pebble beach systems

MARINA | DOLPHIN

Scripps Increases Efficiency and Reliability with Pebble Beach Systems' Automation

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Scripps Networks Interactive (SNI) is the leading developer of high-profile content for many lifestyle media platforms including television, digital, mobile and publishing. Popular lifestyle brands in its media portfolio include HGTV, DIY Network, Food Network, Cooking Channel, Travel Channel and Great American Country. The organization is headquartered in Knoxville, Tennessee.

After retiring its previous automation and playout system over a year ago, SNI has been successfully broadcasting 33 channels from the Knoxville Broadcast Operations Center utilizing Pebble Beach System's Marina automation and Dolphin integrated channel systems. The 33 channels are spread across three playout domains: main (A) and fully redundant backup (B) feeds, located in Knoxville, with DR (Disaster Recovery) located out of state. A fourth domain, ICM (Ingest and Content Management) houses all the upstream ingest and QC workflows in Knoxville.

In many deployments, A and B playout are part of the same system, existing on the same network, and the systems can be "glued" together. The Pebble Beach Systems team was tasked with designing a system that would sufficiently isolate and protect each playout chain, while still allowing synchronized operation. In order to accomplish the task, Pebble built a multi-domain playout architecture for A, B, and DR residing on independent VLANs.

"Our goal was to eliminate as many points of failure as possible," said Scott Wilkerson, Engineering Manager at SNI. "We wanted a more user-friendly UI, column-based editing and synchronized databases. The system had to be easy to maintain, and offer complete redundancy."

The challenge with building such a system was in finding the right balance of synchronicity and isolation between the systems and databases so that A, B, and DR playout were protected, but also in sync. The Pebble team presented various intermediate steps between being completely isolated and tightly coupled, which allowed SNI to choose an architecture that precisely met its needs. "We've built a level of redundancy, with separate domains, and separate databases, that we're very happy with," said Wilkerson. "The databases share information easily, while keeping everything in sync."

Isolated Domains

"ICM is where the heavy lifting happens. All of the schedules, as they initially drop, are edited here. All the QC is also carried out here, with media being ingesting into the Omneon Spectrum video server and sent to archive. We bought 22 seats of Marina, and at any given time, we can have up to 18 of them manned. We keep the ICM domain pretty busy," say Wilkerson. There are also four Marina client stations for A and B domains in two control rooms where feeds are split and monitored. Any last minute live changes are made in those rooms at the Marina clients.

Marina User Interface

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"Metadata is automatically synced from ICM to A, B, and DR, and that works great. If you make a title change, video classification change, or a direction change, ICM updates all three of them with that data. The way we designed things, we can lose a database, even with them linked. If we experience corruption on one, it won't affect the other," says Wilkerson.

The CiaB (Channel-in-a-box) philosophy – having automation running on the same device where the video playback and other graphics, audio and VANC processing reside – is a core benefit that delivers simplicity and reliability for SNI. "We have pulled the network connection out of the back of the box, and the Dolphin system will continue to execute as long as it has a playlist and media. We could lose every core, every switch, every piece of our network infrastructure, and we would continue to playout over the air," says Wilkerson.

SNI, like any broadcaster, are decidedly cautious about installing new versions of software on busy equipment. This often creates a "Catch 22" scenario as vendors, like Pebble Beach Systems, strive to improve and evolve features, often in response to requests from customers. For SNI, this is no longer a concern as the isolated domain architecture gives them the ability to run different software versions on each domain so they can roll out a new build very gradually.

Operational Efficiency

"Whether it's ease-of-use in the UI for cueing events, or being able to easily find missing media, our technicians like to work on Marina every day. They really love the system," says Doreen Akune, Director of Network Operations at SNI.

Operational efficiency was a key aspect for SNI and the ability to integrate seamlessly with the Grass Valley Intuition XG graphics system saved a lot of time and investment. "Our Dolphin systems are controlling the Intuition XG over IP and the Intuition XG box is actually upstream, with the Dolphin keying the signal," said Wilkerson. "It was one of the features that sold us on the Pebble system, versus other vendors. We're able to control the keyer via logic in the playlist so the keyer is "on" during programming and "off" during commercials. This allows us to protect our ad revenue."

With Marina, schedules are edited only once in the Ingest and Content management domain, then automatically propagated to the DR domain. Metadata is also propagated between all domains, including DR, eliminating double data entry. Using Marina's exposed XML schema, purges show up as job lists that can be executed at the click of a button – a process which was previously very manual. SNI's compile process (recording the next day's playlist in one hour chunks for off-air QC) is now completely automated, with records alternating between two virtual encoders, and schedules auto-appending.

"Looking back at the development stage, Pebble has met or exceeded our expectations. The increase in efficiency coupled with the reduction in hardware has enabled us to take on additional work and grow the department. This new infrastructure has also positioned ourselves to spin up any content stream the business requires much faster than historically," said John Ajamie, SVP, US Operations, SNI.

Enhanced Resiliency

SNI is benefiting from enhanced resiliency which comes from the self-sufficient ecosystem that Dolphin, running Marina automation, provides. A more autonomous system also means there are fewer points of failure in an integrated channel design. "We recently had an issue where we lost network connectivity, and things kept running like a dream. No one knew anything was going on in the rest of the facility," said Akune. "If we had to evacuate the building, and be able to do our regular process, including QC, while running things from outside, I think, we're in a much better place to accomplish that with Pebble. Having a comprehensive, off-site DR is certainly a plus for us as well."

Remote management

The SNI team is looking at Pebble Beach Systems' Lighthouse, web-based remote management and monitoring tool, to further streamline operations. "Controlling and monitoring operations remotely is important, but we also want other departments, like creative services and traffic, to have access," says Wilkerson. "For example, we'd like Traffic to be able to make log change requests electronically through Lighthouse, have them approved, and automatically send the approvals back to Traffic. For that and many other reasons, we like the options that Lighthouse brings to the table."

SNI is also looking at options for expanding with virtualized playout systems, such as Pebble's Orca, for dynamic deployments including pop-up and experimental channels. The challenge is to bring any best-of-breed processing tools into a software ecosystem, so that either Dolphin, or Orca, can run everything required in the cloud. "It's great to see all of these additional software plugins coming onboard for Dolphin, and we think the product is well positioned to support us as we look to virtualize playout", concludes Wilkerson.

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