



NETWORK DVR:

THE IDEAL SOLUTION FOR
TIME-SHIFTED VIEWING



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Network DVR: The ideal solution for time-shifted viewing

With the meteoric rise of cable Video on Demand platforms, as well as HD streaming services from over-the-top (OTT) providers, like Netflix, many consumers have moved away from linear TV watching and toward time-shifted viewing. There has long been a substantial time-shifted audience out there – think people recording shows to VHS tapes in the 1990s – but it has greatly expanded in recent years.

Indeed, the 2015 Digital Democracy Survey from Deloitte found that not only did its respondents prefer streaming time-shifted content ([53 percent of them](#)) to watching it live (45 percent), but also that viewers ages 14 to 25 also watched more video on their smartphones and tablets than on actual TVs. Fortunately, cable operators have many options at their disposal for adapting to this IP-driven paradigm shift in consumer behavior, most notably the rise of network DVR (nDVR).

Defining nDVR: Critical characteristics and competitive advantages

The ideal nDVR solution has several distinguishing general features:

- It provides time-shifted capabilities such as catch-up TV (if you forgot to hit record), start-over TV, download-to-go and recording recovery. Live streams can even be paused, rewind and restarted as if they were recordings. These nDVR features may enhance existing cable DVR solutions and/or offer alternatives to in-home DVRs like the X1 platform available from Comcast.
- Unlike cloud DVR, it utilizes storage that is within the closed network of the multichannel video programming distributor's CDN. This setup delivers better quality than ones relying on either the open Internet (which is prone to service degradation) or the local disk of the set-top box (which is necessarily limited in its capacity).
- This centralized - or regionalized - network implementation reduces the operational complexity of DVR services for MVPDs and enables



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a superior experience for subscribers at the same time. The complications of private and public clouds, along with the accompanying performance and security issues, can be avoided entirely.

- It decouples DVR functionality from customer premises equipment. Tuners and storage, in addition to advanced features such as universal search, need not depend upon the specific CPE, which simplifies the solution and reduces the number of possible technical conflicts compared to cloud DVR.
- Commodity equipment may even be used for some applications. Decoupling DVR features from CPE dramatically reduces the capital cost of deploying DVR features.
- It is available even to MVPDs that have not gone “all-in” on IP distribution yet. While some investment is required to implement nDVR, operators don’t have to go through the entire IP transition phase to get to nDVR. They can take advantage of their existing private networks for some storage and streaming components.

In assessing these fundamental traits of an effective nDVR, it is important to note that all of them ultimately help to lower expenses for operators. With a lower cost to offer DVR features, operators have the choice to lower the price to subscribers to possibly capture more DVR subscribers. While adoption of hardware DVRs in tandem with Netflix and cable VOD is high in the U.S., it is also heavily dependent on cost. In 2015, Leichtman Research discovered that [76 percent of households](#) had one of those three services in place, but only 11 percent had all three, indicating their overlapping (and competing, in the case of OTT) roles and the limited amount of consumer capital available for time-shifted video solutions. Moreover, virtually all DVR users identified in the survey were pay-TV subscribers at a time when the phenomenon of cord cutting, especially among people under the age of 30, has been picking up steam.

For MVPDs in particular, there is the challenge of building a viable business model around nDVR – one that can balance their commitments



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to legacy DVR with their interests in developing services that can appeal to new audiences in the midst of also transitioning to IP distribution. They need a way to make a sustainable shift.

Evolution Digital's eVUE-TV™: The superior nDVR solution for the era of time-shifted viewing

As MVPDs look for ways to thread the needle of nDVR implementation, Evolution Digital's eVUE-TV provides unique advantages for them, as well as their customers and programmers. Subscribers are increasingly accepting of poor performance of OTT / cloud delivery and of the complexity of switching HDMI sources or apps on an HDMI 2 device. This acceptance provides MVPDs with an opportunity to deliver a superior time-shifted viewing service through eVUE-TV.

Benefits for consumers

Enabled by home DVRs along with VOD and OTT streaming services, [nearly 9 in 10 people have binge-watched TV](#) according to a 2015 study from TiVo. nDVR is uniquely designed to thrive in such a consumer environment:

- Any additional CPE beyond the STB is not necessary to the consumer which, along with the elimination of local storage, helps contain monthly and long-term costs. The small, quiet and energy-efficient eBOX® IP Hybrid Set-Top Box, which is implemented to provide all video services delivered through the eVUE-TV platform, is built to be an all-purpose STB that's capable of fully integrating nDVR into existing programming packages that also include linear and time-shifted viewing options such as VOD.
- nDVR provides seamless playback of DVR content on customer-owned and operated equipment, including retail devices such as tablets and smart phones. Since everything is stored across the network, end users do not have to wrangle with the limitations of fidgety local HDDs that could break down and lose all of their recorded shows.



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- Its feature set goes well beyond popular DVRs like TiVo. Essential features such as download-to-go, catch-up TV and live pause are present and augmented by distinctive perks like the integration of a subscriber's DVR content into universal search and cross-device support.
- At the discretion of the provider, nDVR implementation can be segmented into its most compelling features. This à la carte buffet of DVR features, like live pause, scheduled recordings, skipping commercials, number of simultaneous recordings and storage capacity, could provide opportunities for subscribers to pay less for the time-shifted viewing features they most care for.

In sum, nDVR provides cable customers the option to view their favorite content on their own time, an experience that today's subscribers have become accustomed to from VOD and OTT. Plus, nDVR weaves these benefits directly into a pay-TV package to provide a broad range of options. Alternatively, it can also be used to enhance a "skinny bundle" of channels that may appeal to younger and more cost-conscious consumers.

Benefits for MVPDs/MSOs

One of the biggest obstacles to satisfying cable subscribers today is the legacy STB, which is hindered by storage, processing power and slow upgrade cycles. Differences between individual STB models also limit how quickly operators can roll out updates to all customers. Evolution Digital's eVUE-TV nDVR solution solves these problems by decoupling functionality from CPE, including the storage and tuners for programming.

Free from the limitations of specific hardware, MVPDs that choose Evolution Digital to be their resource to offering nDVR can reduce operational complexity and control network expenses while simultaneously broadening their service portfolio. For example, the flexibility afforded by IP content through eVUE-TV opens the doors for reaching new subscribers, expanding the service offering to mid-tier non-DVR customers and enabling time-shifted viewing across customer smart TVs, tablets and phones. Through eVUE-TV's managed service, its smart



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CDN enables a mix of centralized storage and regional storage in order to provide the best performance of nDVR features.

MVPDs can enjoy a dramatic reduction in the cost to deploy DVR features through a combination of nDVR and lower cost CPE. Even with limitations on rights related to private copy vs. shared copy, the cost of implementing DVR features in the network is still much lower than the capital and operational cost of DVR CPE. In addition, MVPDs can offer differentiated and better DVR features at that lower cost point. Specifically, MVPDs have some compelling options with nDVR that is not possible with DVR CPE:

- **DVR Parity:** with a lower cost basis, MVPDs can deliver the same great DVR features that their customers enjoy today through nDVR. At a lower cost, MVPDs have the option to lower the price of the same product, preserve margins and potentially capture more DVR customers.
- **DVR Enhancement:** MVPDs can also offer an enhancement to their DVR product, even on deployed IP-capable DVR and non-DVR CPE. With nDVR, an MVPD can easily enable many simultaneous recordings, more or variable storage capacity, catch-up TV and playback on a variety of customer-owned devices.
- **Non-DVR Enhancement or DVR Fragmentation:** With nDVR, an MVPD can choose to enable DVR features on an à la carte basis. For example, an MVPD could deliver live pause (but not necessarily show recordings) to a non-DVR customer. Alternatively, an MVPD could use nDVR to block fast-forward features during ads to potentially lower the cost or price of DVR services.

For operators beginning the migration toward IP distribution, Evolution Digital's eBOX is the gateway to seamlessly make that transition. Since it is a low-cost hybrid QAM/IP solution, eBOX provides a feasible, convenient route toward all-IP. Small and medium-sized operators can reap enormous benefits if they begin their transitions now, cap their



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investment in QAM-based solutions and begin delivering content in IP to stay ahead of the potential technological changes in the industry. By deploying eBOX as an nDVR client, an operator saves on capital expenditures for both the costly in-home hard disk drive and the CableCARD.

The critical concept of capping QAM rather than a wholesale replacement of QAM is that an MVPD is not required to deploy an IP simulcast in its access network to be able to offer nDVR. That is to say, since hybrid QAM/IP CPE can consume the traditional legacy linear offering, the operator is not required to deliver linear services over DOCSIS to deploy nDVR. The lack of this dependency dramatically reduces the cost and complexity to deploy nDVR.

Operators must also stay ahead of regulatory changes in the market including, and most notably, the Federal Communications Commission's proposed legislation to open up the set-top box market, which could potentially allow technology manufacturers, such as Google, to compete in the STB space, by taking the operator's TV feed and offering it in an app on their third-party products. Tier 1 operators, like Comcast, are already introducing its service on an app, which can be made available to customers on devices in the home including smart TVs. This trend is likely to pick up and, in order for MSOs to follow in these footsteps, they must begin the transition toward offering linear, recorded and on-demand content in IP. Evolution Digital's eVUE-TV is an initial future-proof investment that can pay dividends down the road as more content becomes available on platforms outside of the traditional set-top box.

Benefits for programmers

The costs of cable programming have been climbing for years. Sports channels and local broadcast stations have been two of the main drivers of this trend. Time Warner Cable has estimated that the per customer cost of local broadcast increased [85 percent from 2013 to 2016](#). Such spikes have resulted in frequent blackouts of specific channels on some cable platforms.



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How does an nDVR offering, like that available with eVUE-TV, help in this situation? For starters, it increases programmers' reach thanks to its wide compatibility with customer devices and not just the classic TV-STB pairing. It also facilitates dynamic ad insertion, which can boost advertising revenue to help defray some of the costs of programming. This increase could in turn help cable providers spend a little less on content, in effect passing on the savings to consumers who might otherwise consider cutting the cord on their pay-TV packages and DVRs.

A more promising pay-TV future with Evolution Digital's eVUE-TV

Cable operators currently face many challenges, especially when it comes to containing their costs and competing with new video services, such as virtual MVPDs, in a rapidly evolving market. Fortunately, eVUE-TV's innovative nDVR integration gives operators exactly what they need to navigate these headwinds.

Even with rising expenses for programming and an environment in which many video options are literally just a click away, eVUE-TV provides streamlined, cost-effective and flexible delivery of time-shifted viewing. Cable subscribers get the features they want, such as universal search and catch-up TV, operators can simplify their DVR operations and content programmers can increase their ad revenues.

If the biggest barrier to wider DVR adoption is indeed cost, Evolution Digital points the way to a more sustainable and affordable future for video consumers. It goes beyond the traditional DVR while avoiding the pitfalls of cloud DVR. Learn more today about eVUE-TV and eBOX from Evolution Digital.



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