

## Case Study



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## Poland's Multimedia Polska Succeeds With Cable DVB/DSL IPTV Integration

Flexibility, Openness and Feature-Rich Capabilities of Minerva iTVManager Support Evolution Path for Pioneering Service Provider

**Polish triple-play provider Multimedia Polska SA**, working closely with Minerva Networks and other suppliers, is shedding new light on how service providers can expand their territorial reach through cost-efficient integration of multiple access infrastructures.

At a time when deregulation and consolidation are inducing network service providers of every description to figure out how to overcome network incompatibilities to expand their business, Multimedia's success demonstrates the opportunity to unify operations across cable and DSL networks is not only open to Tier 1 players. It's in reach of much smaller operators as well.

"The key to success is the choice of the right technology solutions, smart planning and a strong commitment to meeting goals, no matter what challenges emerge," says Bartlomiej Kasinski, strategy and development director at Multimedia, Poland's second largest network supplier of TV services. "We put a heck of a lot of effort into this," Kasinski says. "It's not easy, but the results are well worth it."

Multimedia, with early roots in cable TV, has consolidated a disparate range of cable and telephone properties acquired over the past decade into a highly centralized and integrated collection of HFC and DSL networks. Along with delivering broadband and voice services, the service provider uses a single headend and single VOD platform to deliver broadcast and on-demand digital video services for distribution in either DVB or IPTV mode, depending on the access network.

"We don't have to generate separate streams from two different headends to serve IPTV and DVB customers," Kasinski says. "We use one

conditional access system and a single set of encoders, an integrated VOD cataloging system and shared backbone infrastructure."

Consolidation of cable TV with IPTV operations has been an integral part of Multimedia's expansion strategy ever since it merged in 2005 with a sister company, TeleNet, which operated several PSTNs. With over 870,000 homes passed by cable networks and 120,000 telephone lines in service, Multimedia now serves over 590,000 TV subscribers in 2,000 locations, with the lion's share of its growth coming from new signups to its digital offerings over cable and DSL.

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### **IPTV: the Key First Step**

In early 2006 the company, tapping Minerva Networks as its middleware supplier, launched the nation's first IPTV service. "We had recently launched VoIP (voice-over-IP) on our cable systems and soon realized IPTV technology had developed to where it was stable enough to deploy on telephone lines," Kasinski says. "We needed an IPTV middleware supplier with technology that worked with the kind of dispersed infrastructure we operate."

The absence of a common IP-based backbone for the PSTN networks made it impossible to rely on IP-browser based middleware, he says. "With Minerva, the client resides on the box, which for us is a much more reliable solution," he explains, adding, "They were the only supplier who met

all our requirements.”

Knowing that operational efficiencies would dictate integration of telco and cable video operations, Multimedia had waited to initiate digital cable service until the technological framework to support integration, including availability of MPEG-4/MPEG-2 hybrid set-top boxes, was available. “We were the last cable operator in Poland to offer digital video over cable, because we recognized it would be important for us to make use of MPEG-4 as well as MPEG-2 technology,” Kasinski notes. “So we decided to wait until the hybrid set-tops were available to support both modes of compression.”

This allowed Multimedia to become the first video service provider in Poland to offer VOD and HDTV services, he adds. While all multicast programming is delivered using MPEG-2 encoding, Multimedia’s VOD service, introduced over its cable networks in September 2007 and over the IPTV service in mid 2008, operates in MPEG-4 mode, marking one of the first uses of MPEG-4 by a cable operator anywhere. This bandwidth-saving strategy is also applied to HDTV service, which launched over cable in May 2007.

The ability to deploy hybrid MPEG-2/MPEG-4 set-tops also sets the stage for migration to all-MPEG-4 service over time, which is especially important to expanding the service portfolio on the DSL side, Kasinski notes. “We use ADSL2+, which doesn’t leave us enough bandwidth to deliver HDTV service without transitioning to MPEG-4 on all SD (standard definition) as well as HD channels,” he says.

#### Minerva Experience Facilitates Integration

This commitment to cross-platform integration with respect to all its video-related strategic and technology decisions has paid off handsomely for Multimedia. Its choice of Minerva has been especially beneficial in this regard. Because Minerva had wide experience working with various suppliers of conditional access, set-top boxes, VOD platforms and other essential components, the supplier was able to propose vendor solutions for the Multimedia domain that were well suited to support integration on the cable side as well.

For example, Minerva suggested that Multimedia choose a conditional access solution that supports both IPTV and DVB, notes Marco Bonomi, business development manager for EMEA at Minerva.

The flexibility of a software-based security system that could serve both delivery modes was essential to streamlining operations through a single headend. Equally important, when it came to VOD, Multimedia had to find a supplier that would integrate well across both delivery platforms.

“As work progressed and it came time to think about VOD, we suggested one of our partners, Harmonic, as a good choice for achieving Multimedia’s integration goals,” Bonomi notes. The choice of a single VOD platform to serve all outlets led to arguably the biggest challenge in the

integration process.

“This is when Multimedia asked for a common repository for all VOD assets as well as a common base of VOD streamers,” Bonomi says. “The synchronization of assets pushed to both networks from a single asset catalog was a major technical challenge.”

It meant that the Minerva iTVManager had to be integrated with an asset ingestion system, in this case Tandberg Television’s OpenStream, that was designed to interface with the DVB environment. The OpenStream platform generates the catalog of assets from which the middleware builds the playlist on the interactive programming guides as well as the metadata that serves to communicate content descriptions, ad placement directions and other information vital to how the encryption system, streamers and middleware treat the content.

Developing and proving in the applications program interfaces (APIs) that allowed the already deployed iTVManager to interface with the OpenStream system was possible thanks to the field upgradable design of the Minerva platform. Such integration will be further simplified, because Minerva has introduced an on-demand asset ingestion gateway module, Minerva iTVLink, which interfaces with multiple vendor on-demand systems to perform the key asset management functions. Minerva has made iTVLink an external component to the middleware core, obviating the need to revise the asset management system with every new version of the middleware, Bonomi notes.

#### VOD, ITV and Ongoing Expansion

Multimedia’s choice of Minerva’s iTVManager has major implications for the ease with which the service provider can continue to expand its service portfolio and exploit new business opportunities. Because the middleware is already integrated with a wide range of set-top boxes, including the latest models from major manufacturers, Multimedia is able to implement VOD service in the DSL domain by introducing advanced hybrid set-top boxes that can decode both MPEG-2 and MPEG-4 streams. This sets the stage for eventually moving to all-MPEG-4 delivery in conjunction with introduction of HDTV services on the DSL networks.

It’s especially important to the IPTV migration path that Minerva’s platform supports multi-room DVR functionalities that are now built into new advanced set-tops from manufacturers like ADB, Cisco, Motorola and others. And it can support these features on set-tops from different manufacturers in the same operating environment, which is vital to Multimedia as it brings new HD-capable set-tops into its legacy IPTV set-top domain.

Minerva iTVManager is uniquely designed to control each individual set-top’s access to services based on bandwidth availability. This is crucial to implementing a bandwidth-sensitive service in the ADSL2+ environment, where line capacity varies from one customer to the next.



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By sensing how much bandwidth is available, iTVManager determines how many video streams a user on a specific set-top can watch and/or record simultaneously. "The operator can install multiple set-tops with different capabilities, and we can control access to each HD, DVR and VOD stream on a per-set-top basis as the bandwidth availability changes," Bonomi says.

Interactive Television (ITV) is another priority on Multimedia's migration path where Minerva's experience can contribute. "We're looking at ITV for both networks as our next area of development after VOD," Kasinski says, citing the appeal of applications such as auctions and viewer polling. "It's something we're talking to Minerva about."

Because Minerva is an independent software company, it has had great flexibility to work with multiple vendors and third-party developers to tap the global pool of ITV applications expertise. As a Linux-based platform, iTVManager has become the leading IPTV applications development environment for the open-systems development community.

In addition to supporting ITV, multi-stream HD PVR recording, bandwidth management and multi-source ITV features, iTVManager allows operators to integrate Web channels into the TV space and delivers a number of back-office enhanced features, such as user-selectable interfaces, multi-region and multiple channel line-up support, expanded APIs for OSS/BSS integration, high availability configurations and advanced provisioning options.

Kasinski notes Multimedia is taking a hard look at the possibilities of introducing IPTV onto the cable side of its infrastructure. "We are thinking about it and have scheduled some trials," he says, noting the company wants to be able to operate cable IPTV within the DOCSIS 2.0 infrastructure without resorting to DOCSIS 3.0 channel bonding. "If that works, it's pretty likely we'll go in that direction," he says. "With the type of infrastructure and service integration we have put in place, we can do whatever makes sense business wise without being constrained by technology."

Minerva's platform also provides a key advantage when it comes to another step Multimedia has been contemplating. Because there are dozens of independent telephone companies in Poland that have yet to launch video services, the company sees an opportunity to offer its core video infrastructure as a solution for telcos who want to connect with Multimedia's network. Minerva's Multi-Region service feature provides support for such a hosted service by allowing the host company to push unique user interfaces, channel lineups, promotional campaigns and service packages into each independent telco domain.

"This is a very appealing feature for big Tier I operators, but also opens the door to building a hosted video business for smaller operators like Multimedia," Bonomi says. "Once you've made the investment in an advanced infrastructure like Multimedia's, you want to leverage that to maximum advantage."

Indeed, Multimedia's potential to leverage what it has done for ongoing growth is virtually unlimited. "We really believe our ability to deliver services across multiple access networks from a unified platform has positioned us for strong performance well into the future," Kasinski says.