

Key Network Management Considerations for Virtualized Environments

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Agenda

- Technology Overview
 - Is your Network ready for Virtualization?
 - Optimal network monitoring, configuration automation & compliance is necessary to take control of virtualized environments
- Putting it Into Practice with Dorado Software's Redcell™ management software
 - Visibility of all virtual resources and interconnectivity
 - Maintain network health & performance
 - Ensure network configuration compliance
- Large Retail Customer Case Study

Challenge

- Is your network ready for the move to virtualization?
- Virtualized environments have created additional challenges for the network professional
 - Maintaining visibility of the VM deployments across the network (VM sprawl)
 - Server, desktop and application virtualization significantly impacts network & network storage performance
 - Configuration & security compliance requirements are magnified

Take Away

Many more factors impact network efficiency than on traditional infrastructures

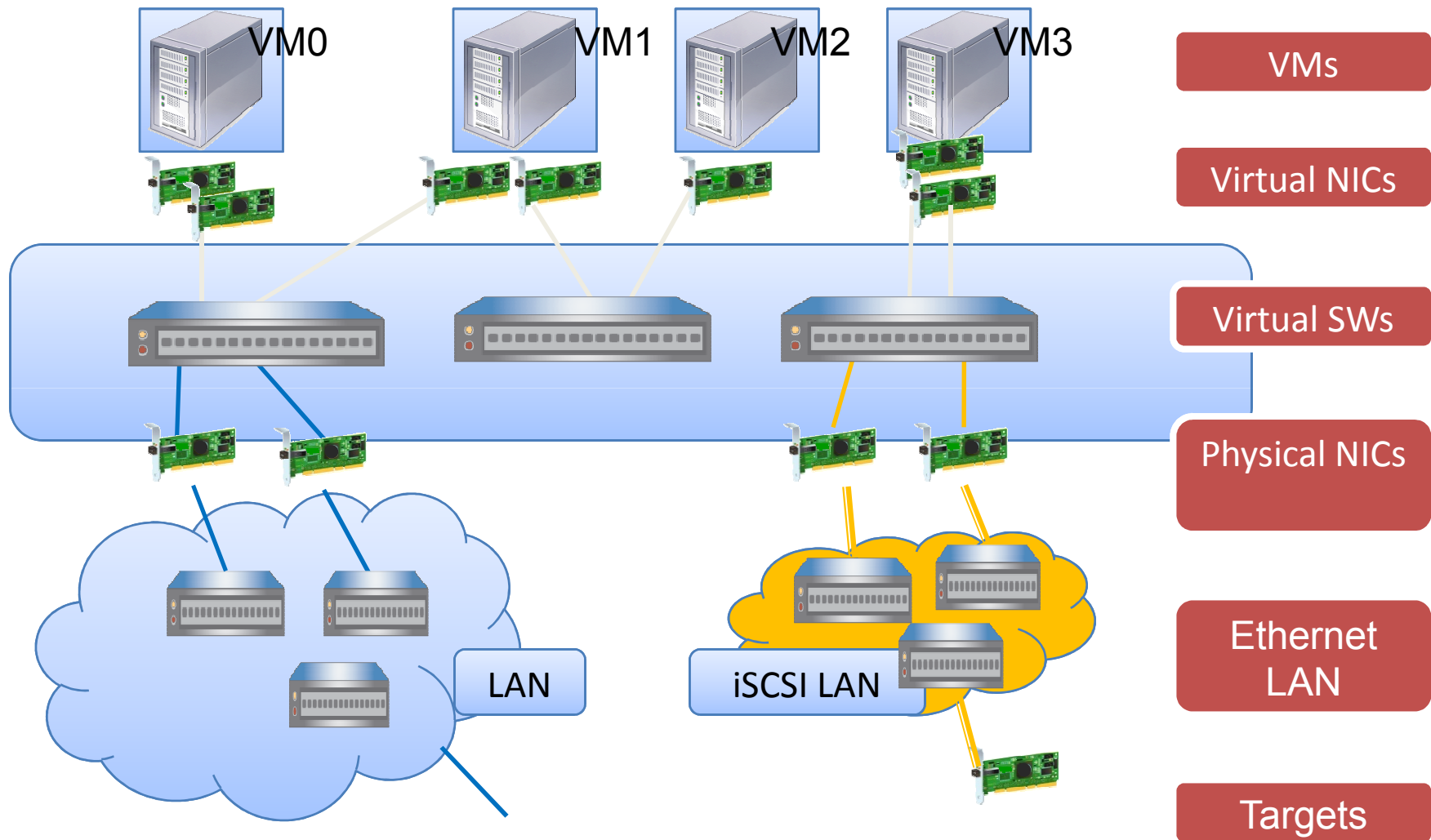
Makes identification, troubleshooting and resolution harder!

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3 Key Needs

- **Automated** discovery & CMDB inventory of **virtualized and traditional** resources to quickly understand & visualize complex topologies
 - Virtual / physical servers
 - Network infrastructure (LAN, VLAN, WLAN, WAN)
 - Virtual storage (iSCSI)
- **Proactive** health & performance monitoring to detect, notify and take action based on user-defined SLA criteria – for device KPIs, interfaces & network services
- **Automated** configuration change & compliance monitoring & remediation to maintain a stable and reliable network

Example: VM & iSCSI LANs



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Putting It Into Practice with Redcell™

- Know how virtual resources are interconnected
 - Discover all infrastructure objects in a virtualized environment & manage within a central CMDB
 - Switch ports (tagged / trunk / uplink)
 - Physical & virtual hosts (virtual & physical NICs, components, services)
 - Interface connectivity, physical/virtual routing, etc.
 - iSCSI & FibreChannel storage environment
 - Connectivity services (VLAN, VPNs, etc.)

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- Pro-actively monitor infrastructure health & performance
 - Baseline and monitor thresholds and alerts on the health & performance of the virtualized infrastructure
 - Take automated action (notification, remediation, etc.) when issues occur
 - Example monitored entities
 - Device -- port / NIC / interface stats, physical & virtual host KPIs, network device KPIs, storage device KPIs, storage capacities
 - Network services -- DNS, DHCP, FTP, IMAP, POP, SMTP, HTTP/S, Telnet/SSH, LDAP, VPNs

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- Ensure network & security configuration compliance
 - Scan & monitor the network for configuration changes – via configuration file scanning, SNMP traps, Syslog messages
 - Alert & notify administrators when changes don't meet pre-defined compliance policies – via UI, email, page, third-party integration
 - Produce out-of-compliance reports

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- Quickly perform global configuration restoration or changes
 - Take other actions to resolve compliance issue – e.g. restore configuration to the last known good state, a baseline or a secure state
 - Multiple methods for one-to-one or group-based configuration: UI-based, Adaptive CLI™, Controlled Telnet/SSH, Config files
 - Configuration examples
 - VLANs, ACLs, FW policies, QoS/CoS, port settings, etc.
 - Configures via CLI, SNMP, CIM, file-transfer and/or proprietary methods

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Scenario

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Scenario: Global Retail Customer

- World's 2nd Largest & fastest growing retailer with operations in over 30 countries WW
- Problem: Needed to increase the efficiency & reduce the cost of managing remote equipment across 700+ stores
 - Heterogeneous infrastructure from Cisco, Dell, Microsoft, HP, Siemens, Symbol, VMWare (routers, switches, physical/virtual systems, POS, network printers)
 - Mission-critical IP network supports heavy operational & replication workload traffic
 - Requires scalable, expandable and reliable monitoring & configuration mgmt. system for 24x7 operations
 - No local administration support at stores – automation was necessary
 - Downtime = Lost sales, Poor customer service

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Scenario: Global Retail Customer

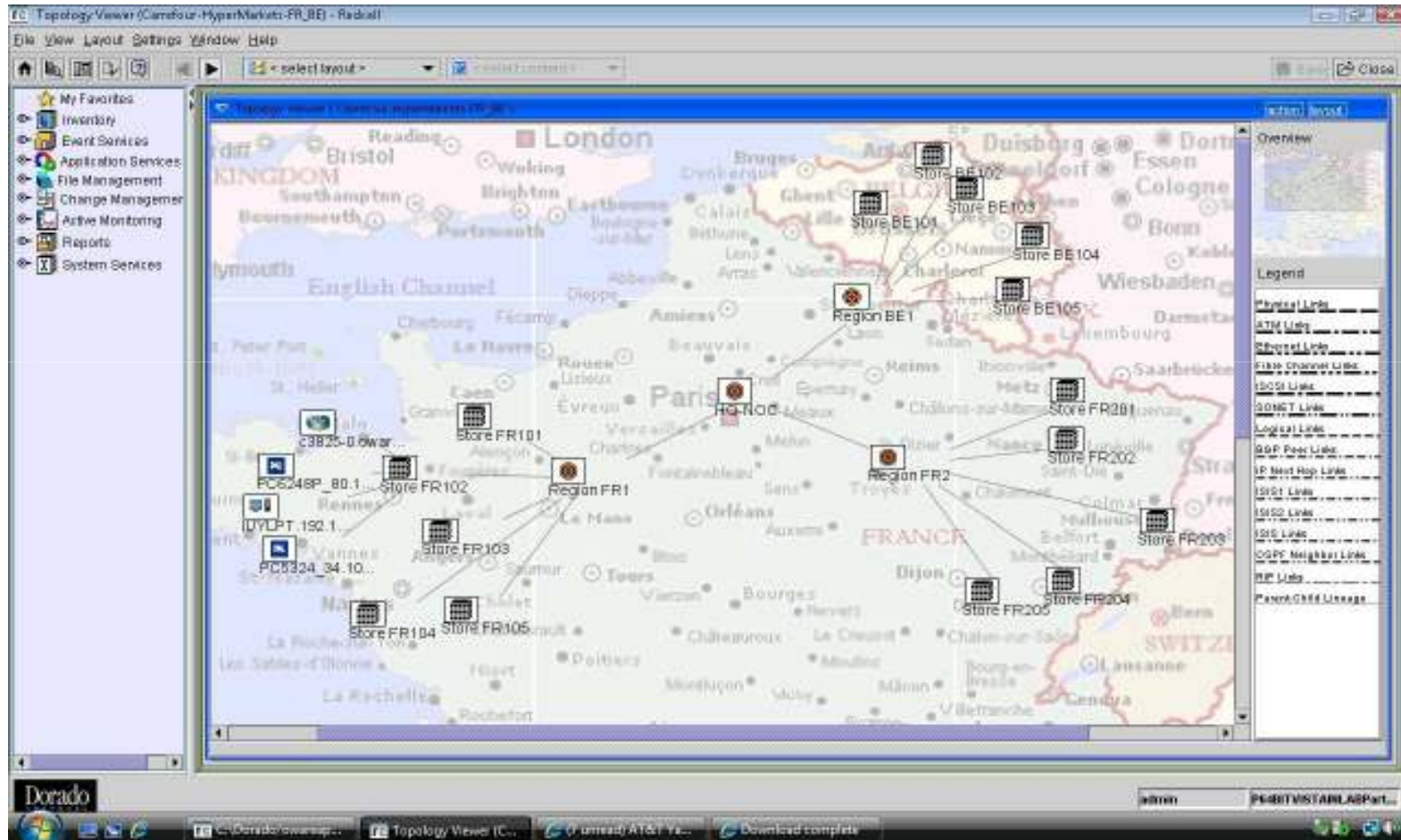
- Solution:
 - 24x7 health & performance monitoring, automated configuration compliance, automated backups, automated remediation for security out-of-compliance
 - Deployed centrally-located clustered configuration w/ geographically-dispersed mediation servers
 - Linux and Windows systems
 - 100% visibility to IT asset inventory, on-going health and configuration compliance
 - Redirected IT Operations personnel to high-value projects
 - Reduced overall IT operational costs by 20%
 - Replaced (4) management software products with (1)

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Case Study

Global Retail Customer



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Summary

Optimal network monitoring, configuration automation & compliance is necessary to take control of virtualized environments

- Discover & maintain visibility of all virtual & physical resources and interconnectivity
- Ensure optimal network device & service health and performance
- Automate network configurations & on-going compliance

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Thank You

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