

Existing Properties and Low-Voltage Wiring



Left to right: Henry Pye (who concentrated on codes and regulations for this panel), Richard Holtz (video and voice issues), Mike Kolb (voice), and Ian Davis.

Wiring in existing buildings has become increasingly inadequate for today's communications needs. What about tomorrow's? Panel moderator Ian Davis, attorney with Munsch Hardt Kopf & Harr, said few owners have addressed the issue. "Owners purchase the properties regardless of what's there, then won-

Richard Holtz, CEO of InfiniSys Electric Architects said there are many standards and technologies for video: "What's out there depends on when the property was built. Before 1970, cable systems ran on RG58 coax. More recent installs use RG6." Holtz estimates the near-term bandwidth need at "50-84 Mbps, peaking to 150."

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Holtz said an inside plant good enough to support full-motion HD video "typically takes Cat5 wiring." He warned that MoCA (Multimedia over Coax Alliance, an open, industry-driven initiative heavily promoted these days by Verizon for in-unit distribution of digital video) mixes video and data over same infrastructure. "But who controls the video piece and who controls the data piece? Technically we can do it but there are other issues."

Holtz also worried about what the resident sees. "Should there be one universal wallplate with blanks? There are many flavors of video today. We want to provide everything but not confuse the resident."

Mike Kolb of Cautela Solutions noted that for voice and data, "What's out there is copper plant. Twisted-pair standards go up to Cat7, but Cat5e is what we need now. Do a survey, look at everything. A lot of what's there is Cat2 and Cat3."

Like Holtz, Kolb warned about connectors and splices: "Some types of splicing won't support newer services. Look at the inside wiring as well as what's in the communications closet. You may be able to use looped wire."

Kolb said it is wise to pay attention to the demarc point, where ownership of the wire changes from outside provider to property owner. "You need to work with all the trades on the site. There's limited space. QC the contractor's work. Someone has to do it. If there's no one on staff, hire someone to QC. Plan for bandwidth growth."

Henry Pye of JPI noted that "If we all followed the standards for the last decades, there would be no service you

der why they were allowed to do that. What's out there?"

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can't offer. But we didn't, and that's why we have problems." Standards are not mandatory (but you want to apply them), he noted. "But codes are enforced by local government agencies mainly for safety, and regulations are federal and mandatory but more for performance."

Pye emphasized that local building inspectors often don't understand low-voltage codes, including grounding, very well. "Copper must be grounded for safety," Pye noted wryly, "and not through natural gas lines."

Cables, obviously, can contribute to the spread of fire. The National Electrical Code fire standards are not the same for MDUs as for single-family structures—something property owners understand, but wiring installers often don't, Pye said. "Do not put direct-burial cables inside buildings. It's a life safety issue. That cable is treated with chemicals, and you don't want to breathe it if burning.

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Limited-use cable can go under carpets on one floor, only. General-purpose CATV cable also can penetrate only one floor. Riser-rated cable can go almost anywhere, though with some distance limitations. Plenum-rated cable can go everywhere but is very expensive."

Holtz noted that codes change, generally by getting tighter, and that inspectors use newer codes. The grounding code tightened in 2005.

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Who is responsible for bringing old buildings up to code? "It depends on the contract," said Pye. "If the contract is ended, the responsibility is ceded to the owner. Owners inherit nonfunctional, noncompliant cable they have to remove."

Consequently, Pye said, "If a contract is expiring, you may not want what they're leaving behind. If it's been open for 10 years, yuck."

Davis, an attorney, said such issues are typically resolved with phone calls. "It's a nonissue," he said, "Though sometimes not—I have seen an MSO pouring concrete into conduits. So consider the issue mainly relationship-based. Then look at the contract."

Even when third parties build a network and rent it to providers, said Davis, "owners have to be able to be involved in choosing service providers and holding them to service levels, or have the providers do the installs and hire someone to inspect. It's better than nothing."

Pye said the fees for this are "very small compared to the overall cost of a build. They're well worthwhile to prevent self-dealing by third parties."

VENDOR SPOTLIGHT



The boss (Kevin McCarthy) at IntraMeta, developer of BOSS software for integrated network service and provisioning.