Investigating the death of a global titan

THE OTTAWA CITIZEN OCTOBER 30, 2009

Nortel Main campus at Moodie and Carling.
Photograph by: Chris Mikula, The Ottawa Citizen

Even now, nearly a decade after the slide began, the idea that Nortel will disappear seems slightly incredible.

But global corporations survive only through eternal vigilance. And Nortel let down its guard too many times.

After it won the race to digitize the world's phone networks in the 1980s, it failed to adapt to new industries — especially Internet routing and wireless networking.

Nortel's board was not up to the job — in part because the vast majority of its directors lacked in-depth knowledge of the telecommunications equipment industry.

The directors also failed to ensure there were always at least two strong candidates in place to succeed the CEO they put in charge. This produced a leadership vacuum at critical moments, from which Nortel never recovered.

The accounting scandal, a failed mergers strategy, a botched campaign to lobby the federal government and a puzzling unwillingness by the Harper government to think hard about a rescue — all of these contributed to the death of Nortel.

This corporate disaster matters to Ottawa. The company at its peak employed nearly 20,000 in the national capital region.

This edition of the Observer kicks off an eight-day series that explains how and why Ottawa's largest private sector employer collapsed so swiftly.

The series is the product of more than 200 interviews. Sources include current and former directors, senior managers and executives, lawyers, accountants and top government officials.

We combed thousands of pages of financial and legal filings. And we talked with dozens of retirees and former R&D employees.

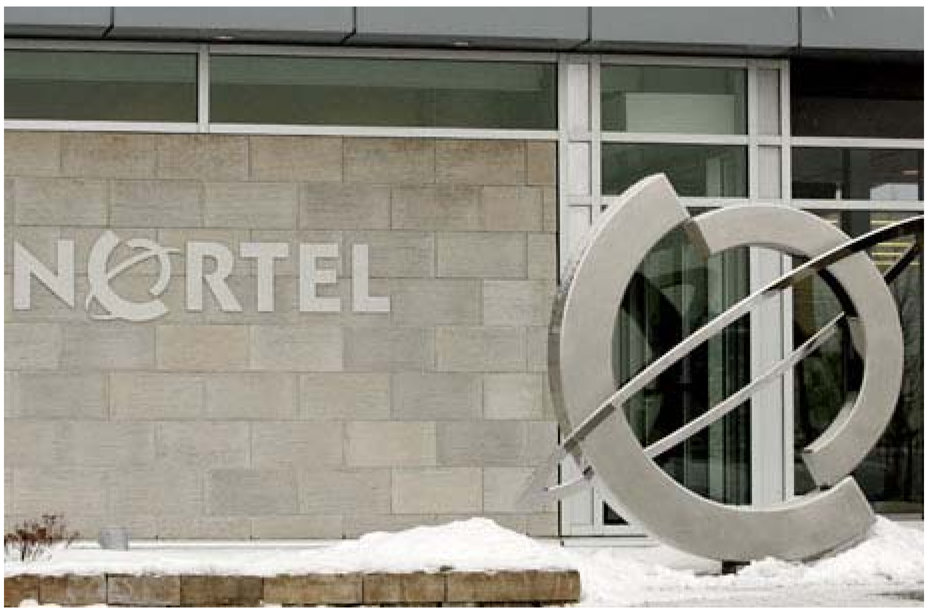
The fall of Nortel is heartbreaking not only because it hurts the retirements and salaries of so many, but because the company actually meant something to those who worked there.

They built a global titan by taking risks and being ready with the right technology at the right time. For a time it looked indestructible. And soon it will be gone.

Last things first: Bankruptcy protection

When Nortel's board met in January 2009 to discuss the future of the beleaguered company, there were sobering reality checks, unlikely rescue scenarios and then tears.

BY JAMES BAGNALL , THE OTTAWA CITIZEN OCTOBER 30, 2009



Nortel
Photograph by: Mike Cassese , Reuters

Mike Zafirovski was troubled by the week's events when he headed out for a late Friday night dinner with friends in Toronto.

The tall, lean workaholic had once boasted openly about how he was going to lead a turnaround of historic proportion at Nortel. Now the collapse of the economy had buckled his ambitions for the troubled telecommunications equipment

giant.

On Jan. 9, 2009, 11 Nortel directors — Zafirovski included — gathered for the second time in as many days in the boardroom of a small office complex near Toronto's international airport.

They were stewards of one of Canada's oldest and most famous corporations. But the once legendary paper wealth of their company had vanished like so much pixie dust in the wake of the great telecom crash. And now the global recession threatened Nortel's remaining cash reserves.

On the agenda at that board meeting: Bankruptcy protection.

The suburban office building — squat and rectangular — was without character. It was a far cry from Nortel's former headquarters in Brampton, the almost one-million-square-foot oasis that had been transformed into a cityscape complete with leafy avenues, indoor parks and Tim Hortons outlets.

None of the current directors had been around during that bygone era. In fact, each had known the risks when they joined Nortel: an accounting scandal uncovered in 2004 was still unresolved; many products were no longer competitive and company revenues remained weak.

John Manley, former deputy prime minister of Canada and a partner with McCarthy Tétrault, had joined the board in May 2004. Only Manfred Bischoff, chairman of Daimler AG, predated Manley as a Nortel director — but just by a few weeks. Five board members were American, including chairman Harry Pearce and Zafirovski, chief executive since late 2005.

Over two long days on Jan. 8 and 9, senior executives and outside experts made presentations to the board. Nortel's immediate problem was clear. The recession had squeezed its biggest customers — telephone giants such as Verizon and Bell Canada — which had scaled back sharply on telecommunication purchases.

Pavi Binning, chief financial officer since 2007, revealed financial snapshots that showed a roughly

15-per-cent drop in Nortel's revenues during the fourth quarter just ended. It was a far cry from the increase of five per cent-plus that had been expected.

Nortel had hired Binning for his experience with distressed firms. He'd played a crucial role in the 2005 restructuring and subsequent sale of U.K.-based Marconi's assets to Swedish telecom equipment giant Ericsson. At Nortel, Binning had promised to do even better. "Nortel will be one of the most significant turnaround stories in corporate history," he'd promised in his distinctive British accent when he accepted the job. "I am excited to be part of it."

Now there was little optimism in his voice as he warned that Nortel was likely to show a hefty loss for the fourth quarter and the year as a whole. He reminded the directors of the other calls on the company's cash. For one thing, Nortel had plans to trim thousands from its total payroll of 25,000.

Doing so without creditor protection would require the company to set aside tens of millions of dollars in severance payments.

The sobering presentation brought the board to the matter at hand: On Jan. 15, Nortel would be obliged to pay $107 million (all figures in U.S. dollars) in interest on its multibillion-dollar, long-term debt.

Cash wasn't the issue. The company had some $2.4 billion. The problem was that most of it was held by Nortel's foreign subsidiaries and committed to joint ventures and such obligations as the pension fund for its British workers. It would not be easy to repatriate the money.

Just $841 million of Nortel's cash was available in North America,

$176 million of it in Canada. So the Jan. 15 interest payment represented a significant portion of available resources. In three months, another interest payment would be due.

Some of Nortel's large suppliers were growing nervous, demanding more money up front. It had been that way since Dec. 10 when the Wall Street Journal revealed that Nortel had hired outside experts to advise on corporate strategies — from mergers to bankruptcy protection.

In fact, Nortel had recruited bankruptcy advisers months earlier. On Sept. 26, it hired management consultants Ernst & Young. Around the same period, it brought in Lazard Frères investment bankers and the Cleary Gottlieb law firm from New York. The possibility of a bankruptcy filing, which had seemed remote in September, loomed larger on Dec. 15 when Moody's downgraded Nortel's debt to Caa2, a category that implied it was high-risk junk.

During the two days of meetings, Nortel's directors heard from several of the company's top executives. George Riedel, the chief strategy officer, updated the board on negotiations around the potential sale of Nortel business units. The most promising merger talks involved Avaya Inc., a longtime rival that was keen to buy Enterprise, the Nortel unit that sold telephone systems to corporations. Riedel also noted that he was close to receiving offers for Nortel's optical technology business.

The directors wondered how quickly Nortel could consummate a sale in the deteriorating economy. The value of its divisions was dropping by the week.

Then it was Zafirovski's turn to speak. The CEO insisted the firm would soon have new sources of cash — either from the sale of a business unit, or perhaps from the federal government. Earlier in the week, he'd met with Industry Minister Tony Clement, Transport Minister John Baird and Trade Minister Stockwell Day and urged them to consider the jobs that a federal bailout could save.

The previous fall, Harper's government had rebuffed Nortel's initial appeal for $1 billion-plus, along with a second request for $750 million. Although Zavirovski had further reduced his plea, the ministers were a tough sell. Their view was that the mess was of Nortel's making. Even still, Zafirovski felt federal aid was a possibility.

The directors, however, were skeptical. They had seen too many management predictions of mergers fail to pan out. In any case, the global credit crisis wasn't helping move things along.

Nortel's in-house legal staff brought the meeting around to the mechanics of bankruptcy. The company would have to seek creditor protection simultaneously in Britain, Canada and the States. The lawyers discussed the increased role creditors would play. Binning warned that sales would drop instantly on word that Nortel was seeking creditor protection — 20 per cent year over year in most divisions.

The goal was to use court protection to re-organize the firm and trim staff before emerging from bankruptcy proceedings later in the year.

Terry Savage of Lazard Frères offered the board the expertise of his firm, investment bankers who since 1999 had helped more than 250 companies restructure. Savage — in his trademark red suspenders — advised Nortel to file while it still had cash and flexibility. "We've never seen a company as well prepared for Chapter 11," he said, an apparent reference to Nortel's cash reserves.

Not everyone around the table was so sure.

David Drinkwater, Nortel's chief legal officer, warned that the process could lead to a liquidation of company's assets. Although such companies as Stelco and Air Canada had re-emerged from lengthy periods of bankruptcy protection, the technology industry moves at a much quicker pace. Competitors were ready to pounce on Nortel's customers.

Chairman Harry Pearce urged board members to think carefully about the next step. After nearly two full days of presentations and hard questions, many of them were drained. One wept.

Four days later, on Jan. 13, they returned to the boardroom table. Others joined by conference call. They talked for two hours until Pearce asked his colleagues to take a stand on filing for creditor protection. Zafirovski had a sinking feeling.

One by one, each director backed the proposition.

“I figured it would be more of a jump ball,” he told directors at the meeting, employing the basketball term for a 50:50 possibility. He’d been preparing to vote against the idea.

Zafirovski’s disappointment was profound. “I never left anything in worse shape than I found it,” he’d declared three years earlier. Now he was facing the prospect of having to simultaneously reassure customers, stabilize sales and prepare a new game plan for the company.

The fact that directors did not have such a plan before filing for creditor protection was telling. It did not bode well for Nortel’s ability to re-emerge as a standalone corporation.

A group of retired executives sign up for one last battle to save their former firm

BY JAMES BAGNALL, THE OTTAWA CITIZEN NOVEMBER 2, 2009

John McFarlane
Photograph by: Handout photo, The Ottawa Citizen

At the end of May 2009, four ex-Nortel executives somewhat past their prime came up with a plan to pull their former employer out of bankruptcy court.

John McFarlane, 60, led the group which had formed an operating company for the purpose of acquiring most of Nortel's assets. U.S. investors and some of Nortel's key creditors had expressed keen interest. And now McFarlane's team was over the moon because a prominent telecommunications firm in Asia had agreed to a minority investment.

McFarlane won't identify the investor, though sources confirm it was Chinese upstart Huawei Technologies. He not only intended to preserve Nortel as a standalone entity, he would reinforce the importance of Ottawa as a centre for research and development and safeguard the pensions of retirees throughout North America.

The story of how that deal came together, told here for the first time, reveals much about Nortel and the cult of loyalty.

For alumni of a certain age, employment at Nortel was not work — it was a mission. Nortel's engineering squads were the first to develop all-digital, fully computerized phone networks. From the mid-1970s until the early 1990s, the imperative was to sell and install as many networks as possible.

During the mid-1980s, McFarlane spent several years in Germany ensuring Nortel's gear was working to the satisfaction of Deutsche Bundesposte. Robert Ferchat, the new president of Nortel's International division, called several times a week, usually after 8 p.m. European time, for a progress report. It was that kind of company.

Flash forward to Jan. 14, 2009, when Nortel filed for bankruptcy protection. McFarlane was floored. "I knew it had been struggling," he says, "but I hadn't realized to what extent."

McFarlane had left Nortel in 1997 to work at Sun Microsystems and several high-tech startups in California. He'd kept in touch with colleagues who shared the memory of working for a first-class global titan. (At its peak, Nortel employed nearly 100,000 and generated annual revenues of $30 billion U.S.)

In January 2009, by coincidence, McFarlane had been working to find someone to replace him as CEO of his latest startup. With that out of the way, he turned his full attention to trying to rescue Nortel. "We asked ourselves if we were prepared to just let Nortel sink," he said. "The answer was 'No.' "

McFarlane worked the phones in January and February, calling more than 20 former colleagues. Most expressed interest, but some — veterans with decades of Nortel experience — were especially keen:

- Jules Meunier, former head of the wireless group.
- Robert Pfeffer, former chief of research and development.
- David Taylor, former finance executive.
- Ian Craig, former chief marketing officer.

This core group drafted business plans, pitched investors and examined the state of Nortel's technology. Craig — a genial Scotsman who has kept ties with hundreds of ex-colleagues — lobbied federal officials and provided personal links to those in Nortel's diaspora who could help the deal.

The McFarlane group worked under the radar. The team, like its former employer, was dispersed widely. McFarlane and Taylor were on opposite coasts of the U.S., Pfeffer was in the Cayman Islands, Meunier is in B.C. and Craig lives in Ottawa. All of the men travelled constantly.

The team knew it was in a race against time. It was fairly certain Nortel and its creditors were trying to sell assets one by one, a strategy that would have defeated McFarlane's efforts to keep the company intact. Once a bid was tabled, the asset in question would be auctioned off.

Just one asset did not interest McFarlane's group: Nortel's Enterprise division, which sold telephone systems to corporations. McFarlane wanted the rest of Nortel, known as the carrier group, which marketed gear to telephone companies. He said the carrier business "offered the best value and represented the deep roots of Northern Telecom," the predecessor to Nortel. McFarlane wanted it in one piece.

At first, the plan was to try to raise money from private equity funds and other investors, as well as convince Nortel's creditors to exchange a portion of their debt for a mix of debt and equity in the new Nortel.

So far, so good, but for the obstacles.

For starters, Canadian investors were understandably gun-shy. Many funds had purchased Nortel shares in the past and been badly burned.

The second obstruction was the more serious. After weeks of analysis and discussions with people in the telecom industry, McFarlane's team realized Nortel was less competitive than expected, especially in wireless.

Next-generation technologies such as Long Term Evolution were promising, but Nortel had lost so much ground in current (third) generation wireless networks that it had no hope of catching up.

Wireless carriers weren't going to buy next-generation gear from a supplier that had not invested in 3G or held much market share. McFarlane reckoned Nortel needed a partner in wireless.

The group approached several manufacturers of wireless gear. Then, with the help of former Nortel CEO Bill Owens, it set its sights on Huawei.

Four years earlier, Owens had worked hard but unsuccessfully to convince Huawei to form a partnership with Nortel. Following his retirement, he joined AEA Holdings Asia as a managing director, working out of its Hong Kong office. AEA is a private equity group based in New York.

Owens still knew many of the Huawei officials and provided McFarlane with an introduction. Owens's schedule permitted only a rare face-to-face meeting. McFarlane at one point took a flight involving three connections so he could have a one-hour session with Owens at the Seattle airport. "That's when I knew you were serious," Owens is reported to have told McFarlane.

McFarlane negotiated a partnership with Huawei in May. The Chinese firm committed to making a minority equity investment in the operating company that would acquire Nortel's assets.

Combined with financial commitments from private equity funds, all U.S.-based, McFarlane was able to draft a proposal — which was to be presented on May 30 to Nortel and its financial advisers, Lazard Frères.

It was not to be. On May 28, McFarlane learned that the board of directors of his Asian partner had decided to reject the memorandum of understanding signed by its executives.

McFarlane and his teammates were crushed. The deal would have resurrected the firm they'd all helped to build. McFarlane and another Nortel alumnus, John O'Connell, are still looking to bid on some of the remaining pieces of Nortel's carrier business. But the opportunity to rebuild Nortel vanished in late May.

On June 19, Nortel announced that a bidder had emerged for the company's current and next-generation wireless assets. Piece by piece, the breakup of Nortel had begun.

The beginning of the end

How an accounting scandal permanently weakened Nortel

BY JAMES BAGNALL, THE OTTAWA CITIZEN NOVEMBER 2, 2009

Nortel
Photograph by: Jana Chytilova, The Ottawa Citizen

On a brisk November day in 2003, two of Nortel's most senior directors entered the business aviation terminal at Toronto's international airport for a meeting that would change everything.

Red Wilson and John Cleghorn were recognizable to readers of the business pages. Wilson, a former CEO of Redpath Industries and Bell Canada Enterprises, had joined Nortel's board in 1991 and was now its chairman. Cleghorn became a director in 2001 after a long and distinguished career at the Royal Bank of Canada, where he'd served as CEO from 1994 until joining Nortel. He was head of the board's audit committee.

The executives were in reasonable moods. During the previous two years, they'd overseen the most dramatic restructuring in the history of Canadian business. Nortel had sacked two-thirds of its workforce, closed 20 million square feet of office and manufacturing space and wrote down nearly $16 billion (all figures U.S.) in 2001 alone. Early in 2003, the company had started to report profits. The worst seemed over. There was just one piece of leftover business.

The loose end was the subject of that airport meeting. It had surfaced April 24 when CEO Frank Dunn announced first quarter net earnings: One cent per share. After massive losses in 2001 and 2002, even the small profit was a welcome relief — especially to the firm's most senior executives.

Indeed, the sudden shift triggered millions in "return-to-profitability" bonuses. In 2003, the company's top 43 managers received a total of $19 million in RTP payments. More than $5 million of this would go to just three individuals — CEO Frank Dunn, chief financial officer Douglas Beatty and controller Michael Gollogly.

But there was something about the first-quarter numbers that Nortel's independent auditors, Deloitte & Touche, didn't like. D&T advised Cleghorn that the board should take a closer look at how the profits were created.

D&T's concern had to do with how Nortel was accounting for billions of dollars in special charges related to its frenetic downsizing. These were estimates of how much Nortel would pay in future for severance, lawsuit settlements, breaking office leases and other contracts.

The company recorded these in the form of special charges that were deducted from revenues. The result was to produce exceptionally large losses in 2001 and 2002.

It's what happened next that triggered D&T's radar.

Under normal accounting rules, when a company discovers it has over-estimated its potential exposure to a lawsuit, it's supposed to adjust its earnings in the quarter in which the mistake was discovered. In this case, the removal of the reserve for legal exposure would cause earnings would rise. If the adjustment is significant, the company must disclose the full influence on earnings in the current and former accounting periods, and, perhaps, issue a re-statement of results.

In the first quarter of 2003, Nortel improperly reversed at least $274 million in previously recorded special charges, according to a civil complaint in March 2007 by the U.S. Securities and Exchange Commission against Dunn, Beatty, Gollogly and a fourth finance executive, MaryAnne Pahapill. (The complaint was amended September 2007 to include four other Nortel finance officials — Craig Johnson, James Kinney, Kenneth Taylor and Douglas Hamilton.)

In March 2003, D&T was concerned Nortel could not justify through documentation a significant portion of the $274 million in special charges. The result was material. Instead of showing a first-quarter loss of $220 million, Nortel reported a $54 million profit (1 cent per share).

Dunn “denies that Nortel made an effort to fabricate profits for the first quarter of 2003,” according to his defence statement. He also “denies that Nortel had a historical practice of using (accounting) reserves to manage earnings.” Beatty, Pahapill and Hamilton similarly deny the SEC’s allegations with respect to the manipulation of earnings. Gollogly has not filed a statement. On April 30, 2008, Johnson, Kinney and Taylor settled financial fraud charges with the SEC by each agreeing to pay $75,000 in a civil fine and other penalties. None of the three former finance officials admits or denies the SEC’s allegations.

In May 2003, Nortel's board ordered its executives to conduct a thorough review of the firm's balance sheet, which contained the estimates for future liabilities.

Chief financial officer Douglas Beatty led the internal investigation, which the SEC in its 2007 complaint called “a coverup.” Beatty denied the allegation in his defence statement.

Beatty’s review concluded Nortel would have to revise its financial statements from 2001 to mid-2003. Some $900 million in liabilities — about seven per cent of the firm’s total — would be shifted. However, these changes did not affect earnings sufficiently to kill the executive bonuses.

Wilson and Cleghorn, acting on the advice of Nortel’s in-house lawyers, wanted to be sure the assessment was legitimate and accurate. That’s why they were at the airport to meet William McLucas, a partner with WilmerHale, one of the best connected law firms in Washington, D.C.

McLucas listened carefully to the Nortel directors.

The sought-after adviser had helped the boards of Worldcom and Enron clean up after epic accounting scandals. Before that, he’d spend nearly a decade as director of enforcement at the U.S. Securities and Exchange Commission.

In that capacity, he knew the likelihood of deliberate wrongdoing was low. Every year, hundreds of U.S. firms filed restatements; fewer than one in 10 involved fraud.

“Well,” he concluded when they were done detailing the situation, “this looks pretty straightforward.”

In fact, it would prove anything but.

During the next few months, WilmerHale’s investigators combed through detailed balance sheets and collected hundreds of thousands of e-mails from Nortel’s financial employees. The forensic specialists concluded in a report, released early in 2005 by Nortel, that the company’s finance team “conveyed the strong leadership message that earnings targets could be met through application of accounting practices that finance managers knew or ought to have known were not in compliance.”

During its investigation, WilmerHale uncovered unclear lines of responsibility and accountability, weak internal controls and a lack of accounting expertise.

The repercussions were swift. Most of the executives who received return-to-profitability bonuses returned them to Nortel. On April 28, 2004, the board sacked Dunn, Beatty and Gollogly. In August, more financial managers were let go.

Along with the WilmerHale report, Nortel announced a second re-statement of its numbers going back to 2001. For good measure, it launched a review of previously published revenues.

Outside investors sought billions of dollars in class action suits claiming they’d been misled by Nortel. Investigators in the U.S. and Canada assessed whether there were grounds for a criminal complaint.

All this was the unintended fallout of that airport meeting in 2003. Wilson and Cleghorn would retire from the board in June 2005 and June 2006 respectively, when they assumed, mistakenly, that they had put the accounting problems behind them.

Nortel would never shake the stigma, as Dunn’s successors discovered.

CEO Bill Owens and chief financial officer Peter Currie got a taste of this reality in March 2005 when they were summoned to SEC headquarters in Washington.

Owens, a former member of the U.S. Joint Chiefs of Staff, was approaching his first anniversary in the top job. Currie, a former vice-chairman of RBC Financial Group, had rejoined Nortel in February. Currie had previously served with Nortel for 17 years, including a stint as CFO from 1994 to 1997.

America’s securities watchdog had been investigating Nortel’s accounting since April 2004. It wanted the men to explain why Nortel seemed unable to get a handle on its widening accounting difficulties.

“Give me three good reasons why I shouldn’t shut this company down!” SEC director of investigations Linda Thomsen demanded.

Owens politely reminded her that he was one of the good guys who’d been hired to clean up the mess. Currie then offered up three good reasons: “We’re going to find the root causes of the problem. We’re going to get the numbers right,” he said. “And we’re going to spare no expense to do it.”

It seemed to break the ice.

By the end of the meeting, Thomsen was more generous in spirit. “OK, you’ve got some time,” she said. “But understand there are no more shots at this. This is it.”

The risks of another re-statement were high. Nortel’s accounting regime used more than 100 subsystems and applications, including many prepared on spreadsheets and forwarded to head office on paper.

Sure enough, Currie’s group uncovered more errors early in 2006, and again in 2007. Although the mistakes were less significant each time, they served as a constant reminder of Nortel’s troubles.

Finally, in 2007, it seemed over, at least for the company, if not for the executives it fired.

The SEC and Ontario Securities Commission settled civil actions with Nortel, which paid $20-million-plus in fines and agreed to report regularly on efforts to improve its accounting. The SEC’s separate civil action against Dunn, Beatty, Gollogly, Pahapill and Hamilton has been put on hold pending resolution of criminal proceedings in Canada.

The SEC has submitted a motion for a default judgment against Gollogly who, the SEC asserts, “has not answered the commission’s complaint.”

U.S. authorities recently dropped criminal investigations involving Nortel and its former executives. In Canada, the RCMP is still preparing its case after laying fraud charges last year against Dunn, Beatty and Gollogly. The three co-accused have all filed wrongful dismissal charges against Nortel and maintain their innocence. Neither Papahill nor Hamilton are part of the Canadian proceedings.

The various legal cases have cost Nortel dearly, both in reputation and money. The company has invested heavily to find and fix mistakes and retrain staff. Mike Zafirovski, company CEO from 2005 until August 2009, estimated Nortel spent more than $400 million on outside auditors, management consultants and other accounting specialists.

To settle a class action lawsuit, Nortel shelled out $575 million cash and 629 million common shares early in 2006. The suit, which claimed Nortel had misled investors about the health of the company, was difficult to defend — not least because Nortel had fired its financial team for cause.

The loss of nearly $1 billion in professional fees and class action awards proved crucial during the final months of 2008 when Nortel began to mull creditor protection.

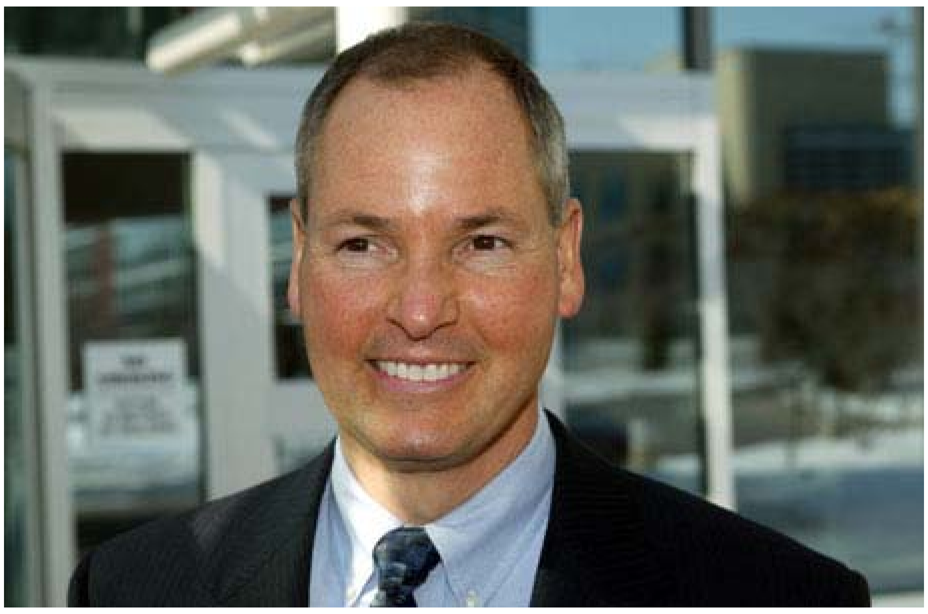
Had it not been for the accounting scandal, Nortel would likely still be solvent. It was a costly distraction, and it led observers to conclude that Nortel had itself to blame. Indeed, the numbers debacle had made it easier for Stephen Harper’s government to say “No” to a bailout.

Despite all this, it would not be fair to blame accounting alone for Nortel’s demise. Its rivals — including Lucent Technologies and Siemens AG — survived serious accounting scandals. Why not Nortel?

It turns out it wasn’t just the alleged accounting fraud that hurt Nortel. When the scandal broke, the company was already in an advanced state of decline.

Part 4: Looking for a turnaround

BY JAMES BAGNALL , THE OTTAWA CITIZEN NOVEMBER 3, 2009



Gary Daichendt
Photograph by: Bruno Schlumberger, The Ottawa Citizen

The odd thing was, neither of The Two Garys — for that is how they were known — needed the work.

Gary Daichendt and Gary Kunis were extremely wealthy when they retired from Cisco Systems. Daichendt had been chief operations officer, overseeing one of the fastest growing and most efficient manufacturing supply chains in the industry. Kunis was chief science officer. Each had joined the California firm in the early 1990s when it was still a startup tinkering with "Internet Protocol Routers."

By 2005, Daichendt was restless. He'd dabbled in real estate but missed the excitement of high-tech. He let it be known he wanted to try his hand at a business turnaround. As it happened, Nortel was looking for a chief operating officer with deep knowledge of the networking industry. The telecommunications equipment giant wanted someone who might take over from CEO Bill Owens in a year or two.

Daichendt had been approached to run Nortel a few years earlier but had not wanted to leave California. But he'd been watching. In 2005, he was ready to take a closer look.

He wondered why the average Nortel employee generated less than half the revenues of a Cisco counterpart. He also discovered that Nortel's profit margins were a fraction of Cisco's. Yes, the firms were in different businesses: Nortel specialized in gear for building phone networks while Cisco's was more appropriate for building data networks based on Internet standards. But the corporations sold technology in each other's markets. Daichendt knew there shouldn't be large differences between the two. He decided to take a run at fixing Nortel's problems.

Nothing prepared Daichendt for his new assignment. Nortel was a foreign culture. Its biggest customers were monopolies, or nearly so. The phone companies spent billions at one shot on procurements that involved armies of electrical engineers. The R&D shop chased interesting products, rather than those that made money. A few weeks into his new job, Daichendt called Gary Kunis for help.

The two raced around the globe gathering information about Nortel's operations. Kunis was stunned. Nortel, a corporation with $11 billion in annual sales, had dozens of R&D locations around the world. He estimated the inefficient setup cost Nortel about $500 million more than it needed to each year.

More worrisome, they concluded, was the company's declining status. Nortel was No. 1 or No. 2 in just a handful of its 30-plus business lines — voice over IP, CDMA wireless, multiservice WAN switches, optical transmission. Nonetheless, it was pouring money into areas where it had no hope of becoming a leader.

"Nortel is an industry laggard," Kunis observed at one point, "and it doesn't seem to know it."

It's little wonder Nortel found it difficult to let go of the legend. It had been a great corporation from the time it first offered shares to the public, in the early 1970s, until the 1990s. Company leaders had made huge gambles on certain technologies — at exactly the right time.

In 1976, the telecommunication equipment company had been the first to promise a full line of digital switching gear, with a target of decade's end. The company's R&D subsidiary, Bell-Northern Research, then met the challenge — transforming the phone system into a giant computer, a feat still celebrated in engineering circles.

Nortel translated this achievement into a multibillion-dollar-a-year global business and a household name. In this, it was helped by a U.S. Justice department decision in the early 1980s that forced AT&T to divest its regional phone companies. Until then, these firms had purchased gear from AT&T's manufacturing subsidiary (which later become Lucent Technologies). Suddenly they were free to order from anyone. Nortel was ready with state-of-the-art technology.

Nortel's rise as a supplier of digital switching technology has been well documented. From 1982 until 1991, annual sales more than tripled to $8.4 billion. Less understood is how those years would influence the company's future.

By shifting most of its resources to meet a fabulous opportunity, Nortel made decisions that would haunt it later.

For starters, it delayed entering wireless. During the 1980s, Ericsson — a Swedish telecommunications equipment firm — bet everything on the new cellular phone business. A decade later when Nortel entered wireless, Ericsson was impossible to dislodge.

Something else happened along the way: Nortel grew complacent.

When phone companies build networks with gear from Nortel — or its competitors — they are held hostage because the software that routes the calls is proprietary. When the companies need to add lines or upgrade software, they must buy from the original supplier. Nortel milked this business with professional zeal.

During the 1980s, Nortel was too busy expanding to ponder what it all meant. By the 1990s, there was no missing its sense of entitlement. Nortel leaders considered their firm the standard-bearer for Canada's high-tech prowess. They thought R&D tax credits were the company's due. There were murmurs in the Prime Minister's Office in 1997 when CEO John Roth advised publicly on wider federal tax policy. Roth had hinted Nortel would do more hiring outside of Canada if tech employees did not receive more favourable tax treatment.

But even then — even before Roth took Nortel on its last, glorious ride at the height of the tech boom — the seeds of decline were being sown.

For one thing, Nortel was also ignoring the longer-term industry trends that were inspiring its competitors. In Finland in the early 1990s, for instance, a manufacturer of rubber boots, wood pulp and other industrial products decided to concentrate on a side business — telecommunications. Nokia, of course, became the planet's biggest manufacturer of cellphones. Meantime, Nortel cancelled development of the Orbiter — a handset that mimicked many of the features that would be found 10 years later in Apple's iPhone.

Around the same time, two key rivals emerged. In 1990, Cisco Systems of California issued its first public shares to finance its quest to dominate the market for routers, the devices that switch signals and move traffic on the Internet. Cisco's sales — helped along by the Garys — leaped ahead of Nortel's in 2001. In 1992, Huawei, a Chinese telecommunications equipment firm, began to develop low-cost telephone switches. Its revenues surpassed Nortel's in 2007.

The newcomers were financially disciplined, in sharp contrast to Nortel where antiquated accounting and supply chain systems were the rule. Indeed, the company's structures were so complex, business managers found it difficult to establish cost estimates for new products.

It's little wonder Nortel's profit margins were substantially weaker than its new rivals. In 1996 and 1997 — the last time Nortel posted respectable earnings — the latter were roughly five per cent of revenues. During the same years, profit margins at Cisco averaged 19 per cent of revenues. Gary Daichendt and Gary Kunis understood that this was partly explained by Cisco's dominance of the router market. Yet during their whirlwind tour of Nortel operations in 2005, they saw that much of the blame lay with Nortel's inefficiencies.

The Garys also concluded that the company was not big enough to compete effectively in all its businesses. They thought Nortel's wireless unit should combine with a competitor's. It could use proceeds from the deal to invest in businesses in which it could win.

On June 1, 2005, in New York City, Kunis signed a memo of understanding with Nokia detailing two joint ventures and a technology partnership. Nokia would acquire parts of Nortel's GSM and UMTS wireless business and its France-based facilities. In return, Nortel would supply its CDMA wireless gear to Nokia for sale to the Finnish firm's customers.

It's thought Nokia would have paid $2 billion to Nortel, though the deal was never consummated. Days after signing the memo, Daichendt and Kunis left Nortel.

The abrupt exit of the Garys is the stuff of legend. Although only at Nortel for three months, they made quite an impression. Smart and impatient — Kunis was not above berating employees to make a point —they had a clear vision. The men thought Enterprise should be the new focus of Nortel. The unit, which sold communications networks to corporations, happened to be the one that competed most directly against Cisco.

CEO Bill Owens and chief financial officer Peter Currie were dubious about a strategy that would concentrate on a niche in which Cisco held an overwhelming advantage. But Daichendt continued to push, keen to assume top spot at Nortel.

Matters came to a head in June 2005, just before the shareholders meeting in Toronto. At a key session of the board, directors were shocked when Daichendt suggested it was time for Owens and Currie to go.

In fact, the board was indebted to Owens for taking the CEO's job when no one else wanted it. Plus they were counting on Currie to get Nortel through the accounting crisis. The consensus of the board seemed clear: There was no way they would part with a CEO and CFO at the same time.

The next step was a no-brainer: On June 5, board chairman Red Wilson told Daichendt he had to go. Kunis cleared his desk shortly after.

The Cisco transplants didn't take. Nortel never went up against Cisco — so Daichendt's strategy went untested. The Garys had been right that something needed to be done. But they were wrong to assume Owens and Currie hadn't drawn similar conclusions about Nortel's desperate need for scale. Within months, Owens was putting together a three-part deal that aimed to completely transform Nortel.

Part 5: On the road to ruin

BY JAMES BAGNALL, THE OTTAWA CITIZEN NOVEMBER 4, 2009

2007-OTTAWA-NORTEL-(Carling Campus)--Mike Zafirovski (CEO & Pres--AGM (annual general meeting)
Photograph by: Pat Mcgrath, Ottawa Citizen

OTTAWA — When Mike Zafirovski was new to the job of CEO, he nixed a plan that might have transformed Nortel. He would have reason to regret that decision again and again.

The opportunity emerged from the leafy hills of New Jersey, the headquarters for Avaya Inc. The company, well known to Zafirovski's predecessors, sells business telephone systems in competition with Nortel's Enterprise division. For years, there'd been talk of combining the competitors to create a powerhouse. The chatter had never amounted to anything until the summer of 2005.

Avaya's CEO at the time was Don Peterson, a former Nortel executive. For months, Peterson and his top executives explored options with their counterparts at Nortel, Bill Owens and Peter Currie. Owens was CEO until November 2005 when Zafirovski stepped in. Currie was chief financial officer.

Eventually the two sides devised the following strategy. Nortel would pay $4 billion-plus to acquire Avaya and combine it with its Enterprise group. After a successful merger, Nortel planned to acquire Siemens Enterprise of Germany. The result would be a $12-billion-a-year giant that specialized in business phone and data networks. When the stock markets were healthy, Nortel would spin off the new entity in a public share offering.

The three-step plan had the potential to transfuse billions of dollars in share proceeds into Nortel's anemic balance sheet.There were risks, of course. Big ones.

Even assuming Nortel could agree on a price for Avaya and Siemens Enterprise, negotiations would be exceedingly complex. Integrating the firms could prove difficult. And there was no assurance the stock markets would remain strong enough to support a share offering.

CFO Currie ran the proposal by Zafirovski, who was non-committal. Currie then presented the plan to Nortel's board of directors. When he was done, one director asked Zafirovski if he was on side.

The reply? "No."

And that was it. Zafirovski said later "there were a number of reasons" for not pursuing the deal, including the huge potential liability of shareholder and other lawsuits against the company.

The directors were willing to let their new CEO play things his way. After all, they'd hired Zafirovski after an extensive search, even agreed to pay $11.5 million to settle a lawsuit by his previous employer, Motorola.

It's natural Zafirovski would be unwilling to launch such a bold move on ground prepared by others. New CEOs generally prefer to develop their own game plan, often after hiring a new team to help them. Zafirovski was no exception. But delay would prove costly.

Zafirovski would have at least two more occasions to revisit his thinking about the deal that Currie and Owens pushed.

By the spring of 2007, Zafirovski was at last convinced that Nortel should acquire Avaya. At that point he got caught in a bidding war against private equity firms that were prepared to pay nearly $8 billion for the company. Zafirovski pulled out at the last minute, correctly reasoning the price was too high.

Later, when he was trying desperately to prevent his firm from slipping into bankruptcy protection, the roles would reverse. In negotiations to buy Nortel's enterprise unit, Avaya would hold out for a lower price. On Jan. 13, 2009, Nortel's directors decided they couldn't wait for a deal. The telecommunications company entered bankruptcy protection. Eight months later Avaya would win the auction to acquire Nortel's enterprise unit for less than $1 billion -- a pittance.

Zafirovski had less time than he knew when he accepted Nortel's top job. A former senior executive at U.S.-based Motorola and General Electric, Zafirovski arrived at Nortel just as the telecom equipment industry was consolidating.

During Zafirovski's first two years as CEO, most of Nortel's competitors combined forces. Archrival Lucent Technologies of New Jersey merged with France-based Alcatel. Ericsson of Sweden bought Marconi, a British icon. Finnish mobile phones giant Nokia merged its telecom equipment division with Siemens Communications of Germany to create Nokia Siemens Networks. And private equity firms snapped up Avaya. In almost every instance, Nortel had a chance to become the merger partner.

Competition was behind the merger mania. New rivals from China, including Huawei and ZTE, were selling good quality telecom gear at lower prices. To compete, western suppliers had to spread their heavy research and development costs over higher revenues. They needed greater heft.

The heads of Nortel's divisions had known this since 2001 when they first recommended to the board mergers or partnerships involving the wireless networking division. In 2005, then-CEO Owens had many talks with Huawei about a partnership, but then made way for Zafirovski.

In short, four years after first realizing it lacked sufficient size, Nortel had yet to address the problem. Its annual revenues had tumbled to $10.5 billion from $30 billion during the tech boom. The company was spending 18 per cent of its revenues on research and development but couldn't stay ahead of the technology curve. Worse, as Zafirovski's R&D chief John Roese discovered, Nortel's engineers spent most of their research budget maintaining technology for products that had already been installed in networks around the world. Precious little was earmarked for next-generation gear.

The R&D labs that had produced the world's first all-digital phone network and won the race to dominate fibre-optics in 2000 had descended into mediocrity after the crash. There were flashes of brilliance but no coherent strategy for producing hit products that could pull Nortel out of its spiral.

Zafirovski focused on efficiencies. His first key hires -- Joel Hackney, Dennis Carey and Joe Flanagan -- were operations experts. All were former colleagues from General Electric. Like Zafirovski, none possessed a deep background in the telecom equipment industry. Their idea was to do a better job of running Nortel and use the increased profits to invest in new products.

Instead, it became a vicious circle. Zafirovski trimmed hundreds of millions of dollars from R&D each year. Although he redirected much of the remainder to new projects such as Long Term Evolution wireless technology, it would be years before new sales emerged.

Meantime, revenues from previous triumphs, such as CDMA wireless technology, were sliding. Nortel was falling victim to an oft-repeated high-tech mantra -- it's difficult to cut your way to new growth.

Zafirovski knew the importance of mergers. He tasked his chief strategy officer, George Riedel, with exploring deals that would do two things -- increase the market share of the particular business, and improve Nortel's balance sheet.

The most extended talks involved Siemens, H3C, Avaya (in 2007), and 3Com. His managers brought him other potential deals -- Alcatel, Tellabs, Nokia, Ericsson and others -- but none came to fruition. Zafirovski was reluctant to commit to a major deal, say former Nortel executives who worked closely with the CEO. Nor, they say, did he have a clear idea of what Nortel should be.

Such charges anger Zafirovski. "This has not been a normal company for six years," he said in August. He said his ability to negotiate good terms had been compromised by the fact Nortel hadn't invested sufficiently in promising businesses.

Zafirovski points out he spent a lot of time with the heads of Siemens and China-based Huawei, discussing mergers and joint ventures respectively. He concluded Nortel wasn't strong enough in 2006 to handle the acquisition of Siemens Enterprise.

As for Huawei, Zafirovski said an earlier joint venture on certain products had amounted to nothing. "Huawei has not done a successful joint venture with anyone," he said.

Zafirovski elected finally to concentrate resources on Nortel's optical, carrier applications and enterprise units. He would seek partners for, or sell off, Nortel's wireless businesses, which he determined had smaller potential for generating profits. Zafirovski unveiled the strategy in June 2008.

Just three months later, he tossed out that plan when the recession cut into sales. He announced Nortel would sell its $2-billion-a-year optical division, concentrated in Ottawa and Montreal. It was a decision driven by expediency. The board felt the optical unit could be sold quickly for a reasonable sum, $1 billion-plus. That, they assumed, would allow Nortel to survive the storm.

They were wrong, of course.

Potential buyers grew increasingly conservative as the extent of the financial crisis became clearer. The fact that Nortel was willing to dump its Canada-centric optical business made it more difficult to persuade the government to back a bailout.

When Nortel filed for bankruptcy protection in January 2009, many wondered if it had been planning to sell its assets all along. The confusion was natural.

From the spring of 2008, Zafirovski had been involved in talks to sell Nortel's wireless group. In September, Nortel put the optical division on the block. For most of the year, the company fielded offers for its enterprise unit. There was hardly a piece of Nortel that had not been entertaining acquisition or merger proposals right up to the moment the whole edifice slipped into bankruptcy protection. Indeed, for most of Zafirovski's 45 months, the company did not possess a central core at all.

About This Series

This week, the Citizen brings you the inside story of Nortel's failure. The groundbreaking series is the result of months of work during which James Bagnall went behind the scenes to talk to players about how Canada's most valuable corporation could slump into irrelevance.

Tomorrow: Board members, but not directors

Join the conversation:

From noon to 1 p.m. today, associate business editor James Bagnall will lead a live online discussion about this series. Visit **ottawacitizen.com** to take part.

And on Nov. 11, Bagnall and reporter Bert Hill will offer views on Nortel at a 7 p.m. public meeting at the Ottawa Citizen. Reserve your spot by calling 613-726-5800 or by e-mailing **nortel@thecitizen.canwest.com**

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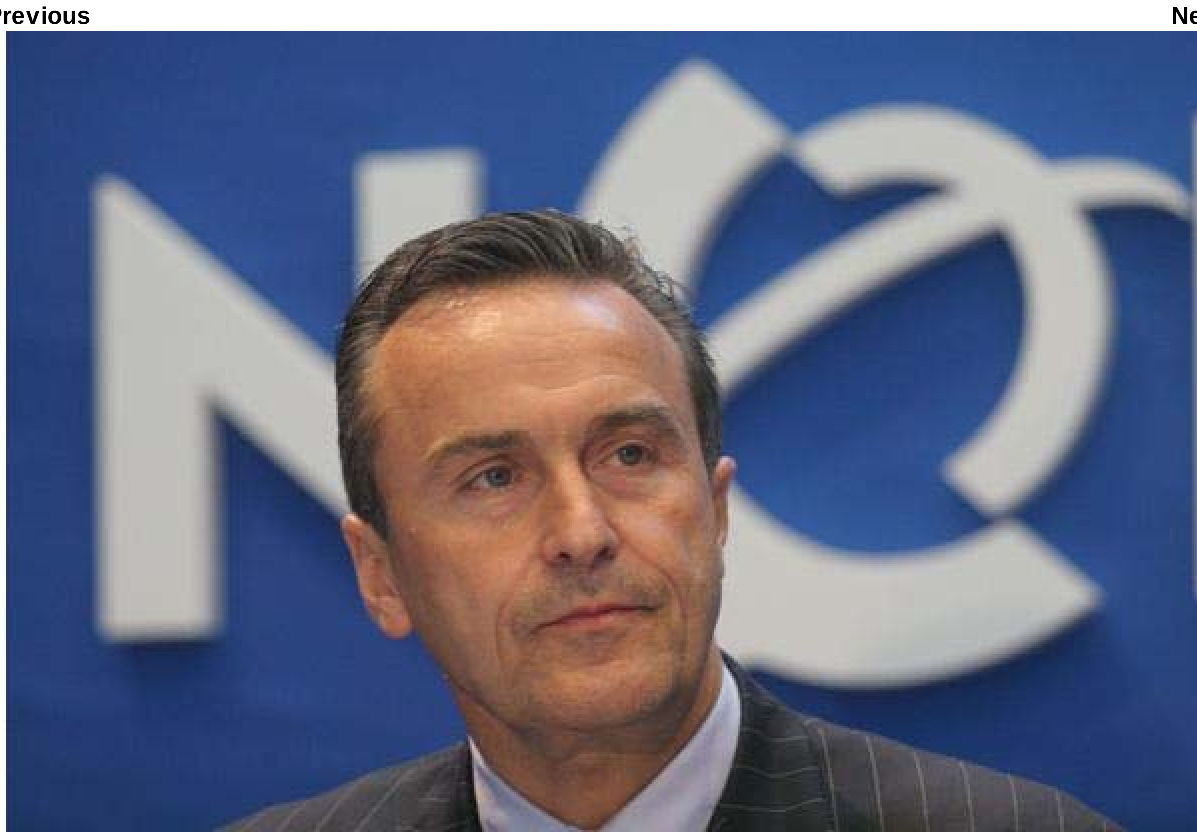
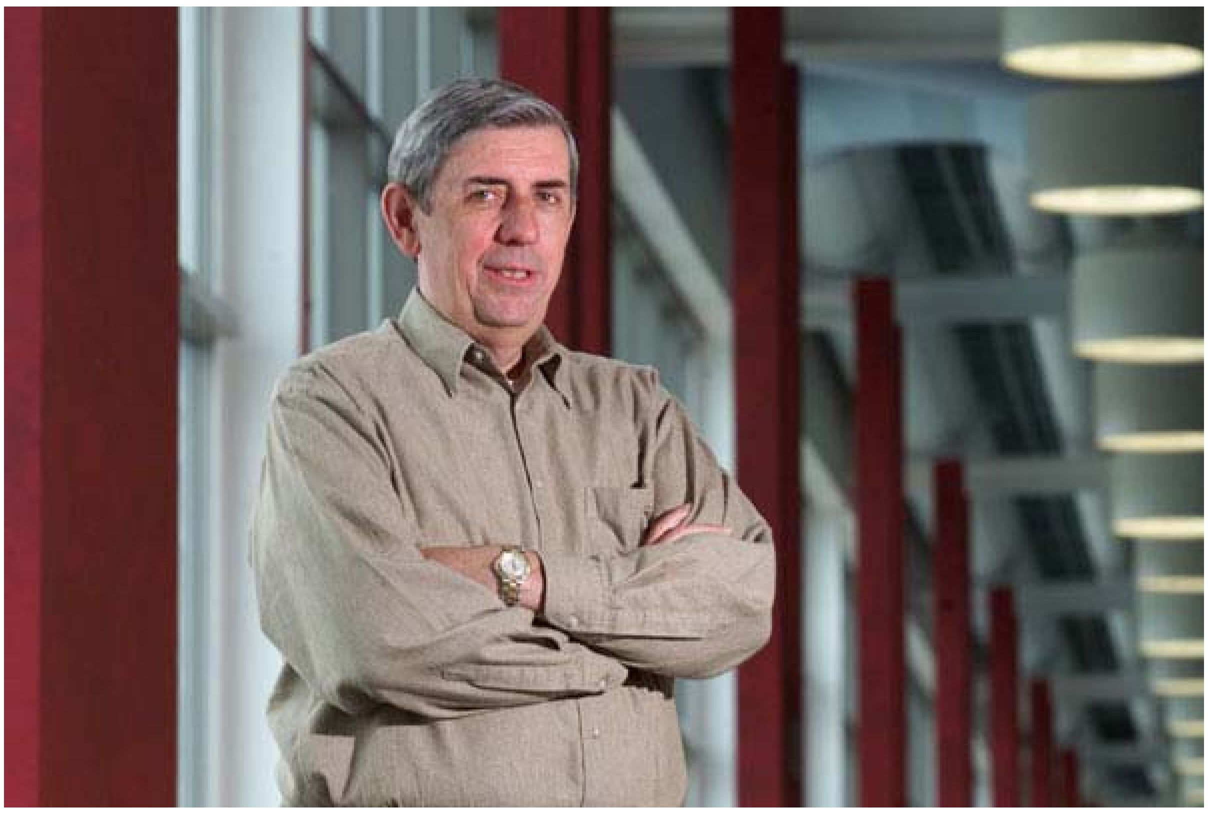


2007-OTTAWA-NORTEL-(Carling Campus)--Mike Zafirovski (CEO & Pres--AGM (annual general meeting)
Photograph by: Pat Mcgrath, Ottawa Citizen

Part 6 — The silence in the boardroom

BY JAMES BAGNALL, THE OTTAWA CITIZEN NOVEMBER 5, 2009



2001-John Roth is pres and CEO of Nortel, seen here at his Brampton, Ont. head office.
Photograph by: Peter Redman, National Post

OTTAWA — Jules Meunier prepared meticulously for his first presentation to Nortel's board in the spring of 2001. Soft-spoken and serious, he'd been head of Nortel's wireless group for just a few weeks.

The company was a mess. Revenues were plummeting and no one knew when the telecom crash would end.

Meunier -- a 22-year veteran of Nortel, with math and computer science degrees from the University of Ottawa -- had reason to be thankful. His wireless division was the only one within Nortel posting growth. Nevertheless, he was concerned.

CEO John Roth was cutting people and resources across the board. The company that employed nearly 95,000 worldwide on Dec. 31, 2000, would have fewer than 53,000 at year-end 2001.

During his presentation Meunier advised Nortel to invest more heavily in next-generation wireless technologies so that it could increase its market share. Failing to do so would leave Nortel without the heft to compete, he warned. If that happened, he added, the only way Nortel could survive in wireless would be to partner with a competitor: Siemens of Germany, Nokia of Finland or Alcatel of France.

It was a powerful call to action in the midst of industry turmoil. But Meunier was completely unprepared for what happened next.

The board had no questions. No comments.

"It was astonishing," recalls a Nortel official at the meeting.

The silence had exposed a disturbing facet of Nortel's board.

Although it's the board's role to supervise management, the directors took a surprising number of cues from Roth from the late 1990s until 2001.

On paper, the CEO represents company management -- just one vote among nearly a dozen equals. Yet Roth exercised huge power.

The non-management directors were successes in their own fields -- in business, law and politics. But, with the exception of Red Wilson, the former CEO of Bell Canada Enterprises, none was very knowledgeable about the telecommunications equipment industry.

James Blanchard, the former U.S. ambassador to Canada, had a background in law. So did Yves Fortier, a partner with Ogilvy Renault and Canada's former ambassador to the United Nations. Several of their colleagues had solid business credentials -- Robert Ingram was a senior executive with pharmaceutical giant GlaxoSmithKline of Britain; Robert Brown was CEO of Bombardier.

By comparison, Nortel's key rival, Cisco Systems of California, made sure its directors were familiar with the terrain on which their company fought.

In 2001, nine of Cisco's 11 directors were current or former senior executives at high-tech firms. The 10th was a professor of electrical engineering and the 11th was a partner with a prominent venture capital company. These days Cisco's board reflects the company's broader reach. Six of 11 directors have a rich background in high-tech industry while others are experienced in human resources, banking and management consulting.

John Roth, a radio engineer and 30-year veteran of Nortel, had a big advantage when dealing with his company's board. He knew the telecommunications sector cold, and he could explain it in terms anyone could understand. It helped that during his years as CEO, everything he touched for a time turned to gold. Nortel's share price had soared from $182.50 on the Toronto Stock Exchange the day of his appointment in 1997 to $1,231 on July 26, 2000. The directors had little reason to doubt his vision.

Board members in 2000 were paid in share options worth hundreds of thousands of dollars at their peak, along with a $50,000 retainer and other fees related to board assignments. Some had grown wealthy.

At the end of Meunier's presentation, the directors sought Roth's opinion. After all, he was the one who had pushed Nortel into the wireless business in the first place. The result: Nortel continued with its across-the-board cost cutting.

But, ignoring Meunier's advice would prove a costly. The issue of size, which Meunier had raised, would surface again and again.

Nortel never did create a wireless business with sufficient heft to compete. The best parts of its wireless business were acquired recently by Ericsson of Sweden for $1.13 billion -- less than five per cent of its worth when Meunier ran the division.

The role played by Nortel's directors in the company's demise has not been fully appreciated. The deliberations of the board and its committees are almost always private. The directors themselves tend to move in small, select circles. They rarely return calls. At Nortel, no stranger to lawsuits, such reticence is understandable.

Red Wilson was chairman of the board from 2001 to 2005. Earlier this year, he agreed to discuss Nortel's traumatic unravelling, speaking openly about how his colleagues on the board responded to unprecedented demands.

"We were diligent," Wilson asserts. "We coped with a deluge of problems following the collapse of the telecom industry."

He noted that Nortel shrank to $10 billion in revenues in 2003 from $30 billion a year in 2000 (All figures U.S.). "The game plan was survival," he says. "We felt we had successfully adjusted."

Very few corporations stay on top indefinitely, he noted. "Some are bought out, some can't adjust to big changes, and some reach a moment in the sun," he says.

"Nortel was a champion for about 25 years," he noted referring to the banner years between 1975 and 2000 when Nortel dominated global markets for digital telephone switching and optical transmission systems.

Of course, great companies know how to manage transitions -- finding new niches to dominate before their star products fade away.

But Nortel's directors clearly failed to secure the company's future. It was the board's job to hire and supervise CEOS and assess the risks facing the firm.

Consider the board's record:

- From 2001 to 2005, the board hired three CEOs. Frank Dunn, who it later sacked for cause for manipulating the books to trigger management bonuses. Dunn denies the allegation.

Bill Owens, an emergency replacement who knew little about the telecom equipment industry.

Mike Zafirovski, who steered the company into bankruptcy court.

- The board's compensation committee, while mimicking standard practices, created reward schemes -- bonuses and stock options -- that encouraged top managers and sales executives to emphasize short-term results.

During the past decade -- even as the company's position was weakening -- Nortel's five best-paid executives collectively took home $400 million in salary.

The board also approved the return-to-profits bonus scheme at the heart of Nortel's accounting scandal, which was uncovered in 2003 after the company unexpectedly reported a first quarter profit.

- The decision to sack nine members of the finance team prompted many to ask if the board should have kept closer watch on the firm's accounting.

- During the tech boom in the late 1990s to 2000, the board could have pushed management to bolster Nortel's balance sheet by selling shares when they were high. Instead, the company waited until 2001 when it elected to keep liquid by increasing its long-term debt. That decision would come back to haunt

Nortel.

On Jan. 14, 2009, Nortel opted for bankruptcy protection rather than pay $107 million in interest on that obligation.

Wilson maintains Nortel's board went the extra mile in 2003 when it uncovered what it contends was a scheme to manipulate the books to trigger executive bonuses. He notes that the board launched the original review of Nortel's balance sheet and later hired a forensic accounting firm to verify its conclusions.

The problems with Nortel's governance predate Wilson's tenure as chairman. Nortel has been a publicly traded firm since 1973. It had plenty of time to lay the foundations for a secure future.

When it was leading the world in the production and sale of digital switching equipment, it failed to park some profits in a cash reserve like its more successful competitors were doing.

Nortel also neglected to develop state-of-the-art accounting and electronic reporting systems that might have alerted it much earlier to potential problems -- both in terms of sales trends, and accounting issues. Nortel did not install its SAP reporting system until the spring of 2007 when it was too late to do any good.

For much of its history, Nortel was either a subsidiary of Bell Canada or heavily influenced by it. It wasn't until 2000 that Bell finally sold nearly all its minority stake -- giving Nortel complete independence for the first time. Ironically, that transaction took place just a few months before the telecom crash.

Most didn't see it coming. But Nortel's directors had a higher duty to prepare their company for the storm.

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The PlayerS

John Roth,

Nortel chief executive, Oct. 1, 1997 to Nov. 1, 2001

Red Wilson

Chairman

November 2001 to June 29, 2005

- - -

Nortel vs. Cisco

A tale of two boardrooms in 2001 and the benefit of experience in the right industries:

Nortel Networks' Directors

James Blanchard: Former U.S. ambassdor to Canada

Robert Brown: CEO of Bombardier, a former top federal bureaucrat

Frank Carlucci: former U.S. Secretary of Defense

Richard Currie: President of Loblaw Companies

Frank Dunn: CFO of Nortel

Yves Fortier: senior partner Ogilvy Renault

Robert Ingram: president, pharmaceutical operations, GlaxoSmithKline

John Roth: Chief executive of Nortel

Guylaine Saucier: former chair of Canadian Broadcasting Corp.

Sherwood Smith Jr.: Chairman Carolina Power & Light Co.

Lynton 'Red' Wilson: former chief executive of BCE.

Cisco Systems' Directors

Carol Bartz: CEO of Autodesk

Larry Carter: Chief financial officer of Cisco. Former VP of Advance Micro Devices

John Chambers: Chief executive of Cisco. Former executive with Wang Laboratories

Carly Fiorina: CEO of Hewlett-Packard

James Gibbons: Former dean of Stanford University School of Engineering

James Morgan: chief executive of Applied Materials

John Morgridge: Chairman of Cisco. Former president of Grid Systems.

Arun Sarin: Chief executive of Accel-KKR Telecom. Former CEO of Infospace

Donald Valentine: Vice-chairman of Cisco. Partner at Sequoia Capital.

Steven West: Former chief executive of Entera and former CEO of Hitachi Data Systems

Jerry Yang: Founder of Yahoo!

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The Pensioners

My name is Courte Jones. My age is 76.

I worked at Nortel 33 years and five months.

I was a clerk, a typist, and I worked in drafting.

You know, different jobs.

The company meant a lot to me. It was my earnings, my living.

It was great.

Period.

For many Nortel alumni, working for the company was not just their job.

It was their life.

Hundreds of those employees gathered on Parliament Hill in October to bring one message to MPs -- workers should come before other creditors when a company goes bankrupt.

To hear the pensioners in their own words, go to ottawacitizen.com/nortel

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About This Series

This week, the Citizen brings you the inside story of Nortel's stunning fall. The groundbreaking series is the result of months of work during which James Bagnall went behind the scenes to talk to the players who are still struggling to explain how the most valuable corporation in Canada slumped into irrelevance.

Tomorrow: Even after Nortel entered Chapter 11, there was hope.

Join the conversation:

Who killed Nortel?

What has been lost?

What should happen now?

James Bagnall and Bert Hill will share their theories on Nov. 11 at 7 p.m. at the Ottawa Citizen.

Reserve your spot by calling 613-726-5800 or by e-mailing nortel@thecitizen.canwest.com

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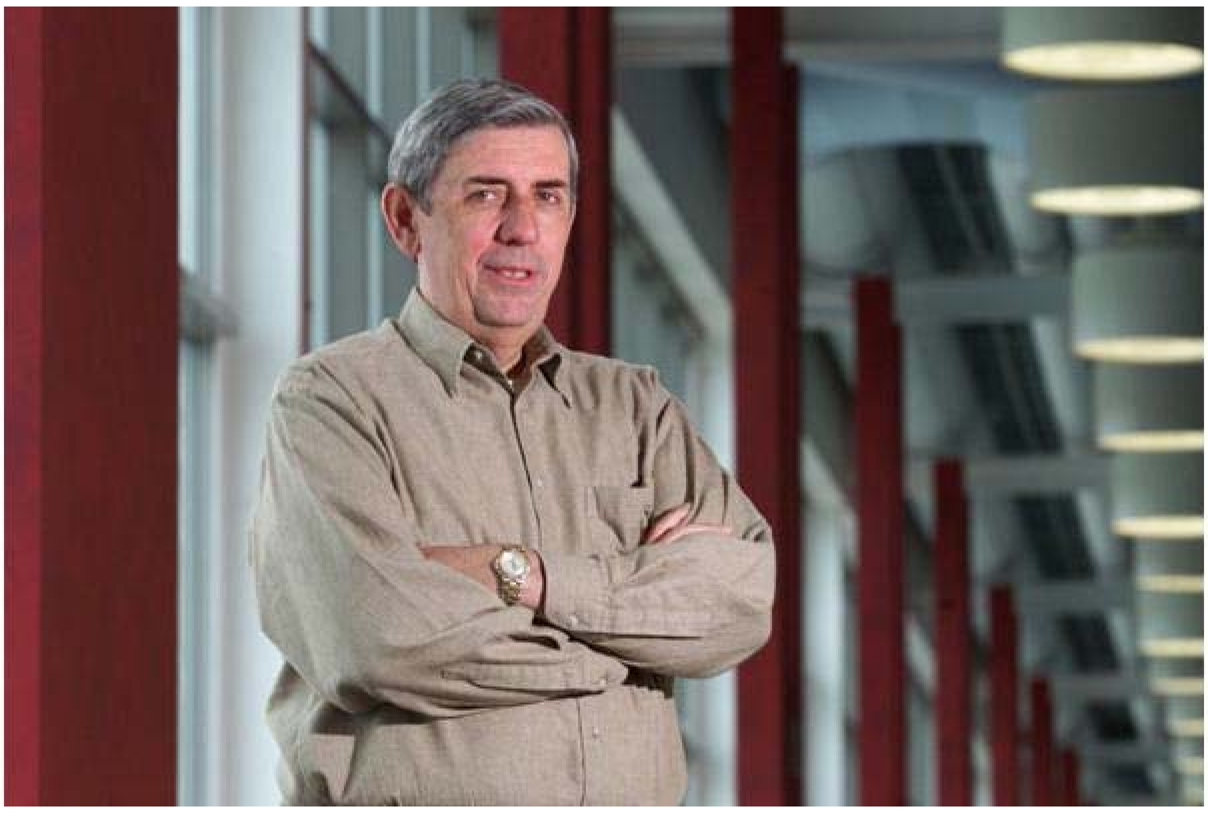

2001-John Roth is pres and CEO of Nortel, seen here at his Brampton, Ont. head office.

Photograph by: Peter Redman, National Post

Part 7: 'The world turned upside down'

Even after Nortel entered Chapter 11, there was hope. Plan A? To reorganize, sell some assets, bolster remaining business units

BY JAMES BAGNALL, THE OTTAWA CITIZEN NOVEMBER 7, 2009

My name is Doug Watt. I'm 76 years old. I worked for Northern for 321/2 years. I worked as an installer and worked my way up to being a manager of quality in corporate. Northern meant much to me. My family — I got married and brought three children up on my salary there. Who killed Northern? well, I would start with John Roth. Anybody who would tell everybody the stock was going good and then cash in all his options and move north of Toronto to a big ranch doesn't deserve any credit in my opinion. The ones that do deserve credit are like Walter Light and people like that who really did a good job for us.

Photograph by: Bruce Deachman, The Ottawa Citizen

Part 7: Nortel's Changing Tactics This Year in Bankruptcy Court

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Mike Zafirovski was oddly defiant given the circumstances. It was Aug. 5, 2009, and Nortel's chief executive was fielding questions in a tiny boardroom with a view of a suburban Toronto parking lot. He'd been in the top job 1,360 days -- a period during which Nortel's market value had tumbled from $15 billion to near zero. That's a loss of $11 million every day he was in charge. (All figures U.S.).

The interview would turn out to be one of his last as CEO. The longer Zafirovski talked, the more forcefully he rationalized. He insisted he'd done his best but it had proven no match for the the twin evils: Nortel's past and the current recession, which on Jan. 14 had forced the company to seek creditor protection.

"We were on the verge of a great transformation of the company, but the world turned upside down," the Macedonian-born businessman said in heavily accented English. "This is obviously not what I wanted to do, but once we entered Chapter 11 (creditor protection), the goal became to run one of the better examples of what's possible for a company to do in Chapter 11."

It was a strange way to look at the situation. For starters, Zafirovski had spent three years on the job prior to the storm. He'd had time to remake Nortel, time to revitalize its balance sheet.

After entering Chapter 11, Zafirovski had little say over how the show was run. Instead, Nortel's creditors -- bond holders, suppliers, ex-employees -- controlled the brutally complex process. Zafirovski and his fellow Nortel executives had important roles, to be sure. They hustled to reassure nervous customers, monitored cash flows and identified potential merger candidates.

But big decisions involving money had to be vetted by bankruptcy judges in Delaware, Toronto and London. The CEO who'd talked about leading one of the greatest corporate turnarounds was instead in purgatory, running a firm under court supervision.

Zafirovski extended no apology to Nortel's victims. He declined to play "would have, could have, should have." There was no point he said. History would not change.

Now, as Nortel unwinds, few associated with the firm have much sympathy for Zafirovski or his team -- many of them high-priced imports from General Electric who'd been hired to fix Nortel.

Yet, even after Nortel entered Chapter 11, there was hope. Plan A was to trim spending, sell some assets, bolster remaining business units and then emerge from bankruptcy.

On Feb. 25, Nortel sacked 3,200 employees from a global workforce of 25,000. Under court protection, it wasn't required to pay severance, a savings of more than $150 million. It used $45 million of this to convince nearly 1,000 executives and key employees -- about five per cent of the firm's workforce -- to stay put. The bonus plan peaked at 183 per cent of annual salary for senior managers, 44 per cent for junior employees.

Nortel said the bonuses were to encourage employees to further reduce operating costs and focus the organization. Fully half the incentive payments would be paid only when Nortel won court approval to reorganize, provided this happened before mid-2010.

Seven weeks after the bankruptcy filing, stock markets slumped to levels 50 per cent below the heights of the previous summer. The drop hurt corporations that might otherwise have considered buying one of Nortel's business units.

Customers put orders on hold. The fallout cut deeply into revenues.

Plan A went to hell.

Consider what happened at Nortel's enterprise division -- a $2 billion-a-year operation that sells telephone systems and data networks to corporations. Nortel had spent a year negotiating its sale, hoping to generate at least $1 billion in proceeds. That was before the unit's first-quarter revenues tumbled 41 per cent year over year.

Zafirovski worked the phones hoping to persuade any one of a dozen interested companies to bid -- the necessary preamble to an auction under bankruptcy rules. No one stepped up.

Would-be buyers were waiting for the price to drop. Late in April, Nortel and investors representing New Jersey-based Avaya were close to a deal when a key investor pulled out. It was time for Plan B: An orderly sale of Nortel's business units.

It's not just that company revenues had weakened significantly -- second-quarter results would show a 25-per-cent year-over-year drop in sales -- something profound was happening at Nortel's largest customers. Verizon, Bell Canada and other carriers were making long-term plans to replace Nortel gear with competing technology. Nortel was vulnerable.

The message couldn't be more direct: The company had to move quickly to get its best technologies into the hands of suppliers who had the confidence of the phone companies, or else the value of its assets would plummet further. Nortel risked liquidation.

In May, the company's mergers and acquisitions team turned its full attention to selling a key portion of Nortel's wireless business. The merger group was led by George Riedel -- a former vice-president of strategy for U.S.-based Juniper Networks. He'd joined Nortel in February 2006, seduced by the notion of being part of a historic turnaround. Instead, he was buried in negotiations over the fate of the company.

Riedel had spent a year chatting with top executives at such wireless competitors as Nokia Siemens Networks and Ericsson. In the spring of 2009, talks moved into overdrive.

By early June, his team was close to an offer. However, the deal was slowed by its complexity -- hundreds of pages of legalese involving dozens of subsidiaries. Nortel's directors had grown accustomed to presentations on the status of merger talks. They would guess when they'd end with a deal. "I got every prediction wrong," Riedel joked with a colleague in June.

Finally, on June 19, Zafirovski revealed that Nokia Siemens, a Finnish-German joint venture, was prepared to bid $650 million for Nortel's CDMA and LTE wireless assets -- short for code division multiple access and long term evolution, its cash cow and future generation respectively. Nortel also announced it had "advanced its discussions to sell its other businesses."

Plan B had gone live.

Nortel's ex-employees and pensioners grasped the significance instantly. Given time, a reorganized Nortel might have been able to restore the company's pension, health and dental plans. But a windup of the firm meant none of these things could be taken for granted.

Nortel's defined benefit pension fund was independent of the company. However, it contained only enough assets to meet an estimated 69 per cent of its pension obligations. In ordinary times, Nortel would have 10 years to try to bring the fund to 100 per cent. But there was no such requirement in Chapter 11. The 31-per-cent shortfall will become an unsecured claim against Nortel's final cash assets -- one claim among many.

When Nortel embraced the protection of bankruptcy court, there was a crush of creditors. Collectively, they are owed more than $12 billion. In theory, Nortel's remaining cash is supposed to be distributed equally. If the cash totals $6 billion, the most current estimate, creditors should get roughly 50 cents for each dollar they are owed.

The fate of Nortel's former workers contrasts sharply with that of the army of white-collar professionals who are extracting fees up front during the bankruptcy proceedings.

Cleary Gottlieb Steen and Hamilton -- a New York law firm -- is at the centre of an intricate web of private communications between lawyers, accountants and management consultants in Toronto, London and New York. The partners at Cleary Gottlieb charge up to $980 an hour while summer associates bill at an hourly rate of $320.

It's just one of dozens of firms on the clock. Collectively, they recently submitted invoices of $132 million, covering Jan. 14 to June 30. Nortel calculates it will have spent another $158 million by the end of June 2010 -- at which point the sale of its assets should very nearly be complete.

Even more difficult for ex-workers has been the sight of former Nortel executives tabling multi-million-dollar claims for pensions and severance.

Zafirovski resigned on Aug. 10, 2009. Six weeks later, he filed a claim for $12.25 million-plus in pension, salary, bonuses and other benefits. He presided over Nortel's demise, but evidently sees no harm in participating in the final division of its spoils.

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Countdown to the Sell-Off

Jan. 14: Nortel files for bankruptcy protection

Jan. 29: Discontinues mobile WiMAX business

Feb. 19: Agreement with Radware to sell Layer 4-7 Data portfolio

March 2: Reports 2008 financial results; Q4 revenues down 15 per cent year-over-year

March 18: Completes divestiture of Layer 4-7 Data assets to Radware for $18M

May 11: Reports Q1 results; revenues down 37 per cent year over year. Company 'continues to evaluate restructuring alternatives'

May 27: Nortel to seek buyer for stake in LG-Nortel joint venture

June 19: Agreement with Nokia Siemens Networks to sell CDMA and LTE assets for an initial bid of $650M. Company 'is advancing in its discussions to sell its other businesses'

July 20: Agreement with Avaya to sell Enterprise Solutions business for initial bid of $475M

July 25: Ericsson wins auction for CDMA/LTE assets with bid of $1.13B

Aug. 10: Reports Q2 financial results; revenues down 25 per cent year-over-year. CEO Mike Zafirovski resigns, board of directors shrinks to three

Sept. 14: Avaya wins bid for Enterprise Solutions business by agreeing to pay $900M in cash

Sept. 16: Industry Minister Tony Clement says Ericsson deal not reviewable

Sept. 21: Plans sale of next generation packet core networks components

Sept. 30: Plans sale of GSM/GSM-R wireless business

Oct. 7: Agreement with Ciena to sell optical networking business for initial bid of $521M in cash and stock ($390M cash plus $131M shares)

Oct. 28: Hitachi buys packet core networks assets for $10M

Nov. 9: Bid deadline for sale of optical business, 4 p.m.

Nov. 13: Auction for sale of optical business, 9:30 a.m.

Nov. 16: Bid deadline at noon for GSM/GSM-R wireless assets

Nov. 20: Auction for GSM/GSM-R wireless assets

Mid- to late-2010: Expected windup of Nortel

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The Players

George Riedel

Chief strategy officer.

Joined Nortel Feb. 21, 2006.

Mike Zafirovski

Chief executive, Nov. 15, 2005 to Aug. 10, 2009.

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The Pensioners

My name is Doug Watt.

I'm 76 years old.

I worked for Northern for 32 1/2 years.

I worked as an installer and worked my way up to being a manager of quality in corporate.

Northern meant much to me. My family -- I got married and brought three children up on my salary there.

Who killed Northern?

Well, I would start with John Roth.

For many Nortel alumni, working for the company was not just their job.

It was their life.

Hundreds of those employees gathered on Parliament Hill in October to bring one message to MPs -- workers should come before other creditors when a company goes bankrupt.

To hear the pensioners in their own words, go to ottawacitizen.com/nortel

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About This Series

This week, the Citizen brings you the inside story of Nortel's stunning fall. The groundbreaking series is the result of months of work during which James Bagnall went behind the scenes to talk to the players who are still struggling to explain how the most valuable corporation in Canada slumped into irrelevance.

Tomorrow: The outlook for technology, post-Nortel.

Join the conversation:

Who killed Nortel?

What has been lost?

What should happen now?

James Bagnall and Bert Hill will share their theories on Nov. 11 at 7 p.m. at the Ottawa Citizen.

Reserve your spot by calling 613-726-5800 or by e-mailing nortel@thecitizen.canwest.com

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Online: The stories so far, interactive timeline.

ottawacitizen.com/nortel

The man who wasn't there

Nortel CEO John Roth made it clear he wanted out early in 2001, but the board pressed him to stay on. His heart wasn't in it, setting the stage for a Canadian corporate drama without parallel.

BY JAMES BAGNALL, THE OTTAWA CITIZEN NOVEMBER 7, 2009

John Roth, CEO of Nortel, is seen in the atrium of BCE place after being inducted into the Business Hall of Fame in Toronto, Dec. 6, 2000.

Photograph by: Carlo Allegri, National Post

On a frigid day several winters ago, a solitary, angular man made his way across his property near Caledon Hills, north of Toronto. It was very nearly a disastrous journey.

In 2000, John Roth had been the most recognized executive in Canadian business. In retirement, he had kept to himself, tinkering with his antique cars, building a massive model train set and helping out with his wife's dog-breeding hobby.

Roth, in his mid-60s, paused to examine a pile of logs, cut recently to make a clearing. Then, with terrible swiftness, he tripped, snapped his ankle and dislodged some of the lumber, which had him pinned. The pain was searing; the irony, inescapable.

When he ran Nortel Networks from 1997 to 2001, Roth had often talked about "a world of networks" that would enable people to communicate from anywhere to anywhere. But on this day, he had no cellphone, no BlackBerry. He was helpless.

Roth had been determined to retire when he did. He had done every job asked of him during a 30-year career and he'd had enough.

A humble radio engineer, Roth impressed his bosses. He was promoted to general manager at 35, the youngest ever at Nortel. Five years later, in 1982, he became president of Bell-Northern Research. In 1997 he was the board's unanimous choice to replace Jean Monty as CEO. Roth was smart, tough and knowledgeable.

He was also stubborn.

Red Wilson, a director, saw this quality when he interviewed Roth about becoming CEO.

"My retirement date is 2001," Roth had said. When an astonished Wilson pointed out that that would make his term one year shorter than normal, Roth emphasized, "That's the way it is."

Perhaps Roth felt four years in the top job would stretch him to his physical limit. During his final months at the company, Roth would confide in colleagues about his fatigue. He wanted out by age 60.

Whatever the reason, Roth's eagerness to escape the firm should have been a warning sign. Jim Collins, a respected management guru and author of Good to Great notes that great companies are run by leaders with passion, energy and a relentless drive to see things through. Roth had all that during most of his career. But in 2001 he did not. Indeed, during much of 2000 and 2001 — years of crisis in the industry — Nortel lacked a steady hand at the wheel.

Roth had stepped back from day-to-day management in the summer of 2000, allowing his anointed successor, Clarence Chandran, to show his stuff. In February 2001, Roth told the board of his plans to accelerate retirement. He would resign as CEO at the annual shareholders' meeting in April 2001.

But Chandran wasn't ready. The company's chief operating officer had been stabbed a few years earlier by a robber in Asia, and the wound had refused to heal. When Roth learned in March 2001 that

Chandran was too ill to take over as CEO, he was furious.

The board pressed Roth to stay on until they could find a successor. Roth did so, grudgingly.

When the board convinced Frank Dunn, the company's chief financial officer, to take the top job on Nov. 1, 2001, it also persuaded Roth to serve as vice-chairman until December 2002. The directors weren't sure Dunn was ready. However, after Dunn took over, Roth was rarely seen in the office. He said there could be only one CEO, that Dunn didn't need anyone looking over his shoulder. Roth decamped to his retreat near Caledon Hills.

Roth had built a spectacular, multi-gabled home there with the generous proceeds of company stock options — $135 million in 2000 alone. He acquired the property next door and spent months installing an elaborate model train set in a refurbished barn. He read and travelled the continent with his wife, Margaret Ann, in his fully equipped motorhome.

Nortel seemed an abstraction, just a company where he once worked. Years into his retirement, he was puzzled about why people were still interested in Nortel's boom and all its repercussions. "It's ancient history," he told the Citizen earlier this year.

So it's unlikely he dwelled much upon his legacy at Nortel during the hours he was trapped on his own property. His most pressing thought, he confided to a colleague, was simply that no one would arrive in time. He was eventually rescued by a workman who wandered back to the site.

There would, of course, be no such saviour for Nortel — the company that for a time on Roth's watch became the most valuable in Canada's history, and soon will be gone.

After Nortel: Tech's last chance

Who killed nortel? The final part Startups are still launching, but building them up is getting tougher. It will take dozens of successes to make up for Nortel's demise

BY JAMES BAGNALL, THE OTTAWA CITIZEN NOVEMBER 7, 2009

2009-A visitor speaks on his mobile phone under a Nortel board at the GSMA Mobile World Congress in Barcelona, February 18, 2009. The GSMA represents the interests of the worldwide mobile communications industry.

Photograph by: Reuters, Ottawa Citizen

In the summer of 2001, Pat DiPietro had an epiphany: if he wanted to be part of a growth industry, he'd have to leave Nortel.

A 21-year veteran at the telecommunications equipment maker, he was one of several managers responsible for a portfolio of products then under development. The team held weekly conference calls with CEO John Roth, who told them the company would only finance R&D projects that produced revenues in the short-term.

DiPietro and his colleagues reluctantly killed a number of very promising products, including the terabit router -- a complicated piece of technology that would process Internet traffic at fantastic speeds.

The terabit project employed 425 and was a key part of Nortel's effort to break into the market for Internet gear. Half the team was sacked, the rest found jobs, temporarily, in other parts of Nortel.

"I could see I would be cost-cutting for years," DiPietro said.

So he switched careers. In the fall of 2001 he joined Vengrowth, a venture capital firm which invests in high-tech startups.

DiPietro, 54, has spent eight years trying to create a network of successful startups using talent from Nortel. He convinced former colleagues to become entrepreneurs at firms such as Liquid Computing, BelAir Networks and BTI Systems.

This makes him a good candidate to ask if there is life for Ottawa's technology sector after Nortel.

His answer is yes, but with serious caveats. After a punishing period of trying to build world-class firms, DiPietro is concerned the next generation of entrepreneurs has too many strikes against it.

"The ideas for startups are weaker, the teams are less experienced and there's no money to invest," is his succinct summary. "The next four or five years are going to be very tough." DiPietro's assessment is a warning for those who believe history will repeat -- that the demise of Nortel Networks will release hundreds of entrepreneurs into the local economy and rejuvenate the industry.

That's what happened nearly 40 years ago when Nortel shut its chipmaking operation, Microsystems International. The threatened closing helped to convince Terence Matthews and Michael Cowpland to quit and launch Mitel -- a telephone systems company that achieved $342 million in annual sales in its first decade, with a global workforce of more than 6,000.

Cowpland went on to create Corel, for a time the world leader in certain types of graphic software. Matthews founded Newbridge Networks, a data networking firm, in 1986. He sold it 14 years later for $10 billion. The Welsh billionaire now manages a collection of investments in high-tech and other firms through his holding company, Wesley Clover.

The activities of these and other entrepreneurs helped secure a role for Ottawa-Gatineau as Canada's most technology intensive region.

At the peak of the telecom boom in September 2000, about 66,000 people were employed in high-tech firms -- representing 11.5 per cent of the city's employment base. Toronto, with 7.2 per cent of its workforce in high-tech, was next closest.

By September 2009, Ottawa-Gatineau's tech employment level had slipped to 52,000 -- just 7.7 per cent of total jobs. But that was still the highest in the country, ahead of Toronto, where 5.7 per cent of workers were classified as high-tech.

The question now is whether the base is still big enough to support a rebirth.

The odds seem against it, not least because the makeup of the tech jobs has changed profoundly.

Nine years ago, the industry was driven by firms with headquarters in Canada -- Nortel, JDS and Newbridge accounted for more than 40 per cent of the tech workers in the national capital region.

Indeed, Nortel alone employed one in four.

Following the acquisition by foreign firms of several regional champions -- including Newbridge, Cognos and JDS -- Ottawa-Gatineau's tech sector is dominated by branch plant operations. It's not the best environment for nurturing entrepreneurial talent.

Only one in 12 tech employees now work at Nortel. And in coming months, these employees will either be laid off or hired by Ericsson, Avaya, Ciena and other foreign firms.

But the most interesting research and development -- the stuff that matters most to the companies' future -- tends to be done closest to headquarters.

The branch operations, in contrast, focus on R&D basics such as upgrading software and tweaking the technology for local markets.

This is why it's so important to have R&D based here. But it also helps to have marketing, finance and corporate operations handled locally as well. Entrepreneurs exposed to all aspects of management have a better chance of creating a successful startup -- an experienced denied to many Nortel employees.

Through Vengrowth, DiPietro has financed seven startups for which he is directly responsible. After Nortel shut down certain projects, DiPietro invited former colleagues to join his firms. The startups' products were different than the ones under development at Nortel, but the engineers could adapt their technical knowledge very readily.

However, Nortel's business managers tended to work out of offices in Boston or Dallas and had weak personal ties to the Ottawa engineers.

When R&D projects were killed, the U.S. managers left to seek opportunities at tech firms in their own region. This left DiPietro's Ottawa startups with little experience in actually running a business.

DiPietro tried to fill the gap by training engineers to become chief executives. It didn't work. In the past couple of years, he and fellow board members have replaced nearly all the original CEOs.

Only Bernard Herscovitch -- the chief executive of BelAir Networks -- has stayed the course. And Herscovitch was a manager previously.

DiPietro's experience has been instructive for another reason. His startups were the inspiration of the first wave of Nortel refugees -- the ones who left or were let go during the great downsizing of 2000-2003.

That group at least had been involved in state-of-the-art projects such as the terabit router.

But for much of the past decade, Nortel spent most of its R&D budget on keeping older product lines fresh, rather than breaking new ground. Starting in 2006, the company targeted newer technologies but also cut overall spending on R&D. Consequently, Nortel's engineering talent is less exciting to venture investors than it might have been.

There are exceptions, to be sure.

Rob Chaplinsky, managing partner of Bridgescale Partners -- a California-based venture firm -- says he likes what he sees in Ottawa, which he's been visiting monthly.

"Historically, Nortel's been a better breeding ground for startups than Microsoft," he says. "A lot of Nortel employees are no longer stuck in a slow-growing behemoth and will become entrepreneurs." However, Chaplinsky acknowledges there will be a lot of short-term pain.

Indeed, the loss of Nortel as a flagship will hurt in a number of ways.

Even during its long descent into ruin, Nortel attracted visitors from giant carriers such as BT, Verizon and China Mobile. These executives -- who spend billions each year on new gear for their networks -- paid calls on other tech firms when they were in the city.

There will still be trips to Ottawa, but far fewer.

Many of Nortel's former executives have opted for careers at former competitors.

Indeed, ex-managers kept running into one another during this year's bankruptcy proceedings, as they advised their new employers about the quality of Nortel's assets.

Stephen Slattery, a former head of Nortel's business telephones division, works for Cisco Systems of California.

Sue Spradley, the former head of Nortel's global operations, is a senior executive with Nokia Siemens Networks.

Gary Kunis, former chief technology officer, has been advising the owner of Avaya.

Stephen Pusey, Nortel's former top sales executive in Europe, is chief technology officer of Vodafone, the British-based mobile services company.

The message to be taken from this is clear: managers used to dealing with multi-billion dollar budgets probably aren't very excited about running smaller firms.

But there's still hope for Canada's high-tech. Waterloo-based Research in Motion surpassed Nortel last year in annual revenues and continues to grow at a rapid clip.

In Ottawa, firms influenced by Terry Matthews are showing signs of developing into local champions.

Mitel Networks, the rejuvenated successor to the original Mitel Corp., generated nearly $850 million in sales in fiscal 2008. Breconridge, a Mitel spinoff, recorded more than $300 million in revenues.

Several startups financed in part by Matthews are showing exceptional promise. Bridgewater Systems, a wireless software outfit, will top $60 million this year. DragonWave, a wireless technology firm -- run by ex-Nortel manager Peter Allen -- is on track to reach $130 million in sales this year.

"DragonWave is starting to bring talented people back into the Ottawa region," says DiPietro approvingly.

But it took many years of painstaking development to get to this stage. DragonWave was founded in 2000 during the high-tech boom by ex-Newbridge managers. Peter Allen at the time had left Nortel to run an optical startup, Innovance Networks.

Allen took over as DragonWave's CEO in 2004, by which time he had lots of experience running a startup.

Despite their growing pains, DiPietro's startups are also making solid progress. SiGe last year topped $120 million in sales. BelAir Networks has consistently ranked No. 1 in its market niche -- WiFi wireless mesh technology. Collectively, the group of seven Vengrowth firms racked up sales last year of more than $300 million U.S. and collectively employ between 700 and 800.

Nortel-trained engineers continue to fuel the development of new products.

But much hard work remains. It will require dozens of startups such as SiGe and DragonWave to make up for the loss of Nortel, which employed 6,000 last year in Canada -- the vast majority in Ottawa. If the region's entrepreneurs actually deliver on their promise, the result will be a much more diverse and competitive high-tech industry.

However, DiPietro understands, better than anyone, just how difficult the job will be. The overarching lesson of Nortel is that the rest of the tech world won't stop while Ottawa's tech sector sorts itself out. The tech firms maturing now have to succeed. If they don't there'll be no coming back.

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Join the conversation

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