

Fiber to the MDU

Q&A with David Michlovic of Emerson Network Power

Emerson Network Power, a longtime provider of network power solutions, is now also designing and powering MDU fiber deployments. Product line manager David Michlovic talks about the learning curve for fiber-in-the-MDU and how Emerson's NetSpan product line can shorten the curve.

Emerson Network Power, one of this year's BBB Top 100 companies, made its mark in the broadband world with its power systems for telecom providers. In 2006, the company introduced a line of fiber-to-the-home outside-plant equipment called NetSpan, which includes fiber distribution terminals and pedestals, splice closures, a kit for converting standard telephony pedestals to fiber pedestals, and planning and engineering services for FTTP deployment. The addition of NetSpan has allowed Emerson to leverage its experience with complex installations in order to target multiple-dwelling unit fiber deployments.

Recently, Broadband Properties Editor-in-Chief Steve Ross spoke with David Michlovic, product line manager for Emerson Network Power, about the company's experience designing fiber and power solutions for MDUs.

SR: David, in the last year Broadband Properties has been focusing on fiber reaching the MDU market. Tell us what you're seeing in this area.

DM: A lot of MDU operators – mainly in the metropolitan areas – are now looking at how they can deploy fiber inside buildings and in the apartments. They're looking at how they

can get the most “bang for the invested buck,” and it seems like there are much faster returns with fiber to the MDU than to the individual home. But in addition to being more profitable, fiber to the MDU is also a little more complex.

A lot of MDU operators – mainly in the metropolitan areas – are now looking at how they can deploy fiber inside buildings and in the apartments. They're looking at how they can get the most bang for the invested buck, and it seems like there are much faster returns with fiber to the MDU than to the individual home. But in addition to being more profitable, fiber to the MDU is also a little more complex.

So a big issue for Emerson has been the demarcation block [the patch panel connecting phone company lines to the wiring inside the building], which represents the place where things are going to be located.

As the MDU becomes a key platform for housing and interconnecting all these pieces of the fiber network, our product evolves and the product line gets bigger and bigger, with different product applications – and that's great.

The other hot topic with MDUs is power. How do you back up this stuff? How do you power it? A lot of FTTH

architecture today has what I would classify as commercial-grade power rather than the more difficult telco industrial-grade power.

SR: I'm seeing all these individual backup batteries on optical network terminals. How are property managers going to service these batteries? If the lifetime of the battery is two years, and there are 200 units – well, you don't even want to know.

DM: We're looking at MDU fiber architectures and how they're being rolled out, and how these businesses use backup power. To Emerson, it represents a place where our forte in technology really fits in. We can offer a very attractive solution to operators from a cost standpoint

that still maintains a telco-grade reliability.

SR: Are you seeing any trends in terms of what MDU operators are doing?

DM: We're seeing more attention to smaller, condo-apartment types of MDUs than to high-rise apartments. A lot of people see the revenue potential in the massive high-rise buildings, but then they run into trouble trying to retrofit old buildings that might have plaster and lathe instead of sheetrock, or that have concrete floors and steel beams. They have trouble understanding how to deploy fiber there, how to adapt that

Right now, the technology and deployment structures for bringing fiber to single-family homes are settled for the most part, so they're working on the next level up – condo townhouse apartments – and then they'll work from there.

ogy and deployment structures for bringing fiber to single-family homes are settled for the most part, so they're working on the next level up – condo townhouse apartments – and then they'll work from there. I think they'll be struggling with the larger buildings for years to come. In the metropolitan areas, each building is going to represent its own challenge.

kind of building to it. So instead, they're looking at garden-apartment MDUs in high-concentration areas like Reston, Virginia – the more influential or affluent places. I think they see those as easier hits, at least in the beginning until they learn all the tricks.

Eventually they'll have to figure out how to build a system for each different nuance, each different type of building they encounter. Right now, the technol-

SR: When I asked Henry Pye, from JPI Partners, what his low-hanging fruit was for deploying fiber to the MDU, he said, "anyone with a back porch that's got a little shed on it." That little shed cuts their deployment cost in half, he told me.

DM: That's a good way to put it, picking the low-hanging fruit. What happens then is that you learn more and more. After you do the last few of those, you'll be ready for the next level

of dwellings and you've trained everyone from the bachelor's of technology level on down. I think of areas like Reston, Virginia, or Baltimore, or Washington, DC, as the real learning ground for how to get there.

SR: In the building where I live – a 240-unit condo, 18 years old – Verizon has fiber on the first floor, as a point of presence for their DSL. They're one mile away with FiOS, but how they can get the fiber upstairs in our building I don't know. The building is a tenth of a mile long and 13 stories high, with an exterior curtain wall and concrete floor pans.

DM: Exactly. It's going to be very hard for them to bring FiOS to places like Manhattan. The technology and infrastructure challenges will be very difficult to overcome without some practice up ahead. I think they'll need traction to start learning how to do it effectively and efficiently.

SR: But this is where you guys come in.

DM: Yes, but this is one of those

KT Communication

We Share Your Vision - A Commitment to Quality and Integrity

KT Communication provides digital satellite video programming solutions for C-Band, Bulk, L-Band and Transport.



Our video platform delivers content to independent multi-channel video providers (MVP) that target hard-to-serve and alternative technology markets, including:

- Multi-dwelling and multi-tenant units, such as apartment complexes and duplexes, university residence halls and hospitals, vacation resorts, and real estate investment trusts with multiple units
- Private cable operators
- Wireless cable operators
- Franchise cable operators, particularly operators of small and rural systems



2409 N. Stadium, Columbia, MO 65202 • 877-485-3557 • 573-446-3693 • Fax: 573-446-9054
www.ktcom.tv

things where nobody knows the answer. Everyone is going to have to learn. The learning is going to come with experience, and those who start first in the most adverse locations and do the most work there are going to make a difference.

SR: Do you have any interesting projects on the drawing board?

DM: We have a couple of projects designing fiber for smaller MDUs – mid-rise townhouse condos, kind of the next step up – and on the power side, we’re looking at powering more basement-oriented MDU electronics. There’s a lot of work going on now figuring out how to power electronics in a way that won’t be too obstructive from the landlord’s or the homeowner’s point of view.

SR: What are you doing internationally?

DM: A lot of the Far Eastern countries – China, Vietnam – are looking more at fiber-to-the-home than anyone else. China is going to be a very interesting case study because most of their users are apartment-based, so they’re going to run into the same kinds of problems that we’ve talked about.

SR: In Hong Kong, they’re talking about putting fiber to the basement and delivering 1 Gbps to the apartments over coax. They’ve done it in a few places. It could work in general because they have a lot of straight-run coax in these super-block apartment buildings – you’re not delivering the signal very far, and you’re not delivering through a lot of splices.

DM: They seem to be waiting to see what the Americans are going to do and what China is going to do. The more developed and mature a nation is, the worse the business case is. The more “developing” it is, the easier it is to deploy fiber. What’s interesting is that you don’t hear much about South America or Africa.

SR: South America is beginning to bounce nicely. Brazil is doing fine.

DM: Yes, our business in Brazil has picked up. When those countries stabilize, it seems to get rapidly better. It’s going to be interesting to watch these different nations develop and see what they do.

SR: When our readers are going to install coax, they simply go to the local

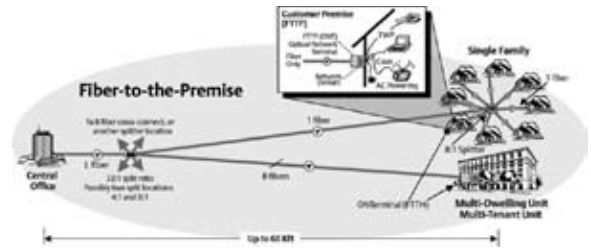
coax guy. They call him up on a day’s notice and say, “The walls are closing tomorrow, can you come in and lay the coax?” And the guy comes in and does it. Up until last year, if they tried to do the same thing for fiber to the home, they’d be calling InfiniSys or someone like that and saying, “Design us a system,” and the answer would usually be, “We’ll get back to you in a month,” although they have done designs in a day or two.

But there are a lot more MDUs with 50 units than 300, so it’s getting to the point now where we’re seeing distributors

The more developed and mature a nation is, the worse the business case is. The more “developing” it is, the easier it is to deploy fiber.

providing VAR services and designing the fiber. When I look at your products, I get the idea you’d be comfortable with that. You’ve designed your products well enough that it doesn’t take a super engineer to design the network – good solid craftsmen can go in and do the job. What do you see happening in a year’s time?

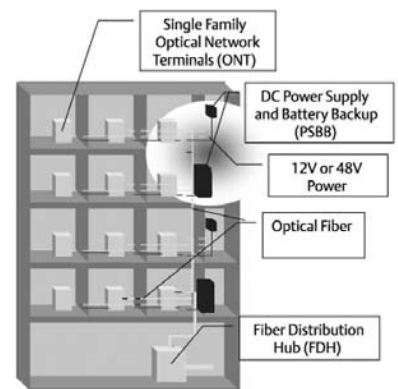
DM: You’re right. Our products aren’t designed with the super craftsman in mind. They’re designed for the knowledgeable person, though not going all the way down to the level of a landlord-operator or homeowner. There’s still some level of expertise required for a lot of the work – legacy knowledge would be the best way to put it. Some level of security and design intelligence will be required for some time, because you’re protecting all the different lines and the gear. And until there are regulatory changes to the requirements for 911 and law enforcement reporting, those requirements are going to have an effect. If those requirements start loosening, I think you’ll see designs change.



Network architecture for an FTTP network with multiple dwelling units; note through-wall SFH approach that isn’t suitable for many MDUs.

SR: But it’s not just about loosening requirements, is it? I’ve been sitting in on community college classes for technicians – they take good inside-plant or outside-plant people from the phone companies and cable companies and give them a couple of weeks of fiber training, but that’s a long way from working for InfiniSys or Atlantic Engineering or something like that. They’re not engineers; they’re still technicians. But they’re good, and they’re used to calling up distributors they trust, and asking if there’s anything they have to worry about with such-and-such, and getting whatever VAR services they need from distributors.

DM: I think a lot more of that is going to happen now. Ten years ago, it was almost unheard of for an equipment manufacturer or some other third party to be doing an engineering job. Today, it actually does happen. More and more of that engineering work is going to get farmed out, and the kind of service we talked about – calling the distributor



A behind-the-scenes look at fiber in the MDU; note easy-to-service battery backup units for multiple ONTs.

Ten years ago, it was almost unheard of for an equipment manufacturer or some other third party to be doing an engineering job. Today, it actually does happen.

and saying, "Put this line in next week" or "Put this line in tomorrow" – is really going to be a possibility.

But you're not going to find equipment that's consumer-grade; you're not going to find anything going down to that level just yet. You'll see pushes in that direction, and feature sets that make for easier deployments, but you won't be able to take the security and intelligence out of it.

SR: It's not all that difficult to design something that "does the job," but it is difficult to do something that stands out and saves people money and is reliable – the way Emerson does. So how do you differentiate your products?

DM: One issue is how everything is integrated together. That's what we've been focusing on for the NetSpan line. We've got the cabinets, the shelves, the pedestals – there are a lot of parts that do a lot of different things, and our niche is to be a single solution provider for the entire piece where possible.

SR: What happens when an MDU operator calls up and says, "I need to do this, and this, and this – what have you got?"

DM: We've got a number of people who have become experts in various areas, and we pull them in to answer the customer's needs. We've become very project- or application-centered, so we really want to learn how the network is being used in order to find the right solution. But then we look at a series of calls and say, "If this person, that person and that person are all using the same technology, maybe we can go one step further and anticipate the next wave."

SR: How do you do that?

DM: Of course, we attend all the trade shows to find out what the MDU opera-

tors want. But even more helpful is working with manufacturing or electronics OEMs and seeing what they're looking at. Then we try to look forward 18 months, or two years, or even longer if possible, to figure out what's going to happen and what's going to win this game.

There's a lot of stuff changing. Pretty

much every morning you come in and something is different. It never seems to be shrinking. The whole MDU market is coming at us, though I don't think it's coming as fast as everybody wants it to. We know it's coming – there's no question about it. The question is, how long is it really going to take? **BBP**

Go Digital with AMT & Blonder Tongue



Broadcasters Must Go Digital By 2009!

AMT makes the digital transition easy with the Blonder Tongue AQD digital demodulator!

The AQD Digital demodulator is both modular & compact featuring a high density design that accommodates 8 modules in 3 rack spaces. Set-up & configuration is easy via front panel LCD. The Blonder Tongue AQD is your digital solution and best of all it's always in STOCK at AMT.

Contact AMT for all your Digital needs!



BLONDER TONGUE
LABORATORIES, INC.

Advanced Media Technologies, Inc - 720 South Powerline Rd., Suite G, Deerfield Beach, FL 33442
Office 954.427.5711 - Fax 954.427.9688 - Toll Free 888.293.5856
www.amt.com - sales@amt.com