



EVERYTHING **IP**

Connect. Control. Converge.

PROTECTING YOUR NETWORK TRAFFIC

Berk-Tek[®]
A NEXANS COMPANY

Is your network ready for the future?

In just a few short years, the connected world will experience an explosive growth in bandwidth demand, an evolution in wireless technology, and a threefold increase in the amount of power transmitted through IP networks. **Will your network infrastructure hold up to these demands?**

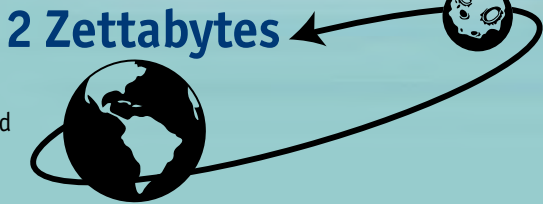
By The Year 2019...

EVERY MONTH, mobile data traffic will be equivalent to 6 million DVDs worth of data (24.3 Exabytes). Stacked on top of each other, that would be as tall as

17 Empire State Buildings.



EACH YEAR, global IP networks will carry **2 Zettabytes** of data. That stack of DVDs would reach to the moon and halfway back to Earth.



If you were to sit down to watch the amount of video that will cross global IP networks in **1 MONTH**, it would take you more than **5 million** years.

Source: Cisco Visual Networking Index: Forecast and Methodology, May 2015

IP convergence is upon us.

Already, there are so many connected devices in the world that the existing Internet Protocol (IPv4) has run out of room to accommodate them all. To fix the problem – and allow for future growth – a whole new Protocol (IPv6) has been launched. IPv4 provided about 4.3 billion unique IP addresses. IPv6 has the space to hold 340 undecillion IP addresses. That's 340×10^{36} !

If the number of IPv4 addresses could be contained inside a



golf ball,

then the number of IPv6 addresses would fit inside the **sun.**





Converged Application Score

Berk-Tek recognized early on that the world was moving towards **Everything IP** and that in order to measure our cabling products' performance in real world scenarios, we need to do more than just count decibels. That's why we've developed rigorous applications-based testing that goes far beyond what the rest of our peers are doing.

Our testing has supported the development and investment of many advanced technologies and materials. Examples include:

- Proprietary materials that enable our solutions to protect your IP traffic from heat.
- TEK-Twist Technology which optimizes the cable twist for simultaneous transmission of voice, data, video, and high power PoE.
- Premium jacketing materials which allow us to provide either a 75 °C or 90 °C rating on our solutions, well above the 60 °C the rest of the industry provides.

Another important factor in Berk-Tek's testing protocol is the development of a **Converged Application (CA) Score**. The CA Score goes beyond standard decibel-based testing to measure how well our cables perform under the stress of converging applications. The CA Score is calculated using a proprietary algorithm that combines the results of the following tests conducted over a specially designed 100-meter, four-connector channel:

Mean Opinion Score (MOS) – A quality of service metric used to measure VoIP.

Frame Error Rate (FER) – A very rigorous test for IP data applications.

Media Loss Rate (MLR) – A quality of service metric used mainly to measure IP video.

Heat Rise from PoE – A measurement of how efficiently the cabling dissipates heat.

A cable's CA Score is an indicator of how well IP traffic is protected and how much heat rise there is when the cable undergoes PoE testing. The score is represented by a numeric value between 1 and 10, with 1 being the lowest and 10 being the highest.

CA score	Score	< 3.6	3.6 - 5.5	5.6 - 6.5	6.6 - 7.5	7.6 - 8.5	8.6 +
	Performance		Unacceptable	Poor	Limited	Good	Better
Heat Rise		Severe	Significant	Moderate	Moderate	Moderate	Low

Note: Before CA Score testing was performed, all channels were tested with Fluke and passed with margin.

What does the CA Score tell you? A performance rating of "Unacceptable" (less than 3.6) means that there were consistent noticeable flaws (dropped frames, media loss, etc) in the applications tested. As you move towards higher scores, you would notice fewer flaws. PoE testing is also an important factor; cables that experienced less temperature rise achieve higher CA Scores.



TEK Center Certified

Located in New Holland, PA, the TEK Center at Berk-Tek is comprised of several world-class laboratories equipped with state of the art equipment. But our TEK Center's most important differentiator is our people. The TEK Center is staffed with experienced engineers and technicians you can trust. At Berk-Tek, we understand that the network infrastructure decision you make today will have lasting effects for your business years from now. This is why we employ only the best and brightest, and give them one focus – you. The TEK Center is a part of an extensive global R&D network with similar laboratories found throughout Nexans Inc.

This stamp certifies that testing was performed, reviewed, and approved by highly trained, experienced engineers dedicated to studying and developing solutions for future network infrastructures.

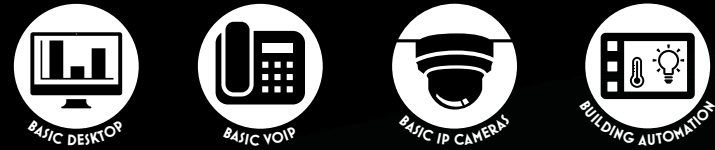
LANmark™-6

CA score 6.4 75°C 24 PEP 800 PASS PORT HPD

BERK-TEK

1G

Recommended for short-term installations, basic desktop and phone applications, and a low density of connected devices.



LANmark™-1000

CA score 7.3 75°C 32 PEP 800 PASS PORT HPD

BERK-TEK

2.5G

A good choice for high bandwidth applications and to support a network with more devices using PoE.



LANmark™-2000

CA score 8.0 70°C 48 PEP 800 PASS PORT HPD

BERK-TEK

5G

A better choice for high bandwidth applications and to support a network with even more devices using PoE.



LANmark™-XTP

CA score 8.6 70°C 70 PEP 800 PASS PORT HPD

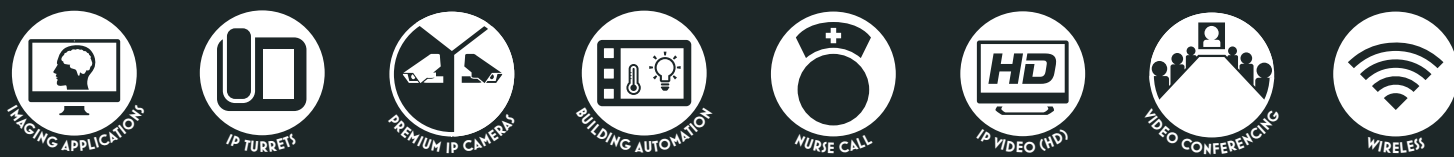
BERK-TEK

10G

100W

802.11ac

The best choice for high bandwidth requirements, with excellent PoE performance, and the only choice for HD Video and 802.11ac wireless.



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BANDWIDTH

POWER

WIRELESS