

Newsroom in a Box...in a Data Center

Virtualized News Production Whitepaper from Ross Video & Cisco

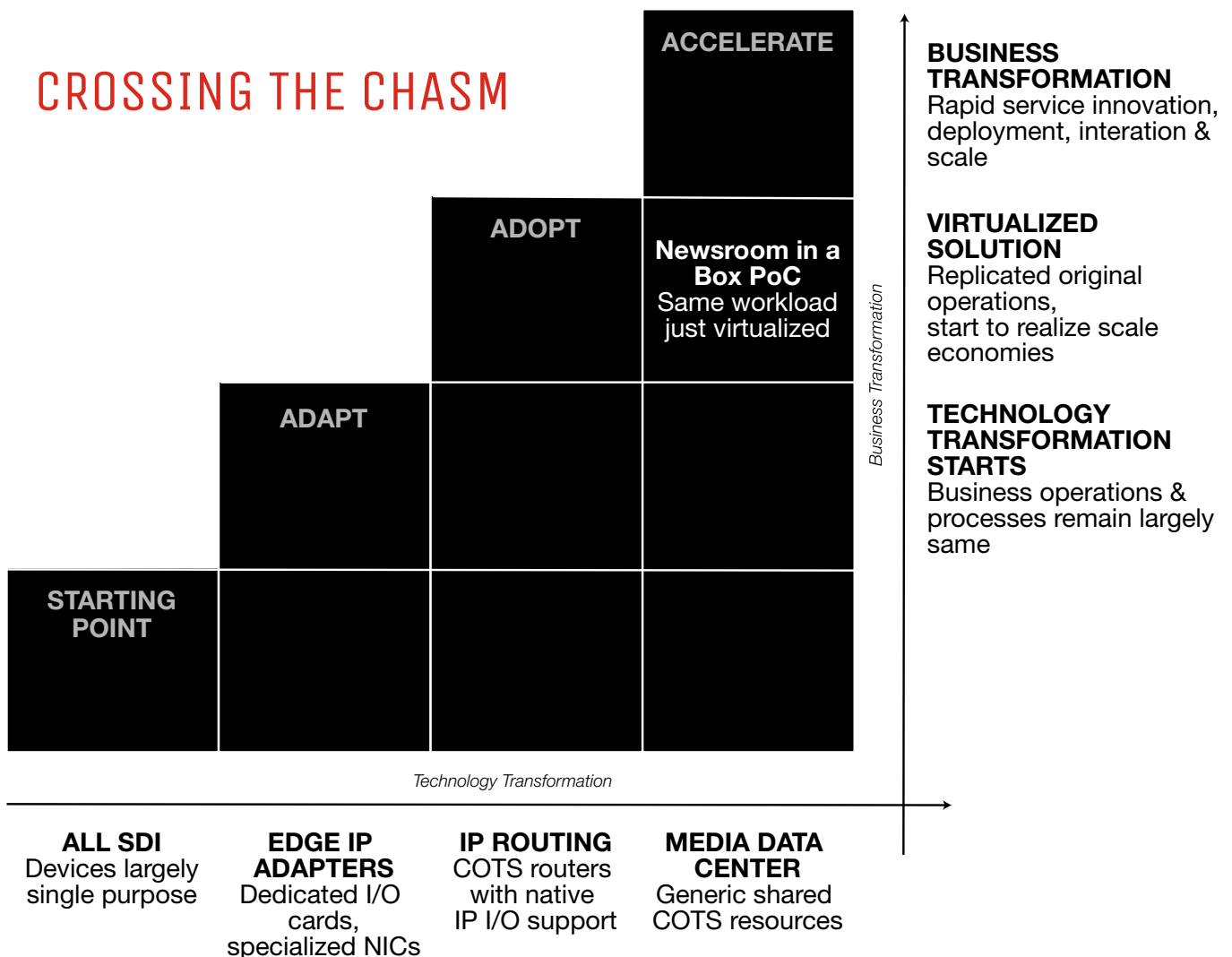
THE WHY

Virtualization promises increased:

- Equipment utilization, often up from single digits today;
- Flexibility in use of available resources;
- Centralization without a step-function in technical complexity;
- Resilience with automated fail-overs that do not involve time-consuming re-cabling.

THE WHAT

In a typical newsroom, the best candidates for virtualization today are production functions that do not touch content directly including Newsroom Control, Media Asset Management, and Production Automation. Plus, these Media Data Center friendly functions are already patterned on traditional database applications with HTML front ends. Ultimately, the goal is to attain an all-IP, all-COTS, all virtual, all-the-time production solution. The challenge is how to get there from here.



ROSS VIDEO - CISCO PROOF OF CONCEPT: NEWSROOM IN A BOX... IN A DATA CENTER

SOLUTION

A 4-channel news production solution workload featuring:

- Production automation (Ross OverDrive)
- Device control (Ross Caprica)
- News authoring and run-down server (Ross Inception News)
- Media Asset Management (Ross Streamline)
- Title and Graphics (Ross XPression Studio)
- Interstitials, stings, segments (Ross XPression Clip Player)
- Control integration with Inception News (Ross XPression MOS Gateway)
- Rapid deployment of different graphics projects – e.g. for morning and evening newscasts (Ross XPression Project Server)

SOLUTIONS ORCHESTRATION

Cisco's hybrid multi-cloud orchestration mapped a model of the complex media workflows across the available resources.

SERVICES ORCHESTRATION

Abstract descriptions of Ross virtual entities were created and deployed in the cloud using Cisco's Cloud Center to interface with VMware.

PLATFORM

8 virtual machines for newsroom workload, plus 7 more VM's to host management services for Solutions & Services Orchestration via Cisco hybrid multi-cloud and VMware vSphere.

INFRASTRUCTURE

14 RU's of Ross gear virtualized into 2 RU's of Cisco Unified Computing System (UCS).

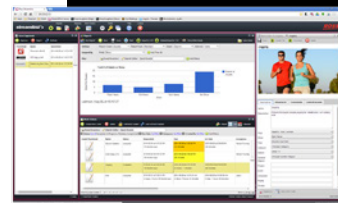
The server also hosted two NVidia Quadro 4000 GPUs which were pinned to the Ross XPression Studio and XPression Clip Player instances to make them available to those VMs. NewTek's NDI® was used as the IP Video technology to share the AV content produced by this workload with downstream production. Ross XPression supports NDI as both an input and output format, and Ross DashBoard accepts and displays NDI feeds which made it possible for to build an all-IP MultiViewer as a DashBoard custom panel to monitor the workload. The end result looked and behaved just like a non-virtualized newsroom production system, which is exactly the point! Operations should not have to change to benefit from Media Data Center technology.



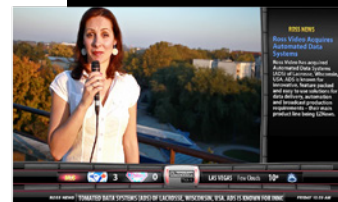
OVERDRIVE



INCEPTION



STREAMLINE



XPRESSION

A man in a suit is seen from the back, pointing his right hand towards a screen in a control room. The room is dimly lit with various monitors and equipment visible in the background.

WHERE TO NEXT

As evidenced by the Proof of Concept, a dual technology solution where data center technology combines with SDI infrastructure is the next practical step for most broadcast operations.

The broadcast functions that are difficult to virtualize either because of high channel count, processing complexity, or both (think SDI routers, switchers, and edge convertors) require API's to enable effective solutions orchestration. These API's will let broadcasters realize Software Defined Production of a dual technology system, which is a practical proposition for today's business and technology reality.

Here's an example of such a solution:

- SDI routers that support reservation of logical matrices and port mapping within a larger physical router;
- Production switchers that permit allocation of subsystems (MLEs, DVEs, etc.) and I/Os (both SDI and IP) to the production;
- Audio, video, and metadata flows needed for production are translated into salvos for SDI routers, and VLANs and IP addresses within the data center component;
- Ability to spin up VMs from the appropriate templates.

CONCLUSION

While the drivers for virtualization are indeed strong – increased utilization, flexibility, centralization, and resilience – the actual adoption of IP and data center technology by broadcasters is linked to technology maturity and replacement cycles.

Today the cloud is well suited to primary and secondary distribution, but live production remains a challenge, requiring low latency, deterministic behavior, consistent timing, and ideally standards completion. As highlighted by this case study, a dual technology infrastructure in which SDI and IP work together is an attractive and logical next step on the virtualization journey. Not only does this option minimize operational disruption, risk, and cloud data security, it also fully utilizes existing equipment. To learn more contact solutions@rossvideo.com.

ROSS VIDEO PARTICIPATES IN THE CISCO SOLUTION PARTNER PROGRAM

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