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future story

END TO END FRAME RELAY SERVICE – SIMPLIFYING CROSS-BORDER CONNECTIVITY

By now, everyone interested in or somehow associated with telecommunications has heard of the term Frame Relay. Frame Relay is a commonly used wide-area, multiple connection data networking solution that consolidates multiple business applications onto a common packet data network. Highly scalable and reliable, Frame Relay is the industry standard when it comes to companies meeting their business communication requirements. It has the inherent ability to support periodic, large and/or bursty data transmissions such as file transfer across several business locations where dedicated leased lines may be cost prohibitive.

With that in mind, multinational corporations inevitably find that they need to effectively manage and simplify their vital cross-border data networking needs. As they continue to grow and expand geographically, so does their need for effective methods of real-time communications. And then there's the issue of multiple Frame Relay providers and contacts, varying features, several contracts, fluctuating currencies and different processes.

Wouldn't it be great if you could simplify and manage your entire multinational network from one place, perhaps with one contract and a single point of contact?
Now you can.

The Value of Cross-Border Solutions

With a service such as AT&T Canada's End to End Frame Relay, you can leverage a seamless data networking solution that allows multinational companies to extend their domestic Frame Relay network into either Canada or the United States. What that means is that U.S. and Canadian-based customers with cross border locations are now able to simplify the entire network design process and maintain control over their entire Frame Relay network from one head office as though it were a single entity.

Imagine an inventory management company with locations across the U.S. and Canada. As their business and communication requirements evolved, so did their need to ensure most locations and key customers were inter-connected. However, their U.S. telecommunications provider did not offer service in Canada, so they were forced to source and sign with a separate Canadian provider.

This resulted in two network designs, multiple contracts, two sales teams and inconsistent service guarantees. The management of the network was becoming increasingly complicated and inefficient. It also became difficult to troubleshoot the cross-border connections, which often resulted in increased time to resolve an issue.

Implementing an integrated cross-border solution would have solved many of these problems. One consistent service with common features backed by performance guarantees covering all Canada, U.S. and cross-border connections. A single contract with one set of terms for the entire network. One detailed invoice in a single currency. Effective network management featuring a single point of contact for any technical and customer issues.

End to End Frame Relay Service

FEATURE	BENEFIT
Consolidated Service*	Ease of network implementation regardless of location, meaning increased control and flexibility.
Single Contract	Simplification – customers do not have to worry about multiple contract terms or limitations.
Single Invoice	Simplification – entire network is detailed in one monthly invoice.
Single Point of Contact	Increased efficiency – customers have one contact for all technical, contract, billing or sales-related issues.

Cost efficiencies across multiple services.

Clearly defined performance guarantees for the entire cross-border network provide you with increased consistency and minimized risk.

*For companies currently using multiple vendors for their Frame Relay network.

**Based on purchasing multiple services, and depending on vendor.

Some Questions To Ponder

Data networks are implemented to support communication needs. And implementing any new data networking solution can ultimately change how you conduct day-to-day business. As is the case when making any major purchasing decision, it's a good idea to ask a few questions to ensure you know everything you need to know to make an informed, intelligent business decision. Here are some questions you should have answers to before selecting a cross-border solution from a multinational service provider.

- How long have you been providing a Frame Relay solution?
- Do you provide connectivity outside of Canada and the United States?
- Who do you partner with to provide your cross-border Frame Relay network?
- How is your cross-border solution better, or more suited to my business than your competitors?
- What performance level guarantees can I expect with your cross-border network? Are the guarantees the same regardless of serving area?
- How will I be supported?
- If I am currently a Frame Relay user, what changes can I expect in my service as a result of converting to a cross-border solution?
- What is your disaster recovery strategy?
- What connectivity issues arise when using a cross-border network?

Cross-border connectivity does not have to be complicated. Find out more on AT&T Canada's unique End to End solutions by contacting your local AT&T Canada representative, or visit us at www.attcanada.com.

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Telecommunications Made *Eeeeeasyyyyyyy...*

Audioconferencing – Communication Without Barriers

Your business, headquartered in Calgary, has eight international offices. You need to let your managers in each of your locations know of an urgent piece of information that will impact the entire business. What do you do?

You could call each of them. Trying to contact these busy people, however, could take up a whole day. And do you really want to have to repeat yourself eight times? So the question becomes, how do you get everybody together, communicating freely amongst each other without any barriers?

Easy. You have an audioconference.

Audioconferencing is not really a new technology. But it certainly is an investment that can provide the ideal solution for many communications challenges. It enables any number of people in different locations to communicate with each other seamlessly as though they were all in the same room.

So you call an emergency meeting by audio-conference, and even those who are not in the office can participate with nothing more than a phone number and password. In other words, there is no additional equipment required. And if someone actually can't make it, the call can be recorded.

What's more, if an Administrator Conference call is arranged – one that is administered by a specific individual who may or may not actually be part of the actual call – then certain features like Audio Bulletin Board, Transcription and Question & Answer sessions can come into play.

And of course, most audioconference technologies include the provision of toll-free access to any participants on the call, which is a valuable benefit when conferencing with preferred customers or suppliers from out of town, so they don't have to pay long distance charges.

In a nutshell, audioconferencing enables any number of people in different locations, using their existing phone equipment, to communicate instantly, to share timely information and make decisions.

Think of the travel time and, more importantly, the huge travel dollars to be saved by audioconferencing. It's also immediate, so that time-sensitive meeting you called was able to occur right away.

- **Conference calls grew by 30% in 2001 over 2000, the 6th year with that kind of growth**
- **90% of conference calls are now automated or "reservationless", therefore it is no longer necessary to book your call in advance.**

The real beauty of audioconferencing is that there really are no risks associated with it. What company doesn't like to save time and money? And how many ways can you think of to expand your services without having to expand your current equipment?

What Do I Need To Know?

It is easy to invest in an audioconferencing solution. There are some questions you may want to ask yourself or your vendor so you can make the most suitable decision for your business.

- What are my requirements? What feature set do I need to accomplish my goals?
- What are the pricing options and call types available?
- What kind of support will I receive when needed, and how fast?

For more information about AT&T Canada's Audioconferencing service, check out <http://www.attcanada.com>.

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Just So You Know...

- According to an Ipsos-Reid study, 48% of Canadians with a home Internet connection have a broadband connection.
- In Canada, broadband users are online an average of 14.3 hours per week, while dial-up users spend an average of 8.6 hours online per week.
- According to Yahoo! Internet Life, America's top five wired cities are (in order) San Francisco, San Jose, Calif.; Austin, Texas; Boston and Seattle.
- To crack down on new music becoming available early online, BMG will start shipping burn-proof discs to the media, record stores and others who have access to advance copies. Labels have been reluctant to issue mass releases on such discs in the U.S. after trials in Europe were fraught with technical glitches.
- 56% of adults admit they've learned at least some of what they know about the Internet from their children.
- A mole can dig a tunnel 300 feet long in just one night.
- A group of geese on the ground is a "gaggle", a group of geese in the air is a "skein".



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Virtual Private Networks – Secure & Cost Effective

The world sure has changed a lot in the last few decades. Even in the last few years, many businesses have had to begin thinking in terms of a much larger landscape than ever before. Facilities are spread out across the country or even around the world. But there is still one thing that every company needs.

Fast, secure, reliable communications wherever their offices are.

In the past, companies used a Wide Area Network (WAN) over leased lines, which provided these companies with a way to expand their private network beyond their immediate location. On the downside, maintaining a WAN, particularly when using leased lines, was quite expensive and often rose in cost as the distance between the offices increased.

Many companies are using VPNs (Virtual Private Networks) to accommodate the needs of remote employees and distant offices.

Basically, a VPN is a private group of computers with a common affiliation that uses a shared network to connect remote sites or users together. So instead of using a dedicated but costly real-world connection, a VPN uses “virtual” connections from the company’s private network to the remote site or employee.

In case you’re wondering, security is maintained and ensured using mechanisms at the carrier level, which is where the proper configurations and design are set. However, because the security of your network is so reliant on the integrity of the policies of your carrier, most businesses tend to favour large, more established carriers with a longer track record of demonstrating solid processes and procedures.

Why a VPN For My Business?

Remote Access...

VPNs allow individual remote users to connect to the organization’s e-mail system, and share documents on the organization’s file servers.

For Telecommuters...

VPNs allow employees to be productive when they are working at home. A telecommuting program benefits the organization by providing flexible working conditions, and it also expands the geographic reach from which an organization can attract qualified workers.

For Mobile Workers...

VPNs allow mobile workers to send and receive corporate e-mail, get the latest version of a sales brochure or repair manual, or conduct transactions in front of the customer by simply dialing into a local telephone number.

Site-to-Site...

Site-to-site VPNs connect computer networks in different locations.

Between Offices Within an Organization...

The most common way of using a site-to-site VPN is to connect branch offices to headquarters.

Between Organizations...

Site-to-site VPNs can also be used to connect together trading partners (suppliers or customers) or members of a trade or industry group.

There are two types of data VPNs from which to choose. Frame Relay/ATM-based VPN and Internet-based VPN. As is usually the case, both have their advantages and disadvantages, as is outlined below.

Frame Relay/ATM-based VPN	Internet-based VPN
Reach is defined by the chosen carrier’s network points of presence.	Leverages the reach of the Internet.
All locations must subscribe to the the same carrier.	Carrier independent. Allows different locations to choose a local ISP on an ad-hoc basis and a VPN may still be established.
Guaranteed end-to-end throughput, between any two points in the network. Guaranteed low latency and jitter is required for transmission of high quality voice or video.	Transmission is done on a best-efforts basis. Applications that are used on the Internet should be developed with the intent of it being run over the Internet.

No additional software needs to be installed on the individual’s computer for remote access. Generally a VPN client software needs to be installed on the individual’s computer for remote access.

Private Frame Relay based dial-up service can limit bandwidth. Offers the ability to leverage high speed residential Internet service to provide connectivity.

Encryption is not mandatory to the design of your VPN. Requires encryption hardware and/or software to ensure additional security components into the design of your VPN.

The Key Benefit

A VPN is a cost-effective network solution that maintains the integrity and privacy requirements of the organization.

Before You Decide

In order to make the best decision for your business, it’s a good idea to know what you’re getting into. Here are some questions to ask your carrier before signing on the dotted line:

- Is reach a problem for the locations in which I need connectivity?
- What can you offer my business that your competitors cannot?
- Do you have sufficient bandwidth in the areas in which I need connectivity?
- How will the cost impact my decision?
- How will you ensure my privacy and security?
- How long have you been providing this service?

What kind of support can I expect to receive? Will it be 24 hours a day, 365 days a year? Do you provide live support?

For more information about AT&T Canada’s VPN Solutions, check out www.attcanada.com.

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Future Security Issues: More Than a Firewall

There's an old rule-of-thumb in computer security: "Users will pick dancing pigs over security every time." In other words, when a co-worker e-mails a link to some goofy web site, pretty much everyone will go to it just for a laugh – and even though they know they may be opening the company up to a potential security risk.

In securing your office network, two critical elements in particular often go ignored by many small- to medium-sized businesses. First, a person or group dedicated to security; it's not enough to have someone add "Secure the network" to a list of job description tasks. Security is an ongoing mission. And second, you need to develop an internal culture of safe networking. Your staff need to understand the impact on their jobs to a breakdown in security.

Because your company's biggest threat in the next ten years of this acceleration will come not from hackers or high-end technology, but from the mundane. The insignificant. The transparent.

I started my career as a journalist. And my paper sent me one day to cover a closed political meeting. There was some provincial bill being passed about forestry that our region was interested in following, so I went. Soon enough I found out the decision was going to be made in this closed-door session later that afternoon, and that there would be a press conference at four o'clock to announce the decision. I worked for a weekly paper. Our deadline was two o'clock. Our competitor's deadline was the FOLLOWING day at two o'clock.

My editor called and told me my job security was directly tied to whether we broke the story first or not. So, I bought what I have since learned is one of the strongest tools to breaking pretty much any security. It's a portable device, needs no batteries, costs about \$5: trusty clipboard.

A fast pace and a clipboard can get you into more places, break through more security, than any level of hacking can. Armed with my clipboard and a fast walk, I walked right into the room, and sat down. The door closed, the meeting started. They assumed I was an aide. After about ten minutes, one of the government officials recognized me and finked me out, but I got the story. And it was a great story.

One of the most effective security audit practices that consultants will undertake is social engineering. They call a random employee and say "Hi, it's downstairs calling. We're having trouble with folks on your floor hitting the back-end encryption dingedongle port. Could you punch this into your web browser for us for a second?" They'd punch in an IP address which went outside of the building and you can figure out the rest.

The future isn't about technology, it's about humanity. Our biggest challenge in the next decade as a society is to maintain a healthy skepticism. To create HUMAN failsafes to any mission-critical

technology. If you run an e-commerce site and install fraud detection software, that's great! But hire someone to randomly check orders by hand.

What most companies do to effect security is to buy a firewall, plug it in, and forget about it. I'm not that big of a programmer, but even I would be able to get in within a couple of hours.

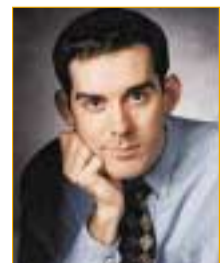
Security is, and always will be, based on two fundamentals:

1. Tradeoffs. You can lock your network up as tight as possible, force weekly password changes, and restrict ports to specific IP addresses. And your network will be secure. Good for you. Unfortunately, your users will launch an agrarian revolt against you with pitchforks and torches. On the other hand, you can go with the flow and open your network up to your partners, your suppliers, your customers... a work-from-home intranet, a file-sharing system. And two 14-year olds in their pajamas in mom's house. The only way your computer will be 100% secure is to not take it out of the box. So decide what you need and what you can do without and get executive buy-in.
2. Maintenance. Don't let anybody tell you it's okay to install the latest greatest, and let it be. Software has flaws because it's written by humans. Hardware is run by software on microchips and thus, has flaws. Flaws are routinely fixed, but it's not their job to tell you when. You need to be on top of it all the time.

Tod Maffin is "one of Canada's most influential futurists" [Report on Business] and speaks to more than 50 conferences each year on the future of technology in small- and medium-sized business. He hosts "Future Now" on CBC Television. His web site is www.todmaffin.com

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<http://www.numberplan.org/>

Mobile Numbering Plans

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CRM Resource

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HELP US HELP YOU FEEDBACK

Here's your chance to tell us how you feel about Sphere.

What did you like?

What didn't you like?

What's missing that you would you like to see?

And most of all, what would you like to learn from Sphere and from AT&T Canada?

Please send your feedback to spherefeedback@attcanada.com

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