## Powersmiths

## Energy Optimizing Technologies *for* Electrical Power Distribution Systems





# Power for the future

Powersmiths International Corp. is the leading manufacturer of lean and green electrical power distribution systems. By generating electrical savings for

our customers, Powersmiths makes a positive contribution to the environment and reduces greenhouse gas emissions.

More than a decade ago, Powersmiths started out with a mission to provide superior power quality. Today, we are leaders in the field of sustainable power distribution products. We are making electrical systems run at peak efficiency, driving out waste and building sound environmental practices into our manufacturing processes to set new standards in both energy conservation and high performance electrical systems.

Powersmiths technologies help schools, universities, hospitals and building owners meet their goals for energy savings and environmental sustainability. There are hidden energy savings in every building. At Powersmiths, we dedicate our working day to unlocking those benefits for you.

Our vision is simple - by reducing electricity waste today, we are improving our environment for future generations.

If every transformer was a Powersmiths transformer, America's power stations could work four days less each year. Imagine the impact; reduced smog, lower greenhouse gas emissions and a cleaner environment.

## Knowledge is Power

#### Power for the Future Requires Increased Energy Efficiency

For more than a decade, Powersmiths has focused its research and development efforts toward the achievement of greater efficiency and improved reliability of buildings' electrical systems. These efforts have paid off. Today, Powersmiths provides advanced power quality correcting equipment, the most efficient transformers and innovative energy monitoring and management systems.

Eliminating electricity waste is one of the most cost effective means of controlling energy costs and improving the environment.

We are committed to helping you to reduce electricity waste while improving power quality and reliability in your building.

#### Partnering with you to Achieve High Performance

All buildings, whether old or new, can contribute to energy conservation. Powersmiths produces practical and affordable electrical power distribution technologies that:

- Reduce Electricity Waste
- Lower Electrical Costs
- Provide Power Quality and Reliability
- Improve the Environment

#### Lean and Green

A continuous improvement

"lean green" strategy guides

Powersmiths' product design and
manufacturing. Our production
teams focus on simplifying
processes and reducing cycle
times to ensure that customers
never pay for needless waste.

Initiatives such as increasing transformer efficiency, our Easy Skid, the use of biodegradable product packaging and the reduction of harmful volatile organic compounds in production processes, are just a few examples of the extent to which Powersmiths takes its values seriously.

Through these efforts Powersmiths has earned the prestigious ISO 14001 certification for its environmental management system.

By optimizing on lowest life cycle cost, maximizing efficiency and minimizing environmental impacts and packing, Powersmiths' products align with your green purchasing policies.

## Power to Your People

Powersmiths is your partner in energy management. From training at "The Forge" – our hands-on learning environment, through a custom "Green Start Initiative" pilot project, through to full scale implementation, Powersmiths is committed to ensuring you and your staff understand the benefits and opportunities for saving energy in your building.

#### **ESP Identifies Your Savings Potential**

Powersmiths has designed an Energy Savings and Payback (ESP) calculator to help you assess the life cycle cost and environmental savings of energy saving technologies. Use it to profile your electricity use and rates and compare the life cycle and environmental benefits of Powersmiths compared to the high costs associated with using standard distribution equipment.

#### The Forge - Hands on Training

To explain the effect and demonstrate the improved performance of its innovative electrical system technologies, Powersmiths developed "The Forge", a hands-on training workshop focused on modern electrical systems, power quality, life cycle costing and energy efficiency. To date more than five thousand professionals have attended "The Forge".

#### The Green Start Initiative

Powersmiths' Green Start Initiative provides building owners with consultation and support to develop a pilot project that will identify the savings opportunities in their buildings.

#### **Energy Services Companies**

Energy Services Companies (ESCOs) include Powersmiths electrical system technologies as part of their energy management and efficiency programs.

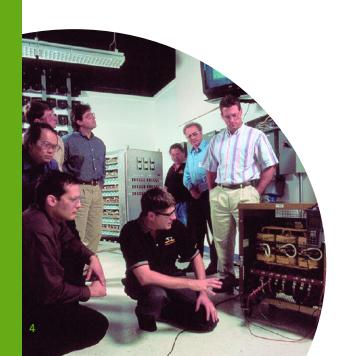
#### **Financing**

Powersmiths understands that you may not have the funds to do your energy upgrade. As an alternative to capital purchasing, Power Technologies Capital, a division of Powersmiths International Corp., offers an attractive equipment leasing program. Combining the leasing and Energy Savings and Payback Calculator provides a unique way to align monthly expenditures with savings to minimize cash outlay.



#### Powersmiths WOW™

WOW sustainability
management system is a
multi-faceted platform built to
help you orchestrate and
manage your organizations'
progress towards
environmental sustainability.
WOW applications support
energy management,
performance validation,
greenhouse gas management
and dynamic interactive public
outreach and education.





### You Have the Power

Powersmiths clients are leaders who understand the value of life cycle costing and the importance of sustainability. They are also smart managers who appreciate a good return on their investment.

Both new buildings and building renewal projects offer considerable opportunities to increase energy efficiency, lower operating costs and reduce the adverse environmental impacts associated with electricity generation.



Powersmiths products are installed in innovative K-12 schools, many of the nation's most respected universities and colleges, state-of-the-art medical facilities, mission critical IT environments and in the buildings of the nation's forward thinking commercial and industrial corporations. This means less money spent on energy and more towards achieving the organization's mission.

## LEED®, Energy Star® or Just Doing the "Right Thing"

Given the financial and environmental cost of electricity, selecting an electrical distribution system with the lowest life cycle cost makes sense. Whether building to obtain LEED or Energy Star certification, or simply making a smart choice to optimize electrical efficiency in your building, Powersmiths is the perfect partner for your next energy savings project.

#### Our products and Services

To help you identify the Powersmiths products that will meet your energy-saving and environmental goals, we group our products to meet the following needs:

- Increase the efficiency of power distribution in your building (pages 6-7)
- Improve the quality and reliability of your electric power (pages 8-9)
- Monitor, manage and educate your stakeholders on your building's energy use (pages 10-11)
- Solve issues related to high intensity use (mission critical environments) (pages 12-13)
- Implement Powersmiths technologies (page 14)

#### **Our People**

Powersmiths team is dedicated to providing high quality products and responsive customer service. Our manufacturing facility, located in Brampton, Ontario, is ISO 9001 certified for quality management and is the only transformer manufacturing facility to have obtained the prestigious ISO 14001 environmental management certification.

Powersmiths field representatives span the continent. Each has extensive industry experience and technical expertise to help you determine the solution set that will optimize the performance of your building's electrical system.



## **Efficient Electrical Distribution**

Each year, more than two percent of U.S. electricity production, over 61 billion kilowatt hours, is wasted due to transformer inefficiencies.

Powersmiths reduces electricity waste for lower operating costs and a greener environment.





#### E-Saver-C3™ Transformer

The E-Saver-C3 transformer is the most efficient low voltage distribution transformer on the market today and it is manufactured with the lowest environmental impact. E-Saver-C3 is proven to reduce the amount of electricity waste generated by standard off-the-shelf transformers. Optimized for lowest life cycle cost, the E-Saver-C3 delivers tens of thousands of dollars in electrical savings over its life cycle. Two models are available; configured for either light or heavy loading.



#### T1000-C3™ Transformer

Powersmiths T1000-C3 transformer delivers leading efficiency with power quality correction. This is the transformer selected by those seeking to reduce electricity waste in electrical environments that support moderate to high densities of electronic equipment. The T1000-C3 treats the 3rd, 5th, 7th, 9th and other harmonic currents on a system basis improving voltage quality for increased reliability of electronic equipment. This transformer meets DOE CSL-3\* efficiency, while maintaining low harmonic distortion levels under nonlinear loads.



#### SMART™ Integrated Metering

SMART provides local metering and connectivity between electrical distribution transformers and building management systems. Use it to measure energy use, loading and power quality. SMART also serves as a data acquisition system, providing facilities managers with electrical system data that can be used for commissioning and validation, contributing to LEED certification and data support for energy management programs and interactive learning systems. For measurement of transformer efficiency use the Cyberhawk-TX integrated meter.

As the backbone of your power distribution system, Powersmiths transformers can save as much as 74% of electricity wasted by standard off-the-shelf transformers. Over their twenty-five to forty year lifespan, Powersmiths transformers will save your organization hundreds of thousands of dollars and tons of CO<sub>2</sub> emissions.

#### **EVALUATE YOUR SAVINGS POTENTIAL**

#### **Energy Savings and Payback Calculator (ESP)**

Powersmiths has developed software that allows you to evaluate the savings potential of installing super-efficient electrical transformers. Our ESP software makes it easy.

Embedded formulas allow you to model your electrical distribution components, electricity rates and usage parameters and immediately calculate the life cycle return on investment of installing Powersmiths transformers.

Using the ESP calculator you will see how using first cost as your sole buying criteria is not a rational choice. The thirty to fifty year life cycle of your electrical system means that first cost is only a small fraction of the full life cycle cost. For a typical building, purchasing based on lowest life cycle cost results in hundreds of thousands of dollars of savings and avoids the significant adverse environmental impacts associated with selecting the lowest first cost product.

Energy Savings and Payback Calculator for Typical Office Building (13 floors, 360,000 sq. ft.)	Annual Operating Cost	Life Cycle Operating Cost		
SCENARIO:		25 years	40 years	
Status Quo Transformers	\$19,013	\$995,242	\$2,480,887	
Powersmiths Transformers	\$8,668	\$453,697	\$1,130,951	
Savings with Powersmiths	\$10,346	\$541,545	\$1,349,936	
Annual CO <sub>2</sub> Reduction: 69 tons Equivalence in trees planted: 13 acres of trees				

Based on .10/kWh. Assumes a 3% energy rate increase above inflation.

Energy Savings and Payback Calculator for Typical Middle School	Annual Operating Cost	Life Cycle Operating Cost		
SCENARIO:		25 years	40 years	
Status Quo Transformers	\$ 7,945	\$289,664	\$599,052	
Powersmiths Transformers	\$1,521	\$ 55,454	\$ 114,684	
Savings with Powersmiths	\$6,424	\$234,210	\$484,368	
Annual CO <sub>2</sub> Reduction: 42 tons Equivalence in trees planted: 8 acres of trees				

Based on .08/kWh. Assumes a 3% energy rate increase above inflation.

## 100 -80 -60 -40 -20 -

LIFE CYCLE COST COMPARISON



	Conventional	Powersmiths
First Cost	4%	6%
Operating Losses	96%	25%
Savings	0%	69%

We invite you to see for yourself;

Powersmiths ESP calculator is

available to you at no charge at

www.powersmiths.com



## **Power Quality Correcting Products**

Transformers built to serve the smooth sinewave loads of the past do not perform well under today's loads. Computers and other electronic devices draw electricity in pulses (nonlinear). These types of loads have higher losses, generate extra heat and can distort system voltage, reducing reliability.

Powersmiths power quality correction transformers treat harmonic disturbances for improved efficiency, performance and reliability.



#### T1000-C3™ Transformer

Powersmiths T1000-C3 transformer delivers super efficiency with power quality correction. This is the transformer selected by those seeking to reduce electricity waste in electrical environments that support moderate to high densities of electronic equipment. The T1000-C3 treats the 3rd, 5th, 7th, 9th and other harmonic currents on a system basis improving voltage quality for increased reliability of electronic equipment. This transformer meets DOE CSL-3\* efficiency, while maintaining low harmonic distortion levels under nonlinear loads.



#### K-Star-D™ Transformer

K-Star-D is an advanced dual output harmonic cancellation transformer. It treats the 3rd, 5th, 7th and 9th harmonics in the secondary windings, thereby replacing the need for two transformers where two electrical panels or two connected loads are available.



#### N1000™ Neutral Current Filter

The N1000 is designed to treat neutral current, neutral to ground voltage and 3rd harmonic current. It is connected in parallel to the electrical system. This is an ideal retrofit product for electrical systems with these issues.



#### Harmonic Conditioners (HCs)

Powersmiths offers a comprehensive line of Harmonic Conditioners to treat 5th, 7th, 11th and 13th harmonics in 3-phase systems and in single phase line to line connections. Powersmiths' HCs treat harmonic currents created by the 3-phase nonlinear loads of rectifiers and variable frequency drives. HC's are available in a wide variety of configurations to match virtually all applications.

<sup>\*</sup>US Department of Energy Candidate Standard Level - 3

## Preventative Maintenance Support

Effective preventative maintenance programs help identify problems before they lead to power and/or equipment failures.

Powersmiths offers innovative solutions to lower the cost and enhance the effectiveness of preventative maintenance programs.



#### Rotatable IR Port

Thermographic inspections must be conducted on live operating equipment. This can expose inspectors to dangerous Arc Flash. Powersmiths Rotatable IR Port facilitates safer, non-invasive scanning by providing inspectors with a 360° view of compartment interiors without the need to open equipment enclosures. This reduces the cost and risk of thermographic preventative maintenance programs. The Rotatable IR Port is suitable for factory or in-field installation on transformers, switchgear, motors, drives and power distribution units.



#### **Optional Hinged Doors**

Standard transformer housings are secured with a number of bolts that must be removed to get at the interior of the equipment. To lower the cost of routine maintenance, Powersmiths provides a convenient hinged door option on all transformers. This enables faster and easier access to the interior compartment of Powersmiths transformers.

## Preventative Maintenance Support

Cookie cutter solutions don't always satisfy your power transformation requirements



Powersmiths offers a number of optional features to meet your specific needs, including:

Seismic Bracing - preapproved by OSHPD for the highest acceleration

Integral Breakers - to save space and reduce installation costs

Custom Cases - to meet existing wiring configurations

Outdoor Cases - N3R and pad-mount

Integrated Smart Meter - see page 6

Integrated SPD (TVSS) - for in-building protection against transients and electrical noise

**Custom Color Cases** 



## **Energy Monitoring and Management**

Managing energy consumption and energy costs are high priority for all organizations. But you can't manage what you can't measure.



Powersmiths' Cyberhawk™ product family helps you:

- Manage and control electrical use
- Identify opportunities to reduce cost
- Evaluate power quality
- Monitor efficiency programs
- Provide data for commissioning and validation
- Drive interactive learning systems



#### Cyberhawk® 100 and 100M

Cyberhawk-100/100M are Web-enabled energy monitoring and data acquisition meters that monitor energy, power and power quality, providing the data needed for informed energy and power management decisions. The -100 is a single port model and the -100M is a multi-port model that measures 2 to 6 independent circuits. These units are shipped pre-wired, ready for installation and are fully compliant with Powersmiths WOW sustainability management system.



#### Cyberhawk 300™ (Wall Mount)

The Cyberhawk 300 takes energy and power readings at three simultaneous 3-phase connections and calculates efficiency with revenue class accuracy. Data from all three circuits can be viewed over a network in real time or trended over time. Cyberhawk 300 data can also be ported to Powersmiths Interactive Learning Systems. Cyberhawk 300 is ideal for monitoring and controlling energy consumption, tracking power quality and acquiring data for validation and commissioning.



#### Cyberhawk™ Portable Meter

Energy Managers responsible for more than one facility select Cyberhawk Cyberhawk Portable Meter to meet their need for accurate actionable data. It is used to acquire data for commissioning and validation, perform on-going evaluation of conservation programs and identify power quality issues. Designed for ease of use, Cyberhawk Portable Meter provides built in connectivity to transformers through Powersmiths SMART series integrated metering, a clear local display window and local data storage. Cyberhawk data can be easily uploaded to other applications for further analysis.

## Sustainability Management

Lack of knowledge, lack of co-ordination, lack of data, and an uneven understanding of the goal can impede an organization's progress toward environmentally sustainable practices.

Powersmiths WOW™ sustainability management system is a multi-faceted platform on which you can orchestrate and manage your organization's progress towards sustainability.

#### Powersmiths WOW™

WOW acquires resource consumption data from your buildings metered systems and network accessible databases and presents this data though applications that support energy and resource management, performance validation, carbon footprint reporting, education and outreach.

WOW is offered on a SaaS (software as a service) basis providing an immediate path to data accessibility for facilities managers, sustainability officers and managers.

#### Support for On-going Accountability of Building Systems

Facility managers and sustainability officers can use WOW's Building Resources and Performance Validation applications to see hourly, daily, weekly, monthly and annual consumption and performance data. Decision support tools are available to allow managers to compare resource use with historical performance, benchmarks and goals. This provides managers with the opportunity to identify performance problems as they occur enabling them to take timely corrective actions to control resource waste.

#### **Greenhouse Gas Management**

WOW's GHG Management application leverages real-time and historical data, and automates many aspects of GHG reporting. Because it is part of the WOW platform, WOW GHG provides anytime, anywhere access to real-time views of carbon emissions, enabling organizations to engage stakeholder participation in carbon footprint and energy-use reduction projects.

#### Foster a Conservation Culture with WOW

Building occupants can play a significant role in ensuring that your building continues to meet resource use objectives. WOW's public outreach and education applications provide a framework to explain the environmental features of your building, inform building occupants of the goals, and show actual and historical resource use.

Viewed on the WOW Kiosk or on the Web, WOW helps build support for stainability.







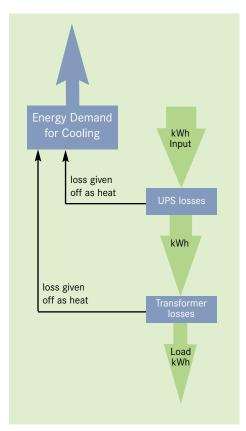


## Managing Energy Efficiency and Reliability in High Intensity Environments

In 2005, U.S. data centers used about 45 billion kWh–roughly 1.2% of all U.S. energy consumption (US DOE). With exceptionally high power consumption there exists considerable potential for waste. By the same token, enhancing efficiencies can yield significant environmental benefits and financial savings.



Data Centers can be green. Powersmiths can help.



In mission critical environments all energy lost by inefficient transformers must be delivered by UPS's that also incur losses. All system losses are generated as heat that must be cooled. By reducing transformer losses, you gain direct electricity savings and indirect savings as a result of reduced cooling costs.

In mission critical environments a 2.5% increase in transformer efficiency can yield a greater than two and a half fold reduction in electricity waste, on a system wide basis. This is because in data centers the UPS compounds transformer losses and all losses take the form of heat. The greater the losses, the greater the need for cooling.

Powersmiths Energy Stations and transformers eliminate as much as 74% of the electricity waste generated by standard transformers; in data centers this can amount to annual savings in the six digits.

#### Energy Savings and Payback Calculator (ESP)

Input the specifications or your electricity distribution components, your usage parameters and electricity rate; the ESP calculator will then calculate the return on your investment and the environmental benefits of installing Powersmiths transformers over their operating life cycle. Powersmiths ESP calculator is available to you at no charge at: www.powersmiths.com

Energy Savings and Payback Calculator for Typical Data Center	Annual Operating Cost	Life Cycle Operating Cost		
SCENARIO:		25 years	40 years	
Status Quo Transformers	\$348,122	\$ 8,703,048	\$ 13,924,877	
Powersmiths Transformers	\$139,601	\$3,490,014	\$ 5,584,022	
Savings with Powersmiths	\$207,521	\$5,213,034	\$8,340,855	
Annual CO <sub>2</sub> Reduction: 1539 tons Equivalence in trees planted: 287 acres of trees				

Based on .10/kWh. Assumes a 3% energy rate increase above inflation.



### Energy Station™ (PDU)

Powersmiths Energy Station integrates a Powersmiths high-efficiency transformer, main breaker and electrical distribution panels in a single compact unit. The Energy Station's modular design and true front-only access requirement allow Powersmiths engineers to configure Energy Stations to uniquely fit individual customers' floor layouts and power distribution needs. A 39" depth front/rear access unit is also available. This space-saving unit incorporates front and rear panel boards and is suitable for mid-aisle placement. Customers transitioning to higher voltage power can order a dual-voltage Energy Station. This unit supplies any percentage combination of 415/240 and 208/120V power.

Powersmiths Cyberhawk™ power management meter is integrated into all Energy Stations. Cyberhawk provides local or network display of power quality, efficiency and usage data for three 3-phase ports. Powersmiths unique Rotatable IR Port (page 9) can be factory integrated, as an option.



### **Compact Energy Station™**

With multiple distribution panels, a built in 30 to 50 kVA transformer and a 24 by 24 inch footprint, the Compact Energy Station minimizes space requirements. Critical loads with dual input capabilities are easily supplied by the Compact Energy Station.

Available with Powersmiths Cyberhawk power management meter as an option, the Compact Energy Station provides quality, ease of use and rugged design at a competitive price. Also available without the transformer as a Remote Load Center.



#### E-Saver-C3™ & T1000-C3 Transformers

Powersmiths C3 transformers meet US DOE CSL-3, to reduce electricity waste and provide the lowest life cycle cost. Proven to reduce electricity waste by up to 74%, Powersmiths C3 transformers release less heat to lower data center cooling costs. E-Saver-C3 is a K rated transformer. The T1000-C3 is a harmonic correcting transformer that treats the 3rd, 5th, 7th, 9th and other harmonic currents on a system basis, improving voltage quality for increased reliability of electronic equipment.

<sup>\*</sup> US Department of Energy Candidate Standard Level - 3

## Implementing Powersmiths Technologies

#### Optimizing Performance to Suit Your Building

To ensure that your building's power infrastructure matches your building's load profile, Powersmiths recommendations are based on actual loading. For new building projects, Powersmiths draws on its extensive database of real world applications to formulate recommendations that will mirror your load demands. For building renewal projects, we undertake comprehensive field studies and base our recommendations on measured load profiles. In this way, you are assured of achieving maximal efficiency and the best possible return on your investment.

#### Manufacturing

Our commitment to quality, sustainability and customer service governs manufacturing at Powersmiths and is embedded in our dual certification to ISO 14001 environmental management and ISO 9001 quality management systems. In addition to extensive on-going testing and quality control procedures, our "lean" manufacturing ethos requires that we be rigorous in our efforts to remove non value-added activities allowing us to produce the highest quality, lowest life cycle cost electrical distribution products available.

#### Shipping

Powersmiths products are shipped on our innovative Easy Skid™. Easy Skid facilitates safe handling throughout the shipping process, from transportation (increased shipping density) through to final placement for installation. In addition to using 70% less wood than traditional packaging, Powersmiths uses FSC certified wood and an organic bio-degradable shrink wrap.

#### Commissioning and Validation

Powersmiths Cyberhawk power management products along with our transformer integrated SMART meters provide the information you need for user friendly, on-going commissioning and validation. Powersmiths representatives are available to conduct on-site commissioning and validation studies.



## Reducing Life Cycle Cost and Improving the Environment

Everyday millions of kilowatt hours of electricity are wasted. Inefficient power distribution and poor quality power in buildings can lead to costly down-time, higher operational costs and avoidable environmental degradation.

When you select Powersmiths products you demonstrate that you value lower life cycle cost over lowest first cost and that you are committed to reducing electricity waste. In so doing, you can play a role in lowering  ${\rm CO}_2$  emissions and building a more sustainable future.

Powersmiths has a network of highly qualified electrical distribution specialists who are eager to assist you to implement efficient "power for the future". To investigate your savings potential contact Powersmiths at 1-800-747-9627 or PowerForTheFuture@powersmiths.com



#### Powersmiths clients are leaders in their respective fields. Among our clients we include:

#### **Higher Education**

Case Western Reserve University Delmar College **Denver University** Henderson University **Duke University** Laney College Maryland Tech McMaster University Memorial University of Newfoundland North Dakota State University Northwestern University Pace University Sonoma University South Texas Law College Texas A & M University of Calgary University of California University of Massachusetts University of Michigan University of Texas University of the South University of South Carolina University of Toronto

#### K - 12

A.F. Haynes Center, NY A.R. MacNeill Secondary School, BC Absegami High School, NJ Cambridge Elementary, TX Chandler High School, AZ Hernwood Elementary, MD Holy Heart High School, NL Hope High School, AR Horace Mann Middle School, TX Mendham High School, NJ Neshaminy School District, PA New Plum Point School, NF Newfoundland School for the Deaf, NL Newton South High School, MA Poudre School District, CO Princeton City Schools, OH Providence Schools, RI Reagan Elementary School, IN Red Maple Elementary School, CA Twenhofel Middle School, KY West Junior High School, TN

Yuma High School, AZ

#### Medical

Apotex
Applied Health
Array Biopharma
Baptist Medical Centre
B.C. Cancer Research Centre
Cameron Memorial Hospital
Florida Hospital
Foothills Hospital
Holy Spirit Hospital

Kaiser Permanente
Lafayette Hospital
McMaster Health Center
Medtronic

M.D. Anderson Cancer Center Novex Pharma

Physiome Sciences Riderwood Extended Care Texas Children's Hospital United Health Care U.S. Cardio Centre Valley Baptist Medical Centre

Valley Baptist Medical Centre Wilkes-Barre Hospital

#### **Broadcasting and Entertainment**

Rogers Communications
Williams Communications

Walt Disney Bell ExpressVu CBC Television Charlestown Casino City TV

City TV CNN TIVO Texas Casino Wynn Las Vegas

#### Communications

AOL AT&T Bell South Fox Communications Lifetime TV Los Angeles Times

Washington Post

#### **Mission Critical IT**

360 Networks
Adobe Systems
Bank of Montreal
Cisco Systems
Citicorp Credit
Convergys
Discover Card
EDS
Hewlett Packard
Lucent Technologies

SWIFT
Toronto Stock Exchange

#### Governments

Arlington Courthouse
Department of General Services
NASA
Revenue Canada
US Bureau of National Affairs
US Department of State

#### Commercial

ЗМ Air Canada Allied Signal American Funds Boeing Bombardier Bosch BP Amoco CIBC Cinram Epson Ericsson Exxon Mobil Ford Motor Company JP Morgan **KPMG** 

Kuehne and Nagel Lockheed Martin Price Waterhouse Coopers Prudential Insurance World Bank











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