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Upcoming Events

- **TM Forum – Management World Americas**
8th-10th December, Orlando, Florida
- **MPLS & Ethernet World Congress**
9th-12th February, Paris, France
- **Mobile World Congress**
15th-18th February, Barcelona, Spain
- **Packet Transport Network**
19th-22nd April, Milan, Italy

* Contact us at info@telstratpartners.com to meet Telecom Strategy Partners at any of these events.

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Telecom Strategy Partners is analyst sponsor for the Packet Transport Network Conference in Milan, Italy, on April 19th-22nd.

Editorial

Contentious Planning budgets under uncertain economic conditions.

Planning budgets for next year is always contentious, and more so when global economic conditions are uncertain. Recessions can be seen as a limiting factor on revenues that necessitate a careful husbanding of cash, but recessions can also be seen as opportunities to make strategic investments at a time when competitors may not be willing to do so, potentially re-leveling the competitive playing field. Only if the onset and end of recessions can be predicted with some degree of accuracy, optimal spending decisions can be made, but if only it were that easy. There are definitely some very conflicting signals to be read out there right now, and sometimes those tasked with keeping us informed seem to add more to confusion than enlightenment to the situation. Unfortunately, with so very much at stake politically, there is incentive for both biased politicians and media on all sides to either try and convince the public that the economy is in far better (or far worse) shape than is truly the case.

For positive indicators, you have GDP growth in the third quarter. The stock exchanges have made a dramatic recovery over the past nine months, one contributing factor to the U.S. consumer confidence index rebounding a bit from its record lows. The rate in the growth of unemployment has at least slowed significantly, and the government is predicting it will peak soon in Q1 2010. Significant progress has been noted in creating jobs thanks to the influence of the economic recovery act, with the government citing 640,000 jobs having been created or saved to date thanks to the \$787 billion economic stimulus act, and the recovery cited in Q3 2009 was helped by the success of stimulus measures such as tax credits for first time homebuyers and discounts for buying new and more efficient vehicles, programs that were quite successful in terms of driving consumer behavior. The number of large banks that are in jeopardy or not well positioned to make capital available to help fuel the economy has declined significantly.

On the negative side, unemployment has now pushed over the 10% mark, and the government is predicting that unemployment will not peak until Q1 2010. The declines in unemployment from that peak back to normal levels may be slow. According to a recent survey by the Mortgage Bankers Association, 4.47% of mortgage holders are now in foreclosure and nearly 10% are behind by one or more payments. New housing starts fell 10.6% from September to October. And the U.S. national debt has now surpassed the \$12 trillion mark, just under \$39,000 for every person in the country, with the congressional budget office estimating that this could top \$14 trillion by the end of fiscal year 2010, rising to a total of as much as \$9 trillion between 2009 and 2019. Much of the GDP growth in Q3 was artificial - created by stimulus money and not repeatable. And in case you do not have enough to worry about, French bank Société Générale recently advised its clients that one of the possible scenarios for the future in the next couple of years (the worst case scenario of several scenarios presented)

is that we may still face the prospect of currency devaluation due to increased government debt and a resulting global economic collapse.

We would love to see the economy recover, and frankly do not care which political party or parties takes credit. But here is where we think we really are, and what it means in terms of telecom spending for the coming year:

- There is no real recovery yet, and there will not be until unemployment eases.
- Although the official U3 unemployment rate is 10.2%, what is more important is the U6 - the Bureau of Labor Statistics rate that includes those who are underemployed and those discouraged workers that have stopped looking. The U6 has now risen to 17.5%.
- With the U6 rate this high and still rising, there is simply no underlying basis for the promised recovery at this time. Consumer spending accounts for roughly two-thirds of the U.S. economy, and with more than 1/6th of U.S. wage earners unemployed or underemployed, this will significantly affect discretionary spending.
- Employment will be the most important factor in recovery, but the other factor to watch is the foreclosure rate - because if unemployment lasts long enough to convert the rise in late payments on mortgages into a significant rise in foreclosures, there is enough capital at stake to create continued instability in the banking system and a potential extension to the recession.
- The October Consumer Confidence Index (CCI) slipped from 54.5 in August to 53.4 in September and down to 47.7 in October. Generally, a decrease of 5% or more in the CCI is interpreted as indicative of a potential change in the direction of the economy. The CCI fell 10.8% in October alone - and this is right before the major holiday retail season. An index rating of 90 indicates a healthy economy.
- The main factor that negatively affected the CCI was consumer fear about employment and wages. The percentage of the population worried about their job and future earnings means that it will not just be the unemployed and underemployed that are going to conserve on spending right now.
- If the housing market does not drive a double dip recession, unemployment will peak in 1H2010 and will slowly return to normal levels by YE 2011, with the positive movement in 2010 causing more robust economic activity in preparation for better times late in 2010, and with a return to more normal consumer spending in 2011.
- The apparent strong increase in GDP in Q3 was affected by stimulus spending in ways that are simply not sustainable and do not accurately reflect what is really happening in the free economy.
- The "cash for clunkers" program in which people got a government funded discount on car purchases meant that expenditures planned for future quarters got accelerated into Q3 2009 by consumers wanting to take advantage of the stimulus payments. Many of those purchases would have happened anyway, and a large fraction of the spending really only being accelerated purchases that will be at the expense of economic performance in future quarters.
- The \$8,000 tax credit for first time home buyers similarly accelerated home purchases in many cases, particularly at the low end of the market. Most of the gain to the

economy that resulted in Q3 will simply result in a loss to the economy in future quarters.

- Both programs contributed to the rising debt and interest on that debt that the U.S. must repay, at a time when its tax base is greatly reduced due to unemployment - which is leading to further borrowing and likely to further devaluation of the U.S. dollar.
- The housing market is not through with its troubles. It may have looked like it was starting to recover, but that was only because government mandates to keep as many borrowers in their homes as possible created red tape and a delay factor that artificially reduced the supply of homes at the very same time as the \$8,000 tax credit was stimulating demand.
- 1 in 7 homes in the U.S. is occupied by a homeowner that is currently delinquent by 30 days or more on their mortgage payments.
- Current interest rates are being held artificially low by the Federal Reserve, which is not sustainable forever; when rates do increase, that will reduce demand as well. High end home values will likely face the greatest percentage of depreciation; many were bought by people that could not have afforded them at a higher interest rate.
- The official definition of "recovery" (two consecutive quarters of GDP growth) is suitable for normal and relatively minor cyclical swings, but in our opinion is not an accurate measure to describe what is happening after a recession of this depth and length, particularly not when accompanied by government stimulus of this magnitude.
- Although massive inventory reductions occurred in Q2 and Q3 2009 and this reduced GDP during these periods, we do not expect an inventory build up in Q4 to add to GDP and jobs as would frequently happen after such a decline near the end of a recession. Much of the inventory reduction over the past 6 months was simply due to price capitulation (major discounts by retailers wanting to recover cost of inventory). The downward trend in the CCI is going to cause many businesses to decide it is still a bit too early to start rebuilding inventories
- Although the CCI frequently falls near the end of a recession and some financial analysts have discounted the recent drop in the index as a result, we think the fact that much of the dip was attributed specifically to consumer fears about the job market and expectations of future wages. For that reason, consumer spending will remain tight and this is not an "end of recession" drop in consumer confidence, it is a correction in consumer confidence growing a bit too rapidly in response to the run up in valuations on the stock exchanges.

So for the reasons stated above, we are not yet bullish on the U.S. economy, and feel that the recession there is likely to continue impacting business spending and consumer spending well into 2010. The two factors that must align for a full recovery to more robust economic activity are unemployment and housing, particularly unemployment because of its impact on consumer spending. But also housing, because of its impact on the banks. Unemployment will peak in 1H2010, and it may take a full year to get it back to more historically normal levels after that. The housing market will probably take longer than that to recover nationwide.

But businesses invest in anticipation of a recovery in consumer spending, as long as they can see clear signs that the recovery is indeed coming. So with any luck, late Q3 and Q4 of 2010 will see inventory building in anticipation of recovery, and there is some budget allocation now being set aside to enable that then. There are signs that things will pick up late in 2010. The only thing with the potential to stop that might be the housing market. And of course, unemployment and the housing market are related. If unemployment can be stemmed quickly enough, a redux of the housing market crash and dip in valuations caused by a glut in foreclosures can be avoided. If unemployment is not reduced, the impact on the housing market could start a chain reaction that rekindles problems in the banking system that could extend the recession. Let's hope not.

The benefits of using data analytics to analyze and interpret relational data can help Service Providers to strong increase their revenues.

Oracle has been publicly citing the challenges that service operators have in servicing and retaining customers due to the proliferation of varying business systems, citing that the **fragmentation of resources** represents lost opportunity to provide responsive and personalized customer service for retention. They're absolutely right in this regard, but this is not the only cost of having all of these "islands of information" as an operator, not to mention data that is or can be captured but is not necessarily currently in use.

In **voice telephony services**, capturing call detail records for billing and using the same information to identify usage patterns by subscriber or things like wasted resources (a trunk that never disconnected from a voicemail port) have been a long-term practice. What the market is moving toward now is the need to exploit existing **network subscribers** and **billing information**, correlating that with **network utilization** in the form of data sessions initiated, duration of connections and overall utilization, and where possible the destination of Internet traffic. The types of **resources** (handset, application) or **services used** over the mobile network, and things like **response to mobile advertisements**, how long the distribution of responses occurs after an advertisement, and the frequency with which those advertisements must be run to maximize effectiveness can also be invaluable. It is also possible to do things like pinpoint potential causes of recurring **dropped sessions**, identify **capacity constraints**, and ensure **high quality of experience** for the subscriber and appropriate customer service response when there is a lapse.

For a lot of operators, some of the required information to do this is already available, but unfortunately it is often never collected and never used, or distributed across and isolated within a number of different BSS systems' databases. And some of the information that will be truly valuable in helping service providers **understand their subscribers** and **fully tailor personalized services** to fit their needs will require the use of **deep packet inspection**.

The ability to aggregate utilization and subscriber data, correlate it across systems, and analyze the results can be the key to identifying important trends and patterns which can help Service providers to **optimize Marketing of personalized services**. Evaluating the profile and usage patterns of subscribers that buy a new service being trialed in a city can enable an operator to extract that information for business planning and global targeted advertising later, for instance. And if operators know who the most abusive users are and what impact different fractions of them are having on the network (the impact on utilization during the busy hour at certain base stations, for instance), they can evaluate the value of implementing effective policy management, plus the potential risk, cost and benefits involved with rate limiting and shaping.

Aggregating data from multiple disparate sources, correlating that data by subscriber, and then **using data analytics to analyze and interpret this relational data** is something every operator should be thinking about. While the eventual goal in an ideal world might be to merge all the disparate systems, there is a lot of useful value that can often be gleaned from the existing environment in order to maximize marketing and operational effectiveness today. Although this is relatively new territory for a lot of mobile operators, knowledge is power in the age of converged networks and personalized services.

Contact info@telecomstrategypartners to find out more about how you can apply data analytics in your network and where to find skilled resources to make that happen.

Views on the News:

Update on Ericsson positioning from Transport Network Strategies

At the **Transport Network Strategies** Conference last week in Barcelona, Ericsson gave an update of its global strategy, covering topics such as the evolution of its WDM product line including the planning and automation capabilities, the evolution of Mobile backhauling and an overview of its end to end OSS and Network Management.

Ericsson is communicating a market driven focus and strategy based on the operators' requirements of revenue growth, profit margin, return on investment and cash flow – business requirements that in turn create strategic priorities including customer value growth, service innovation, cost efficiency, service experience, consolidation, network quality, operational efficiency and new investments.

Predicting subscriber **traffic in mobile access networks** growing from 1,300 PB in 2009 to 4,300 PB in 2012, Ericsson sees this growth as indicative of mobile communications' increasing role in society. But while mobile broadband service revenue opportunities will continue at a fast pace of growth, increased commoditization pressures on operator service pricing will make profitability a challenge - but at the same time give operators an opportunity to differentiate on QoS and on offering high bandwidth services.

Ericsson sees the **evolution** towards the NGN as a focus on packet based services and networks supporting multiple QoS independent of transport technology, where Ethernet and WDM deployment will be the key growth segment. The company agrees that the future will be "All-IP", but stresses that the industry should not downplay the role of the lower layers of the network, as the "All-IP" services and is often better and more cost efficiently provided by Ethernet and WDM. In term of technology, MPLS is the preferred technology for IP, and Ericsson sees MPLS-TP is the way forward for Optical packet transport. Customized "All-IP" Network Transformation driven by the need to cost effectively move fixed or mobile networks to **convergence** challenges both the operators' network and its operations.

Mobile broadband, High performance Broadband and IPTV are key drivers of network transformation projects, and key Ericsson customers such as KPN, T-Mobile, Telstra and TeliaSonera have publicly communicated aggressive objectives for such transformations. Ericsson is positioning market leadership in **Network Transformation** created by building on its mobile and fixed strengths, creating thought leadership with work done in major operators, having global scale and local presence in Services, and having strong solutions for convergence.

As it relates to portfolio, Ericsson stressed the **MHL 3000's** Multi-reach capabilities, scalability, and design offering the flexibility to add capacity at traffic rates of 2.5G, 10G, 40G and 100G over the installed base infrastructure. Strong flexibility and Fast service Provisioning, the support of ASON/WSO control planes, and a simplified network planning and deployment were

cited as benefits for the Ericsson Optical Network Planner. For the 40G transmission, Ericsson supports both the 40G RZ DQPSK modulation in the case of bad fiber where strong PMD tolerance is required, as well as the DPSK modulation where good fiber is available, and the company claims that operators can save up to **30% on the Network Price due to Ericsson's modular and flexible design.**

Concerning the mobile backhauling strategy, Ericsson believes that **mobile broadband is a key enabler for future revenues**, and that the 50 billion connections forecasted by 2020 will be driven by communications extended to new applications, devices, content, and networks.

From a solutions standpoint, Ericsson is further enhancing its end-to-end solutions and evolution for **mobile IP RAN**, positioning as having a very sophisticated Evolved Packet Core solution based on its highly flexible converged packet gateway that supports "any to any" IP transformation through broad support for LTE (L2 or L3), GSM/WCDMA, CDMA, and software upgrades to SGSN/GGSN. Ericsson is driving home the point that having highly competitive products for convergence and global scale are key enablers of network transformation – a key focus of its positioning.

Applications are a huge untapped mass market revenue opportunity for telecom service operators, an opportunity driven by the growth in the installed base of smart phones and the associated increase in ARPU that their use creates. **IPTV** is being identified as being attractive to subscribers but still a difficult opportunity to address commercially, with Ericsson believing that a stronger ecosystem linking the content providers, advertisers, consumer equipment providers and other constituents is needed to rectify this.

Operators today need to aggressively identify, prioritize, and address new revenue opportunities as well as getting the right network designed, built, and managed. They need to transform their business, not just their network. And they must do so quickly and without any missteps, despite the increasing complexity and dizzying array of potential new service opportunities – many of which are still untried with subscribers.

CA Acquires NetQoS

Mergers and consolidation are not just for hardware vendors anymore. IT and the network continue to merge, and the CA acquisition of NetQoS is a clear example. This acquisition gives CA the opportunity to provide to service providers, CSPs and IT organizations, an integrated view of **flow-based services** spanning network, system, application performance management, virtualization and cloud management.

As CA will get the opportunity to integrate NetQoS' capabilities into its own portfolio, this acquisition will seem like a very good buy at \$200 million, given NetQoS' market presence and technology. CA gains network-centric response time analytics, flow monitoring, and unified communications management solutions that expand its service delivery and assurance capabilities. CA also gains its own DPI **technology**, something CA and HP have been on the

forefront of seeing the value of integrating, though CA is the first to acquire its own DPI technology directly (while HP carries on a partnership with NetScout).

CA further builds its competitive arsenal against IBM and HP, but what was perhaps more interesting than the acquisition itself is how well this acquisition aligns with the changing requirements of management systems in an industry where **IT applications, content, and service performance management** over a network are coming together in a way and to a degree they never have before. CA is a well-managed outfit worth keeping an eye on, particularly next year as they complete integration of NetQoS into the portfolio.

Ciena wins the Nortel Auction

Ciena raised its \$521 million stalking horse bid to \$769 million to win, \$530 million of it in cash, the remainder in convertible notes. Ciena had to increase its original bid by 46.7% to beat out rivals; Nokia Siemens Networks had strong interest in Nortel as a means of extending its footprint in North American networks in particular

Ciena gains footprint in a lot of networks, Ethernet expertise and engineering, and a boost in terms of the expensive development Nortel had already completed on developing new modulation formats needed for 40G and 100G transmission. Ciena also gains expertise it can use to address the integration of transport and switching for a next gen packet/optical core. All of which is good.

The challenges to overcome, however, will be the cost of the acquisition, the cost of integration, and the amount of time involved. Integrating an acquisition of nearly equal size is always difficult. Full cultural and organizational integration is always hard to achieve in any acquisition, but much more so in a case where the acquired party is of roughly equal size.

The price paid is indicative of just how important this acquisition must be seen from the standpoint of Ciena strategy, and Ciena has indicated the integration of the acquisition will cost \$180 million. Is it worth it?

Ciena needed broader, better integrated end-to-end solutions and services capabilities spanning packet switching and transport if it was to build and maintain stature as a major player in this period of market consolidation, consolidation of network elements and convergence of disparate networks, and increasing carrier reliance on a few key infrastructure vendors for services expertise.

This is a very bold move on Ciena's part. Ciena's condensed consolidated statement of operations of July 31, 2009 indicated that Ciena had \$455.7 million in cash and \$607.1 million in short term investments. So the acquisition of Nortel's optical and Metro Ethernet Networks represents a very major outlay for Ciena. For the same period, Ciena had a GAAP loss of \$26.5 million on revenues of \$164.8 million.

One of the reasons Ciena needed to pursue Nortel, beyond the desire to be a major player with a comprehensive portfolio, is the \$798 million in convertible notes payable on the books - and the fact that in the nine months leading up to July 31, 2009 Ciena had an operating loss (\$554.5 million). That included goodwill impairment of \$ 455.7 million. But regardless of that write down, Ciena despite healthy gross margins (47.6% on products during the 9 months ended July 31, 2009) has simply not been raking in the kind of revenue required to make a profit and pay back its long term debts. Ciena needs very much to grow its addressable market, and the bid for Nortel Optical and MEN is targeted at giving them that much needed opportunity to ramp up greater revenues. The challenge will be in very quickly integrating the acquisition, and quickly getting the restructuring costs behind them and making Nortel accretive to revenues and profitability.

Nokia Siemens Networks did not place the winning bid, but they did make Ciena raise theirs considerably. If nothing else, staying in the bidding process was worthwhile as it raised the bar for the speed with which Ciena will now have to integrate this acquisition, and the kind of financial performance they will need to drive out of it to make it pay. But from a strategy standpoint, even with the risk involved this acquisition was necessary for Ciena. In an ideal world, maybe they should have paid less. But it is not an ideal world, and Ciena's odds of building additional share and developing compelling next-gen solutions as a major supplier going forward are probably much better with Nortel than without them. Nonetheless, Ciena will need to make sure that Nortel is their most efficient and effective acquisition integration effort to date if they are to ensure this is a positive move.

ECI announced Italtel as an ECI Global Partner

Italtel will act as a preferred vendor offering end-to-end systems integration on quadruple play solutions based on ECI technology in access and transport.

The Italtel partnership gives ECI stronger service opportunities. The relationship is "global," though for Italtel its historic focus has been on major European countries, around the Mediterranean in Greece, Libya, and the United Arab Emirates, in Russia and in Latin America - which is a good match for a fair subset of ECI's target regions outside of India, China, the rest of APAC and the U.S. ECI has focused some real attention on trying to grow its business in Latin America, and Italtel's presence and experience in countries like Brasil, Argentina, Columbia, Peru, Guatemala, El Salvador, and Nicaragua (some of which was developed through Italtel's partnership with Cisco) will no doubt be of interest.

As we have already stated in the previous editions of our newsletter, we expect an increase in partnering activity of this sort in the upcoming period. Building out a more comprehensive **professional services portfolios** is a desirable objective for Tier 2 vendors that are trying to keep pace with market requirements and compete with larger vendors these days, but that is also difficult to do fully given the strong competition for skilled personnel and the cost of staffing. Growing equivalent service capabilities in-house can of course result in higher margins than this sort of partnership, but expanding the global service footprint and suite of services

more quickly and without all the investment in time and money can be gratifying for a vendor like ECI as it lets them offer a broader service portfolio quickly across more regions. And of course over time, these sorts of relationships can be displaced by in-house investment.

Larger vendors with more comprehensive in-house services organizations will probably position the advantages of their relative strengths as prime integrators, but for ECI having expanded service capabilities from Italtel in support of its solutions is really the objective. More competitive solutions breadth with which to win deals, satisfy customers, and create some incremental revenue opportunities are what is at stake, and we expect ECI might explore complementing this relationship with similar ones in other regions.

Infinera claims good revenues but lacks profitability: the role of the new ATN system.

Infinera now lays claim to over **\$1 billion in sales and 500,000 deployed route miles for the DTN**, which is a huge accomplishment in terms of gaining market acceptance and share. What's more, Infinera added four customers during the 3rd quarter, and has increased its international revenues considerably, with those comprising 37% of their total revenues during the same period.

Gaining the Sales volume and market share would be even more satisfying for Infinera if they were to attain and sustain profitability; Infinera posted a **net loss of \$67.971 million in the first nine months of 2009** (the nine months ended September 26, 2009) **on revenues of \$218.92 million during the same period.** R&D costs for Infinera were just over 32.1% of revenues for the nine months ended September 26, 2009 - with Infinera working on completion of its 400G PIC (the planned 10 40G-port interface card) as well as developing the Infinera ATN Metro Edge, the metro-optimized CWDM/DWDM platform.

The introduction of the ATN Metro Edge, as well as Infinera's recent addressing of selected submarine applications, has potential to let Infinera exploit something they have needed - a larger addressable market opportunity over which to grow revenues and spread development costs. We expect they will have a much larger opportunity for metro WDM. The challenge of course will be to see how well Infinera can compete with a more traditional technology approach with the ATN than they had with the DTN, and how quickly and effectively they can build their credibility.

With the ATN, Infinera gains metro optimized aggregation of sub-wavelength services (the DTN also offers aggregation of sub-wavelength services, though not in this metro-optimized form factor). Offering 8 10 Gbps services per stackable 3 RU shelf, the ATM can support up to 8 CWDM or 40 DWDM wavelengths per fiber pair and has the ability to sub-tend shelves, and offers multi-service, multi-rate line cards with pluggable client and line side optics. Infinera will likely target their installed base most heavily.

Assuming Infinera comes out with the 400G PIC as planned by year end, we think they still have a substantial window of market opportunity for native 40G transmission to exploit, though the challenge in some operators that are more eager to scale to 100G will be to convince them that a muxponded "Nx" solution is as good or better than a native 100G solution.



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