Marketing Demand: Supplying Power Over the MDI

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Power over the MDI

- Opportunity
- Applications
- Market Demand
- Issues
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Opportunity:

• Growth in Consumer Electronics requires a great deal of cabling in both home and industry. With the Web and IP telephony, LAN access devices are proliferating.

• Growing desire for consolidation of home and industry control functions:
  – Environmental control
  – Security
  – Communications

• Simplify the installation & deployment of LAN equipment; Less cabling i.e. Data and Power on the same cable.
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Opportunity (cont.):

• With major drops in cost and power, LAN access devices are expanding into new applications.

• Standardization of Power over the MDI will spur the growth of a new market segment
  – External powering is a barrier to new class devices.
  – A single cable connection, greatly expands the potential for new products.

• Huge Market:
  – 1999 / 2000 / 2001 Cat 5 installed nodes (home): 977k / 1530k / 2211k *

* source InStat
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Applications:

- There are a large number of applications that could benefit from Power over MDI technology. These applications can be categorized in the following manner:
  - Communications / Data
  - Security
  - Control / Management
  - Convenience / Entertainment
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Applications (Communications / Data):

- Web Cams, and other Web devices
- Palm Computers and PDAs
- Intercoms
  - Video links to remote entry points
  - Video and/or audio links through-out the home or business
- Ethernet Telephony
  - Most Ethernet telephones have External power connections, or use proprietary solutions
  - Increasing interest / applications
  - Customer base interested in only a single wire coming to the phone
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Applications (Communications / Data):

OLD

OPTION 1

OPTION 2

Source: Burton
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Applications (Communications / Data):

• Wireless LAN Access Points
  – Wireless Access Points require wired network and power connections. They are often remote & difficult to reach
  – Access Points are typically located on ceilings or high on walls to provide best radio coverage

• They are a big business
  – Yankee Group forecast of US Market:
    • 1999 Installed base of 700ku WLAN nodes
    • Projected for 2000, 1M nodes
    • Projected for 2001, 1.4M nodes
  – IDC forecast of Worldwide Markets
    • 1999 Installed base of 2.3M nodes, 445k Access Points
    • Projected for 2000, 3.5M nodes, 561k Access Points
    • Projected for 2001, 5.2M nodes, 701k Access Points
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Applications (Security):

• Fire Alarms
  – Concise data regarding fire location, personnel in affected area, and size of fire

• Burglar Alarms

• Remote Monitoring
  – Video
  – Audio

• Remote Entry
  – Lock / Unlock
  – Personnel tracking
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Applications (Control / Management):

- Environmental control
  - Thermostats
  - Vents / Dampers
- Mechanical home appliance status / health
  - Locks
  - Meters
- Central home electrical control. New intelligent consumer products.
  - Light switches with macro functions
  - Log on from work and have the oven start pre-heating at 6:00 and the hot-tub heated by 8:00
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Applications (Convenience / Entertainment):

• Battery charger
• Web-enabled entertainment box
  – MP3 download
  – Real-Audio
  – E-mail
• Ethernet Shaver
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Market Demand:

• Benefits
  – With power over the MDI separate routing AC is not required.
    • Costs about $200 per run to wire Cat 5 from hub in wiring closet
    • Costs about $800 per run to wire AC conduit to code
  – With power over the MDI, no external power supply is required. No need for local power outlet.
  – Applications are easier to install. One connection is less cumbersome and more compact. Desktops are less cluttered
  – Reliability
    • Not dependent on local supply
    • Greater possibilities for power supply backup Enable centralized power backup facilities for high reliability uninterrupted service. A phone must always work.
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Issues:

• No Standard
  – Already there are a number of proprietary solutions. Can’t interconnect different equipment.
  – Some proprietary solutions may not take into account operation with other standards. A proprietary 10/100 BASE-TX solution may adversely affect 1000BASE-T for example.
  – Lack of a standard will limit uptake of Ethernet telephony etc.

• The 802.3af standard needs to be compatible with legacy equipment.

• Must be safe
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Why Now?

• Avoid proliferation of proprietary non-interoperable solutions
• The ubiquity of Ethernet will open a new market segment for a new class of powered, intelligent devices
• For applications such as Ethernet telephony, it is still an emerging market; there is still a chance to establish a standard.
• The IEEE standards process is the best way to achieve a standard
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Acknowledgements:
1. Carlos Rios, 3Com, “WLANs and Power over Ethernet”, July 1999