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Eyes North

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By Frank Slavick

Canadian companies play a key role in North American and global communications. Established and emerging Canadian vendors are finding markets in the United States and beyond, but are active in the changing Canadian communications market, too. A number of trends spell opportunity for Canadian suppliers in their own backyard. The Stentor breakup has spawned even more companies; the Canadian Radio-television and Telecommunications Commission (CRTC) approves more CLECs and they begin to turn up; ISPs become more entrenched; and the national wireless and IXC players wrestle for market share. Canadian carriers stand to reap the benefit of greater customer demand for communications: the Internet, wireless communications for data and voice, and broadband for business and consumer markets.

Without question, the communications industry owes much to Canadian giant Nortel, whose presence extends around the globe. Nortel just acquired its third optical networking company in three months, charting its future course for global contention. Those involved in the OSS space are familiar with Canadian vendor Newbridge Networks, which is wagering on fixed wireless for last-mile broadband access by partnering with Alcatel and expanding its capability in the LMDS (Local Multipoint Distribution System) market by purchasing Vari-L radio frequency equipment. A fixed-wireless access strategy is key for a number of Canadian CLECs. Followers of BSS recently raised their eyebrows as Solect, a Canadian independent software vendor (ISV) in IP billing and customer management, was acquired by Amdocs.

Few disagree that Toronto is the Canadian epicenter for a cluster of high-tech software development companies that focus on BSS and OSS. While many Canadian realize the emerging market potential within Canada, they are also taking advantage of what is increasingly becoming a North America with fewer logical and physical borders. Exercising products in the North American markets makes them stronger, as they introduce them in the slower-to-deregulate European and Asian markets.

North American Bell

That Alexander Graham Bell was an 'American' is a myopic and incorrect assumption found in the States. That he was a North American may be more accurate. Scottish-born Bell moved to Canada at the age of 23, but started teaching in Boston the following year. In 1876, working with Thomas A. Watson in Boston, they communicated via wire from one room to the next. Later the same year, Bell conducted three tests in Canada centered in Brantford, Ontario, including the first long-distance call.

Canada today has experienced a communications evolution similar to that in the United

States, although a few years staggered. Canada's Bell monopoly was busted several years ago, and the Stentor "family" is fragmented into more than 10 carriers, similar to the U.S. RBOCs. Canada has only approved four national PCS licenses, unlike in the United States, where the FCC has allowed a wide proliferation of wireless operators. While 26 CLECs are registered with the CRTC, only about 10 are operational to date. In the United States, the FCC mandated discounting on a wholesale basis for local services as a means to jumpstart competition, but the CRTC did not. The resell market has hardly existed in Canada for this reason, with the exception of carriers such as Futureway Communications, intent on proving itself tenable before establishing and migrating to its own facilities.

So Close and Yet So Far

One key difference between the U.S. and Canada, says Robert Bratulic, director of product management at Sigma Systems, is that most BSS and OSS detail screens must be able to do both French and English. This gives Canadian ISVs an advantage over products exported from the United States or elsewhere into the Canadian marketplace. Bilingual in the U.S. marketplace means English-Spanish, but not all vendors and carriers provide for this because there is not a formalized demand.

While the United States is more of a melting pot, Canada is more European-like, and supporting multiple languages can be a competitive advantage when exporting products across the Atlantic, according to Neil Millard, director of marketing and carrier relations at Rent Express.

A challenge is that Canadian CLECs come out with service immediately—on the West Coast, in Central Canada, in Toronto, in Montreal, and so on. The expectation is that coverage must be immediate, and that services are available ubiquitously. This is not true in the United States, where there is still a regional approach in many instances, usually with isolation to major metropolitan areas where business customers can be cherry-picked from the ILEC. Even when U.S. CLECs and integrated competitive providers (ICPs) go national, it is usually with a fairly laborious, city-by-city rollout. In part this is due to differing complexities. For example, it is not unique for a carrier to have to apply 5 to 10 layers of taxation and surcharges, differing by locality and state. In Canada's 12 provinces and territories, the structure of taxation is far simplified.

In the wireless world, the four national PCS carriers—Clearnet, Microcell, Bell Mobility and Rogers AT&T Wireless—are just that, national. While establishing a national footprint is a business goal for the major U.S. wireless carriers, this may be widely achieved through roaming. The same pressures do not exist in the two countries. In the United States in any metro area, there are generally several cellular and PCS providers.

"Canadian business decisions regarding telecommunications procurement across the board are more centralized," says Brian Presement, vice president of marketing at Voice~Link, a messaging provider. Centralized decision-making and purchasing imposes a level of standardization and can translate to better economies of scale. This approach

can reduce the sales cycle, both for carriers and vendors, but the experience of others is that centralization can get too bureaucratic, thus slowing decisions. In the United States, the typical organizational model has become highly decentralized. Accordingly, a U.S. company may not achieve the same economies of scale, but the semi-autonomous regions or markets may be more nimble. Inversely, the centralized Canadian company may not be able to shop regionally for the best telecommunications solution and price for a specific region or functional need.

By most accounts, Canada tends to lag behind in terms of its communications industry—regulation, marketing and implementation. “In a way we sit back and say, ‘Let’s see what happens now in the U.S.,’ ” says Presement. “For example, unified messaging is exploding in the States, but is just now catching on in Canada.”

Sigma’s Bratulic agrees. “It is said that Canada is 2 years behind the U.S., but that Europe is 2 years behind Canada, and so on.” This allows Canadian companies to observe the U.S. marketplace, and to perform research before committing to BSS and OSS designs and technology strategies, or before committing to marketing strategies. “And that’s not a bad thing,” adds Bratulic.

Not all Canadian vendors view it the same way, at least not all the time. “In the Canadian market, sometimes things can be rolled out faster to customers because of the willingness to innovate and pilot,” says Alan Lysne, co-founder and vice president of Davinci Technologies. “In Canada, companies can put services out and see what customers like, as opposed to making sure everything hits the nail right on the head day one as in the U.S. Canadian customers are more forgiving as far as functionality goes. In the U.S. it’s ‘Get it perfect the first time, or else.’ ”

Regulatory

The breakup of Stentor into regional operating companies has resulted in new competition—almost akin to infighting. The Canadian ILEC on the West Coast finds itself in competition with a carrier spawned from another part of Stentor. The United States is not enjoying this type of competition, and instead is seeing the mega-mergers of the major U.S. ILECs—companies that should, by some estimation, have been natural competitors. While the United States has hundreds of registered CLECs, the ILECs still have a chokehold on local services in the residential markets and in non-metro business markets, with service regions increasing as companies merge into semi-monopolies. Local competition is finally coming in the form of AT&T’s acquisitions of large cable companies.

Canada is grappling with privacy concerns, just as in the United States. “Localizing mobile callers for E911 is stirring customer proprietary network information (CPNI) and privacy issues, at home and across the border,” says Steve Rodin, co-founder and president of Davinci Technologies.

Users and regulators alike are concerned that callers will be tracked physically and

subjected to such intrusions as unsolicited short messaging advertisements. This is not unlike the recent fears voiced over DoubleClick in the United States, with Internet users and lawmakers concerned that users' logical movements are being tracked and, worse yet, correlated by name through direct marketing databases recently acquired by DoubleClick.

Understandably, public safety and the use of E911 must allow the ability to localize a mobile emergency caller, using triangulation, time delay of signal or angle of approach. Carriers and supporting ISVs are tasked with the high public trust of safeguarding customers' information, and not allowing its misuse in any way. As it stands, companies such as Spotcast plan to be the DoubleClick of the wireless world, and have already launched in parts of Asia. Spotcast plans to launch in the United States by this fall. The company develops software that allows the injection of advertisements into handheld devices, with customer agreement. The advertisements are allegedly tailored to the interest, demographic profiles and the location of the device user. Many argue that this practice, without consumer consent, would be invasive; however, with consent, it would be one way to minimize usage costs for the consumer.

>From a functional standpoint, ISVs must pay close attention to regulatory conditions and changes in Canada, and abroad. "In a few weeks version 5 of the CLOG—Canadian Local Services Order Guide—the equivalent of the LSOG, local services order guide in the U.S., will be out," says Sigma's Bratulic. "We have to constantly update our OSS gateway so that it is relevant to the market, and quite a bit of maintenance is required to keep up with all the regulatory changes from market to market, in Canada and the U.S."

In the working world, Sigma updated its product line last year for CLECs in Canada (and in the United States) within the regulatory frameworks. "CLEC in a box," says Bratulic, "is how we have branded and trademarked the offering." The technical and functional design is the same, but product differences between countries have been accommodated at the interface levels. The way OSS communicates a request for a local loop in Canada is somewhat different than the way it is communicated in the United States.

Canadian law still requires a paper financial statement to be mailed to customers, except under a few circumstances. Regulators have relaxed enough to allow Bell Mobility to suppress paper invoices, if the customer requests. But financial companies such as banks are still required to send them by mail.

"The pending relaxation is a great opportunity for providers to use our EBPP offering, says Davinci's Lysne. "The government is now authorizing some bill consolidators, such as i|money, to present invoices in such a way that from a legal standpoint it is deemed that the customer received the invoice." Davinci is still defining functionality so that it can be proven that customers received a bill. "Never got, why pay?" will someday soon fall on deaf ears.

Carriers

The Stentor family of carriers are well known, especially to ISVs and interconnecting carriers, beyond Canada's borders. Likewise, the major IXCs, Bell Canada, Sprint Canada and AT&T Canada, are well known, as are the major wireless carriers, such as TELUS Mobility and Bell Mobility.

Slowly, CLECs such as Futureway and BullsEye are beginning to take hold. Surprisingly, some Canadian communications providers have existed for 15 years, defining a niche under the net of the major carriers.

Toronto-based Voice~Link started in 1986 as a solution to "telephone tag" voicemail service, as Voice~Link's Presement characterizes it. "Now we offer unified messaging—voice, fax and e-mail—with a virtual box that customers can access using the telephone, the computer and handheld devices." The days of telephone tag are long since over. Voice~Link is not part of any telephone company, and does not have to surmount the same regulatory hurdles.

Voice~Link prides itself on personal service—both at its call center and face-to-face. "This is an area where the dot-coms can't yet go," points out Presement. Relying mainly on direct sales, Voice~Link does extend some ISP wholesale, and it allows some agent activity to be branded under private label.

Voice~Link has always used a Centigram switch, and likes its user interfaces—the commands are simple for fax, e-mail, add-ons, and so on. The primary focus has always been on messaging—a mailbox-to-mailbox network. As is usually the case for Canadian providers, 90 percent of Voice~Link's products and capabilities are bilingual, French and English.

Billing is done in-house, using an off-the-shelf solution. Although larger providers may raise an eyebrow at this use of readily available "shrink-wrapped" software, they also may very well be envious that a 15-year-old provider can generate invoices at a lower cost per unit.

Rent Express Communications, based in Toronto as well, was established in 1991. It rents wireless handsets that will work in other countries, then re-bills the foreign carrier time. With a lean staff of 65, all the Rent Express executives worked for wireless carriers since the mid 1980s. The business itself is a call center and direct fulfillment model. The new economy dictates Web-based ordering, and Rent Express conducts most of its activities in some manner via the Web, whether it be internal info-system, sending information to clients, Web-based reservations, activating phones directly with international carriers, or receiving billing feeds from around the world.

"Our business was founded on the mobile communications needs of travelers coming into North America," says Rent Express' Millard. "Now, the engine fueling our growth is the communications needs of North Americans traveling beyond the boundaries of Canada and the U.S."

Rent Express has successfully shifted its marketing strategy away from the mature domestic market to international services, since North American wireless standards differ from those in other parts of the world—for instance, the GSM standard prevalent in Europe and much of the rest of the globe. A typical transaction works like this: a Cellular One business customer in the United States may call looking for a wireless handset that will work in France or the Philippines. After online credit checks, Rent Express will ship out a handset overnight from its U.S. fulfillment center. The customer also gets a return pouch for sending back the handset after using it. While it's in use, Rent Express collects the usage detail from the networks over which the customer placed calls, and re-rates it.

Rent Express has relationships with wireless carriers in Canada and the United States. In Europe, relationships with BT Cellnet and Swisscom mean access to the 105 countries around the world where those carriers operate. In Asia, North Americans benefit from Rent Express' relationship with IDO of Japan (which uses PHS). Rent Express has actual terminals in its facility in order to activate directly onto the foreign networks from North America. For North Americans venturing even farther afield, Rent Express provides satellite services.

The company bills using flat-rate pricing. After usage data is collected from the host network, it is re-rated at 95 cents (U.S.) per minute for all outgoing in-country calls (such as France-to-France). "All incoming calls are billed .95 per minute," explains Millard, "and those rates apply for every country we serve. For international calls, if you call from France back to the U.S. or Canada, it would be \$2.95 per minute." This international calling rate applies to 80 percent of the countries Rent Express serves, except for destinations such as Azerbaijan, Sri Lanka and Russia, to name a few, where outgoing calls are extremely expensive from the local network and billed at an "exception rate" of \$5.95 per minute.

Billing must integrate data from a number of partners around the world. About 10 different formats or patterns come in, which must be re-rated then printed in Rent Express fashion. Millard admits this diversity is the biggest challenge, and that it is evaluating different billing systems to replace its in-house system. The current process is labor-intensive, and sometimes all available staff work on billing.

"While a challenge, it is not a negative," says Millard. "We cut deals around a specific event where multi-unit demands warrant a discount. A new deal may not fit snugly into the existing billing system." The new system is a critical component for the company's future success, and it must be fully integrated with the reservation system and the Web strategy. Billing system evaluations are underway, and almost complete.

Vendor Snapshot

While not exclusive to Toronto, a great deal of the Canadian software industry is nevertheless clustered around this city in Ontario.

Arkipelago

Arkipelago, with offices in Toronto and Stockholm, as well as a newly created regional sales office in London, dedicates half of its 40 staff to R&D. Its OSS product, ROME (Relational Object Management Environment), is used for network planning, design and inventory.

“The bulk of our clients are in Europe,” says Todd Nowensky, sales and alliance manager for Arkipelago, “but by looking within Canada, we see ample opportunity.” Futureway Communications, a Canadian CLEC, is now an Arkipelago client. Pursuing its strategy of fiber to the home, Futureway uses ROME to plan and design its network, and to manage network inventory.

While Futureway uses ROME for access nodes, central offices and UDPs (universal demarcation points)—documenting connectivity right into the home—BT (British Telecommunications) uses ROME for its international back-haul network. “ROME is being used successfully on both the access and transport side,” points out Nowensky. Other key customers are AT&T Comms in the United Kingdom (now Viatel), and GlobalOne in Sweden.

Sigma Systems

Sigma Systems Group enjoys a fairly wide penetration in Canada and the United States, and is also active in Australia, the U.K., Germany, Sweden, the Netherlands, Africa and Japan.

“Sigma has actively engaged with three operational CLECs in Canada,” says Bratulic, “and we are in discussions with three more.” Its product breadth, in functionality and market space, encompasses billing and customer care; provisioning and activation; CLEC components (OSS gateway, interfaces to ILECs using LSR standards, E911, directory services); A/R and collections; and a subsidiary that takes care of ERP using SAP and PeopleSoft components.

The flagship products are ServiceBroker for provisioning and activation, TELCARE for billing and customer management, and WebCare for e-commerce, Web enablement and EBPP. ISO 9001-certified, its 200 employees are all dedicated to communications.

Sigma pricing models for start-ups and full services are well articulated to the marketplace, including for service bureau, ASP services and success-based pricing. The service bureau handles back-office tasks such as billing. A Canadian reseller in Toronto uses Sigma’s service bureau to calculate, tax and discount.

The service bureau and ASP models are complementary, because the service bureau is for the back office and ASP for the front office. The ASP model provides GUI-based applications, available 24 x 7, such as the trouble management module in TELCARE. Applications may handle ordering, activation, and so on, and Sigma extends it as an ASP, tending to the full IT infrastructure.

Sigma is actively targeting the broadband services market, regardless of access method. Cisco is a technological cornerstone. Sigma is also working with Ericsson in the residential broadband market with cable modem technologies. Ericsson's carrier customers can allow their subscribers to activate cable Internet service using Sigma products. Using a cable modem, a subscriber logs on, registers, and sets up service using Webcare for Web enablement and ServiceBroker to activate all components of the service just purchased. This means real-time activation over the Internet.

Davinci

Davinci Technologies focuses on wireless Internet products, including EBPP. Wireless Internet had allowed customers to pay bills, inquire, present invoices, activate features, change rate plans and generally interact with customer-facing organizations within the communications industry. This is the technology direction—focused attention and software—that Davinci has chosen to pursue.

“Bell Mobility was our first EBPP customer in Canada, in 1997,” says Rodin. “Now we have a successful launch of a pilot with TELUS Mobility.” Davinci's wireless delivery product is device-agnostic—it can work with the Web, PDAs and mobile handsets. Some feedback from U.S. media is, ‘Why can't we do this in the U.S. yet?’ ” says Lysne.

Its EBPP product does not just drive off a monthly bill, but can use interactive information with real-time feeds. Davinci's software extends beyond traditional EBPP, and it has worked with AT&T in Canada, securely delivering bulk billing information to business customers. Davinci has partnered with i|money, a Canadian financial aggregator, for wireless access to financial information and interactive calculators, such as for mortgage rates.

Competitive Environment and Strategy

Sigma's implementation of the ICP version of its product at BullsEye Telecom has meant the opportunity to establish a relationship with Cisco. BullsEye is using an all-Cisco network that offers VoIP. “Because of Cisco's importance, this is very strategic to us,” says Sigma's Bratulic.

In a Cisco environment, the key interface point would be to ServiceBroker for provisioning and activation. The financial interface to TELCARE would be through XACCT for CDR collection and mediation processing.

Arkipelago was recently listed as number 68 in the Branham 100 software companies for 1999, as cited in the National Post. Sigma Systems Group has taken a financial stake in Arkipelago.

In the mobile phone rental segment, the only direct competitors to Rent Express in Canada are mom-and-pop shops. Rent Express has an enviable 60 percent market share.

Rogers Cantel and AT&T have their own cell cards, similar to AT&T in the United States, but sometimes customers still rent Rent Express hardware.

Rent Express experiences unique price pressures, but moving to a corporate subscriber model helps. In the rental business, the cost of customer acquisition is as high as in the subscriber world, which gives Rent Express precious little time to recover costs.

Now partnering with Air Canada, Rent Express works closely with its frequent traveler staff. The product exposure has been good, and now that Air Canada just acquired the other airline in the country, this gives Rent Express default expansion.

Davinci faces the limitations of handheld devices, such as data transmission at 14.4 kbps. But, as Davinci's Rodin points out, "60k is just around the corner, which is quicker than most in the U.S. and Canada enjoy today from dial-up access at a computer." Davinci closely follows the predictions that wireless handheld devices will eclipse PCs for accessing the Web. Another current limitation is display technology, but eventually efforts by companies such as Microvision may dovetail with the communications industry.

"It is clear that wireless data will be a major focus in the Canadian marketplace," says Davinci's Rodin. "Carriers that have made a commitment, such as Bell Mobility and TELUS Mobility, will be ahead of the other carriers." Growth in the handset market is still rapid. Nokia's new phones have wireless data and browser functions built in, and Qualcomm continues to make strides.

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