

Navigating channel in a box options

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When considering channel-in-a-box solutions for tapeless playout, many broadcasters reach a fork in the road, a point at which they must choose to go one of two directions. In pursuing cost savings, they can choose to invest in a limited solution – capable of controlling a smaller selection of devices – in the hope that the system can be expanded as their needs grow.

Or, following the path toward building a holistic framework for the entire operation, they can opt to invest in a more robust product that is capable of directing and managing many key functions and which, down the road, also can serve as a building block for larger or more sophisticated playout operations. Despite the immediate appeal of the limited, low-cost system, the selection of a more robust solution ultimately will prove the more practical and cost-effective choice, offering valuable utility up front and enabling smart scaling of system functionality and capacity over time.

In today's broadcast environment, establishing reliable playout and adding services as needed is a sound business strategy, and the right channel-in-a-box solution supports this model, whether it's being adopted by a very small outfit looking to launch a niche channel or by a large enterprise seeking to add a new low-value channel, a regional channel, or even disaster recovery capabilities to its existing operations. In any case, one of the primary benefits of using a channel-in-a-box is that it delivers, in a single device, a level of functionality that normally would require several products from a variety of manufacturers to achieve.

As critical components – a video server, graphics engine, mixer, media management, and automation – are united and integrated within a single IT-based system, it is the automation system that ties together and drives these elements. Just as proven stand-alone automation solutions interface smoothly with all necessary devices across a broadcast operation to control and manage content playout, the automation software within a channel-in-a-box solution is key to the system's ability to leverage each integral component toward meeting the various demands of playout.

When built on a best-of-breed automation system with a solid pedigree in terms of addressing user requirements, the channel-in-a-box system offers many of the same benefits of the stand-alone version while eliminating the need to source, integrate, and maintain compatible systems from a variety of third-party vendors.

In adopting a robust channel-in-a-box system, the user also establishes a foundation for larger or more sophisticated playout operations, which may be realised through functional or I/O upgrades, the purchase of additional systems, or even integration with or migration to a new or existing automation system within a more complex broadcast infrastructure. All three of these incremental growth models allow channel-in-a-box users to build on, rather than replace, their initial investment in terms of equipment, staff training, and workflow dynamics.

Quality and how it matters

While the quality of the automation component within a channel-in-a-box solution is essential to the value and functionality of the overall system, it is naturally important that other elements also offer solid performance.

The relatively low cost of a channel-in-a-box solution needn't translate to low performance. The RAID storage, control options, processing capabilities, multiformat I/Os, and dual power supplies expected of conventional playout infrastructures are designed into robust channel-in-a-box solutions, which thus can provide the functionality required while doing away with those features (and associated costs) that are redundant or simply not necessary to playout operations.

One element that differentiates more robust channel-in-a-box solutions from others is graphics processing and the video compositing card that supports it. Leveraging a dedicated card for processing, rather than relying on PC-based processing capabilities, is essential to minimising delay throughout the system and ensuring the frame-accurate, deterministic playout expected of quality solutions. The processing power of a dedicated video card also drives effective multiformat support and enables back-to-back playout of mixed formats from a single timeline, a capability that provides a straightforward migration path from SD to HD and allows for continued use of SD assets following this transition.

Resilience is another important factor in channel-in-a-box products. Though they are IT-based and built on commodity hardware, well-engineered solutions can be configured to provide varying levels of resilience according to the value of the channel. Once again, it's a question of orchestrating the integration of multiple systems to achieve both the user's budgetary and performance goals.