

# CORONATION DENTAL SPECIALTY GROUP

HP technology facilitates growth, patient management



“With the HP infrastructure we have in place today, everything works. Instead of dealing with technology failures, we’re planning for the future and leveraging technology to help us grow and improve patient service.”  
—Ian Furst, DDS, MSc, FRCD(C), Oral and Maxillofacial Surgeon and partner, Coronation Dental Specialty Group, Cambridge, Ontario, Canada

**HP customer case study:** Growing dental surgery practice solves technology problems with HP, Microsoft® solutions

**Industry:** Health care

## Objective:

Provide reliable desktop and centralized technology for a growing dental specialty practice

## Approach:

Coronation Dental standardized on HP products running Microsoft® solutions: HP Ultra-slim Desktop PCs, served by an HP BladeSystem virtualized with Microsoft® Hyper-V

## IT improvements:

- Flexibility for growth while improving utilization
- Improved reliability
  - Increased system availability
  - Application failures reduced

## Business benefits:

- Productivity improvements
- Improved workflow systems
- Improved customer service
  - Shorter patient wait times
  - Scheduling based on diagnosis facilitates rapid treatment of most acute issues
  - Variable-length appointments designed to match expected treatment times
  - Six Sigma analysis of treatment times designed to keep all in-office wait times under 50 minutes



Several years ago, the Coronation Dental Specialty Group based in Cambridge, Ontario, Canada, was at a crossroads. The practice had grown to the point where a solid technology platform was increasingly necessary to manage the patient load. But its technology was inadequate: the firm’s desktop PCs and network were failing far too often, and patient management suffered as a result.

“We were using a lot of clones and constantly had problems with downtime,” recalls Dr. Ian Furst, DDS, MSc, FRCD(C), an Oral and Maxillofacial Surgeon and partner in the practice. “We had thousands of patients a year referred to us and treated every year, and we couldn’t keep track of things effectively. Failures in our technology were preventing us from providing the best quality of service and needlessly increasing wait times.”

## Customer solution at a glance

### Primary applications

Dental practice management

### Primary hardware

- HP Compaq dc7800 Ultra-slim Desktop PCs
- HP Compaq dc7900 Ultra-slim Desktop PCs
- HP xw4600 Workstation
- HP ProLiant BL460c G6 Blade Servers
- HP StorageWorks 2000 Modular Smart Array
- HP ProLiant DL360 Servers
- HP ProLiant DL380 Servers
- HP ProCurve Switches
- HP Color LaserJet 3800 Printer
- HP LaserJet P3005 Printers
- HP Integrated Lights-Out (iLO) technology

### Primary software

- Microsoft® Windows® Server R2 Hyper-V
- OptiMicro DentalWare SP

### HP Services

- HP Financial Services

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Coronation Dental struggled through poor experiences with two IT consultants, but eventually found one that would solve its problems, working with HP partner Novacc Technology to implement a soup-to-nuts technology upgrade. Now technology has been transformed from a hindrance to an enabler, facilitating annual growth of 75% since 2004 in the practice.

“With the HP infrastructure we have in place today, no one is ever left out in the cold because of a technology failure. Everything works,” says Furst. “Instead of dealing with daily failures, we’re planning for the future and leveraging technology to help us grow and improve patient service.”

### Technology in transition

Coronation Dental Specialty Group provides specialty dental care to support general dentists in the community. It has grown into a multi-location company with a new 20,000-square foot home in Cambridge, Ontario, and three outlying facilities. Its specialists see 130 patients a day in four locations, with some 14,000 new patients a year—all referred from general dental practices in the region.

But just five years ago, even the partners wouldn’t have predicted such a rosy future. Clone PCs used by employees failed regularly; out of fewer than 40 desktop PCs, the in-house technology director was replacing one or two power supplies each week. When a PC failed, it generally took two to three days to get it up and running or replaced. In the meantime, the employee was simply without a PC.

Equally bad was performance of the practice’s network, through which employees would access a centralized patient database. It failed regularly too. “We spent a lot of time designing a very good SQL database that would do everything, but dropped the ball in networking,” recalls Furst.

After two technology consultants failed to solve the burgeoning problems, the firm asked IT consultant Vince Sebastian to diagnose and treat the technology failure. He pledged to get the network up and running and have technology operating effectively, but only if the firm would commit to purchasing new, brand-name technology.

Sebastian worked with Novacc Technology, which used HP products, to implement upgrades that would address every aspect of Coronation Dental’s needs. To deliver reliable service at the desktop cost-effectively, the company chose HP Compaq Small Form Factor PCs. Aging servers were replaced with HP ProLiant DL360 and DL380 Servers, and the network

was upgraded with HP ProCurve Switches. The solution included redundancy, backup and hot-swappable drives to assure reliable performance.

Standardization on a single brand of technology—HP hardware running Microsoft® solutions—was a centerpiece of the transition. “The single vendor idea has helped us achieve exactly what we wanted: a highly available infrastructure with technological continuity and top-quality support,” says Sebastian. “Before the upgrade, they were making service calls every hour. These days, we spend all our time forward thinking—analyzing what Coronation Dental has in place, and how to use technology to move forward.”

### HP reliability at the desktop

Today, employees in the firm who deal with patients up front are equipped with HP Compaq dc7800 or dc7900 Ultra-slim Desktop PCs, coupled with HP 15- or 17-inch monitors. “We actually refer to them as ‘kiosks’ because they’re a locked-down workstation with 8 or 10 icons on the desktop, and those are the only functions the employees need,” explains Sebastian. The kiosk PCs automatically log in to the patient management system, the imaging system, transcription system, or whatever function is required.

The idea of the kiosks is to simplify technology for employees. A patient will stay in a single room while multiple employees, such as the nurse or doctor, need to access the computer to facilitate care. Locking down the computer allows users to quickly change logins and programs without slowing the delivery of care.

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*“Our HP systems have all but eliminated the problems we once had, so we’re free to concentrate on our core mission—providing the best possible patient care.”*

Ian Furst, DDS, MSc, FRCD(C), Oral and Maxillofacial Surgeon and partner, Coronation Dental Specialty Group

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HP Compaq Ultra-slim Desktop PCs were chosen because they’re small, quiet and fit easily into any workspace. While they offer full PC functionality, most of the applications that employees use are provided over the practice’s network, so the PCs aren’t required to do the heavy lifting when it comes to accessing dental imaging and other CPU-intensive applications.

The major exception to that rule is dental implant planning. Coronation Dental uses Nobel Biocare NobelGuide software for that function, which runs locally on an HP xw4600 Workstation. This high performance workstation combines next-generation technologies in a powerful, reliable and flexible solution, explains Furst. The cost-effective, single



processor workstation serves as Coronation Dental's computational workhorse. The practice chose the HP Workstation for its superior processing capability because the implant planning process involves digitally creating a full three-dimensional bone model of the patient's oral anatomy based on 3-D digital X-rays to determine implant locations. The NobelGuide software must manipulate large volumes of data and do it quickly.

In Coronation Dental's operatories and exam rooms, HP Small Form Factor PCs and monitors are wall-mounted, allowing the surgeons to access patient files and view images before and during procedures.

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*"Using HP Financial Services for financing meant we could implement the full plan immediately and spread our costs out over three years without increasing our costs. HPFS made a full upgrade too attractive to pass up."*

Vince Sebastian, IT consultant, Coronation Dental Specialty Group

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The PCs aren't just easy to use; they also improve uptime. In addition to being highly reliable, standardization on a single platform and use of a standard software image on every machine facilitates plug-and-play simplicity throughout the practice.

To make sure desktop reliability remains high, Coronation Dental has implemented a three-year replacement cycle for all the firm's PCs. "We have about 80 PCs in place now, all on three-year warranties, and are continually replacing them so that we physically have new machines rolling in all the time," Sebastian says. "We basically never have a failure."

But when something does happen, Coronation Dental is prepared. The firm keeps additional PCs preconfigured and ready to go. So in the event of a hardware failure, "just about anyone can pick up one of the new dc7900s, plug it in, and get it up and running in a matter of minutes," says Sebastian. "It's a true productivity machine: easy to set up, easy to run." Instead of a PC problem disabling an employee for days, it's little more than a minor inconvenience that takes a few minutes to fix. Employees can be up and running on a new machine quickly.

Throughout the practice, employees use HP Printers as well. Most PCs are linked to HP LaserJet P3005 Printers. For dental implant plan printing, the firm uses an HP Color LaserJet 3800 Printer.

#### **HP BladeSystem hosts critical applications**

Contributing to the firm's highly reliable technology infrastructure is a solid network that serves most applications to the desktop. The firm recently replaced its five-year-old ProLiant DL-series Servers with an HP BladeSystem solution: four HP ProLiant BL460c G6 Blade Servers in an HP BladeSystem c3000 Enclosure, supported by an HP StorageWorks 2000 Modular Smart Array with 5 TB of capacity.

"Coronation looked at simply replacing servers, but thinking ahead and looking at return on investment, it made sense to select a blade system," Brian Cruickshank, president of Novacc Technology, says. "In terms of heating and cooling requirements, growth potential and storage, and the firm's needs for the next five years, the HP BladeSystem solution gives them increased value and flexibility going forward." The BladeSystem can be managed remotely using HP Integrated Lights-Out (iLO) technology.

**Windows®. Life without Walls™. HP recommends Windows.**

The firm had originally considered upgrading its server technology piece by piece over time. So why did it proceed with a complete upgrade? "Using HP Financial Services (HPFS) for financing meant we could implement the full plan immediately and spread our costs out over three years without increasing them," says Sebastian. "HPFS made a full upgrade too attractive to pass up."

Flexibility is enhanced by virtualizing the servers using Microsoft Windows® Server R2 Hyper-V. Among other things, virtualization effectively increases the firm's server capacity. "There were about six projects that we had left on the back burner for a while, and now we suddenly have the capacity to implement all of them," notes Furst. "And everything now happens so much faster than before. We can bring a virtual server online in a few minutes, instead of hours or days. I'm loving virtualization."

#### **Making the practice "mistake-proof"**

The HP BladeSystem infrastructure hosts the firm's business critical applications ranging from the OptiMicro DentalWare SP practice management application, to imaging, transcription, email and more, which employees access through their HP PCs.

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Brian Cruickshank, president, Novacc Technology

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Furst contributed to the development of DentalWare SP, which is designed specifically to serve the needs of oral and maxillofacial surgeons. Its features include a sophisticated system for tracking and analyzing

referrals, the lifeblood of any oral surgery practice. Coronation Dental has taken it one step further by integrating its email system with DentalWare's referral tracking system.

"The result," says Furst, "is a system designed to avoid mistakes. Even the simplest patient relationship for a surgery practice like ours involves multiple handoffs and stages where follow-up is required. The onus is on us to make sure all the steps take place without a hitch. Even if the patient drops the ball, we have to make sure everything happens according to plan. DentalWare software helps us—almost requires us—to follow-up every step of the way."

More importantly, Furst says, the system also helps Coronation better manage patient waiting times. Not just shortening the wait during a visit, but also ensuring patients are scheduled as quickly as possible for their initial evaluation, surgery and follow-ups. "Access to health care is one of the single most important issues facing Canadian health care today," he adds. "Being able to mistake-proof the referral process and continuously improve the provision of care has had a profound impact on both our practice and patients."

The bottom line: Coronation Dental provides excellent service to its patients and does so more efficiently than ever. The practice's workload has tripled in the past eight years, but only slight support staff additions have been required to fulfill the needs.

"Redesigning our practice through our technology upgrade brought about an immediate improvement in our overall efficiency," says Furst. "Our HP systems have all but eliminated the problems we once had, so we're free to concentrate on our core mission—providing the best possible patient care."

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