

# Power Availability

*Safeguarding  
critical infrastructure  
for business*

# The Meaning of Power Availability

*"Hundreds of billions of dollars per year are going to be invested in new technologies to move, condition, store, and distribute electrons for the Internet Economy.*

*We are entering the century of the electron. Not the information century? The communications age? The bit era?*

*Well, bits are electrons: ... Bits are, at bottom, packets of energy that have to be sifted, herded, and propelled across planes of silicon and through tunnels of copper, coax, and glass. This takes electricity: flows of electrons.*

*To accommodate this great energy shift, much of the sprawling infrastructure of the U.S. power grid will have to be rebuilt... Hundreds of billions of dollars per year are going to be invested in new technologies to move, condition, store, and distribute electrons. The companies that will do this range from the familiar to the unknown: American Power Conversion,..."*

**Peter Huber & Mark Mills**

The HuberMills Power Report  
GilderGroup, March 2000

*" The Internet will become as fundamental to your business as electricity."*

**Michael Dell**

CEO, Dell Computer Corporation  
February 15, 1999

*" The quality of electric power and the assurance that it will always be available are increasingly important in a society that is ever more dependent on electricity."*

**Power Outage Study Team**

U.S.Department of Energy  
March, 2000

*"Web site downtime and performance problems...can hammer sales, deflate stock prices and ultimately damage their brands."*

**Tim Wilson**

The Cost of Downtime  
July 30, 1999

*"...network uptime is the lifeblood of the business and the pressure is on ...to keep Web site availability optimal 24x7."*

**Steve Zurier**

A Question of Balance  
February 15, 1999

*"...testing of applications and infrastructure is more important than ever."*

**Alan Earles**

True Test of the Web  
January 25, 1999

*"...corporations can no longer afford the embarrassment of their commerce servers not being available. Because of this extraordinary exposure to doing business over the Internet and extranets, companies such as ours have to ensure that there is constant availability...if I'm not available for my consumers, they'll go somewhere else."*

**Norman Dee**

1-800-Flowers, Inc.  
Information Week Online  
August 16, 1999

*"More than \$18 billion worth of merchandise will be sold via E-commerce in the United States this year, a figure that's expected to jump to nearly \$53 billion in 2003."*

**Forrester Research**

Information Week Online  
August 16, 1999

*"Until now, we've been able to afford outages- we haven't liked them, but we could handle them. Now, it's absolutely critical to be up 100% of the time. We have some real-time traders as customers, and for some of them, just a five-second delay can amount to 15% profit or 15% loss."*

**John Dodds**

Financialweb.com Inc.  
Information Week Online  
August 16, 1999

*"We're getting more requests for high-availability solutions than ever. Customers are going to expect more and more high-end operations. They don't want to be the next eBay."*

**Mitch Ferro**

UUnet  
Information Week Online  
August 16, 1999

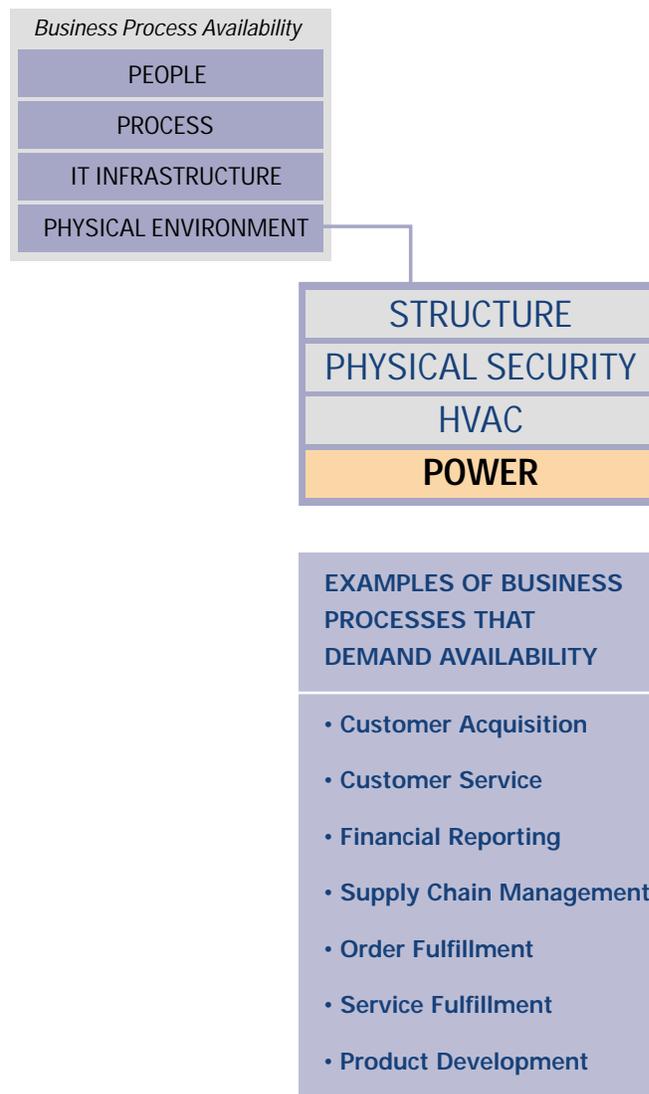
# Availability of Business Processes

A business process is, "an organized group of related activities that together create value for a customer." \*

People, process, information technology, and physical environment all contribute to the availability of business processes.

Power is not only the key component of the physical environment but also the foundation of all critical business processes.

By concentrating on the foundation of power, APC is able to ensure optimized power availability for all enterprises, thus securing the availability of business processes.



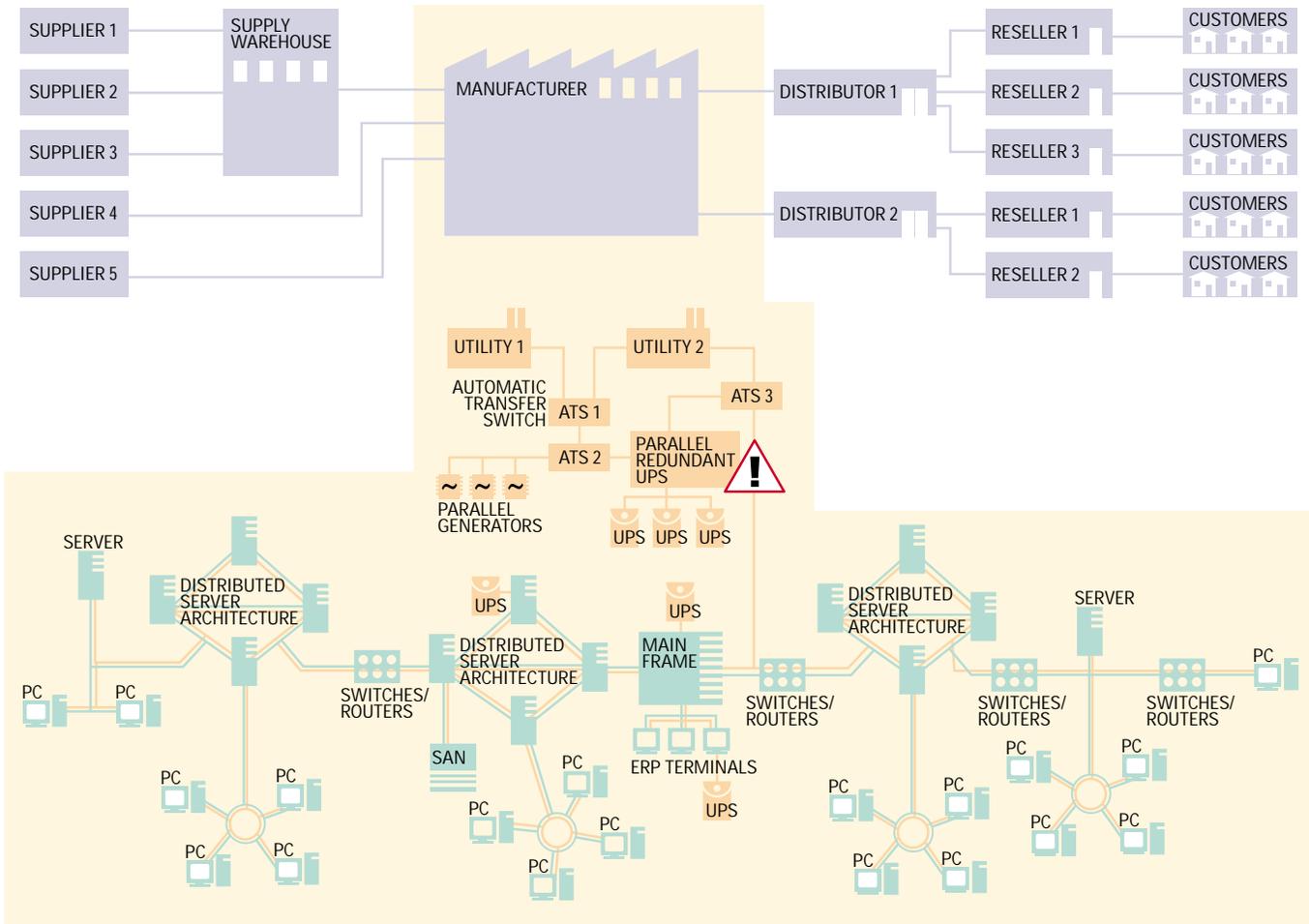
\* Hammer and Company

 SINGLE POINTS OF FAILURE

 SUPPLY CHAIN MANAGEMENT PROCESS

 ELECTRICAL INFRASTRUCTURE

 IT INFRASTRUCTURE



**APC's Power Availability Consulting process identifies the weak links in your company's electrical infrastructure.**

# Availability Consulting Method

## Five Steps to Optimized Power Availability

### Availability Assessment™

#### 2 On-Site Inspection

Depending on the information provided by the Availability Profiler, an Availability Assessment may be needed to help a client improve their current level of power availability. The first half of the Availability Assessment is an On-site Inspection, which is conducted to verify the actual level of power availability for a client's business process. A team of APC Availability Engineers examines the physical electrical infrastructure and the power protection scheme of the IT equipment. The key drivers of availability are then documented in an Assessment report.

#### 1 Availability Profiler™

An Availability Profiler quickly estimates both the power availability level and the cost of downtime for a client's business processes. An APC Availability Consultant leads a client step-by-step through this profile program. The information obtained is used to evaluate how a client can improve the current level of power availability for their business processes, and helps determine if a client should proceed with an Availability Assessment.

### 3 Solution Design



In this second half of the Availability Assessment, an APC Availability Team reviews the Assessment report with the client. This detailed report contains data collected from the On-site Inspection as well as a custom solution, which is developed by a specialized APC engineer design team and optimizes a client's level of power availability for their business processes.

### 4 Availability Solution Installation



After a client's solution has been designed, APC's Project Management Team integrates the solution into the client's networking environment. APC ensures proper installation and execution of the solution through on-site commissioning services.

### 5 Availability Monitoring and Management



Remote monitoring services are provided to ensure that a client's solution is performing as designed. APC monitors the client's power availability and regularly reviews performance statistics with the client. This ensures that the advantage gained through the installation of the client's solution has continued to benefit them.

## Our Mission

To help our clients succeed by developing, designing, and delivering customized power availability solutions.

## Our Values

We work to get our clients what they need to succeed regardless of whether or not it is provided by us.

We help increase our clients' awareness and choices.

We strive for the solution that best meets our client's needs while optimizing their level of power availability.

# Availability Profiler™

The APC Availability Profiler is an analysis tool that provides a statistical projection of the power availability of a client's business process.

An APC Availability Consultant leads a client through the Profiler by asking questions about the site characteristics, building characteristics, business costs, and type of IT components used in their business process. The results provide an estimate of a client's current level of power availability as well as an estimate cost of their downtime.

The Profiler details a client's power availability at various points, such as entrance outlets, IT components, and the overall business process. A cost/risk analysis is also included to illustrate how much is lost in both revenues and profits at a client's current power availability level.



The methodology for projecting the power availability is based on the idea of a Power Distribution Curve that changes as attributes about the business are identified. Several power quality studies and weather statistics were used to identify what the curve looks like and how it changes as questions get answered.

The Availability Profiler provides a quantitative level of availability that a business is likely to experience with respect to power

#### Sources of Data used to develop the Availability Profiler

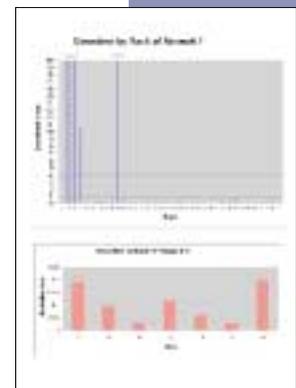
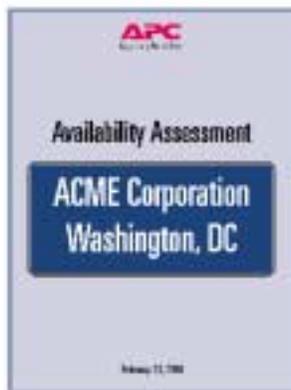
- EPRI Distribution Power Quality Survey, data from 6/93-6/95, May 1996
- Global Atmospheric, Lightning Data, 1994-1998, <http://www.lightningstorm.com>
- Goldstein, M., et al, The Quality of U.S. Commercial AC Power, Bell Telephone Laboratories, 1982
- National Geophysical Data Center, NOAA, 1992-1998, <http://www.ngdc.noaa.gov/>
- National Oceanic Atmospheric Administration, National Climatic Data Center, "Storm Data", 1950-1999, CD-ROM
- Phillips, David, The Climates of Canada, Canadian Government Publishing Centre, 1990
- Weber, E., et al, Reporting Bulk Power System Delivery Point Reliability, IEEE Task Force

# On-site Inspection

After a client's power availability level is estimated using the results of the Availability Profiler, an On-site Inspection is conducted at the client's facility to verify the actual level of power availability for their business processes. The On-site Inspection results in a custom solution designed to optimize a client's power availability level.

An APC Availability Engineer and an APC Certified Power Quality Engineer inspect the building's electrical infrastructure and the power protection scheme of the IT equipment. This examination determines a client's actual level of power availability.

The results of the On-site Inspection are then analyzed and documented in an Assessment report.



## Solution Design

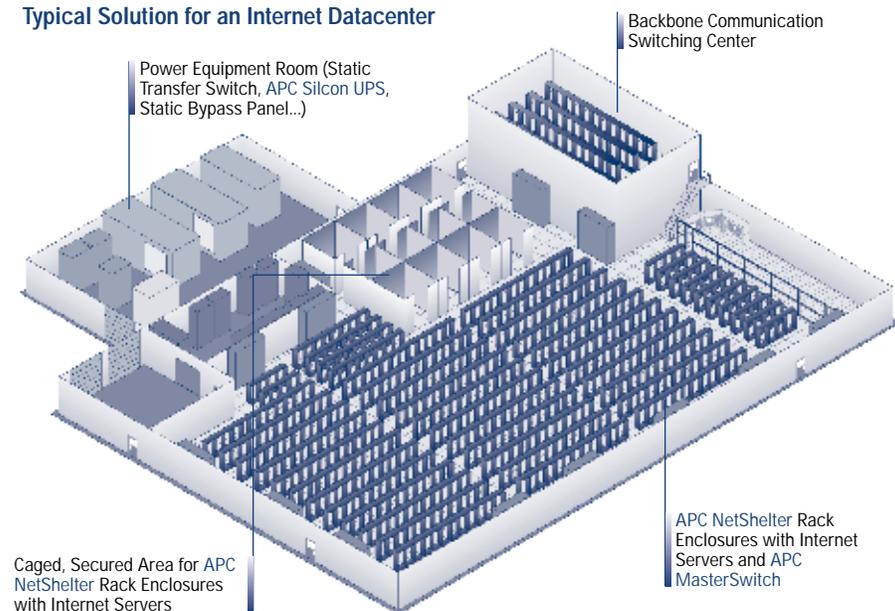
After the On-site Inspection, an APC Availability Team meets with a client and reviews the information collected in the Assessment report.

A custom solution, which is designed in accordance with these results, is also presented in the Assessment report. This solution is developed by an APC engineer design team to optimize a client's level of power availability for their business processes.

Since all solutions must be created and evaluated according to business-based criteria, an APC Availability Consultant works with a client to establish the level of investment required to achieve certain availability goals.

This ensures that the custom solution is designed according to both a client's desired level of power availability and the investment commensurate with achieving this objective.

### Typical Solution for an Internet Datacenter



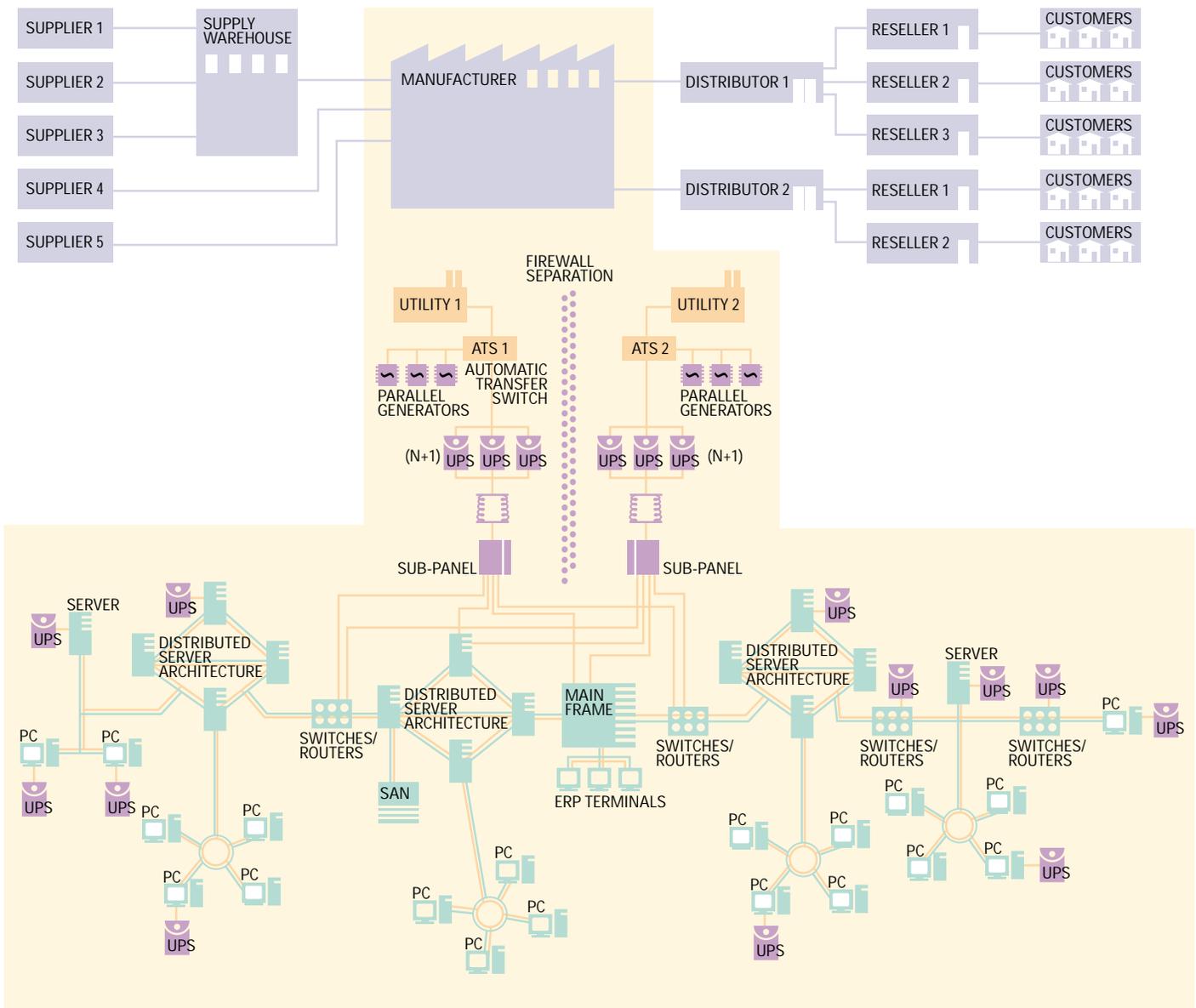
The future of electrical power is filled with questions. What is certain is the increased dependence on electronics in our personal and professional lives. People need to ensure the availability of the data they create, transmit, and store. Around the globe, APC is synonymous with power availability. At every point of the network we are positioned to ensure our customers' worldwide power availability needs.

IMPROVED POWER AVAILABILITY INFRASTRUCTURE

SUPPLY CHAIN MANAGEMENT PROCESS

ELECTRICAL INFRASTRUCTURE

IT INFRASTRUCTURE



Achieving the desired level of power availability by designing the optimal solution

# Availability Solution Installation

After a custom solution has been reviewed and approved by a client, an APC Availability Project Management team takes over the responsibility of efficiently implementing the solution.

An APC Project Manager, on-site with the client, and an APC Availability Project Coordinator, based at APC's headquarters, work together to ensure that the solution is installed and integrated properly into a client's networking environment.

Acting as a "general contractor", an APC Project Manager is completely responsible for the solution installation.



*APC's Silcon™ Series was recognized by PC Magazine as an integral element of today's networking environment.*

*Symmetra®'s innovation has resulted in numerous awards worldwide and makes it the ideal solution for e-customers looking for highly available power solutions.*



An APC Project Management team works with the client to ensure that the solution is installed to the clients' optimal satisfaction.



APC has established organizations around the world to design and execute availability solutions that meet a client's exact requirements.

Engineering professionals with decades of experience ensure that the highest possible level of availability is achieved for a client's business process.



**Power Availability ensured by APC**

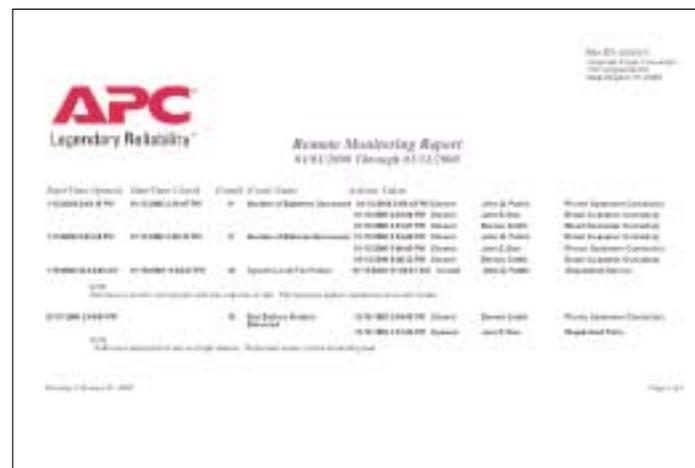
HarvardNet, a super regional CLEC and DSL Provider, relies on APC to meet their Availability needs.

# Availability Monitoring and Management



After an APC Availability Project Management team has integrated an optimal solution into a client's business environment, their "availability" relationship with APC is just beginning.

APC Remote Monitoring constantly surveys a client's power availability from the Management Operations Center (MOC), and immediately alerts a client of any problems or threats to the overall power availability of their business environment.



# Ensuring Power Availability

*"We provide our customers with 24 hour-a-day quality software and service support, and with an equal level of quality support from APC, we maintain round-the-clock quality service!"*

**Thomas Moore**  
System Security Administrator  
Motorola

*"Uptime is critical to us, along with knowing that an electrical problem is not going to fry our file server, which would mean losing months, if not years, worth of data and research. From a research and design standpoint, having the uptime that APC provides means we can progress at a faster pace."*

**Mark Lanning**  
Assistant Director  
Iowa State University

*"APC allows my staff to focus their skills on the tools, resources and infrastructure we need to make television, rather than on managing for unplanned downtime. That makes my job less stressful."*

**Tim Sweezey**  
Senior Manager of Information Technology  
New Media Services  
ZDTV

*"J.D. Power is all about data. In order for us to do business, our systems must be available. Our availability goals are 99.85 percent for all of our systems. If our systems fail, it would cost us \$10,000 per hour until we're back online. We rely on APC to help us maintain these goals, since we are subject to random, unpredictable weather and power events."*

**Scott Youngs**  
Senior Manager, Technical Services  
J.D. Power and Associates

*"Our goal is to have critical equipment and processes available 99.9 percent of the time. APC helps us to reach this goal by protecting us from short-term power outages and spikes that would otherwise disrupt operations and cause extended downtime for recovery procedures. We really depend upon APC to keep us going no matter what. We figure that one hour of downtime equates to \$22,000 of lost productivity across the company."*

**Jeff Winter**  
Director of MIS  
American Ref-Fuel

*"Puzzle Solutions Inc. is a three-and-half-year-old Network Service Provider (NSP) company. We outsource information technology services for small and medium businesses with an installed base of 10 to 300 computers. We offer a guarantee to our customers on service availability: if we're down, it means a month's refund. Our downtime is directly linked to loss of significant revenue and if you do the math, our potential risk would be about \$5,000 per hour of downtime. APC allows us to keep our service commitments to our customers."*

**Andrew Percy**  
President  
Puzzle Solutions

*"We've always recognized APC as an industry leader so APC was a natural choice when it came time to choose power protection. Despite continued intermittent power outages, APC keeps our servers operational and protects the integrity of the information in our databases."*

**Kevin Barnette**  
Director – Information Systems  
Medcost

*"Because all of our business is online, we need to be available to international business 24 hours a day, 365 days a year. APC helps enable us to maintain 24x7 reliability."*

**J. Adam Hewison and Dave Maher**  
President and Technical Director/Partner  
INO.com

*"The applications protected by APC represent the lifeblood of our business. If the system were to fail for any noticeable amount of time it would significantly impact our revenue stream."*

**Mike Hicks**  
Information Technology Manager  
Network Telephone

*"APC plays a major role in our critical systems availability and disaster recovery plans at corporate headquarters. Our short-term plans for the APC systems include immediate power protection, power filtering, close-to-zero downtime and low maintenance costs for the current site. These systems virtually pay for themselves during power outages."*

**Alan Banks**  
Manager of Network Operations  
Stream International

# APC's Partners in Availability

In the connected world, where the rules of business change as quickly as they are created, a company's ability to respond quickly means the difference between success or failure.

IBM, Microsoft, Cisco, Siemens, Dell, and Hewlett-Packard, all world leaders in technology, rely on APC Power Availability Solutions for the protection of their critical applications.

APC believes that such trust and satisfaction from these industry leaders only helps to further promote its reputation of legendary reliability throughout the world.

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**DELL** " ...We need 100 percent system availability. Downtime is not an option. In short, no power, no demo, no sale. Any time you're in a pre-sale situation, you don't want anything to go wrong, even if it's beyond your control. Dell has a reputation in the industry for working with only the 'best of breed' vendors and we look to APC as our power protection partner of choice".

*Dick Mayo*  
*Manager, Worldwide Application Solution Center*  
*Dell*



"APC is by far the industry standard in power protection. The equipment quality, performance, and reliability, as well as the service and support is outstanding. I know of no other vendor who could deliver the same. Everything that we do relies on power to operate and we trust APC to ensure that our power is protected."

*David Clement*  
*Technology Manager*  
*Microsoft Technical Support Group*

**IBM** "APC's success is of no surprise given the combination of quality people and products. APC has been delivering mission-critical power protection systems longer than anyone and has earned its trusted reputation."

*Mike Nolterieke*  
*Build and Network Specialist*  
*IBM Personal SystemsGroup*



"Right now, we're looking at 5 percent energy savings over the UPS systems we've used in the past. For a company as large as Cisco, with so many locations and so many buildings, 5 percent is a significant cost savings over the life of the units. What we've seen so far has been very positive."

*Mike Lavassa  
Facilities Manager  
Cisco (San Jose, CA)*

**SIEMENS** "APC has provided Siemens with proven products, services, and support for our customers. These products and services complement Siemens' efforts to provide complete turnkey solutions that meet and exceed our customers' power protection requirements."

*Rene Patton  
Manager, Peripheral Markets  
Siemens Business Communications*



"Given that communications systems are the lifeline of any business, small or large, downtime is unacceptable. We have teamed up with leaders in various industries, including APC, to offer our customers a highly reliable, cost-effective voice and data solution to solve their real business problems".

*Dan Abouav  
General Manager  
HP Business Communications Solutions Operation*

# APC – The Power Availability Company

## Company Profile

Founded in 1981, American Power Conversion (APC) designs, manufactures and markets products and services that improve reliability, productivity and availability of information systems worldwide by protecting hardware and data from the ongoing threat of power disturbances.

Our solutions include surge suppressors, uninterruptible power supplies (UPSs), power conditioning equipment and related software for computer and computer-related equipment. Protected applications include facilities, sites, mainframe computers, data centers, wide area networks (WANs), local area networks (LANs), Internet and intranet equipment, midrange computers, telecommunications equipment, home and office workstations, and a variety of consumer electronics.

We also protect these applications against power problems on data, network, serial, coaxial (CATV) and telephone lines.

As of December 31, 1999, APC reached reported sales of \$1.337 billion with 5,000 employees worldwide and manufacturing sites on three continents.

## Company Vision

APC products ensuring availability wherever data is created, transmitted or stored.

## Company Mission

To create delighted customers by improving the manageability, availability and performance of information and communication systems through the rapid delivery of innovative solutions to real customer problems.

## Achievements

**APC is ranked as one of Fortune's 1000 largest companies.**

**APC is recognized in the Forbes 500 list of the most profitable U.S. companies for the second year in a row.**

**PC Magazine identifies APC as one of the "Top 100 Most Influential Companies."**

**The Wall Street Journal ranks APC's stock performance as the 18th best in the 1990's.**

**APC is named to Forbes' "Platinum List of America's Best Big Companies."**

**APC is included in Standard & Poor's S&P 500 Index.**



# APC – The Global Partner

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*Be Available*

Contact APC for a FREE Power Availability Profile

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or E-mail [availability@apcc.com](mailto:availability@apcc.com)

