

Meeting Bandwidth Demand



- ❖ Transitioning To IPV6
- ❖ Building the Rapid Network
- ❖ Edge and Access Platforms for Converging Networks
- ❖ Blending Access and Transport
- ❖ And More!



Connection-
Oriented
Ethernet

FUJITSU



1 GbE or 10 GbE? With this platform, you can have both.

Connection-Oriented Ethernet (COE) is a new set of Ethernet standards: the building blocks for a single, general-purpose Ethernet infrastructure that delivers the full range of access and aggregation applications. The FLASHWAVE® CDS Packet Optical Networking Platform (Packet ONP) delivers cost-effective, carrier-class COE services in an affordable, reliable platform.

Deliver the Ethernet services your customers demand

The FLASHWAVE CDS platform is an economical multi-tenant customer premises platform or aggregation hub that:

- » Supports private-line-quality EPL and EVPL services, via COE
- » Complies with MEF 9 and MEF 14
- » Provides sub-50 ms protection switching
- » Supports guaranteed and oversubscribed bandwidth via CIR and EIR
- » Offers MEF-compliant GbE and 10 GbE ENNI ports



Build your Ethernet infrastructure on a strong foundation with the FLASHWAVE CDS Packet ONP. Visit Fujitsu on the Web, or contact your Walker sales representative for more information.

FUJITSU

Fujitsu Network Communications • 2801 Telecom Parkway • Richardson, TX 75082
Tel: 800.777.FAST (3278) • Fax: 972.479.6900
us.fujitsu.com/telecom

In This Issue . . .

Feature Articles

- 4 The Wise Guy - Industry Trends**
By Rodney Wise, Walker and Associates
- 10 Staying Ahead of the Digital Exabyte Curve**
By Michael Snyder, TIA

Resource Articles

- 6 Now What?**
By Kara Swanson, Corning Cable Systems
- 8 Transitioning To IPV6**
By Brocade
- 9 Building the Rapid Network**
By TE Connectivity
- 12 Edge and Access Platforms for Converging Networks**
By Ken Morris, Fujitsu
- 13 Industry Consolidation**
By Tyson Philyaw, Walker and Associates
- 17 Blending Access and Transport to Meet Bandwidth Demand**
By Kevin Morgan, ADTRAN
- 19 A New Approach to Content Delivery Networks**
By Tyson Philyaw, Walker and Associates
- 20 Architecting the Agile Core**
By Todd Hanson, ADVA Optical Networking
- 22 Conquer Your Overwhelm**
By Brenda Abdilla, Management Momentum

Walker News

- 24 Upcoming Events**
- 25 Broadband Communities Top 100 List**
- 26 In the Spotlight**

The Skinny Wire is a bi-annual publication of Walker and Associates, Inc.
"Equal Opportunity/Affirmative Action Employer m/f/d/v"

Editor's Letter



Have you sat back recently and thought about how technology has changed during the course of your life? It's actually pretty comical to think about how I go through my daily activities now compared to how I did those twenty years ago. Now granted, twenty years ago I was still in high school, but don't hold that against me.

When I was in high school/college I did not have the internet to assist me with research projects. I had to go to the library and waste hours searching through books related to the topic. Now, when I have to research topics for a work project or help my eleven year old son with his geography homework I have it completed in fifteen to thirty minutes compared to hours years back.

I also didn't have a cell phone twenty years ago. College students today use their cell phones almost like an accessory. Don't leave home without it, does the case match my outfit, etc. I am amazed at how most teenagers walk around texting without looking where they are going. I actually saw a video the other day of a person falling into a fountain while they were walking and texting at the same time. I had a nice chuckle over that one.

It's not just teenagers who are addicted to the cellular drug. My seven year old son is begging me for a cell phone, because some of his friends have one. I actually had a twelve year old boy tell me at church last Sunday that he was not going to survive this week, because he was going to camp and wasn't allowed to bring a cell phone.

What's really funny is that I work in the technology industry, and only recently signed up for cable television service that goes beyond the basic 2-16 channel plan. We not only picked up more channels, but we signed up for the high definition cable! I really stepped out on that one! You should have seen my husband and kids. They were like kids in a candy shop with the Nickelodeon, Disney, ESPN, ESPN2, SPEED, and Discovery channels. I'm pretty fond of the movie channels myself.

Now let's tie all of this to the technology industry today. With everyone investing in high-tech gadgets (multiple per household), the demand for higher bandwidth year-over-year has grown exponentially. It has caused the manufacturing community to take a second look at their product offerings. Within the past five years we have seen products that once supported 100 Mbps go to speeds today of 40 and even 100 Gbps. If manufacturers are not embracing these types of speeds into their product development they will quickly disappear as a result of an acquisition or go out of business.

So what's ahead for telecommunications? Time will only tell. We would have never imagined that our lives would change as much as they have over the last twenty years due to the invention of the internet, cell phones, and high definition cable. It is exciting to think of the next cool invention!

Jennifer Beck

In 1914, the first ship made the initial voyage through the Panama Canal heralding in a new era for inter-ocean traffic. At the time, the designers were limited by the construction techniques available but felt that allowing a 950 foot vessel safe passage between the Pacific and Atlantic Oceans was a tremendous accomplishment. It has actually been named one of the seven modern wonders of the world.

less infrastructure and backhaul. Wireless bandwidth demand and the conversion to an all IP network are two major concerns with the wireless segment. With 4G carrying the consumer side technology forward and Carrier Ethernet carrying the backhaul technology forward, we will continue to see wireless appliance development and trends to tremendous bandwidth growth. There are predictions indicating that mobile phone internet usage should overtake desktop internet usage in the next three years.

Industry TRENDS

Social networking is currently the cause of most the increase in internet usage. However, access and ease of use are closely tied to this application. These two factors contribute to increased internet traffic in all applications including gaming, searches and video.

Video delivery certainly has its own challenges. IPTV adds tremendous complexity to the service provider infrastructure along with increased bandwidth demands. Service providers have been implementing IPTV services across the country and gaining market share. To provide this service, we have seen bandwidth gains in the home to 20 Mbps and now it appears that we are mapping a path to a worldwide plan of 100 Mbps of bandwidth to the majority of homes.

One common theme amongst the trends in our industry is greater bandwidth requirements. We see increased needs from our mobile devices to our desktops. This all leads to more capital spending across all networks and short term additional layers of complexity especially in the IPTV arena. With phone companies already substituting VoIP services for traditional phone service in many markets to become more competitive, I also see an overall leveling of network complexity. Migrating traditional phones to VoIP is just the beginning. I predict that within the next five years all video content will be available through the internet. It will not be long before cable companies and IPTV service providers will start their own service migration. Traditional television will move to Over The Top (OTT) video. When these migrations are complete, it will all be about the size of the pipe terminating at the end user. There will not be walls between the services provided since everything will be delivered as IP over a single network termination whether it is twisted pair, coax, fiber or wireless. I have a feeling that some of the network simplicity we gain by merging services to IP will be lost by a whole new process of traffic engineering. Has anyone seen my video cache and is it sized appropriately?

This modern wonder's place in the world of transportation was unquestioned for nearly fifty (50) years. In the 1960's, however, shipping companies saw the need for larger vessels and started commissioning larger ships that exceeded the capabilities of the canal. The larger ships mostly went unnoticed for many years by the canal's operators because the canal's freight volume continued to grow every year due to the increased number of compatible ships passing through. Moving into the 21st Century, this is not the case and the demand for more freight has generated a much greater demand in post-Panamax sized vessels. In 2006, a plan was approved to expand the canal with a third set of locks that will allow larger vessels and essentially double the capacity of the canal.

This "cargo" demand over time is very similar to the demands in our industry. In 1876, Alexander Graham Bell heralded in a new era of communication by uttering the words "Mr. Watson, come here! I want to see you" through his patented telephone. For 100 years, a copper pair delivering analog phone "cargo" to everyone's home was perfectly acceptable. Then things began to change and change quickly compared to the first 100 years. The demand for more "cargo" leads to adding more ships in the canal in the shipping industry or installing more lines in our industry. Adding lines became common in the 1980s and 1990s as more appliances and users required access. In the last decade, however, our canal expansion was pushed beyond additional lines and into technology advances designed for much greater bandwidth. The greater bandwidth demand is coming from wireless growth, increased internet traffic and video.

Wireless services and networks have seen tremendous growth in the last few years. New internet and video capable wireless appliances have created the demand for much more wire-

The Wise Guy

By Rodney Wise
Director of Engineering Services
Walker and Associates



As Director of Engineering Services for Walker and Associates, Rodney Wise confronts a variety of technical questions on a daily basis. His broad background provides him a real-world perspective of challenges and opportunities telecom engineers and project planners face in the field. This experience, along with continual training from the manufacturing community and a staff of equally talented Sales Engineers provide customers with a wealth of pre and post-sales engineering support. The Wise Guy is a regular feature in *The Skinny Wire* and on our website, www.skinnywire.net.

Impacting the Broadband Ecosystem

The following is an excerpt from The National Broadband Plan, which can be read in its entirety at <http://www.broadband.gov/plan/executive-summary/>. It further illustrates the mandate driving dramatic changes in years to come.

"In early 2009, Congress directed the Federal Communications Commission (FCC) to develop a National Broadband Plan to ensure every American has "access to broadband capability." Congress also required that this plan include a detailed strategy for achieving affordability and maximizing use of broadband to advance "consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, employee training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes."

Broadband networks only create value to consumers and businesses when they are used in conjunction with broadband-capable devices to deliver useful applications and content. To fulfill Congress's mandate, the plan seeks to ensure that the entire broadband ecosystem—networks, devices, content and applications— is healthy. It makes recommendations to the FCC, the Executive Branch, Congress and state and local governments.

Long-Term Goals

In addition to the recommendations above, the plan recommends that the country adopt and track the following six goals to serve as a compass over the next decade.

Goal No. 1: At least 100 million U.S. homes should have affordable access to actual download speeds of at least 100 megabits per second and actual upload speeds of at least 50 megabits per second.

Goal No. 2: The United States should lead the world in mobile innovation, with the fastest and most extensive wireless networks of any nation.

Goal No. 3: Every American should have affordable access to robust broadband service, and the means and skills to subscribe if they so choose.

Goal No. 4: Every American community should have affordable access to at least 1 gigabit per second broadband service to anchor institutions such as schools, hospitals and government buildings.

Goal No. 5: To ensure the safety of the American people, every first responder should have access to a nationwide, wireless, interoperable broadband public safety network.

Goal No. 6: To ensure that America leads in the clean energy economy, every American should be able to use broadband to track and manage their real-time energy consumption."

Working harder than ever. Managing more people. Responsible for greater results. Losing grasp of a sane framework to accomplish strategic objectives. Executive Coaching produces transformative results for management at any level of responsibility, and is an ideal solution for the highly talented and time crunched. Boost your performance levels through executive coaching. Contact us today to learn more.

MANAGEMENT

MOMENTUM

Executive Coaching and Recruitment

www.managementmomentum.net

303.456.1210

babdilla@managementmomentum.net



Now
What?

Five Questions

by: Kara Swanson
Market Specialist
Coming Cable Systems

Through the American Recovery and Reinvestment Act (ARRA) of 2009, the National Telecommunications and Information Administration (NTIA) and the Rural Utilities Service (RUS) completed awarding the Broadband Stimulus funds last year.

Much has happened in the last 6 months as the awarded parties have begun to wade through the process of starting their "shovel-ready" projects. This was one of the buzzwords during the Broadband Stimulus application period; projects should be "shovel-ready" to be considered for funding. Unfortunately, for many awardees, their shovels are still at the ready.

With all of the requirements from financials, environmental assessments, and reporting, many awardees are still navigating the terms and conditions phase of their award with the Stimulus funding still untapped. There have been, and will continue to be, challenges facing Broadband Stimulus fund recipients. Considerations for fund recipients range from time constraints to manufacturing location, and it will be important for the recipients to be diligent in their vendor selection to ease the heavy burden created by these requirements.

As award recipients have begun to sift through the terms and conditions of their Stimulus funding, many questions have arisen. "Will I have enough time to complete my project?" "Do I have the resources designated to build a quality network within my budget?" With so many questions, and answers sometimes hard to come by, award recipients can leverage their vendors as a force multiplier when it comes to information gathering, design and construction, and product and architecture expertise.

There are a variety of considerations award

recipients have to keep in mind as they begin their projects. One big consideration that has come as a surprise to some awardees is the Davis-Bacon Prevailing Wage Determinations. The U.S. Department of Labor makes these determinations, and adherence to these wage rates is a requirement of Broadband Stimulus funding. It is the responsibility of the Department of Agriculture, as well as the Department of Commerce, to ensure that all construction contractors abide by these regulations. With these rates occasionally coming in higher than the normal average construction wage rates in particular areas, certain Stimulus award recipients did not plan for this during the application process. As a result, awardees are coming in considerably over budget; this could force them to reject their funding or make different product decisions in order to meet their budget.

Another issue for Stimulus fund recipients to consider is meeting the time guidelines provided by the funding. Stimulus fund awardees are required to have 67 percent of their project complete within 2 years of their award date and have the project fully complete within 3 years of their award date. This timeline is aggressive for experienced awardees who have dealt with government grants or loans, or who have received previous funding through the RUS. Things become even dicier for grantees that are start-up companies or non-profits with limited resources and potentially even more limited experience. There is an "unknown" when it comes to what happens to a network that does not meet this timeline. Will the funding be rescinded at the two-thirds checkpoint, and the remainder of the project cancelled with the recipient indebted to the U.S. Treasury for the spent funds? With longer-than-expected environmental assessments, intricate terms and conditions,

A version of this article, "Now What?", appeared in the June 2011 issue of OSP(R) magazine (www.ospmag.com <<http://www.ospmag.com>>).

osp
HOW-TO NETWORK SOLUTIONS™

to Ask Before It's Too Late

and lengthy reporting requirements, some recipients are already behind schedule. For those with limited build seasons, the timeline becomes even more condensed. Time consideration is an extremely important factor in this process.

From design work to logistics management, fund recipients are being inundated with a number of decisions. With summer here, with it comes a fear of scarcity of products and services. Many will be considering warehousing product, allowing someone else to manage timely shipments to the job site. Staying under budget hangs in the balance of supply and demand.

Not only are the recipients responsible for numerous reports, financials and a comprehensive environmental assessment, but they also must be good stewards of the taxpayers' money and adhere to the "Buy American" directive included in both Notices of Funds Availability (NOFAs). Although, there is an exception to this directive written into both NOFAs, it is still clear that for fiber build-outs, the primary components of the project should be manufactured in the U.S. Recipients can file a waiver citing excessive burden/cost to comply with this directive, but that is yet another piece of paperwork adding to the already burdensome process.

5 Questions to Help

The good news is that the burden can be eased for Stimulus fund awardees when they look for the right partners. In fact, Vendor selection can be one of the first places to reach out for help. Contractors, consultants, logistics management companies and manufacturers all have resources available to ease the stress of these fast-moving projects. Some food for thought for fund recipients as they begin their vendor selection:

Question 1. Have prospective contractors met all Davis-Bacon Prevailing Wage Act requirements? This will be extremely important as the budget begins to truly shape up with actual costs vs. just estimates. Sometimes this increases contractor costs, higher than originally anticipated, and can change assumptions exponentially.

Question 2. Could a consultant help with final design work? This may be a benefit depending upon the initial application designs and the resources available within the recipient's company to finalize the scope of the project. As the project starts to take off, resources may get thin. A consultant can help to fill these gaps.

Question 3. Does hiring a logistics management team make sense? It may be a benefit as products and services become constrained during peak build season to have a stock managed by a logistics firm. This is something worth considering in order to meet the Stimulus-enforced timeline. A logistics team can work as a force multiplier during project implementation.

Question 4. Are your vendors producing their product in America? With the Buy American directive still a part of both NOFAs, it is important to know the answer to this question during your bid process. If a waiver document needs to be completed, this could take time, further delaying the project.

Question 5. Could a preconnectorized fiber deployment solution be utilized in my project? Saving time and money, a plug-and-play solution could make real "cents". With a faster deployment and an ease of connectorization, a preterminated fiber-to-the-home solution could be the answer to not only meeting the time constraints but also

meeting the budget. A vendor or consulting firm can provide the tools to find out if a project fits the parameters of one that would benefit from this type of solution set.

At just about the halfway point of the Broadband Stimulus process and many projects already underway, some have already faced these decisions. One of the most important tools available to Stimulus fund recipients is their peers. Network with others, and leverage the lessons learned by those who have already traveled the path. There are a number of tools available and force-multipliers out there to aid in making these projects come to fruition. Knowing where to find them is more than half the battle.



Kara Swanson is a Market Specialist at Corning Cable Systems. She has more than 3 years of experience with independent telcos, and spent the past 2 years focusing on the Broadband Stimulus. For more information, visit www.corning.com/cablesystems.

IP NETWORK - Transitioning to IPv6

A Technology Overview for Service Providers

By Brocade

“Supporting IPv6 is now a business decision . . .”

As the seemingly endless pool of over four billion IPv4 addresses reaches depletion, network operators have sped up the slow transition to IPv6 started years ago to a more rapid deployment of IPv6 for production services. There are many opinions among IPv6 purists and IPv4 diehards on the future of the Internet, but a pragmatic view is that it's now a two protocol Internet and that IPv4 and IPv6 will coexist together for many years to come. Supporting IPv6 is now a business decision, and there are many valid reasons to deploy IPv6 for end-to-end transparency and efficiency as new application innovations and IPv6 services are developed. IPv6 is now an integral part of a service provider's long term expansion plans and service offering strategies.

To address this challenge, Brocade® has developed a comprehensive portfolio of IPv4/IPv6 networking solutions designed with support for high speed dual protocol IPv4/IPv6 switching and routing, as well as several IPv6 transition mechanisms.

IPv6 MIGRATION AND DEPLOYMENT TECHNIQUES

Service availability to IPv4 and IPv6 users is the driver for supporting both protocols transparently. Thus, every organization needs a carefully planned IPv6 deployment and migration strategy, as forklift network upgrades to IPv6 are impractical, expensive, time-consuming and simply far too complex.

The key service provider challenges are:

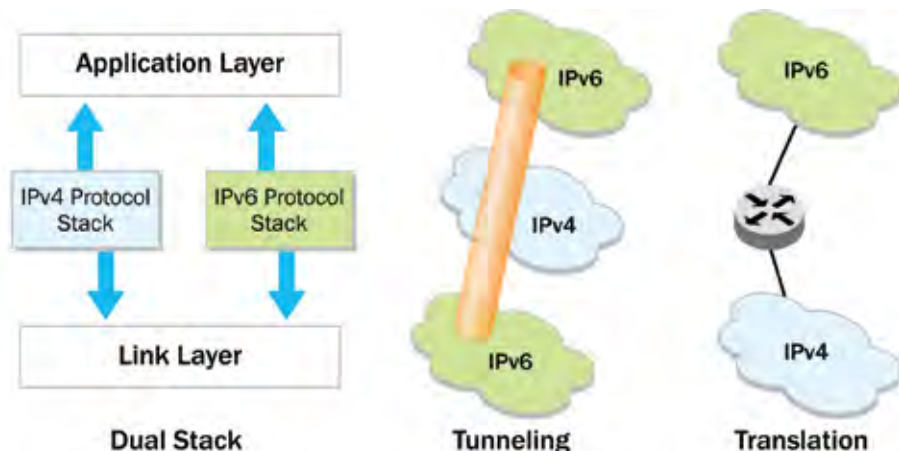
- Delivering IPv6 transport or IPv6 applications and services.
- Providing any-to-any connectivity between the IPv4 and IPv6 networks.

To meet these requirements, several technologies and options are available for service providers to deploy across the backbone, edge, aggregation, metro, data center and cloud networks that need to deliver IPv6 services. There is no one best technology to solve all IPv6 deployment strategies, so network operators have deployed each of these technologies in combination according to their deployment requirements.

- Native IPv6 running over a **dual stack topology** that allows IPv4 and IPv6 to coexist on the same devices and networks.
- **Tunneling** mechanisms that encapsulate IPv6 over IPv4 or Multiprotocol Label Switching (MPLS) networks.
- **Network Address Translation (NAT)** techniques that allow IPv6-only devices to communicate with IPv4-only devices and vice versa.

The industry faces a challenging transition while it moves carefully from its current IPv4-capable routers, switches, servers, and applications to IPv6-ready devices. Service providers—whether they are providing content, hosting services, cloud services, or Internet access—cannot add or accommodate new customers unless their services are equally accessible to both IPv4 and IPv6 users. The most cost effective and sensible migration strategy is to build on existing infrastructure using transition technologies to selectively add new IPv6 services as needed.

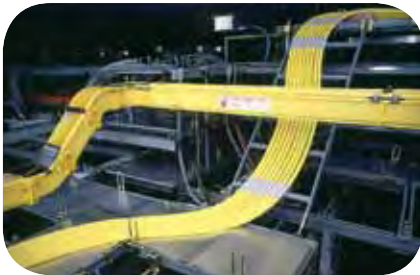
To receive this full article, contact Jennifer Beck at 336-731-5290 or jennifer.beck@walkerfirst.com.



BUILDING THE RAPID NETWORK

New Approaches to Fiber Deployment

Service providers today find themselves squeezed between two conflicting pressures. To attract and retain customers, they must invest in the fiber-based network infrastructure essential to support bandwidth-intensive video, data and multimedia applications. At the same time, they must turn-up new services and customers faster than before while also reducing costs.



Cable routing through a ladder racking system in a traditional installation process.

Connectivity Challenges Across the Network

From the central office, head end, data center and mobile switching office to the outside plant, cell site and customer premises, one of the biggest challenges confronting service providers is connecting the optical distribution frame (ODF) and the active equipment. Until now, they had to use either individual patch cords in a fiber raceway system or a multi-fiber intra-facility cable (IFC), with a connectorized breakout on each end, over ladder racking.

Whichever method they use, the process of measuring, ordering and waiting for the cabling to arrive can take weeks. If mistakes are made in the measurement process, the cycle may have to be repeated. The process to install the fiber adds even more time to the overall timeline, not to mention labor to store or lace excess cable.

Advanced Solution for Faster Connectivity

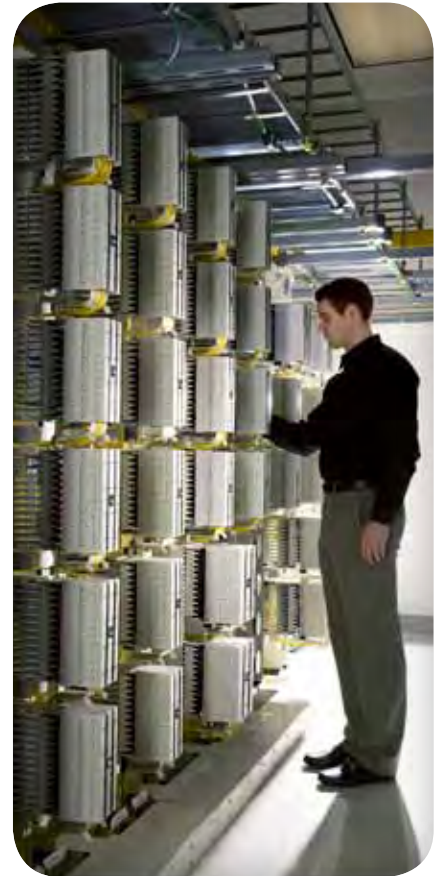
TE Connectivity (TE) now offers the Rapid fiber panel, an innovative connectivity solution designed to tackle these issues. The solution combines TE's industry-leading fiber cable management and MPO connector technology with innovative micro cable technology and the RapidReel™ fiber cable spool to dramatically change how fiber is deployed.

Incorporating the intermediate distribution panel and the micro cable into a single product using the RapidReel™ fiber cable spool, allows installers to pull out just the length of cable required and leave any slack stored on the internal spool. The RapidReel fiber cable spool enables the panel to be ordered in 100' increments up to 1,000' dramatically simplifying product selection and ordering.



The Rapid fiber panel, with its innovative RapidReel fiber cable spool, greatly accelerates fiber installation.

By utilizing the innovative 3 mm diameter 12 fiber micro cable, the Rapid fiber panel can accommodate long lengths of cable in a small amount of space. The micro cables' small size also reduces overhead congestion when replacing single fiber patch cords or multi fiber IFC type cables. The use of an MPO connector to replace 12 single-fiber connectors also reduces installation time and risk by minimizing the number of cables and connectors the technicians have to handle.



The Rapid fiber panels' MPO connector can be connected to properly equipped NGF and LSX optical distribution frames, or FPX panels to rapidly deploy fiber in any environment.

Many Competitive Advantages in a Single Panel

By enabling service providers to install new fiber faster than before and by providing the flexibility to deliver more bandwidth as needed, the Rapid fiber panel reduces the cost of expanding fiber capacity. In fact, when compared with traditional installation methods, the Rapid fiber panel can reduce the total cost per installation by as much as 25 percent. This cost savings, together with the ability to turn-up service faster than ever before, helps service providers attract and retain customers and drive improved profitability.

For more information:
www.te.com/RAPID



Staying Ahead of the Digital Data Exabyte Curve

By Michael Snyder
PR Director
Telecommunications Industry Association (TIA)

“Without quick reallocation of spectrum for wireless broadband, we’re staring at wireless data gridlock.”

How fast is the information age hurtling toward infinite? That question isn't really over the top when you consider that global Internet traffic rose more than 60 percent in 2010 (Source: TIA's 2011 ICT Market Review & Forecast). According to an FCC report released earlier this year, the projection for wireless data growth by 2014 is 3,506% (not a typo).

The skyrocketing demand has required changes to how we discuss measuring digital data – in exabytes – one of which equals a billion gigabytes. According to a recent long-term study at the University of Southern California, which gathered data from 1986 to 2007, global digital data storage exceeded 276 exabytes, or 276 billion gigabytes, in 2007. And that was four years ago. To give you a mental image of what 276 exabytes of data is, a stack of cds, each holding an album's worth of music, would be so tall it would extend 50,000 miles beyond the moon, according to a recent article in *The Washington Post*.

Without quick reallocation of spectrum for wireless broadband, we're staring at wireless data gridlock. The FCC and the Obama Administration aim to free 500 Mhz of spectrum for wireless broadband by 2020. We strongly support this endeavor, though it's unlikely to provide any short-term relief.

So, how, as an industry, do we solve the immediate and ongoing challenge of demand exceeding capacity?

What is most critical now for our continued success is improving efficiencies along with substantial investment in backbone infrastructure to address issues like mobile backhaul for data and video.

To confront the challenges facing the networks we build and maintain, TIA held a summit in Dallas with the best minds in the information and communications technology (ICT) industry in May at TIA 2011: Inside the Network, TIA's annual member meeting and exposition.

In keynote addresses we heard from AT&T CEO and Chairman Randall Stephenson, who said the need for additional spectrum was the number one priority to meet demand

and encourage and promote innovation. He predicted a “chaotic” growth period over the next five years as the network evolves to meet soaring demand, and foresaw a 10-to-15 year investment cycle, tax and regulatory climate permitting.

Verizon Executive Vice President and Chief Technology Officer Anthony J. Melone recognized that lines between fixed and mobile networks are now blurred to the point that there really is only “one network” that needs to work seamlessly to meet demands for mobility anywhere, anytime on any device. He also foresaw an open culture for developing new applications and devices and technology standards that would break uncharted ground.

FCC Chairman Julius Genachowski emphasized the impact of the “spectrum crunch” on America's broadband future: “Every day we delay freeing up new spectrum is a day with real costs to consumers, our economy, our global competitiveness, and our future,” he said.

Genachowski also strongly urged continued investment in infrastructure, saying: “We also need to tend vigilantly to our fixed broadband infrastructure. ... Even mobile communications travel overwhelmingly by wire, including fiber,” adding that “wireline networks also offer higher speeds for breakthrough innovations.”

It's clear there's no backing down from the challenges we now face. Despite the hyper-competitive nature of the ICT industry, there is some solidarity in actively moving forward on innovating solutions. The conversation will continue at TIA 2012: Inside the Network, June 5-7 in Dallas.

Digital video of each keynote speech and panel from TIA 2011 is available for free viewing on demand on TIA Now at <http://www.tianow.org>. Complete video from each of the TIA 2011 education tracks, including Converged Networks; Smart Grid; Machine to Machine (M2M); Cloud Computing; Mobile Backhaul, Video and Data; Sustainable Networks; Regulatory Issues; Security and more, will be available soon.

Note: Walker and Associates was the sponsor of the Mobile Backhaul Educational Track at TIA 2011, in Dallas.



BROCADE

IPv6 READINESS

While you are probably well aware of the need to be IPv6 ready, you may not know how quickly your organization needs to transition. Depending on your circumstances, you will likely face one of two scenarios: Either you will need to be IPv6 ready as early as September 2012, or you will have additional time to complete your transition.

IPv6 readiness is inevitable, but are you confident you know how soon your transition will need to be completed? Walker and Associates and Brocade can help you determine your IPv6 timeline - as well as provide short- and long-term transition strategies.

For more information, visit www.walkerfirst.com or call 1-800 WALKER1 (1-800-925-5371).



THE TRUTH ABOUT IPv6

PERCEPTION

The Internet still has plenty of IPv4 addresses.

REALITY

In February 2011, the last of the free IPv4 addresses were assigned.

PERCEPTION

Companies do not really need to move to IPv6.

REALITY

IPv6 transition is inevitable at some point and adoption will be necessary to operate in today's global economy.

PERCEPTION

Carriers will handle all transition details.

REALITY

Enterprises must IPv6-enable their own Web content through the deployment of native IPv6 or IPv4-to-IPv6 translation mechanisms.

Edge and Access Platforms for Converging Networks

By Ken Morris
Channel Program Development Director
Fujitsu Network Communications, Inc.

“ . . .
support for traditional TDM services alongside Ethernet is essential and will continue to be a necessity for years to come. ”

As demand grows for new packet-based services and Ethernet becomes more prevalent, networks must evolve to support this transition and deliver carrier-class Ethernet services efficiently and cost-effectively, with enough resilience to enable 99.999% service availability.

Next-generation edge and access platforms need to address several challenges as networks move towards the “new world order.” Ideally, platforms developed for next-generation access deployment support a range of interface units to meet a variety of business applications, traffic capacity requirements, and price points, offering service providers and enterprises the flexibility to enhance their business services and optimize their access network.

Fujitsu has developed its next generation of Packet Optical Networking Platforms (Packet ONPs) specifically to meet these emerging challenges and smooth the transition to Connection-Oriented Ethernet (COE) in edge and access applications as well as the network’s core. These Fujitsu FLASHWAVE Packet ONPs have been developed to address a wide variety of business needs. As a group, these platforms extend the reach of today’s core and distribution networks and provide an efficient on-ramp for packet-centric applications, while ensuring support for revenue-bearing legacy services.

Support for Traditional TDM Services

In some applications, notably mobile backhaul, support for traditional TDM services alongside Ethernet is essential and will continue to be a necessity for years to come. Edge/access platforms need to ease the process of migration from TDM to Ethernet

transport for next-generation 4G LTE base stations. These base stations require high-bandwidth, highly reliable, native Ethernet transport services.

Enterprise Ethernet Services

Access and aggregation solutions for commercial/enterprise Ethernet services need to allow large numbers of data customers to be supported on a single system, for example by offering high-density Ethernet interface cards. Integrated traffic management, data aggregation, and COE transport technologies are also key items for service providers and enterprises seeking to deliver robust, carrier-grade Ethernet data services with guaranteed Service Level Agreements (SLAs).

Legacy Services Demarcation

While legacy SONET/EoS services remain the primary revenue producers for most service providers, a solution that can provide both service delivery and service demarcation is a highly desirable alternative to a full SONET platform. Fujitsu FLASHWAVE Packet ONPs now offer this capability, in compact form-factors that offer low power consumption and strong cost-to-value ratio—compelling benefits when compared to terminating these legacy services on a traditional Add/Drop Multiplexer (ADM).

Next-Generation Transition

Platforms designed for edge and access applications need to provide an advanced Ethernet service and aggregation architecture for access networks. By incorporating both SONET/SDH and Ethernet into scalable, flexible, economical units, these Fujitsu Packet ONPs enable a smooth transition to a packet-centric architecture.



Industry Consolidation: Managing Risks and Opportunities

By Tyson Philyaw
OEM Development Manager
Walker and Associates

Merger and acquisition (M&A) activity within the technology marketplace has increased dramatically in recent months. Those working in the telecommunications sector have witnessed an increase in M&A activity among both service providers as well as equipment manufacturers. Recent illustrations include the purchase of Global Crossing by Level 3, the merger of Qwest Communications with CenturyLink, and the proposed purchase of T-Mobile by AT&T. Within the past year Hatteras Networks merged into Overture Networks, and long standing ADC Telecommunications disappeared as it was purchased by Tyco Electronics and is now known as TE Connectivity.

Factors influencing this increased level of consolidation are many. It may be interpreted as an indicator that companies have an optimistic view of the changing economy. With low interest rates, companies enjoying established credit can borrow capital more cheaply than in years past. Rich with new loaned capital, these companies can seek out acquisition targets that may have an outstanding product or customer base. In some cases, targets may have failed to weather economic changes the last few years, making them a candidate for a merger or acquisition. Some of the largest established companies in the technology sector have large cash positions, sometimes known as "Treasure Chests." Shareholders, not wanting cash to stand idle, insist companies either pay stockholders dividends, or make the cash work harder to increase shareholder value. This sometimes results in either purchasing or merging with a competitor.

Most will agree that the combination of large corporate cash positions and the current economic downturn make for an ideal environment for M&A activity. Some view it as a survival strategy or a defense tactic governed by greed and anti-consumer power mongering. Still others see it simply as a last ditch effort to return shareholder value

during this difficult and lingering economic recession. Regardless, this recent level of activity isn't likely to go away anytime soon.

What does this mean to you?

A solid benefit in this environment is that companies with increased resources possess greater resources with which to invest in research and development, thus producing a better product or service for their customers. Technology, in particular, has been tapped as the new economic driver. Industries in all vertical markets are looking to the information, communications and technology sector to produce new levels of productivity and profitability. Newly formed organizations created through recent mergers and acquisitions have a unique opportunity to deliver. The quest for innovation has perhaps never been stronger, and leadership among emerging blended organizations is expected to produce clear, measurable results.

One of the strongest forces in creating new business opportunities is change itself. As a result, we should expect to see numbers of new companies emerge as a result of industry consolidation. Consumers demand a variety of services. Merged companies do not provide them will likely lose a percentage of customers without the chance to prove the new value they expected to create. This customer dissatisfaction, whether with or without merit, will be viewed as a void in the market and an entrepreneur will most certainly fill it. Sometimes, these customer losses are simply the result of poor execution of post M&A activity, resulting in customer service disruptions, quality issues, loss of talent, decreased morale, and inadequate communication with customers.

Mergers and acquisitions can be disruptive. Those experienced in such matters – either in project managing one or being the customer of one – know that Murphy's Law was written particularly for these scenarios. Those impacted in the B2B environment,

however, have little patience for the consequences of issues created by consolidation. Customers are innocent, and creating a strategy for minimizing disruptions is clearly a high priority.

With the understanding that mergers and acquisitions are likely to continue and provide certain levels of disruption within the industry, contingency plans become even more important. A logistics partner, such as Walker and Associates, provides a strategic buffer in telecom service carrier supply chains. For example Walker supports service provider customers by protecting, growing and strengthening manufacturing partner relationships. These relationships translate into advantages for consumers of manufacturer equipment in the form of stock availability, order management, sales support and more. As manufacturers continuously evolve – sometimes through consolidation – Walker evolves as well, considering how to offer the best service with the least amount of disruption. In supporting a variety of telecom service providers across North America, Walker offers expertise and insight for networks of all sizes.

As businesses across the industry keep an eye on their customers, they are also forced to focus on how the flurry of M&As change the landscape. In some cases these changes position them for greater opportunities, although they can sometimes expose them to greater risk of market share losses. Organizations face unique challenges in this kind of climate, and must constantly evaluate internal readiness to manage external changes with potential to interrupt their supply chains. Forming strategic partnerships within the supply chain is a smart move.

BUILDING THE RAPID NETWORK

Accelerate your fiber installations! TE Connectivity's RAPID fiber product portfolio combines its innovative microcable and RapidReel™ fiber cable spool with industry-leading cable management and MPO connector technology to dramatically change how fiber is deployed throughout the network.

Introducing the Rapid Fiber Panel

An innovative new way to add fiber capacity quickly and economically.



Scan the QR code with a smart phone to view a demonstration video

The Rapid fiber panel, with its RapidReel internal fiber cable spool, combines an intermediate distribution panel with up to 200 ft. of fiber cable mounted inside.* Installers simply pay-out the precise length they need and terminate to a high performance multi-fiber push-on connector (MPO) at the optical distribution frame. Precisely measuring the cable length required to connect network elements is no longer a concern. And, excess cable is stored right inside the panel.

The panel saves space, provides built-in slack storage and significantly reduces installation time and labor costs. In fact, compared with traditional installation practices, the total cost per installation can be reduced by as much as 25%. The Rapid fiber panel helps:

- Simplify site survey inspections
- Reduce installation and engineering time
- Reduce cable congestion and slack storage issues
- Simplify product selection and ordering
- Shorten product lead time



ADC is now
TE Connectivity

* Available in 100' increments up to 1,000'



A 4RU Rapid fiber panel. Also available in 1RU and 3RU configurations.



The Rapid fiber panel, with its innovative RapidReel fiber cable spool, greatly accelerates fiber installation.



By utilizing innovative 3mm diameter 12-fiber micro cable, the Rapid fiber panel can accommodate long lengths of cable in a small amount of space. The small size of the micro cable also reduces overhead congestion when replacing single fiber patch cords or multi fiber IFC type cables. The use of advanced MPO connectors to replace 12 single-fiber connectors also reduces installation time and risk by minimizing the number of cables and connectors the technicians have to handle.

The MPO can be plugged into properly equipped NGF or LSX Optical Distribution Frames, or FPX panels to rapidly deploy fiber in any environment.



NGF Optical Distribution Frame with MPO Solution

The industry-leading NGF High Density Optical Distribution Frame efficiently manages up to 1,728 SC or LC fiber terminations in a single frame. The NGF’s innovative design promotes intuitive cable management schemes and employs the highest fiber count MPO connectors available.



LSX Optical Distribution Frame with MPO Cassette

The LSX frame system provides access to patch cord connections on front of unit, and fiber terminations and cable assemblies on back of unit. The 9” LSX chassis will hold up to 12 MPO-equipped fiber cassettes with 12 SC/UPC or SC/APC singlemode adapters—providing a total of 144 customer terminations.



FPX Series Panel with MPO Cassette

FPX panels provide a high-density, feature-rich solution for interconnect or cross-connect applications. Available in a wide variety of configurations, the FPX offers industry-leading fiber cable protection and management in a small, technician-friendly footprint. Utilizing the MPO cassette module, users create a plug-and-play architecture and eliminate costs associated with splicing and fiber terminations.

FOR MORE INFORMATION VISIT US AT te.com/rapid

Contact Walker and Associates at 1-800-WALKER1 or visit www.walkerfirst.com.

THE PERFECT BLEND.

ADTRAN is reinventing access by blending broadband and Ethernet access with Packet Optical Transport in Optical Networking Edge (ONE) solutions to meet the exploding demand for more bandwidth. The ADTRAN ONE solutions are about integrating multiple optical services into a single overall solution right in the Total Access® 5000 multi-service access platform. ONE combines "right sized" core optical services like WDM, Scalable Carrier Ethernet, OTN, SONET/SDH and ROADM with access services like GbE, Active Ethernet and GPON in a perfect Pay as you Grow package.

For more information visit:
www.adtran.com/sw-one

ADTRAN®



Blending Access and Transport to Meet Bandwidth Demand

Kevin Morgan,
Director of Product Marketing
ADTRAN

The edge of the network and the core of the network are experiencing strain and this is only going to get worse as more customers get served with fiber and 4G wireless. Streaming video downloads now account for 30 percent of all peak downstream traffic, 300 million social networking users are active daily, and the demand for mobile data capacity is projected to multiply by 25 to 45 times over the next few years.

ADTRAN – Reinventing Access Networks

ADTRAN is reinventing the access network by integrating high-bandwidth capabilities for optical networking at the edge. It is time to migrate WDM, DWDM, OTN, SONET, ROADMs and other high performance optical services to the edge of the network and integrate them with DSL, Carrier Ethernet, GPON, Ethernet FTTH, and other access solutions. This evolution allows operators to rapidly and cost effectively manage the bandwidth explosion at the edge of the network.

Total Access 5000 - Designed for the Future

ADTRAN is taking the lead in the migration of the network with the Optical Networking Edge (ONE) solution. At the heart of the ONE solution is the Total Access® 5000. The Total Access 5000 is designed to help service providers bridge the gap between the existing and the next-generation network. It is a carrier-class platform that supports both legacy and emerging service interfaces over copper and fiber that can be easily scaled to support even the most bandwidth intensive applications.

The advanced solutions, typical of core networks, have been edge-optimized in

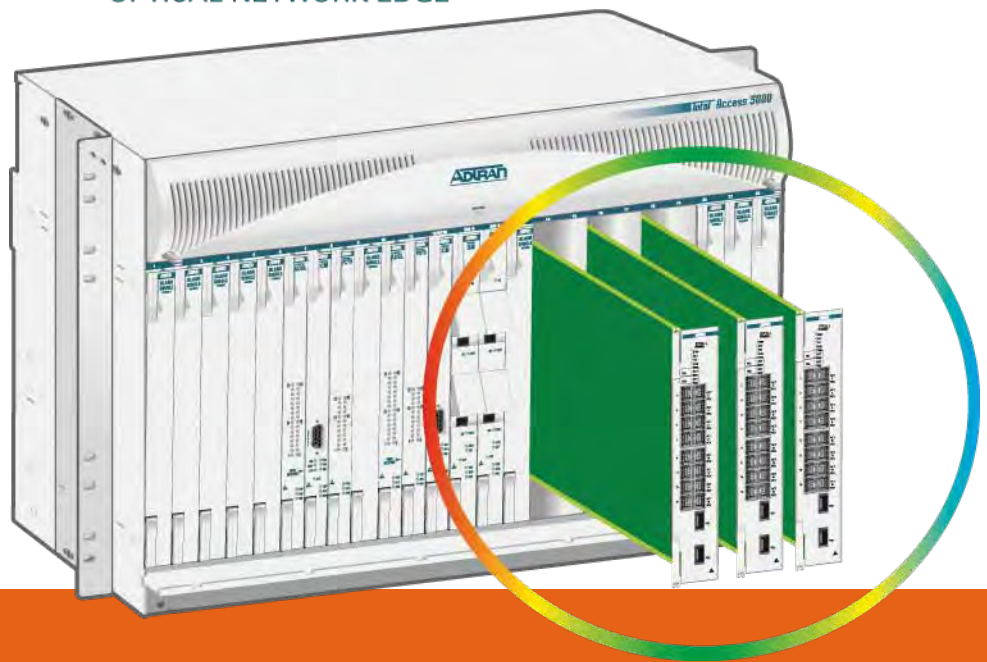
ADTRAN ONE so that they can be deployed with less capital and with only minimal training. Instead of deploying an additional new Packet Optical Transport Switch (P-OTS) system, operators can simply add a card into the Total Access 5000 platform when necessary. This dramatically speeds up deployment, keeps the cost down and easily accommodates the bandwidth demands.

Furthermore, technicians don't need to learn a completely new system and associated EMS. This is critical in an era that requires everyone to do much more with less.

Conclusion

ONE combines legacy networks and services like SONET/SDH with advanced optical access services like Gigabit Ethernet (GE), Active Ethernet and GPON, with technologies more commonly found in core networks like DWDM, CWDM, Scalable Carrier Ethernet, OTN and ROADM. It allows operators to launch new bandwidth and real-time intensive services without causing bottlenecks in their network and positions them to ride the bandwidth wave to success.

Total Access® 5000 +
ONE
OPTICAL NETWORK EDGE



“ . . . the demand for mobile data capacity is projected to multiply by 25 to 45 times over the next few years.”



DON'T LOSE
SIGHT
OF THE
BIG
PICTURE

Corning Cable Systems helps you focus on the big picture by simplifying your central office design process. The Eclipse® Hardware family and the Enhanced Management Frame (EMF) offer superior cable and jumper routing for efficient fiber management. By offering two versatile hardware product families, Corning allows you to optimize your network's capabilities. Contact your Walker and Associates, Inc. sales representative to learn how our central office solutions can help you get to the big picture faster.

For more information, visit www.corning.com/cablesystems

CORNING



A New Approach to Content Delivery Networks

Reduce Costs, Improve Scale, and Enhance Quality of Experience

By Tyson Philyaw
OEM Development Manager
Walker and Associates

The explosive growth in digital media and online video has severely strained traditional content delivery networks (CDNs), driving service providers to seek new means to efficiently distribute, store, and deliver rich media content to subscribers. By deploying 'private' CDNs, service providers can gain more control over the content they deliver and participate more fully in the content delivery value chain - all while reducing costs, improving scale, and creating revenue opportunities. The Juniper Networks® Media Flow Solution provides an ideal platform for this new media network. This article outlines how service providers can use Juniper Networks Media Flow Solution to create a private CDN, and describes the benefits of deploying such a solution.

The Challenge

Typically, content developers pay CDN providers to store and deliver their content to end users. In this model, the CDN provider places the content on cache systems that, together with other related CDN components, are collocated within a service provider's point-of presence (PoP).

This model essentially leaves the service provider out of the content delivery value chain. The CDN provider receives revenue from the content developer (based in large part on the amount of content delivered), but the service provider, over whose network the content is delivered, receives only a flat fee from subscribers and no revenue from the CDN provider or content developer, even as they continuously invest in network capacity to support ever growing quantities of rich media traffic. Increasingly, service providers are seeking more control over and revenue from the content

delivered to their customers. This is leading many service providers to evaluate the benefits of building and operating their own private CDNs. With a private CDN, service providers can gain more control over the scaling, design, and costs of their network, as well as the quality of experience they offer to subscribers. Most significantly, service providers who operate a CDN will be able to explore new business models by developing innovative new services and partnership opportunities.

Juniper Networks Media Flow Solution

The Media Flow Solution is ideal for building a customized, private CDN that provides greater control over content delivery and distribution, and enables service providers to monetize the content they already deliver to subscribers. With its combination of deep media intelligence, purpose-built hardware, and a unique hierarchical caching capability, Media Flow Solution provides the key components that enable service providers to build a highly scalable and efficient CDN.

Media Flow Solution collapses Internet streaming video and other rich media content onto a converged, managed, and efficient architecture. The solution combines media intelligence, storage organization, multi-tier caching, and network optimization with high-performance storage systems. The result is lower latency, reduced bandwidth consumption, and massive scaling, which result in superior viewing quality of online media and lower operational costs.

Features and Benefits

A private CDN based on the Media Flow Solution can provide significant benefits for service providers, including reduced costs,

greater control, superior scale, and new business models that lead to increased revenue.

Cost Reductions

Deploying the Media Flow Solution as a private CDN provides a significant reduction in the amount of transit bandwidth required to serve content, reducing network costs. Repeat requests from users are served from internal caches instead of being retransmitted across the network.

By operating a private CDN, you will have greater insight into the demands of both the CDN infrastructure and the network itself, enabling the strategic placement of caches based on bandwidth costs and traffic needs in the region. At a network level, you will be able to more effectively and strategically plan capacity upgrades. Both of these will drive additional cost savings beyond the initial cost reductions associated with the reduced transit costs that you realize. Additionally, the superior scale and performance of the Media Flow Solution can reduce the CapEx required to build a customized CDN compared to other approaches. With up to 10 Gbps of capacity, the Media Flow Solution delivers 10 times more performance than the standard 1Gbps x 86 servers used by traditional solutions, so you can reduce the number of servers required to serve a given amount of content by a factor of ten. This reduction offers benefits beyond CapEx savings; it also pays a handsome green dividend, with an associated reduction in space and power.

Return on Investment Calculator

Interested in seeing for yourself how much money Juniper's Content Direct solution can save you? Simply enter the link below in your browser to access an ROI calculator. Enter some basic info and then click on View Results. You'll get instant results showing you an example of savings using Juniper's Content Direct solution.

<http://www.walkerfirst.com/manufacture/Juniper%20Networks/19840>

Balance Sheet

Assets

in € m.

Cash and due from banks

Interest-bearing deposits with banks

Central bank funds sold and securities purchased under resale agreements

Securities borrowed

Financial assets at fair value through profit or loss

of which € 159 billion and € 87 billion were pledged to creditors at 31 December 2006, respectively

Architecting the Agile Core

By Todd Hanson
Director, Business Development
ADVA Optical Networking

The paradigm has shifted again: Web 2.0, HD video and cloud computing have given birth to new bandwidth hungry applications that represent new revenue opportunities - but does your current optical network architecture allow you to capitalize on them?

These new applications have not only accelerated traffic growth but also significantly altered peak-to-average and maximum-to-minimum bandwidth demand. In some areas, the new ratio is as high as 10. Overprovisioning the IP/MPLS layer by a factor of 10 is not economically viable and not an effective solution. Today's network managers must be able to address the question: how quickly can our network respond to growing and changing demands?

A more flexible and optical core is the best approach and ADVA Optical Networking's "Agile Core Express" enables the transport layer to communicate with the IP/MPLS layer, providing intelligence, network awareness and resource sharing. ADVA Optical Networking's Agile Core Express, couples

100G coherent transmission technology to optimize capacity, adds the latest ROADM technology for performance and flexibility, and enables end-to-end service and bandwidth management.

Just think about it! Any service, on any port, and any wavelength in any direction! What started as a vision is now reality. ADVA Optical Networking's colorless and contentionless multi-degree ROADM technology has introduced unprecedented flexibility in the optical layer.

Thanks to the company's industry-leading GMPLS-based control plane, operators can run a complex meshed network without worrying about technical parameters. And with the ADVA FSP Service Manager, network operators can provision wavelengths, time slots (OTH and SONET/SDH) and Ethernet Virtual Circuits (EVCs) with the touch of a button. The ADVA FSP 3000 can turn your core optical transport network into an agile service-friendly delivery system that is optimized for profitability.

The ADVA FSP 3000, with its scalable capacity and reach, delivers excellent performance and a high degree of automation at extremely competitive price points.

Key FSP 3000 Differentiators:

- Extreme flexibility and scalability
 - » One shelf simultaneous supports 10, 40, 100 Gbps, CWDM, DWDM, up to 120 wavelengths
- Industry leading density per 7 RU shelf
 - » 4 x 10G in 1RU / 32 x 10G in 7RU
- 100G customized solution (long haul and metro)
 - » Coherent, <2500 km reach
 - » Non-Coherent, <500 km reach (cost optimized)
- Lowest latency DWDM transponders on the market today
- Lowest power DWDM solution on the market today (green)
- Complete suite of multi-degree ROADMs



Go beyond OTDR Leave no faulty network behind



iOLM | intelligent Optical
Link Mapper

Powered by
LINK-AWARE™
TECHNOLOGY

> Expedite the migration from copper to fiber testing

Limited training required:
self-setting device

> Avoid repeat truck rolls

With Link-Aware™, the smartest
analysis technology, and
consolidated results

> Optimize fiber deployment

No more trace misinterpretation:
prompt diagnosis and clear
schematic link view

EXFO's iOLM test solution lets you take advantage of the full power of your OTDR during FTtx network construction. Thanks to automated settings and analysis, even the untrained technician can become a test expert in no time.

EXFO | Assessing
Next-Gen Networks

ADVA Optical Networking's Agile Core and Optical Ethernet Solutions



FSP 3000 Differentiators

- Extreme flexibility and scalability
- Industry leading service density
- 100G customized solution (metro + LH)
- Lowest latency DWDM system available today
- Colorless, directionless and contentionless multi-degree ROADM functionality
- Unmatched SAN certifications including AES encryption

For more information, visit

www.walkerfirst.com

or call 1.800.WALKER1

www.advaoptical.com

FSP 150 Differentiators

- Wireless backhaul solutions
- Business class Ethernet solutions
- New carrier class Ethernet aggregation gateway
- 10G, 1G, 100M and 10M protected line rates
- TDM circuit emulation (PWE3)
- Industry leading SLA performance reporting
- Embedded 2544 remote circuit test capability
- Synchronous Ethernet and IEEE 1588 support
- Fully MEF compliant for E-Line, E-LAN services

 **ADVA**TM
Optical Networking



Conquer Your Overwhelm

Managing Your Time, Your Way

By: Brenda Abdilla

Every busy businessperson I know falls into one of two categories: 1) "I am so overwhelmed that it is too overwhelming to even think about it!" or, 2) "I was totally overwhelmed but now I have a better grip on things." Which category are you in right now? If you are feeling out of control these tips might help you intervene on your own behalf using the tools and technology you are comfortable with—and ultimately can help you move into the second category.

1. Get your to-do lists out of your head. This is perhaps one of the most controversial, yet important concepts of time management. The NY Times bestselling author of *Getting Things Done* (GTD), David Allen explains that "our brains are not designed for storage." The highest and best use of our brain is for processing ideas, and the brain cannot do its job if you are storing your endless list of "things to do" up there.

2. Create trusted capture points that suit your style. If you are going to take the advice above, you are going to need a variety of "capture points" and strategy for the to-dos, actions and thoughts that occur to you—when they occur to you. Capture points are reliable locations where you can easily and quickly jot down notes or your to-dos. Put notepads etc. in the key places where action items occur to you but be careful not to have too many or it won't work. GTD author Allen advises that we need "as few capture points as possible but as many as it takes to get the job done."

3. Start accurately estimating how much time things will take. If you are feeling put-upon, overworked, and underpaid and generally like your current program is physically unsustainable, it probably has more to do with you than any other single thing. That is not to say that it is your fault, but ultimately you have more control than you think you do. Things take longer in reality than we think they do when we imagine them in our heads. Look closely at your schedule.... Do you forget to allow time for predictable delays and interruptions?

4. Invest time in setting yourself up for success. Our work ethic in today's world

has been such that we feel we need to be in production mode 24/7. This is unattainable, and actually makes it worse; things fall through the cracks, and those things just cause more trouble and strife. And the impossible cycle continues. We all need time to organize, de-clutter, fix up and clean up our lives. Taking time to re-invent and organize your systems is a great use of time and should be encouraged with your team and your family.

5. Take drastic measures with your in-box. Oh, the mighty in-box! Few of us have "Answer hundreds of e-mails" as part of our job description, yet it is remarkable how critical email has become to our productivity. Our job is to be responsive—and there is little that requires more "response" than our e-mail in-box. Find a system that works for you. It will take practice to come up with some habits that work for you and to break your bad habits but this one is a biggie! (see inset below)

6. Schedule a weekly download for YOU! You need time each week to review the past week, your to-do list and your calendar as well as to plan your upcoming week, if any of this is going to work (and if you wish to keep things from falling through the cracks). What is most important is that

Get a Grip on Your In-Box

Stop using your in-box as a storage area. You have probably heard the 2-minute rule. If it can be done in 2 minutes or less, DO IT, otherwise it gets filed in a folder, added to a list or dragged to your calendar. It cannot stay in your in-box. And be careful about just printing things out and putting them in a pile. A pile is not an action list.

NO cherry-picking e-mails. Do them as they come in and get out of the habit of picking out the important stuff and saving the rest.

Get down to ZERO e-mails once per week. Yes, this is the goal. The easiest way to do this is to sort your in-box by the sender's name and spend time deleting, deleting and deleting some more. When in doubt—throw it out! Having 4,800 e-mails is a sign of how disorganized you are, not how important you are.

you spend time looking back, acknowledging what got done and scheduling what did not get done to a time when it can get done.

7. Bust yourself at the THOUGHT of a to-do. I saved the most simple, yet most difficult tip for last. Every to-do starts with a thought and this is where the real change takes place. Most of us have a nearly constant inner dialogue with ourselves about things we "should do." The problem with our rambling to-do thoughts is that our brain is listening and will do its best to help us even if we are not intending to actually follow through with the task. The brain does not prioritize the task—that is our job, but instead we just keep adding random to-do thoughts to the list. The build-up of this kind of running list is what contributes most to feeling pressured and overwhelmed, but you can stop it. From this point on catch yourself at the thought of a to-do and examine its place on your list and in your life immediately. If it is not realistic at this time then consciously decide to put off by scheduling it in the future, delegating it or deciding it is not going to make your list at all. Your active attention on your own thoughts is the powerful force here. You might be surprised how in-control you can feel after applying this process for a few weeks.



Brenda Abdilla is the president of Management Momentum, a Denver firm specializing in executive coaching and recruitment. Brenda works with both individuals and management teams who are ready to drastically

*improve productivity and results as well as hone skills in time and stress management, work flow, conflict resolution, and leadership. For clients in need of talent, Management Momentum provides a proven and customized search and recruitment process to handle critical aspects of the search process and guarantee the best possible results in today's job market. To learn more, and to sign up for her free monthly blog *The Coaching Minute*, please visit www.ManagementMomentum.net or call Brenda at 303-456-1210.*

"Wishing something does not make it so. You can only do one thing at a time and you can only do so many things in a day no matter how much you wish you could do more. Work within that reality and you will most likely get more done than you ever have before."

Brenda Abdilla

TIA NOW

FEATURING TIA TV—LIVE AND ON-DEMAND

EXCLUSIVE DIGITAL CONTENT PROVIDER FOR NEWS, ANALYSIS & INTELLIGENCE ON THE ICT INDUSTRY



ICT INDUSTRY ANCHOR ABE NEJAD

- ▶ Reaching a global audience exclusively for TIA member companies
- ▶ Highlighting TIA member innovation leadership
- ▶ TIA Members-only content sections
- ▶ Delivering Public Policy, Technology and Market insights
- ▶ Community Portal with social media functionality
- ▶ TIA TV—regular programs, live and on-demand for members
- ▶ Creating an opportunity for members to interact on-line
- ▶ News & Features
- ▶ Live web-cast interactive panel discussions
- ▶ Executive Interviews
- ▶ Professional TIA TV Studio and Crews

www.tianow.org

Also, get comprehensive coverage of the ICT Market with TIA's 2011 ICT Market Review and Forecast



The value of the ICT is forecasted to top \$1 trillion going beyond pre-recession total revenue for the industry. Find out what the extent of the economic recovery for the entire industry and purchase your copy today!

www.tiaonline.org



UPCOMING EVENTS



August

MTIA and ATA Joint Annual Conference	Branson, MO
Tri-State Telecommunications Conference	Midway, UT
TTA Annual Convention	Murfreesboro, TN
LandWarNet 2011	Tampa, FL
TTA Convention & Product Showcase	San Antonio, TX

September

* UTC Region 2 Meeting	Atlantic City, NJ
* UTC Region 1 Meeting	Ogunquit, ME
OSP Expo	Cincinnati, OH
* FTTH Expo	Orlando, FL
OTA CO / IT Seminar	Newport, OR

October

COMPTEL PLUS Fall	Orlando, FL
PTA Technical Showcase and Conference	Harrisburg, PA
* UTC Region 3 Fall 2011 Meeting	Greenville, SC
TASE Annual Convention	Point Clear, AL
WSTA Fall Conference	La Crosse, WI
MATSS	Kansas City, MO
Midwest Telecom Expo	Fort Wayne, IN
KTA-TTA Fall Meeting and Supplier Showcase	Bowling Green, KY
ATA 2011 Associate Member Showcase	Anchorage, AK
Telco TV	New Orleans, LA

November

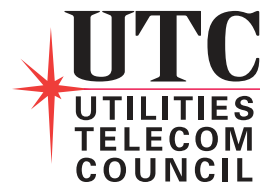
ITA Annual Convention and Trade Show	Des Moines, IA
North East Telecomm. Showcase (NETS)	Verona, NY
SCTA Fall Conference and Vendor Showcase	Columbia, SC
MTA 30th Annual Showcase	Billings, MT

* - Indicates Walker is an event sponsor

As an active member of multiple state, regional and national industry associations, Walker and Associates is strategically engaged with organizations supporting telecommunications markets. We demonstrate our commitment through event sponsorships, exhibiting at conferences and expos, and directory advertising. Look for us at the events listed here, and refer to our Upcoming Events section of our website, www.walkerfirst.com, for additional details.

We look forward to seeing you at these events!

Proud Member of:



Walker Recognized in Broadband Communities 2011 Top 100 List

By Randy Turner
Marketing Communication Manager
Walker and Associates

The summer issue of Broadband Communities magazine annually features its listing of Top 100 businesses. The 2011 list includes Walker and Associates, who was also included in the 2010 listing. Walker is an integral supplier for broadband deployment projects, bringing products to market throughout North America. Businesses taking advantage of broadband stimulus programs available through ARRA funding know Walker as a reliable partner for their projects.

Criteria

In selecting the Top 100, the publication's editors looked for organizations that are advancing the cause of fiber to the premises in one of several ways:

- Deploying fiber networks. They look for large deployments, or for innovative business plans and technology configurations.
- Helping others deploy networks by supplying key hardware, software,



design services, construction services etc.

- Introducing innovative technologies, even if the technologies have not been commercially deployed at the time the list is compiled. They are always on the lookout for technologies that change the rules – by reducing early deployment costs, for instance, or making builds significantly cheaper overall.

Customers recognize Walker by their extensive manufacturer relationships, strong

commitment to value, high standards of customer service, and innovative services that reflect a genuine interest in customer success. For over four decades Walker has built and maintained a reputation for excellence, resulting in high levels of customer commitment and confidence. Awards and recognitions such as this one confirm customer satisfaction ratings that indicate trust and brand loyalty. For more information, visit www.walkerfirst.com.

SUTTLE

*Experience from the last century,
Innovation for the next.*

Fiber Distribution Terminal

Suttle Fiber Distribution Terminals are compact, installer-friendly enclosures for service distribution that easily accommodate pre-connectorized fiber cables. Designed with multi-layer compartments providing separation between storage of up to 80ft of both the drop and distribution cabling.



160 Feet in a Compact Package



Suttle also offers advanced
xDSL splitter & filter solutions



In the Spotlight

By Randy Turner
Marketing Communication Manager
Walker and Associates



Paul Robuck joined Walker and Associates in June, 2011 as the Regional Account Manager for customers and prospects in Ohio, Michigan, Wisconsin, and West Virginia. With more than 20 years of sales experience in telecom and technology, both as an individual contributor and a sales manager Paul's expertise is extensive. Having worked with companies such as AT&T, Nortel and Intelysis, Paul's experience includes assignments for IT Integrators, VARs, Software as a Service, and Telecom services. His background includes significant experience in operations, project management, and pre sales engineering. In addition, he has worked in Channel Development securing alternate channel distribution for a Unified Messaging Service Provider.

Paul lives in Lake Orion, Michigan about 40 miles North of Detroit with his wife Denise. He has lived and worked in his new sales territory his entire professional life, and has many established business relationships upon which to build. Walker is pleased to recommend Paul as a resource for network projects in this region. He can be reached at paul.robuck@walkerfirst.com.



Tracy Crowell rejoined Walker and Associates in June as a Sales Executive. She previously managed an account base for Walker beginning in 1996 until leaving to work for a large industry manufacturer in 2000. Tracy offers

customers years of telecommunications experience, but more importantly, a strong track record of building and maintaining customer relationships. Over the past decade she has built a solid reputation as a

customer advocate, tirelessly working to resolve customer issues, create productive outcomes, and build brand loyalty.

Tracy lives in Lexington, NC, and works at Walker's headquarters in Welcome, NC. She can be reached by phone at 336-731-5376, or by email at tracy.crowell@walkerfirst.com.

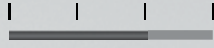


Jerry Jones joined Walker and Associates as Field Systems Engineer in the spring of 2011. Jerry has decades of experience in telecommunications, having owned his own engineering firm, as well as working for a variety

of telecom companies in the Midwest. In addition to engineering experience, he has also performed installation work, in addition to working as a network manager. Highlights of his career include work for MEANS, Minnesota Equal Access Network Services (now Zayo/Onvoy), deploying a statewide ATM network in Minnesota, and deploying both outstate POPs and co-locations for Qwest Communications.

Most recently he provided consulting services in the Minnesota twin cities area where he resides with his family. As Field Systems Engineer, Jerry travels frequently with Walker's Regional Account Managers and assists with engineering design, configuration and questions on a variety of manufacturer products. His expertise is most valuable for companies deploying multi-vendor systems solutions. In addition, Jerry works closely with Walker's installation services team as part of the project management component Walker provides customers. He can be contacted at jerry.jones@walkerfirst.com.

Buffering...



Why keep them waiting?



Your customers demand content – but costs are exploding as rich media consumes network bandwidth. Now Juniper Networks Media Flow offers the right solution to deliver rich media content to an increasingly demanding network audience. And Media Flow has the built-in intelligence to monetize your network.

Lower Expenses – Media Flow effectively increases bandwidth by caching popular content.

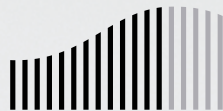
Increase Revenues – Media Flow lets you offers more services, leading to greater revenue opportunities.

Satisfy Users – Media Flow delivers Internet content faster with less buffering, creating happier customers.

What are you waiting for? Learn more about Juniper Networks Media Flow today.

juniper.net/mediaflow

JUNIPER
NETWORKS



Walker and Associates, Inc.
PO Box 1029
7129 Old Hwy 52 North
Welcome, NC 27374

**People
Partnerships
Products
Processes**

Making the

Network

WORK!

Telecommunications Supply Leadership Since 1970



WALKER

AND ASSOCIATES INC



ISO 9001:2000 certified



www.walkerfirst.com

1.800.WALKER1

info@walkerfirst.com