More Power Over Ethernet (PoE)

Power over Ethernet (PoE) was first adopted in 2003 with the original 802.3af standard, providing up to 15W of DC power with 12.95W minimum available to the powered device. The ability to power IP devices, primarily VoIP phones at that time, proved to be very cost effective for customers. As years went by and advanced VoIP phones began to require more power, the IEEE ratified 802.3at in 2009, allowing up to 30W of DC power with 25.5W of power available to the powered device. This accommodated VoIP phones with larger full-color displays, as well as some of the early IP security cameras and other IP devices.
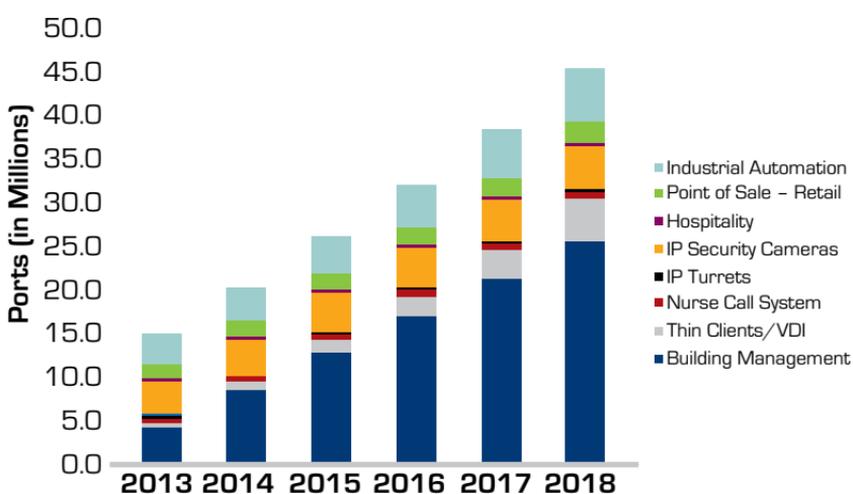
PoE remains very cost effective, and therefore a very popular technology. As such, the need for more power continues to grow, and the IEEE has begun work on a new standard – 802.3bt. The technology being developed for 802.3bt will likely introduce the following advancements over previous generations of PoE:

• Deliver power over all four pairs instead of only two
• Deliver power with 10Gbps throughput, not limited to 1Gbps
• Deliver power in two increments (depending on what is needed) – 60W / 100W

Figure 1 below shows the forecasted growth of next generation PoE technology, and examples of devices that will require more than the currently available 30W of power.

The challenge to future network infrastructures, especially cabling, is this: How can IP traffic be isolated and protected from the additional heat and noise that will be generated from more than 3X the power that is currently available? Berk-Tek's premium Category 6 products have advanced technology built in to do just this. Additionally, Berk-Tek's LANmark™-XTP product with its innovative discontinuous shield allows for superior isolation and minimum temperature rise, even under 100W of power through all cables in large bundles.

FIGURE 1: 4-PAIR HIGH POWER MARKET POTENTIAL

Legend:
- Industrial Automation
- Point of Sale – Retail
- Hospitality
- IP Security Cameras
- IP Turrets
- Nurse Call System
- Thin Clients/VDI
- Building Management

Y-axis: Ports (in Millions)
X-axis: 2013 2014 2015 2016 2017 2018

Sources: VDC Research
IMS Research – Jenalea Howell
http://seekingalpha.com/article/101408-the-global-lighting-market-by-the-numbers-courtesy-of-philips
and other research reports
Gartner Forecasts, BT Turret, Cisco Partners

Source: 4-Pair Power over Ethernet Call For Interest. IEEE 802.3 Working Group.

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