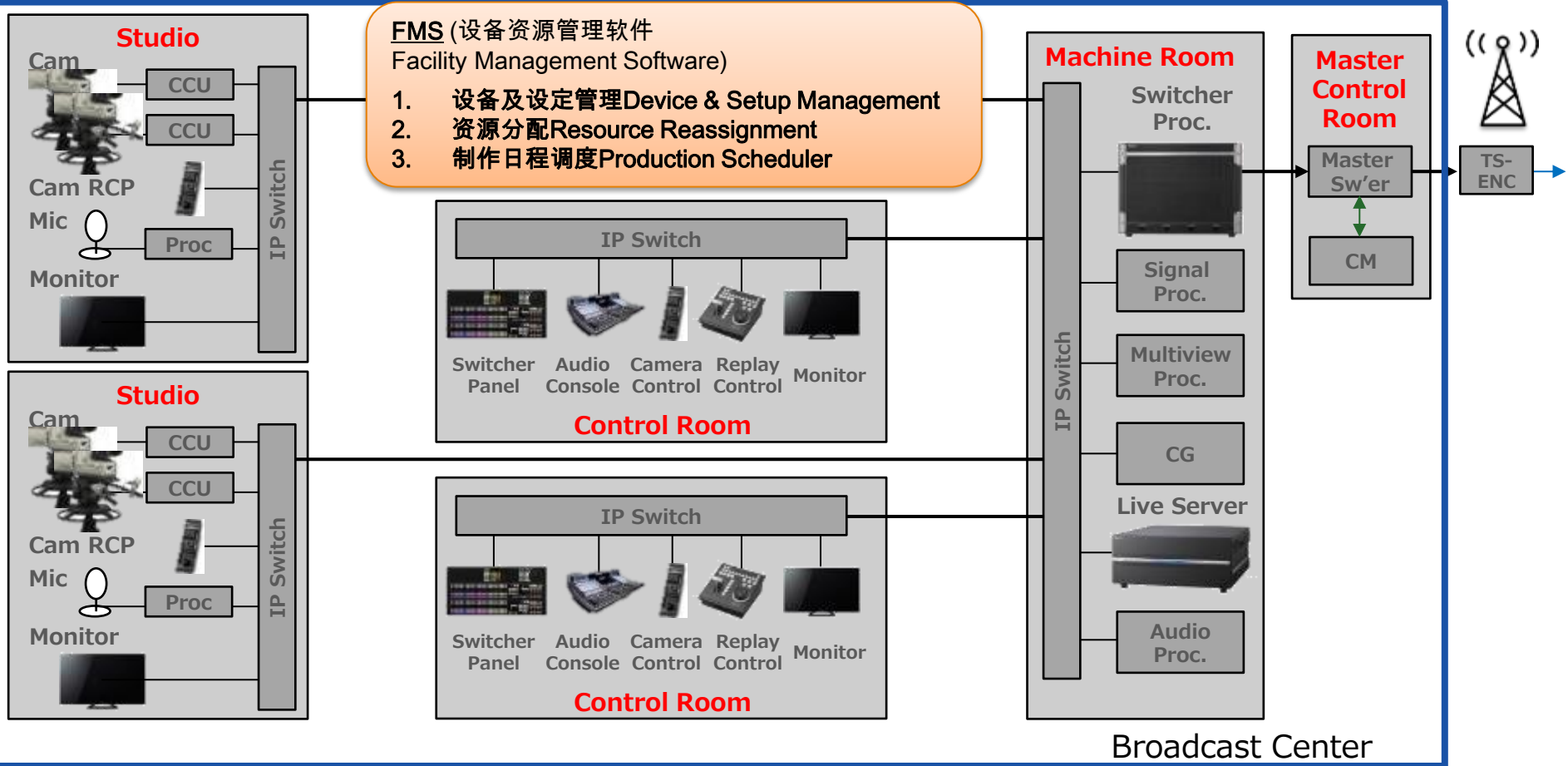
News &
Entertainment

- ③ 新电视制作中心 Key BC's Studio
Production
(including Recording Studio)
→ Shared Production,
Broadcast Data Center

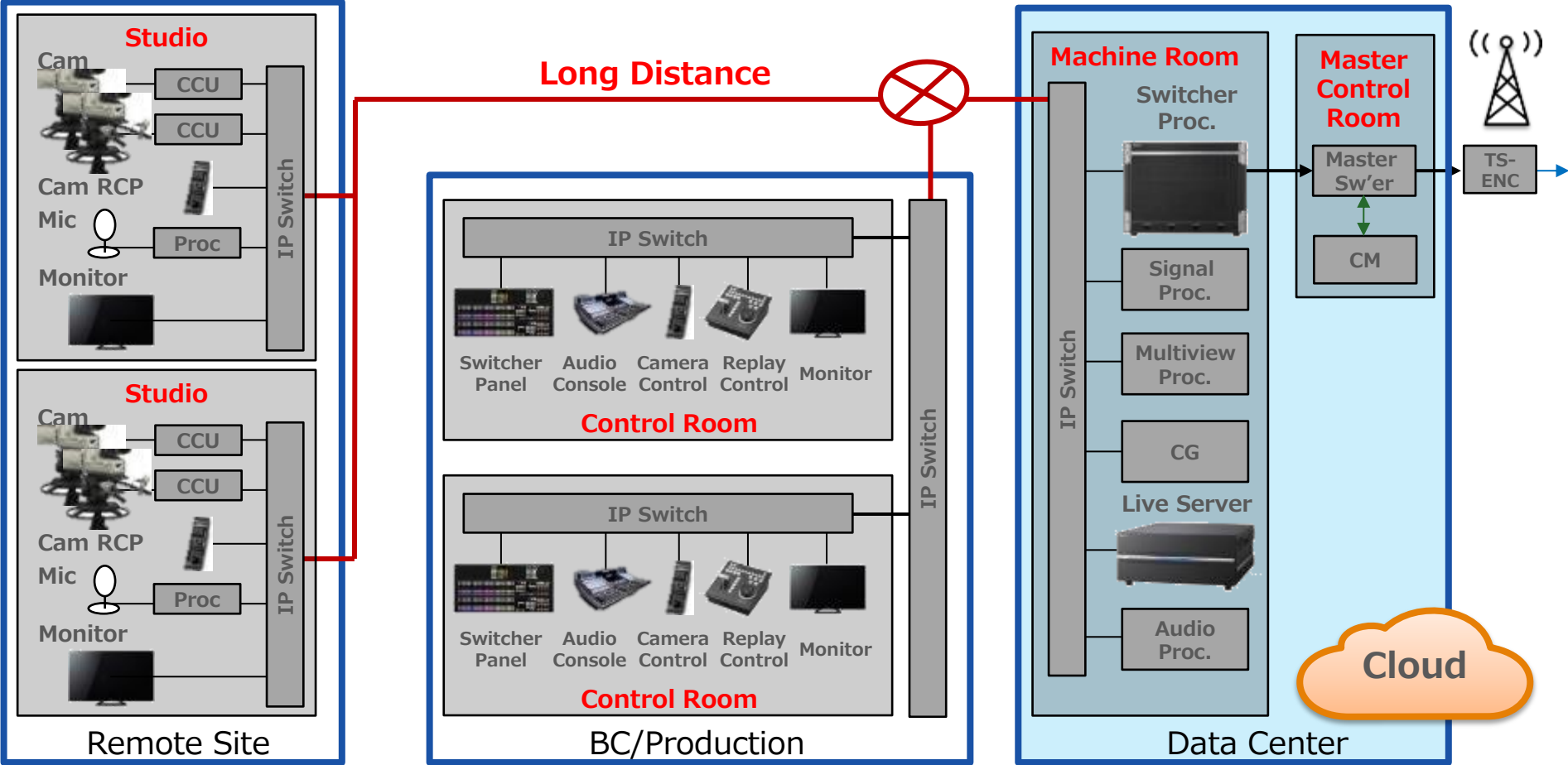
[REMI] 远程制作 Remote Production



[REMI] 共享制作 Shared Production



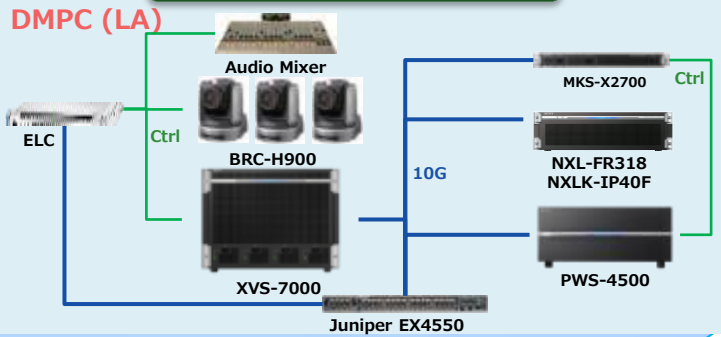
[REMI] 数据中心模式 Data Center Model



[REMI] 跨区域集成制作 Demo@NAB2017

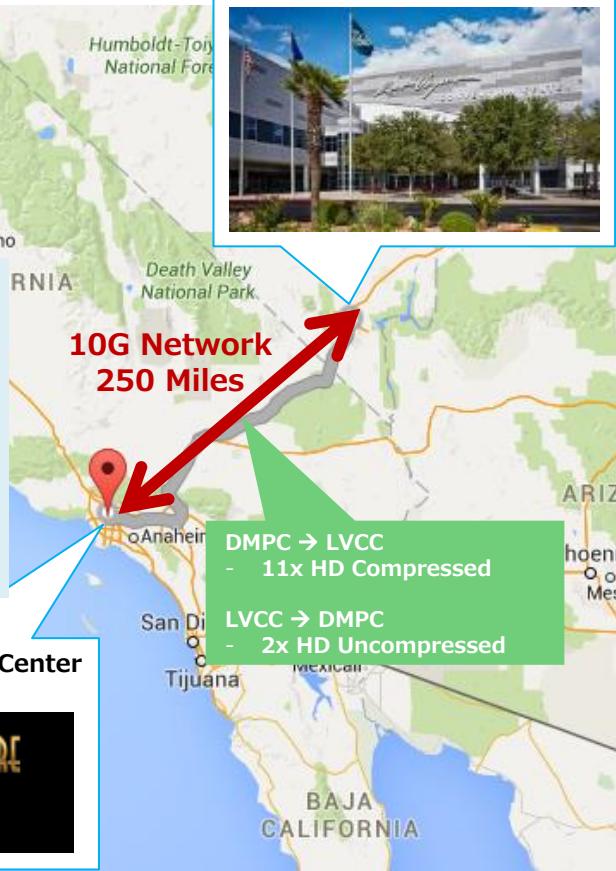
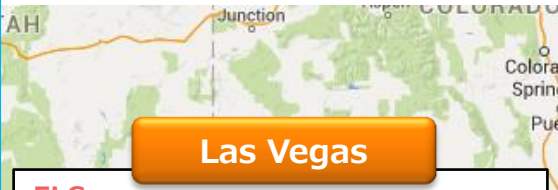


Los Angeles



Digital Motion Picture Center
DMPC

Las Vegas Convention Center
LVCC



Las Vegas

ELC

- Remote control of BRC-H900 & XVS-7000 in DMPC

Fader controller Shotbox ELC

Switcher Remote Production

- Resource Sharing of Processor in DMPC with ELC
- Control processors locally and remotely w/ single panel
- Remote control of XVS-7000 in DMPC

ICP X Panel Monitors

Server

- Remote control of PWS-4500 in DMPC

PWSK-4403 Monitors



问鼎当下 执耳未来

“Ready Today, Open for Tomorrow”

JT-NM:

EBU



AMWA
Networked Media. Working.



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