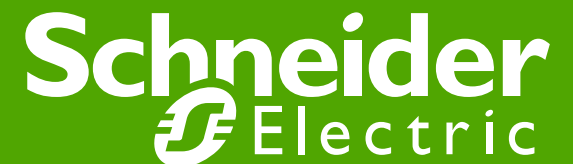


APC by Schneider Electric Solutions for All Environments

Eduard Bodor

Data Center BDM for Central Europe

Schneider Electric



Some important context

Our world is undergoing great change.

Increasing demand for **energy, storage & computing.**
Shifting & **rising energy prices.**
Continued **political volatility.**
The **planets finite resources.**

Every watt
Every inch of space
Every minute
Every cent counts.



Some important context

The IT landscape is changing dramatically



Virtualization shrinking the IT footprint

Cloud Computing less IT on the premises

Data Centers

Server Rooms

Wiring Closets high costs of space & energy

Making change work for you

Our commitment:

- ▶ Adapt to evolving markets
- ▶ Deliver tools to increase revenue & profit
- ▶ Offer a 'full solution' portfolio

Change brings opportunity with it.
We have listened & understood.
Now we are reacting. Adapting.
And delivering innovation.

Technology Integration Paves the Way

- The Cisco / APC relationship began in 1998 with a focus on non-stop networking and has since grown to include the integration of various platforms, the sharing of intellectual property for white papers and design specifications as well as joint field engagements.
- Power protection is a crucial component of VoIP & IP Telephony networks and helps to ensure that they meet the demands for “always available” systems.
- To achieve the highest levels of availability, it is essential that Layer 0 solutions support VoIP & IP Telephony networks, in line with your business requirements.

Customer profile

- Enterprise customers deploying Cisco switches in med-large data centers
- Customers deploying high density pods (i.e., HACS).
- IT and Networking manager
- Enterprise customers considering CPI or Panduit rack solutions



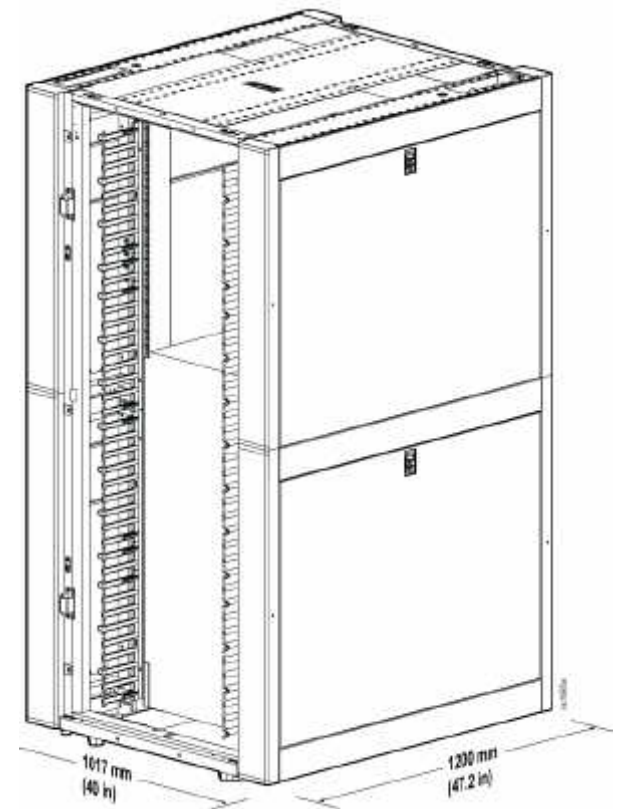
Issues the Side Airflow Solution Solves

● Concerns

- Cisco 7018 Networking switch up to 3000 CFM
- Our existing Side Air Duct Kit (AR7715) can only provide up to 1200CFM
- Need to support up to 768 Cat 6a/512 fiber data cables per enclosure and maintain proper airflow to switches
- Need larger cable access through roof for large cable bundles

● APC Solution

- Side Airflow Solution for Nexus 7018 (AR7742/AR7747) and Networking Enclosure (AR3340/AR3347) Side Airflow Duct provides 11" clearance on each side of switch required by Cisco
- Created side airflow ducting that pulls from the cold aisle only. Design allows for total isolation from the hot aisle. Ensures cold air into the switch intake



Present the Solution - Side Airflow Ducts Installed

Roof to support overhead cable management system & openings for cable routing

Utilize blanking panels to close open U-space above the switch

Joining brackets attach to side airflow ducts for placing in row

Ducts extend to:
-bottom of enclosure frame
-front and rear door

AR7742 Side Airflow Duct Kit
AR3340 Enclosure

Summary – Networking Enclosure and Side Airflow Solution for Nexus 7018



- *Maintains the NetShelter design and compatibility while offering improved networking application support*
- *Superior Cisco Approved solution for the Next Generation Cisco Nexus 7018 Networking Switch*

APC by Schneider Electric – April 2011

Challenges

- Connect to the outside world
- Keep my Information Secure
- Highly available communication & collaboration
- Achieve the above with limited in house skills
- Operate in dynamic environments
- Embracing technology as a competitive advantage
- Significant growth in data storage needs

Bringing Solutions to Market

The missing piece in the jigsaw.



Small Office

Remote Office

Data Closet >5kw

Small Server Room 20kw

Small-Medium Data Centre 50-200kw

Large Data Centre >200kw

InfraStruXure[®]
DATA CENTERS ON DEMAND

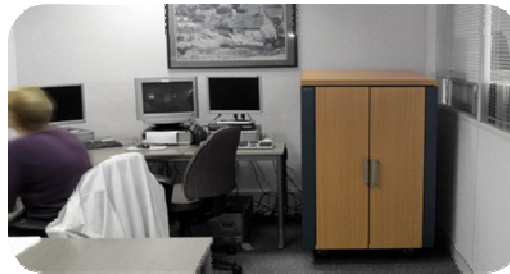
Now we offer the full infrastructure solution
From small or remote office to Data Center - we've got the lot.

Opportunity Drivers

- Virtualization/Consolidation/High Density – Increased density and increased importance of individual servers
- Expansion of Cloud usage – More centralized computing, fewer small systems
- Unified Computing/Communications – smaller footprint networking gear
- Expansion of Blade offering in SMB space – Reduction in power usage and number of devices means fewer UPS's required
- Power Over Ethernet (POE) – Access points even more critical than ever.
- Doing more with less – Due to economic conditions, SMBs are forced to derive greater value from the least costly infrastructure which will get the job done.
- Reduction of office space – customers are forced to do more with less space. Inevitably, that effects IT more than any other type of office space
- Greening of the IT environment – Customers looking to reduce energy usage both to save Op-Ex and social responsibility

Proven target sectors.

- **Corporate (Branch Office)**
- **Retail Branches**
- **SME/SMB**
- **Finance (e.g. Bank branches)**
- **Professional AV & Media Studios**
- **Schools**
- **Home Offices**
- **Local Government Offices**
- **Health – Medical clinics or hospitals**
- **Start-ups**
- **Interior Design Sector**
- **Corporate (Wiring Closet)**
- **Gaming & home entertainment**
- **Temporary premises**



Our Latest SMB Solution

The Netshelter CX.

A soundproofed
'Server Room in a Box'

Allowing for IT deployment
wherever and whenever it
is needed - saving space,
cost and deployment time.



The Netshelter CX

Attach, attach, attach.



Use the CX to create the full office IT solution.



The Netshelter CX

A soundproofed 'Server Room in a Box'.

Available in 3 sizes.



18U



24U



38U

Smart-UPS environments and applications

Server Rooms

- § Rack Optimized Servers
- § Tower servers
- § Appliances
- § Blades
- § Storage



Networking Closets

- § Switches
- § Gateways
- § Controllers
- § WiFi Hotspots
- § Telco/VoIP



Retail Stores/Financial Branches

- § POS devices
- § ATM Machines
- § Kiosks



Other

- § Security Systems
- § PC workstations
- § Processing equipment
- § Laboratory Devices



Smart-UPS Customer Profile

Top Targets

- Small / Midsize Business (SMB)
- Branch or Regional Offices of Larger Enterprises
 - Wiring closets / Small Computer Rooms



Many Vertical Markets

- Service and manufacturing companies
- Retail and finance
- State and local governments, educational institutions



Typical Decision makers

- IT Manager
- Network Manager
- Small Business Owners



Why introduce a new Smart-UPS?

Voice of customer – some things customers told us about their UPS

I am environmentally conscious

"I would pay more for energy efficiency..."

I want longer battery life and more advanced warning for replacements

*"...either the battery just fails or we just wait 3 years and change it...
...if every battery you sold could last 50% longer..."*

I want clear and accurate information

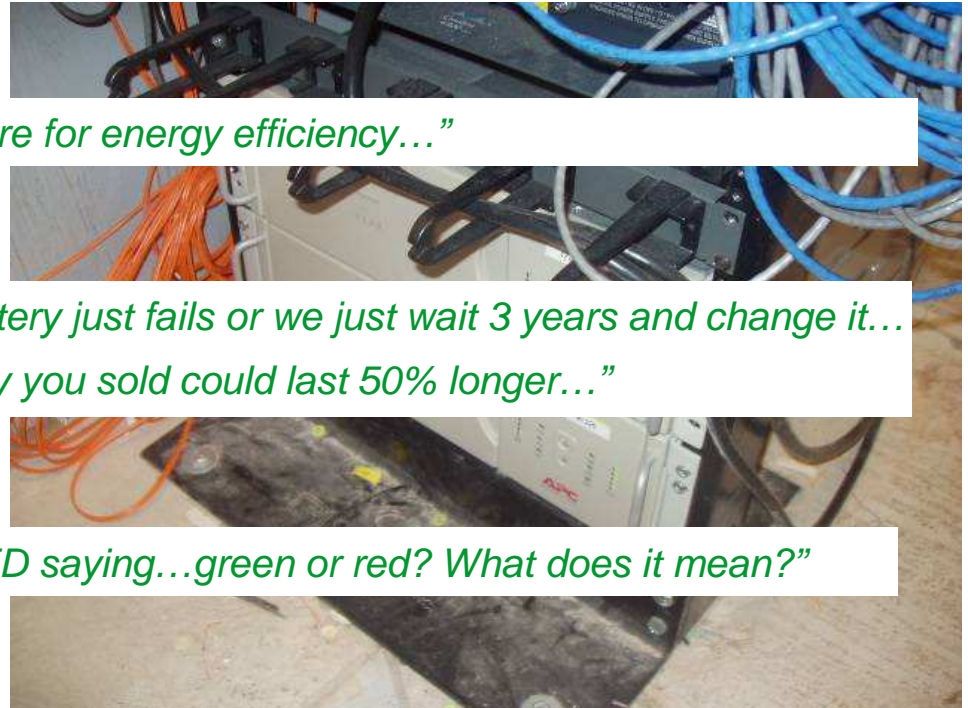
"...what is the LED saying...green or red? What does it mean?"

My time is valuable

"...get in my car drive somewhere...in a remote closet just to reboot stuff..."

My UPS must be reliable and resilient

"I don't want to know about my UPS unless there is a problem"



New Smart-UPS Core Benefits

Intelligence – makes management and monitoring easier

- Intuitive, easy to use LCD interface
- New lifecycle management features

More Control - over your power

- Switched receptacle groups
- Configure locally or remotely



Efficient – saves \$\$

- Lowers electric and cooling bills
- Monitors energy usage

Resilience – you can count on

- Start with/without battery
- Better Diagnostics
- 3-year *limited* warranty

Same name you know and trust for best of breed reliability and manageability

Integration of power, cooling, racks, management, and services

Management

- Capacity management
- Change management
- Physical security
- Environment



Power Cooling Racks

- Standardized
- Modular
- Scalable

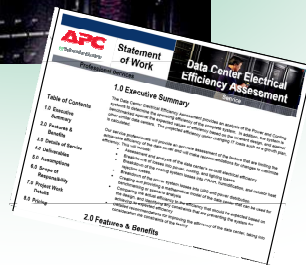


InfraStruxure™



Services

- Assess
- Design
- Build
- Maintain



InfraEtruxure™ is ...



- **Versatile** – works in data centers large or small, old or new, high or low density, homogeneous or heterogeneous
- **Scalable** – can align with the demands of modular IT technologies
- **Standardized** and **predictable** – for highest control and availability
- **Easy** – in design, installation, operation, and maintenance
- **Deployable NOW** – can be dropped in anywhere, anytime

Compatible

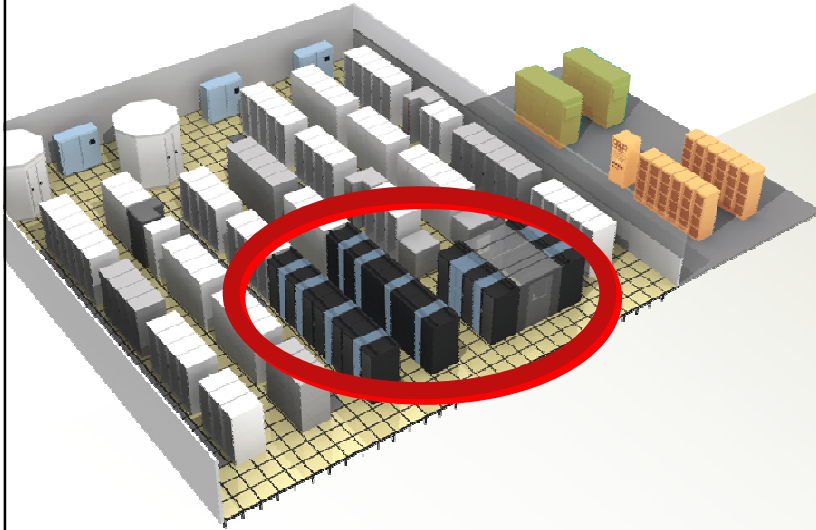
Infra*E*truxure™ is compatible ...



- With your IT equipment
- With your existing power and cooling systems
- With other management systems across your enterprise
- With your building management system
- With the Schneider Electric suite of products and brands
- With other Infra*E*truxure™ components

Versatile

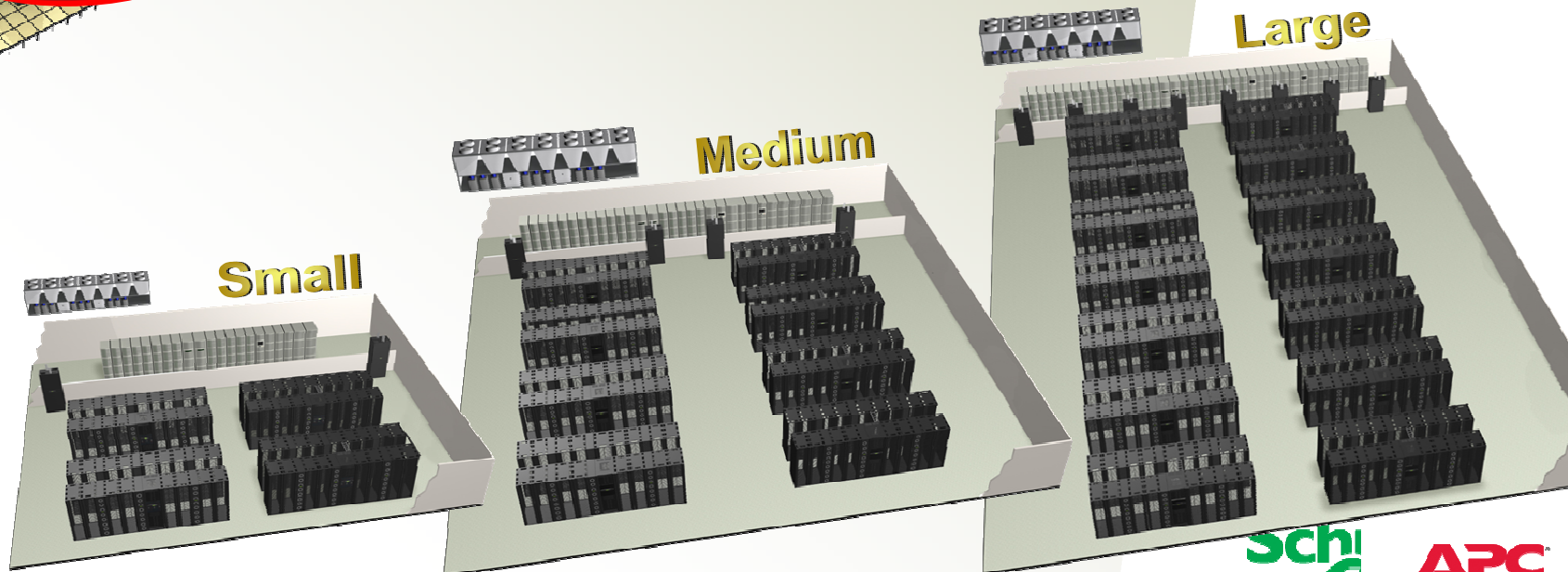
Drop an **InfraStruxure™ ZONE**
into an existing data center



Modular, scalable
architecture

Or...

Deploy **InfraStruxure™** as your
ENTIRE data center or server room



Behind the scenes

Infra**E**truxure™ ***is an architecture***

based on  ***design principles***

***working together to handle HIGH DENSITY
and EFFICIENCY challenges***



1

Rack enclosures that are HD-ready



NetShelf



- Vendor-neutral racks
- Engineered to handle the airflow and cabling needs of power-hungry, high-density servers

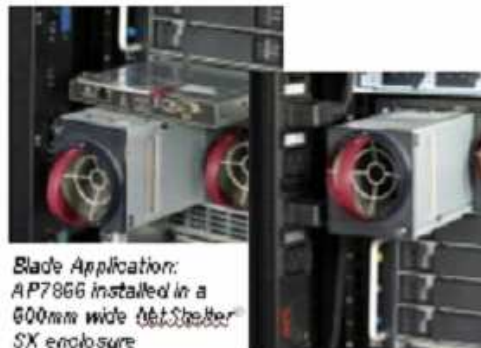


2

Metered PDUs at the rack

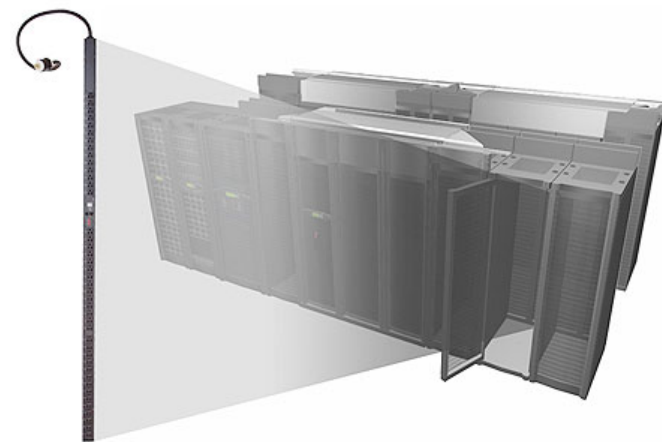


User interface: On-board metering display and network connections



*Blade Application:
AP7866 installed in a
600mm wide NetShelter
SX enclosure*

- Metered outlet strips
- Ability to indicate which racks and outlets have capacity for new higher-density servers
- ...and which ones do not



3

Temperature monitoring in the racks



- Temperature and humidity where it counts – IN the racks
- Local or remote



APC NetBotz monitoring sensors

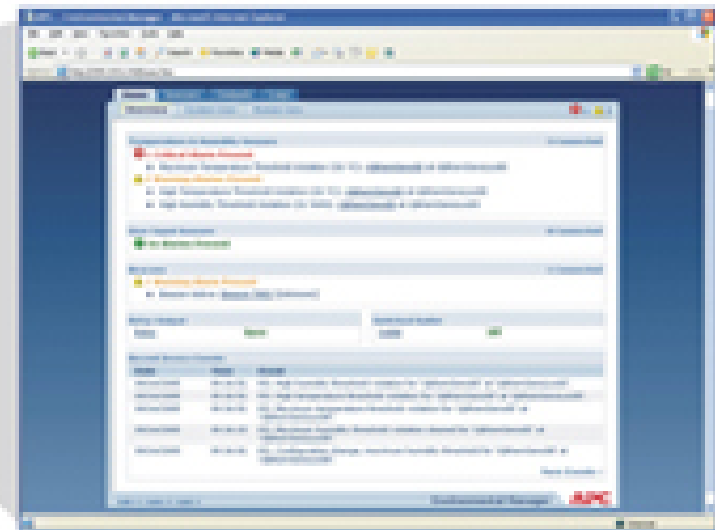
4

Centralized monitoring software

- Real-time monitoring
- System-wide data on power, cooling, and physical security systems
- Row, rack, and U level
- One standard IP address



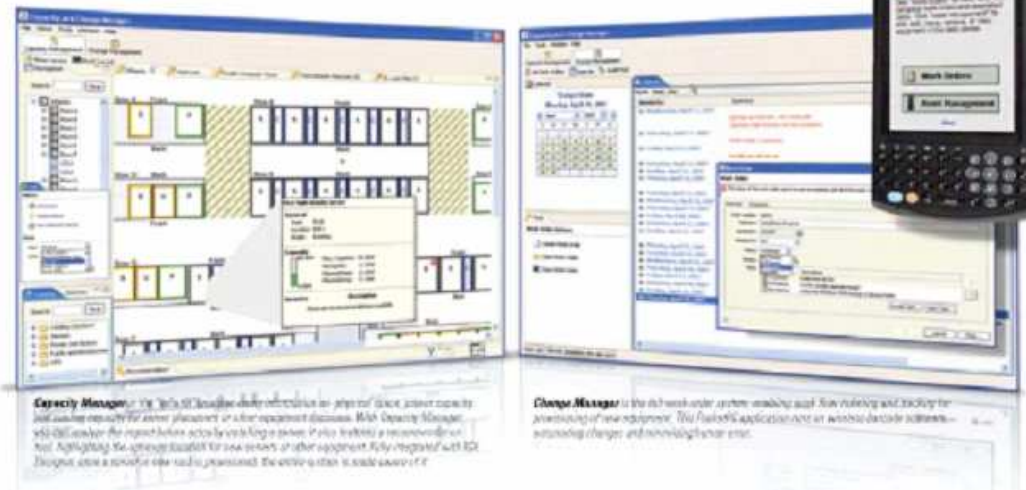
InfraStruXure Central



5

Capacity management

Now you'll know exactly where to install the next server.



Capacity Manager

- Where's the best place for a new server?
- What if the server load increases?
- Impact of change on the physical infrastructure?

- Conventional operations software simply manages inventory fluctuations and configuration changes
- Our capacity management software does this and more—simulating and predicting the true impact a new server or other equipment will have on your power and cooling infrastructure
- With predictive simulation you can avoid overloading circuits and generating hot spots

6

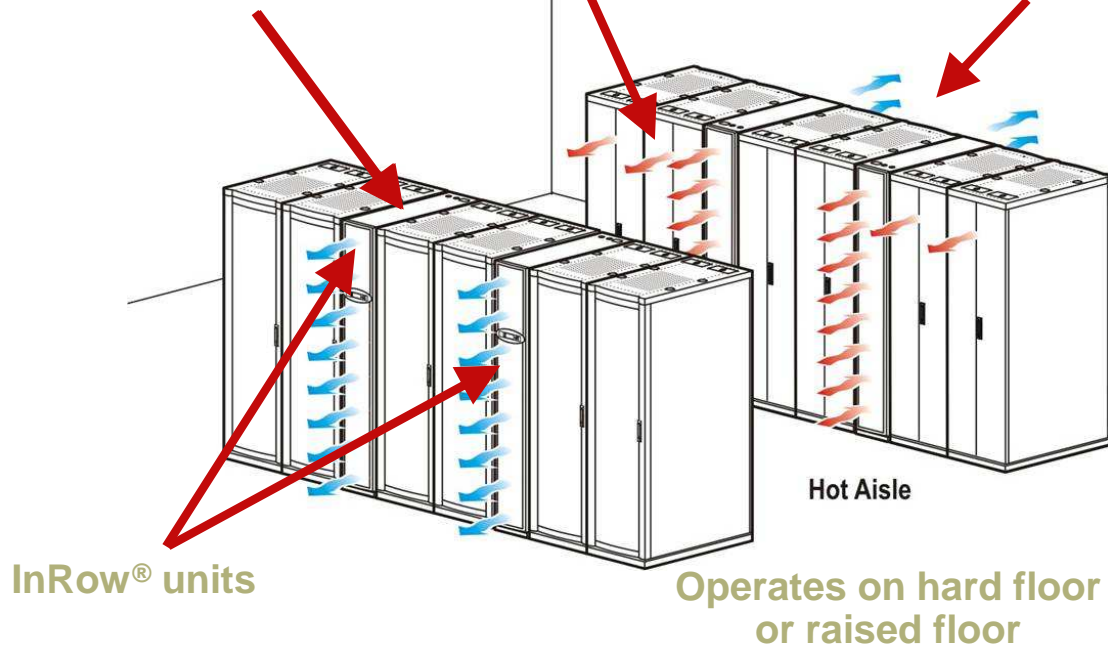
Cooling IN the row, close to the load

Hot-aisle air enters from rear, preventing mixing of hot and cool air

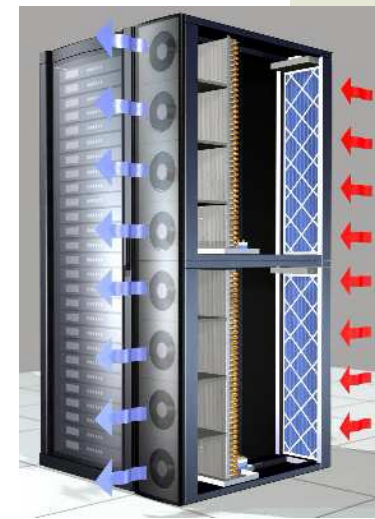
Variable-speed fans optimize efficiency by closely matching performance to dynamic cooling demand

Heat is captured and rejected to chilled water

Cold air is supplied to the cold aisle

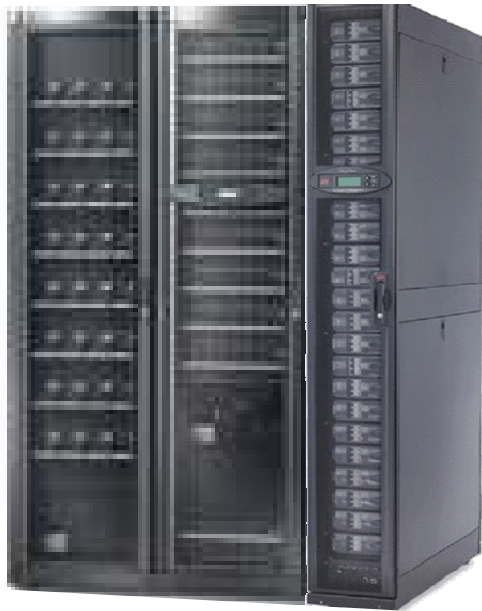


InRow® cooling units

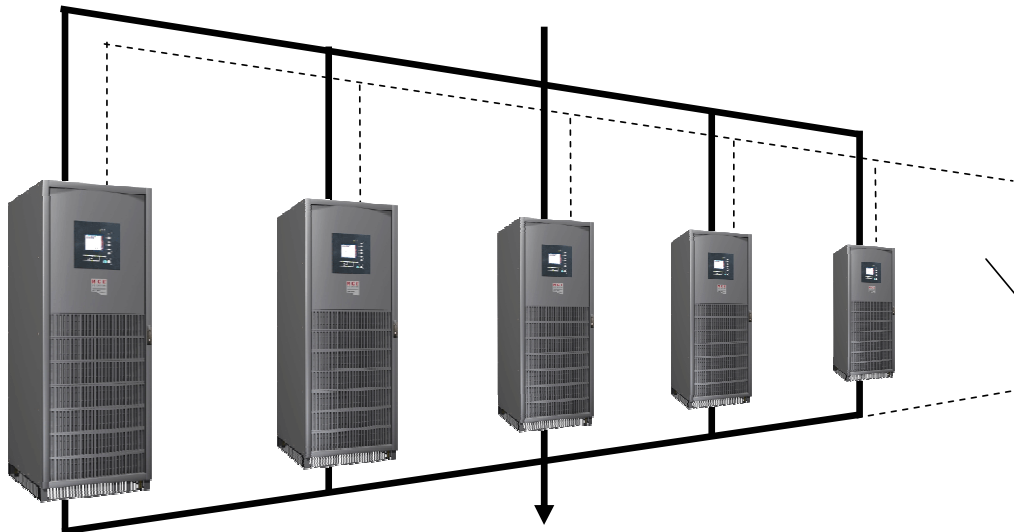




UPS power that is modular and scalable



- Ability to expand quickly and efficiently, without wasteful oversizing, as power demand grows
- Scalable UPS design for row-based, in-room, or back-room solutions



Putting it all together

Together, these design principles

*comprise the **InfraEtruxure™** architecture*



This architecture can be deployed quickly, anytime, anywhere – enabling virtualization, handling high density, and increasing efficiency