



The New Paradigm of Unified Data Center Management

Charlie Phua

Charlie.phua@avocent.com

Agenda

- Avocent Company Overview
- Challenges in Managing Unified Data Center
- Manageability Solutions
 - Access and Control
 - DSView3 Centralized Management
 - Blade Server Management
 - Virtualized Server Management
 - Serial over IP
 - KVM over IP
 - Power over IP
 - Service Processor Gateways
- Summary

Avocent Snapshot

- “Always On” IT Infrastructure Management solutions for businesses worldwide
 - Hardware, Software and Services
 - Data Center to Desktop
- \$1.4B Market Capitalization
 - NASDAQ: AVCT
- 2006 Revenue = \$521M
 - 2001: \$256M Revenue; \$0.75 EPS
- 1,800+ Employees
- OEM Supplier of Firmware and Appliances
 - HPQ, Dell, IBM, Intel, APC, FSC, Lenovo
- 2 Primary Divisions
 - MSD: “Back End” i.e., Data Center IT Infrastructure Management
 - LANDesk: “Front End” i.e., Desktop, Servers and Mobile Systems and Security Mgmt.

**94 of the Fortune 100
- and 85% of Fortune 1000 -
use Avocent solutions**



Global Strength & Presence

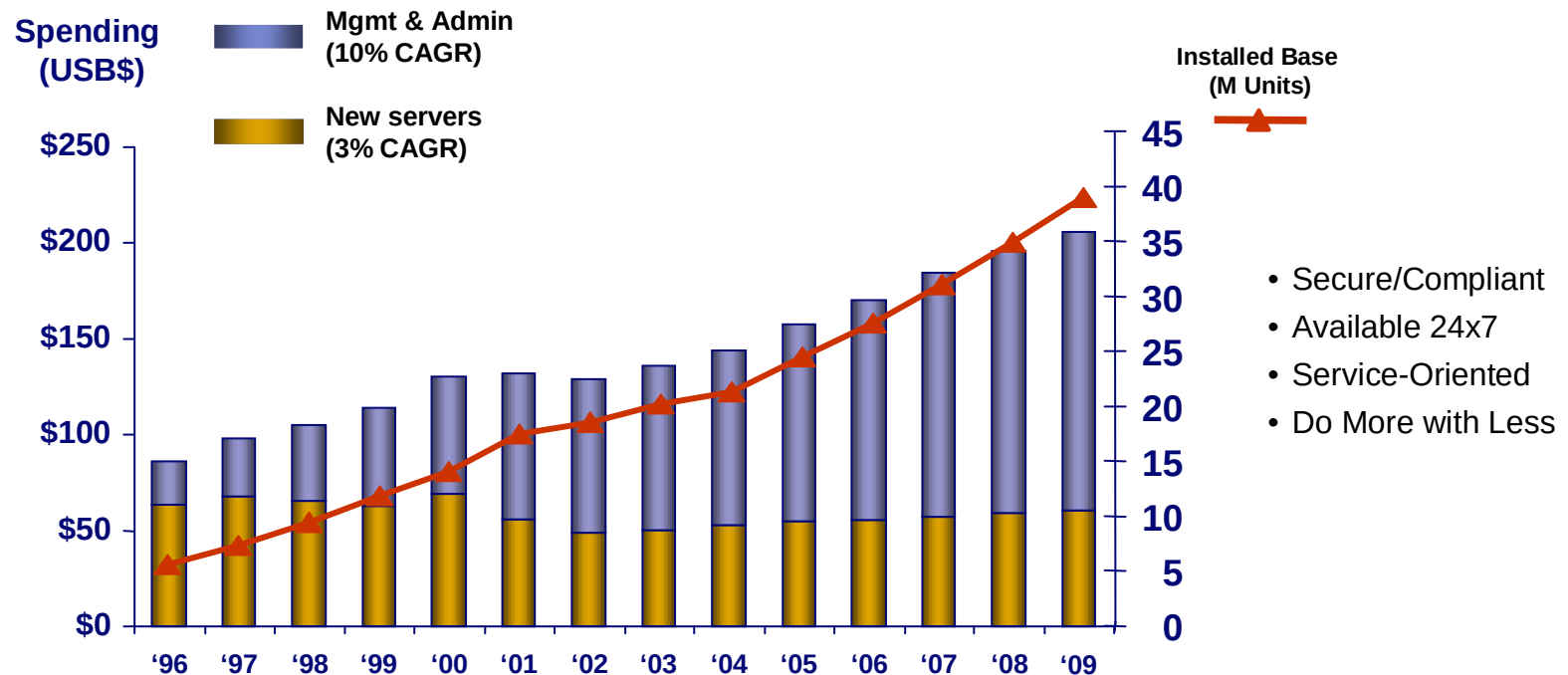


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Update for LANDesk sites

The Problem We're Solving

2006 Management Equation
\$1 Capital = \$7 Management



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WW Server Spending
Source: IDC, May 2006

Enterprise IT Challenges – Business Driven

- Security
 - Internal threats
 - External threats
 - Audit requirements
- Manageability
 - Multiple locations: distance & time zones
 - Different skill sets and capabilities in administrators
 - Managing ever increasing servers and network devices
 - Managing multi-vendor, multi-platform environment
 - Standardized process

Enterprise IT Challenges – Business Driven

- Scalability
 - Planning for the next 6, 12, 18, 24, 36 months
 - Can current infrastructure grow with the business?
 - Investment and technology protection
- Compliance
 - Local government regulations
 - World-wide industry regulations
- Cost Effectiveness
 - Doing more with less

Evolution of Enterprise IT

- Business Continuity Planning (BCP)
- Disaster Recovery Sites / Backup Sites
- Decentralized of Infrastructure
- Prevent Problems
- Consolidate
- Relocate to Countries
- Outsourcing
- Highly redundant infrastructure
- Centralized Storage Infrastructure
- High-speed WAN Connectivity

**IT Management
Nightmare!!!!**

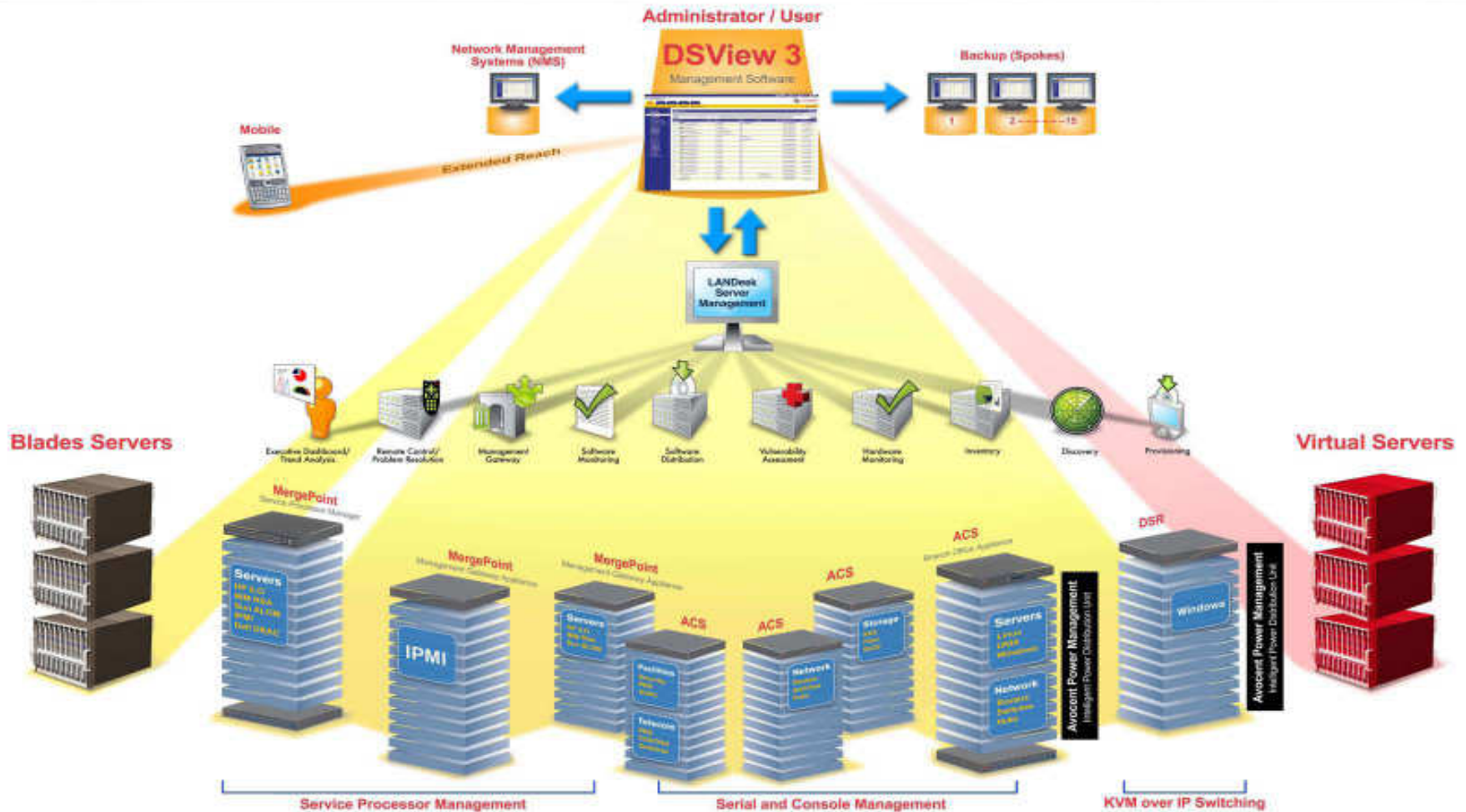


**Avocent can help.
We have the solutions.**

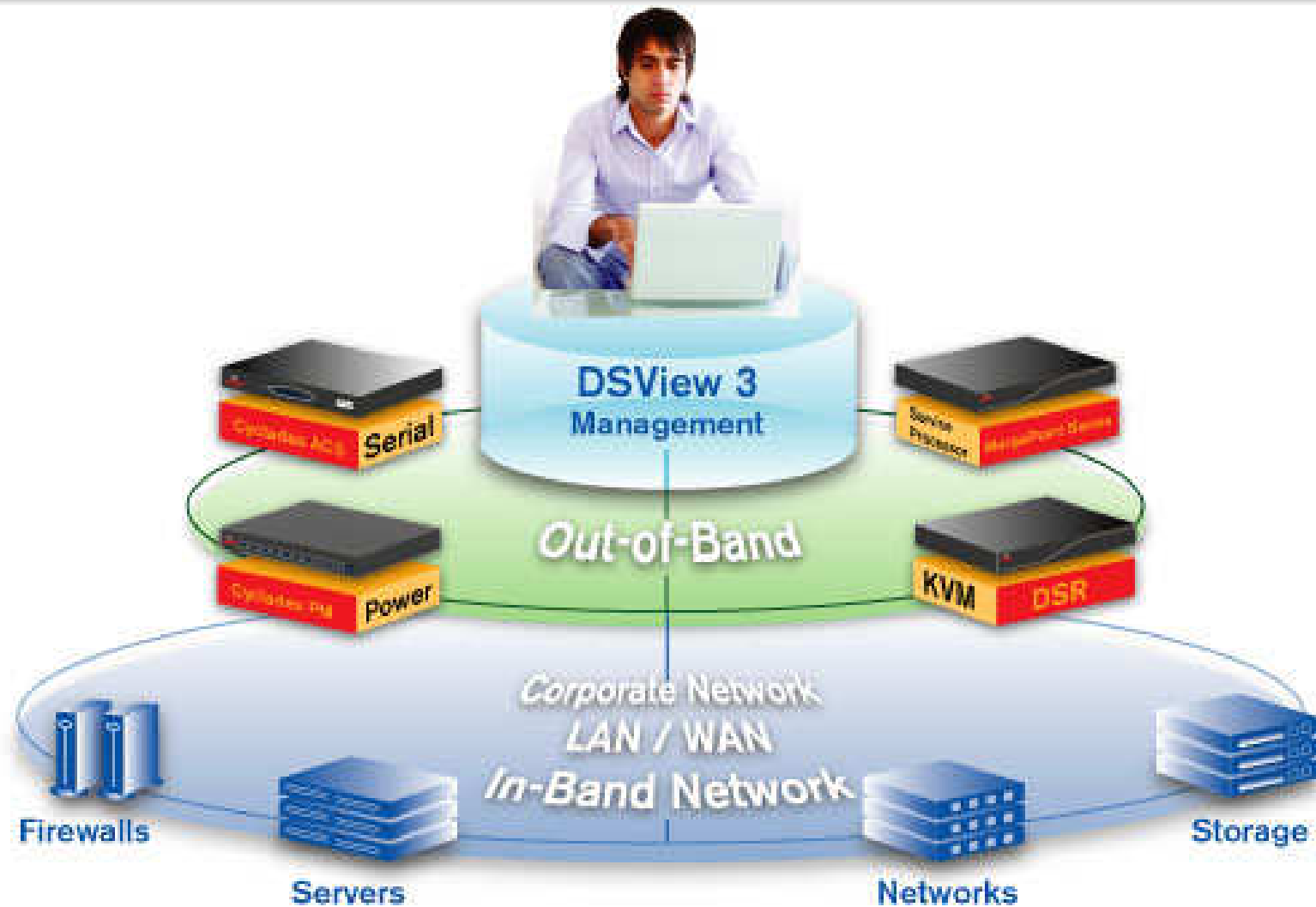


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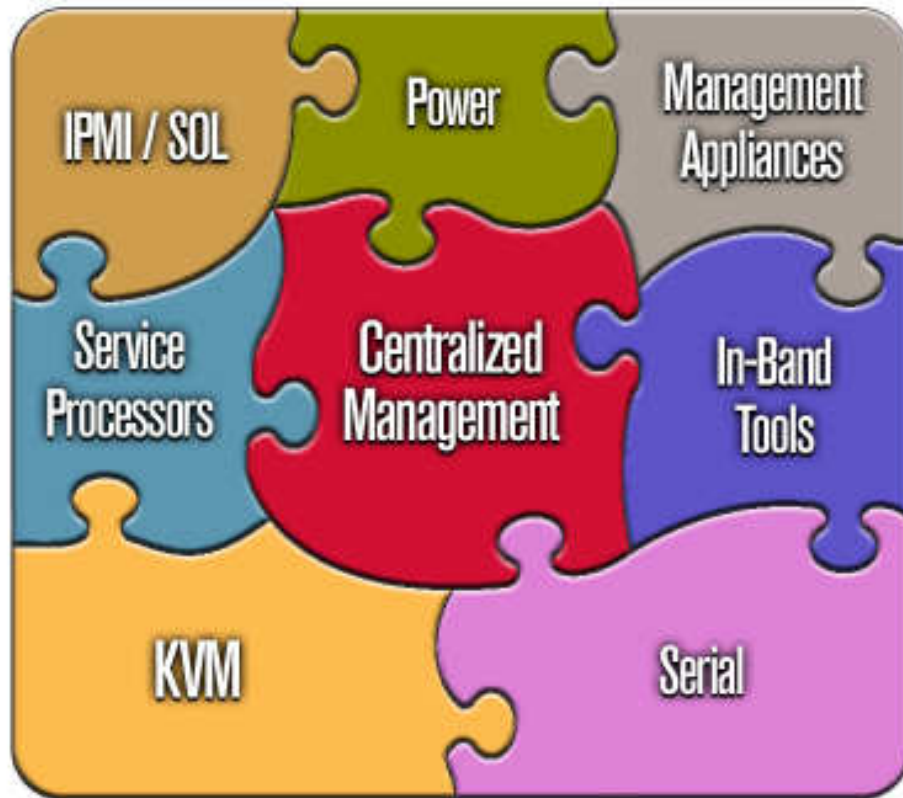
A Complete Solution For IT Infrastructure Management Solution



Avocent DS Series Solutions



Avocent Data Center Solutions



- DSVIEW 3 Management Software
- DSR KVM over IP appliance
- Cyclades ACS Serial over IP appliance
- PM Remote Power Management
- MergePoint Service processor managers

Centralized Management



- DSVIEW 3 Management Software
- DSR KVM over IP appliance
- Cyclades ACS Serial over IP appliance
- PM Remote Power Management
- MergePoint Service processor managers

DS View 3 Management Software

The secure solution for managing every device in your data center from a single interface.

- Secure, remote and consolidated out-of-band management of the entire IT infrastructure
 - Access IPMI-enabled servers
 - Manages power strips and third party power devices
- Authenticates user permission against your internal or external authentication service, such as LDAP, Active Directory, NT Domain, TACACS+, RADIUS and RSA SecurID.
- Allows selectable encryption modes
- SNMP traps and email notification

DSView 3 Blade Support

Avocent DSView 3 Explorer [Appliances - All] - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://172.26.5.126/dsview/protected/units/units/view-units.do?view=units.appl.all>

Welcome admin!

BOOKMARK REFRESH PRINT LOGOUT HELP

Avocent DSView 3

Units Users System Reports Profile

Units | Groups | Sites | Departments | Locations | Partners | Profiles 806

- Unit Views
 - Appliances
 - Blade Chassis
 - All
 - DELL
 - IBM
 - HP
 - Active Sessions
 - Active Modem Sessions
 - Custom Field Labels
 - Tools
 - Operation Results

Blade Chassis - All

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Add Delete Scan Rights Topology Operations Filter

	Name	Port	Type	Action
☐	DELL Chassis 1		Dell PowerEdge 1855	
☐	IBM Chassis 1		IBM BladeCenter H	
☐	IBM Chassis 1 - Blade 1	1		KVM Session
☐	IBM Chassis 1 - Blade 2	2		KVM Session
☐	IBM Chassis 1 - Blade 3	3		KVM Session
☐	IBM Chassis 1 - Blade 4	4		KVM Session
☐	DELL Chassis 2		Dell PowerEdge 1955	
☐	DELL Chassis 3		Dell PowerEdge 1955	
☐	Generic Chassis 1		Generic 1x8	
☐	DELL Chassis 4		Dell PowerEdge 1955	
☐	HP Chassis 1		HP BladeSystem c-Class	
☐	HP Chassis 2		HP BladeSystem p-Class	
☐	HP Chassis 2 - Blade 7	7		KVM Session
☐	HP Chassis 2 - Blade 11	11		KVM Session



VMware Virtual Infrastructure

Welcome admin! BOOKMARK REFRESH PRINT LOGOUT ? HELP

Avocent DSView 3

Units Users System Reports Profile

Units | Groups | Sites | Departments | Locations | Partners | Profiles

Unit Views

- Appliances
 - All
- Virtualization
 - Virtual Centers
 - ESXs
 - Virtual Machines
 - Target Devices
 - Groups
 - Recently Accessed
- Active Sessions
- Active Modem Sessions
- Custom Field Labels
- Tools
- Operation Results

ESX Servers

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Add Delete Scan Rights Topology Operations Filter

Name	Port	Type	Status	Action	Site
ESX Server 1		ESX Server		VI Web Interface	
Virtual Machine A		WIN2KAS	Started	VMWare Console	
Virtual Machine B		WIN2KAS	Started	VMWare Console	
Virtual Machine C		WIN2KAS	Started	VMWare Console	
Virtual Machine D		RedHat Linux	Stopped	VMWare Console	
Virtual Machine E		WIN2KAS	Started	VMWare Console	
ESX Server 2		ESX Server		VI Web Interface	
Virtual Machine F		WIN2KAS	Started	VMWare Console	
Virtual Machine G		WIN2KAS	Started	VMWare Console	

ESX Servers

Virtual Machines

Target Devices - 1001

Page 1 of 1

Add Delete Scan Rights Operations Filter

Name	Type	Status	Action	Site
Fedora6	1001	Unit Status Unknown	VNC Session	
Red_Hat_ENT-ES4	1001	Unit Status Unknown	VNC Session	
Win2k3r2-20GB	1001	Unit Status Unknown	Remote Desktop Session	
WIN2k3R2STD	1001	Idle	VNC Session	
			VMware Viewer	

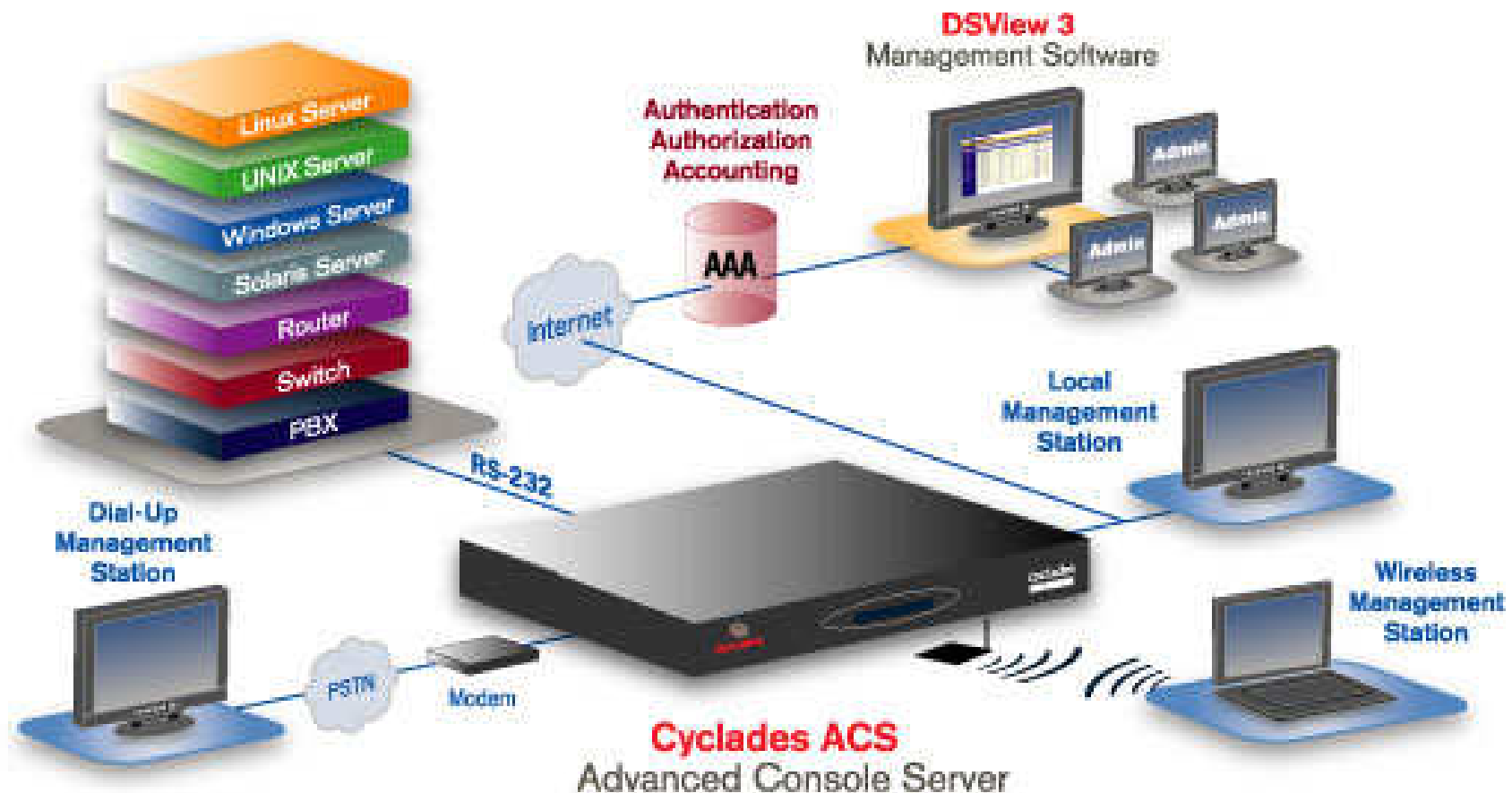


Serial over IP



- DSVIEW 3 Management Software
- Cyclades ACS Serial over IP appliance
- DSR KVM over IP appliance
- PM Remote Power Management
- MergePoint Service processor managers

Cyclades ACS Application



Cyclades ACS Features & Benefits

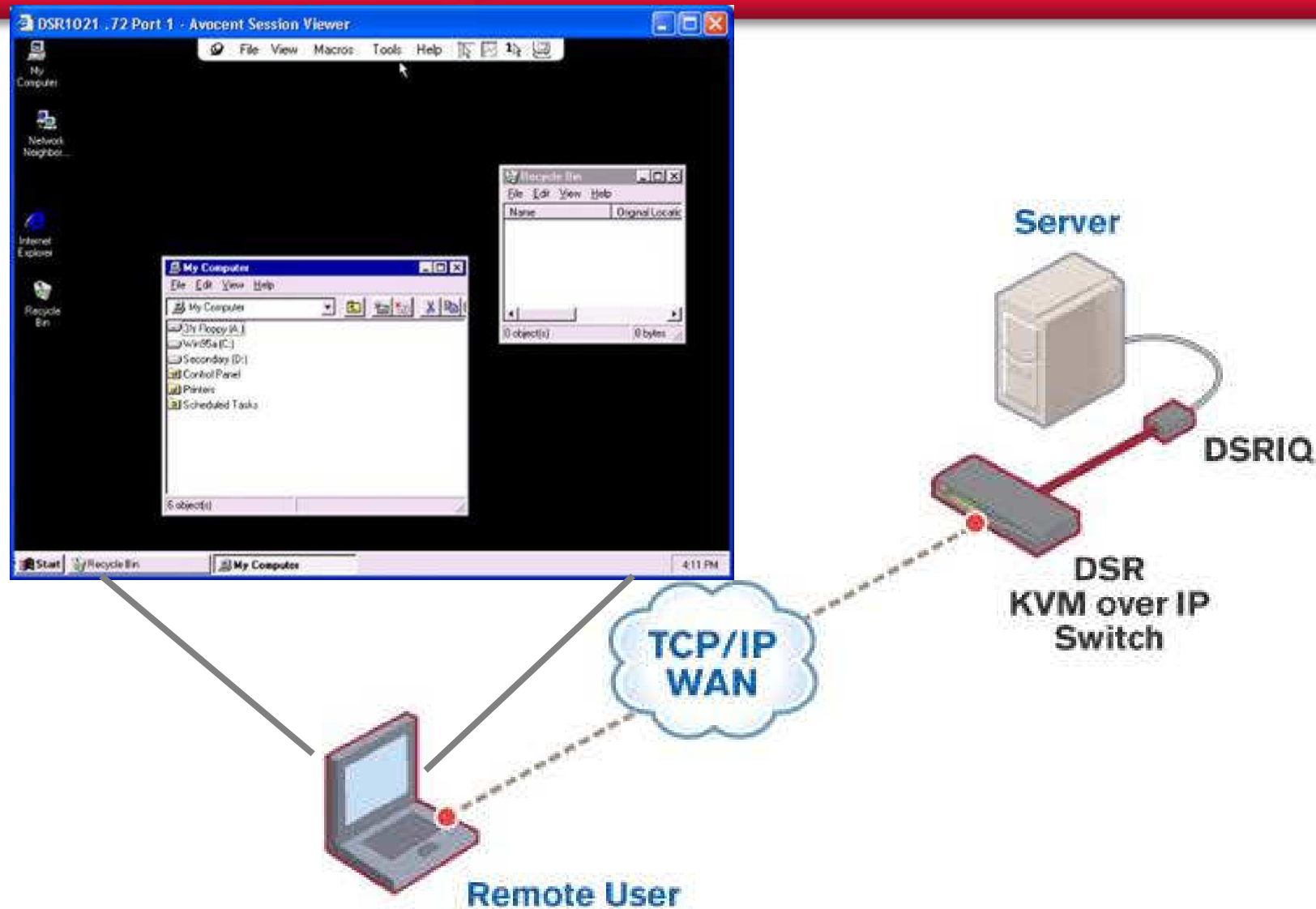
- User interface flexibility
 - Powerful CLI & wiz commands
 - Customizable menuing system
 - Easy-to-use web GUI (wizard & expert modes)
- Data logging
- Enhanced security (AAA)
- Integrated remote power management
- Centralized management & access
- Low-level access to system information
 - BIOS (redirect to console)
 - POST (Power On Self Test),
 - boot messages
- NEBS Level 3 Certified models

KVM over IP



- DSView 3 Management Software
Dell and DSR KVM over IP
appliance
- Cyclades ACS Serial over IP
appliance
- PM Remote Power Management
- MergePoint 5200 and Cyclades
OnBoard® service processor
managers

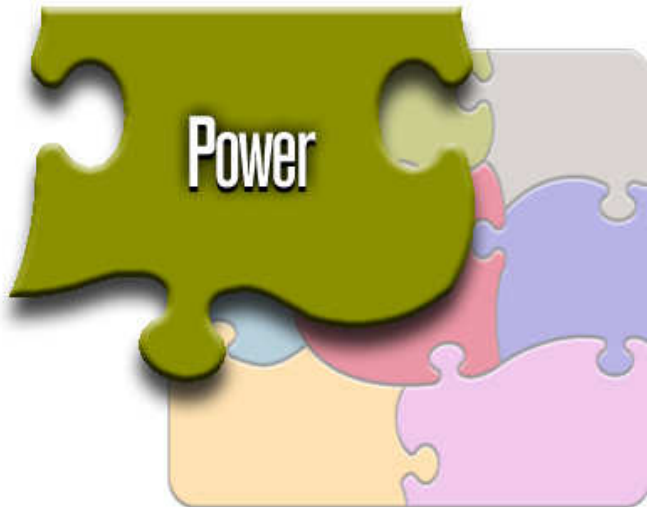
How does KVM over IP Work?



DSR KVM Switch Advantage

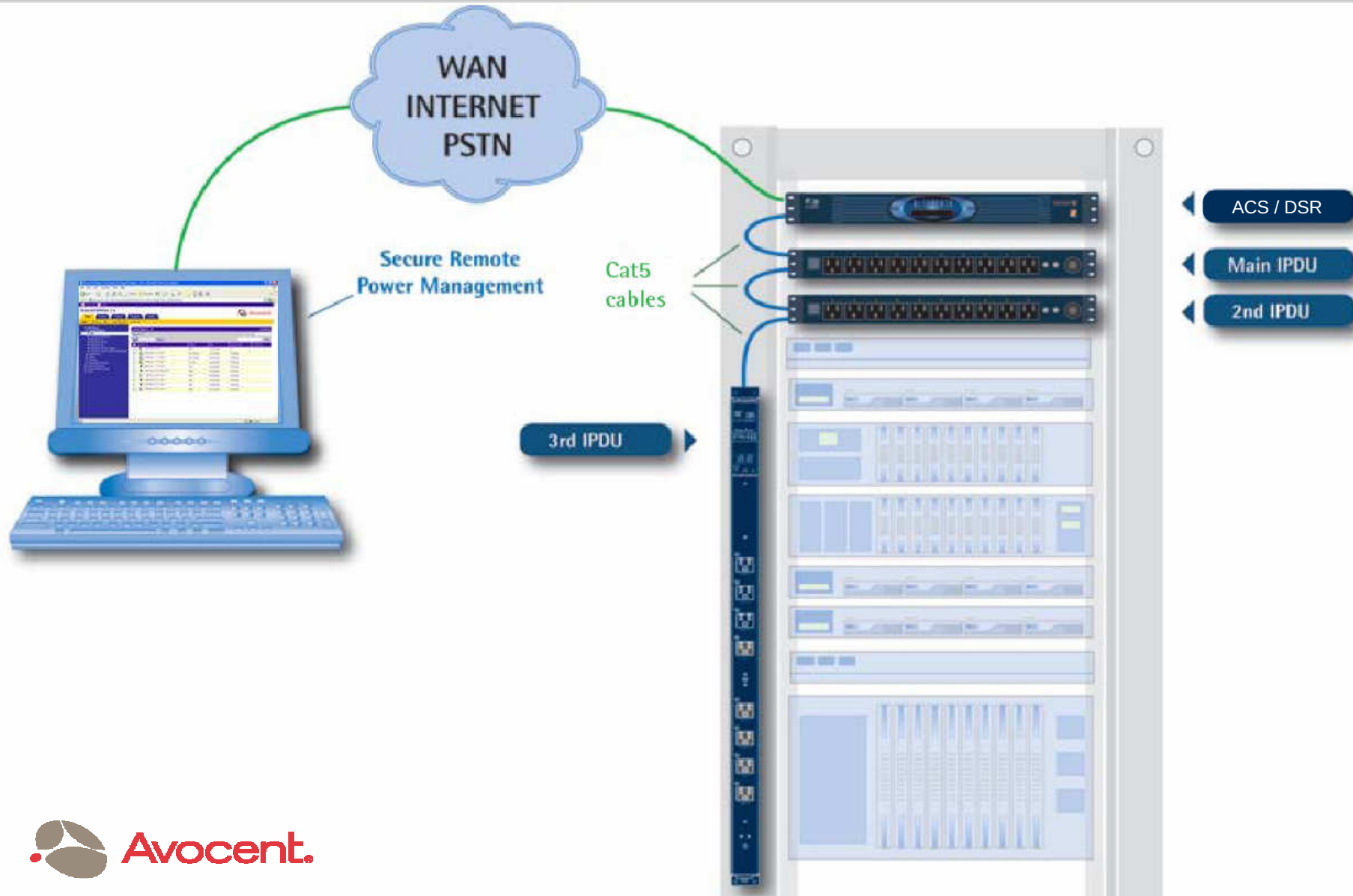
- **Unique integration of power management:**
 - Remotely reboot unresponsive target devices
 - Dedicated serial power control port for managing smart power strips
 - Supports Server Technology Switched CDU 3rd party power devices
- **Integrates into a wide variety of customer environments:**
 - Port densities from 1 to 32 target devices
 - 1, 2, 4 or 8 digital paths for simultaneous access to target devices
 - Up to 12 remote users for sharing KVM sessions

Power over IP



- DSView 3 Management Software
- Dell and DSR KVM over IP appliance
- Cyclades ACS Serial over IP appliance
- PM Remote Power Management
- MergePoint 5200 and Cyclades OnBoard® service processor managers

Cyclades PM Application



Cyclades PM Advantage

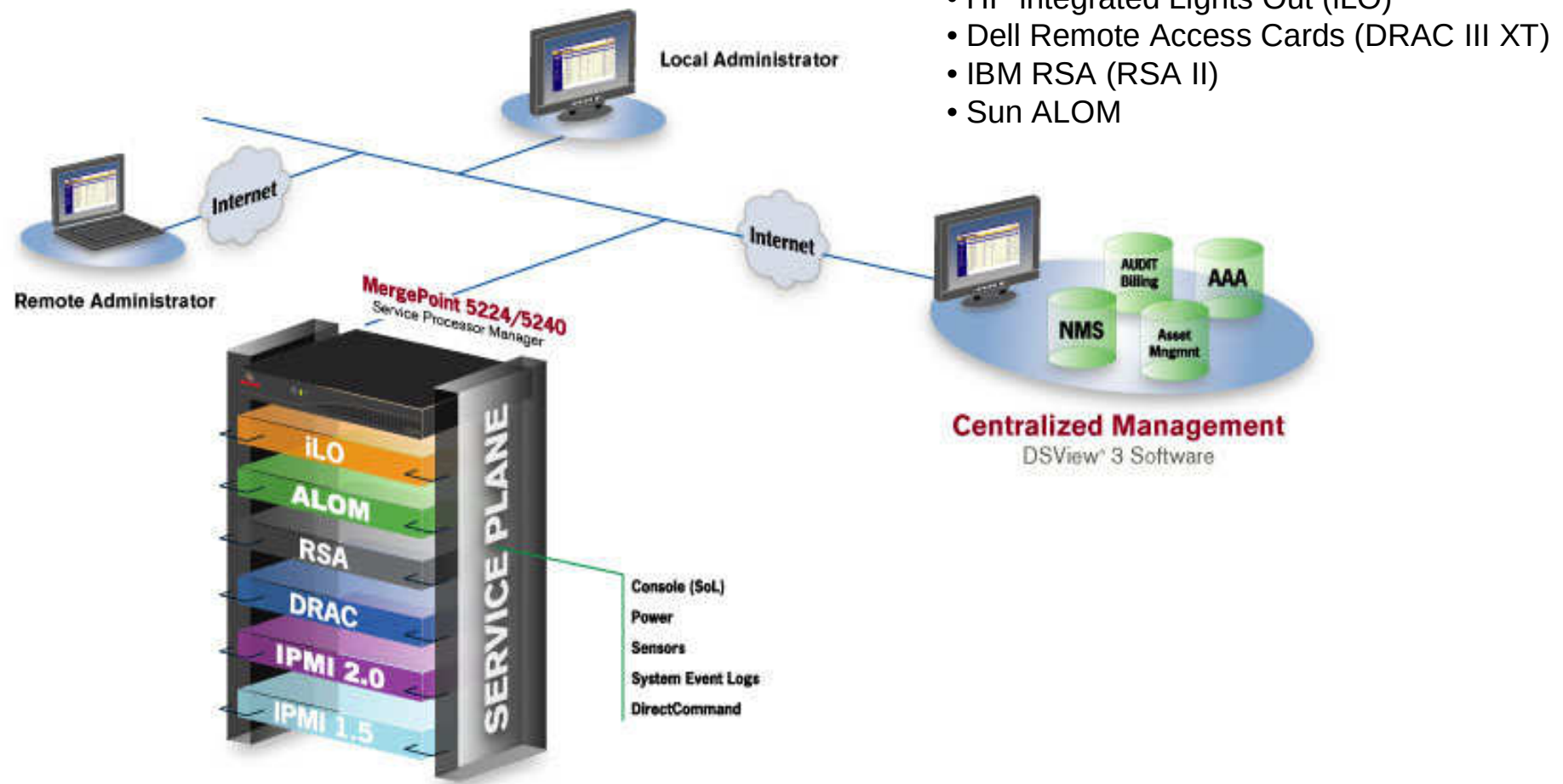
- **Complies with existing security infrastructure:**
 - Fully integrated into Avocent DSView/ACS/DSR security concept
 - User access list per port
- **Saves your time and resources:**
 - Remote and independent control of power outlets
 - Automatic sequential power-up
 - Global current monitoring with threshold alarm
 - Event notification (email, SMS, SNMP trap)
- **Easy to use:**
 - Quick identification of correct power unit and power outlet
 - Support for name assignment to power outlets
 - Coverage of large power port densities (daisy-chaining)
- **Reduced risk:**
 - No operator error when powering server on/off
 - Power port state locking support (lock port on or off)

Service Processor Gateways



- DSView 3 Management Software
- DSR KVM over IP appliance
- Cyclades ACS Serial over IP appliance
- PM Remote Power Management
- MergePoint Service processor managers

MergePoint 5224/5240 Application



Common Service Processors

	Functionality	Vendor
IPMI <i>Intelligent Platform Management Interface</i>	Serial over LAN (IPMI 2.0), Power Control	Multi-vendor
iLO <i>Integrated Lights Out</i>	Web, Serial over LAN, KVM, Power, Virtual Media	HP, Compaq
RILO <i>Remote Insight Lights Out</i>		
SMASH-CLP <i>Systems Mgmt Architecture for Server Hardware</i>	Serial over LAN, Power, System Health	Multi-vendor
DRAC <i>Dell Remote Access Controller</i>	Web, Serial over LAN, KVM, Power, Virtual Media	Dell
RSA <i>Remote Server Admin</i>	Web, Serial over LAN, KVM, Power, Virtual Media	IBM
ALOM/iLOM <i>Advanced Lights-Out Management Integrated Lights-Out Management</i>	Serial over LAN, Power	Sun

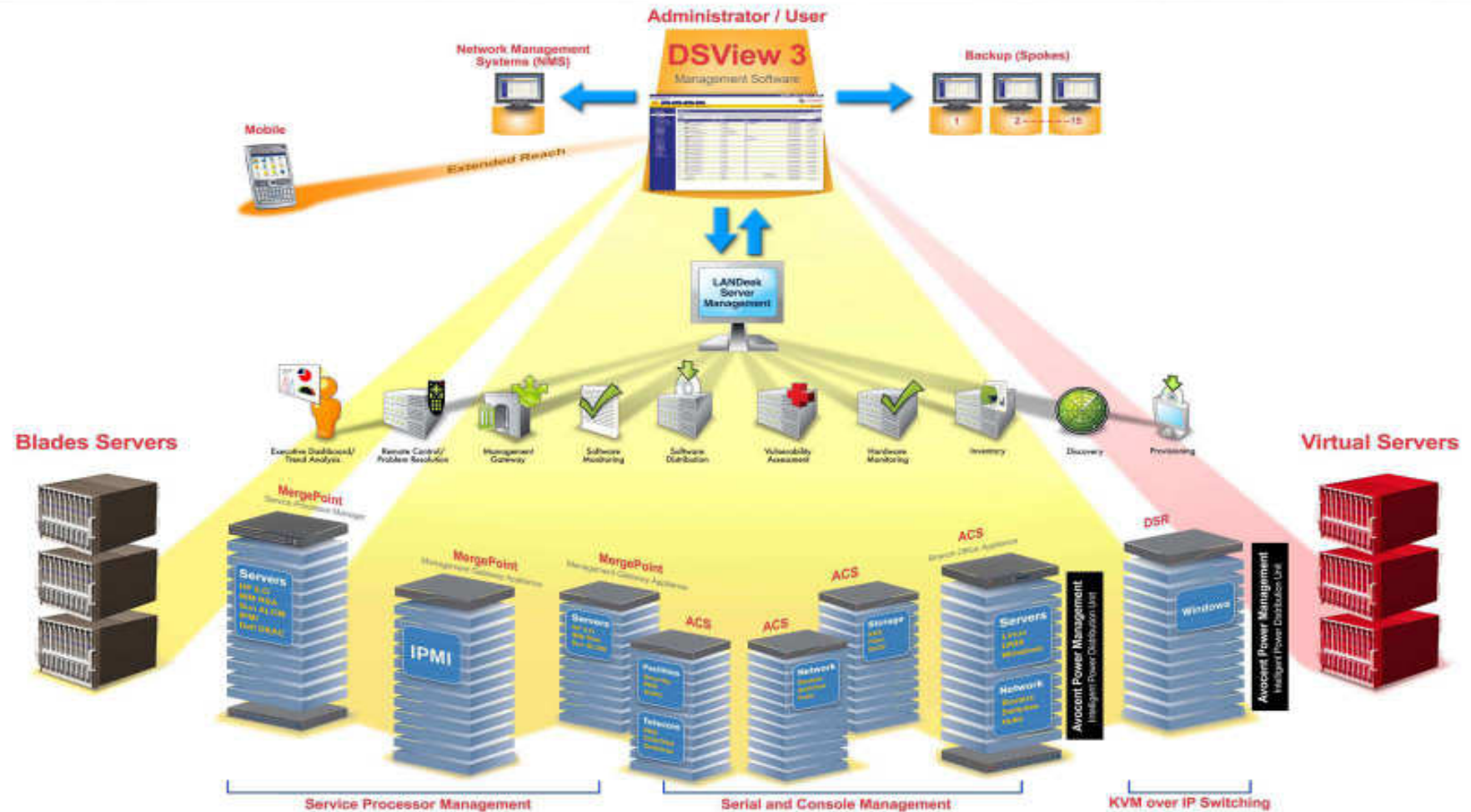


Why Avocent

- Leader with Clear Focus on Customer Need
 - IT Operations and Infrastructure Management Solutions
- Recognized Innovator
 - Growing in the rapidly converging System and Security Management markets
- Compelling Vision for a Full Suite of Integrated Management Solutions to Support “Always On” IT
 - From firmware to appliances to management software, delivered either in-band or out-of-band
- Ability To Deliver
 - Size, customers and track record of growth



A Complete Solution For IT Infrastructure Management Solution





Questions?
