



Automation and Resilience for Core Network Services



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Applications

Web applications



CRM



E-Commerce



Microsoft AD



Unified Comm



Core Network Services

IP ADDRESS MANAGEMENT (IPAM)

NAMING

(DNS /
DNSSEC)

ADDRESSING

(DHCP / IF-MAP)

DISCOVERY

(ICMP / NETBIOS / NMAP /
LLDP / SNMP)

TIME

(NTP)

FILE DELIVERY

(TFTP / FTP / HTTP)

Network



Routing



Wireless



Switching

Today's Core Network Services

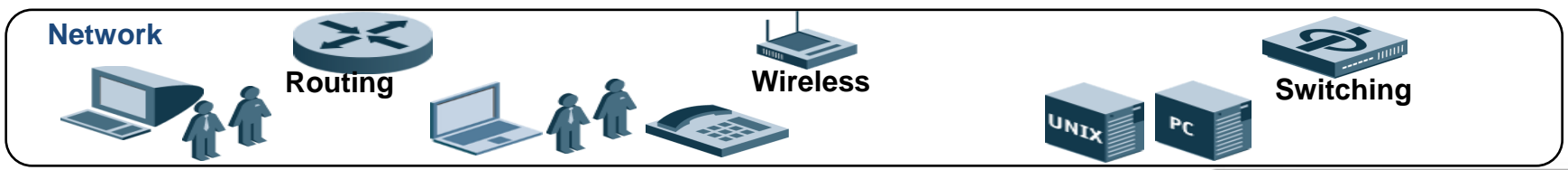
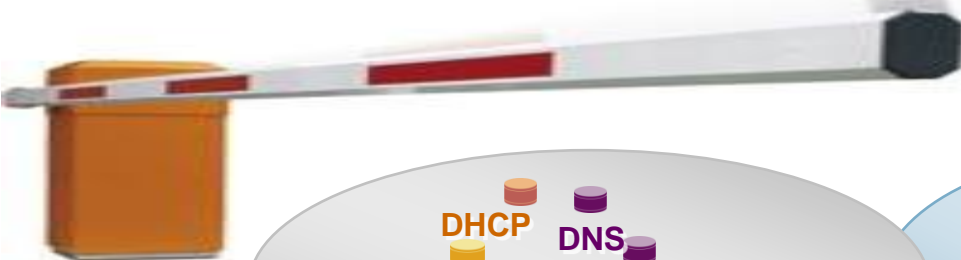
Disconnected mix of spreadsheets and software



IP ADDRESS MANAGEMENT SPREADSHEET



VLAN	100	LAN		Switch	core1	Excel V2.1
Network	10.1.1.0	/24				
			NAME	MAC	ALIAS	LOCATION
10.1.1.1	used		Router1	aa:bb:cc:dd:ee:ff		Antwerp bld1
10.1.1.2	used		Printer1	bb:cc:dd:aa:ee:ff	prnt1	Antwerp bld1
10.1.1.3	used		adminpc	dd:ee:aa:bb:ff:ee	superuser	Antwerp bld1
10.1.1.4	unused					
10.1.1.5	unused					





- **Inconsistencies in network and IP Address plan**
 - Is this IP address really available?
 - Who is using this IP address now and where is it located?
 - Is this switchport really available?

- **No automation or delegation for IP management**
 - Slow Manual process to provision new IP devices (eg. Printer, server, etc.)
 - Request/find available IP, update xls, change DNS, change DHCP,...

- **No reporting or auditing**
 - Where is IP 10.1.1.10 located on the network now?
 - Who used IP 10.2.2.20 two months ago?
 - Who made that network change (eg. change the IP or name of a server)

Virtual Server Management



Provision a New Virtual Server:

- Less than 1 minute
- Fully automated
- No delay

Core Network Services Management



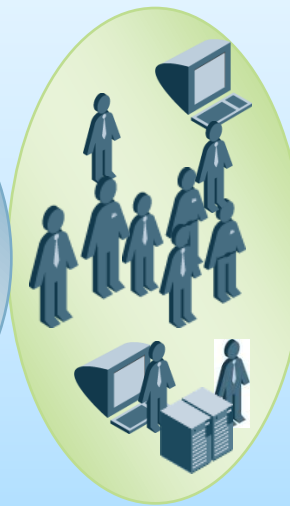
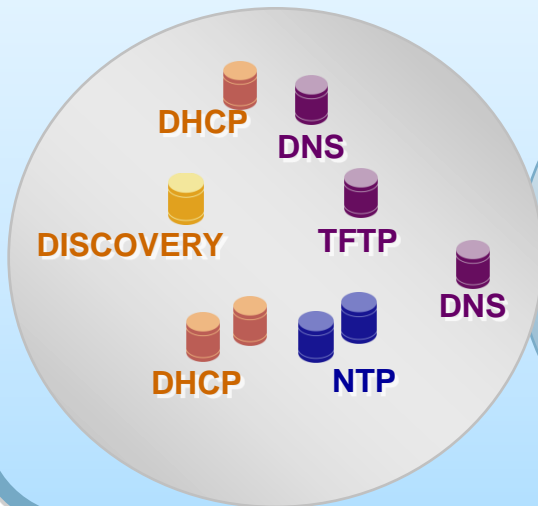
Provision an IP Address for a New Server:

- 30 to 40 minutes
- Manual
- Up to 2-day delay

- **Network and IP Address plan, always up to date**
- **Real time visibility**
 - Known and unknown connected IP devices (IP, name, mac, OS, services)
 - Find true available IP and name space
 - View all switches and wireless access points
 - View current switchport configuration, usage and connected IP devices
- **Historic insight**
 - What and who connected where and when
 - Track network changes (eg. Adding / moving /changing servers)
 - Find true available switch capacity (eg. Ports not used for 60 days)
 - See how IP devices moved throughout the network
- **Delegate and automate Network changes**
 - Securely delegate network and IP provisioning tasks to multiple admin groups
 - Changes in IP Address plan synchronized to DNS (records) and DHCP (reservations)
 - Track and Undo individual changes

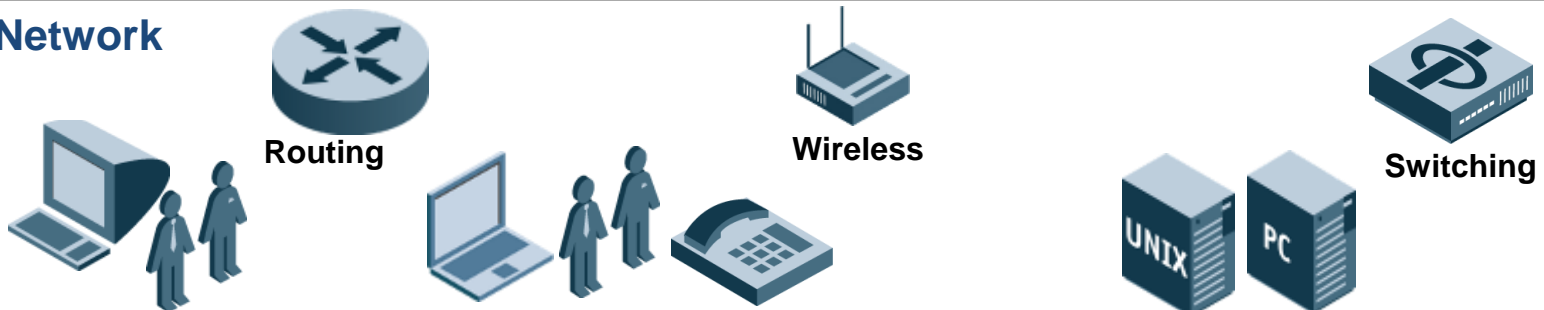
IP ADDRESS MANAGEMENT (IPAM)

Core Network Services



**-Complex
-Insecure
-Unreliable**

Network



DNS DHCP IPAM FTP/TFTP/HTTP NTP MORE...

Microsoft
GOLD CERTIFIED

Partner



- Integrated core network services on hardened appliances
- Centralized visibility & control of appliances, protocols and data

SIMPLE

SECURE

RELIABLE

Infoblox Grid Technology

Simple, secure and reliable



Grid: A collection of secure *member* appliances, all running the same software, providing one or more services (DNS, DHCP, Discovery, File Delivery, etc.)

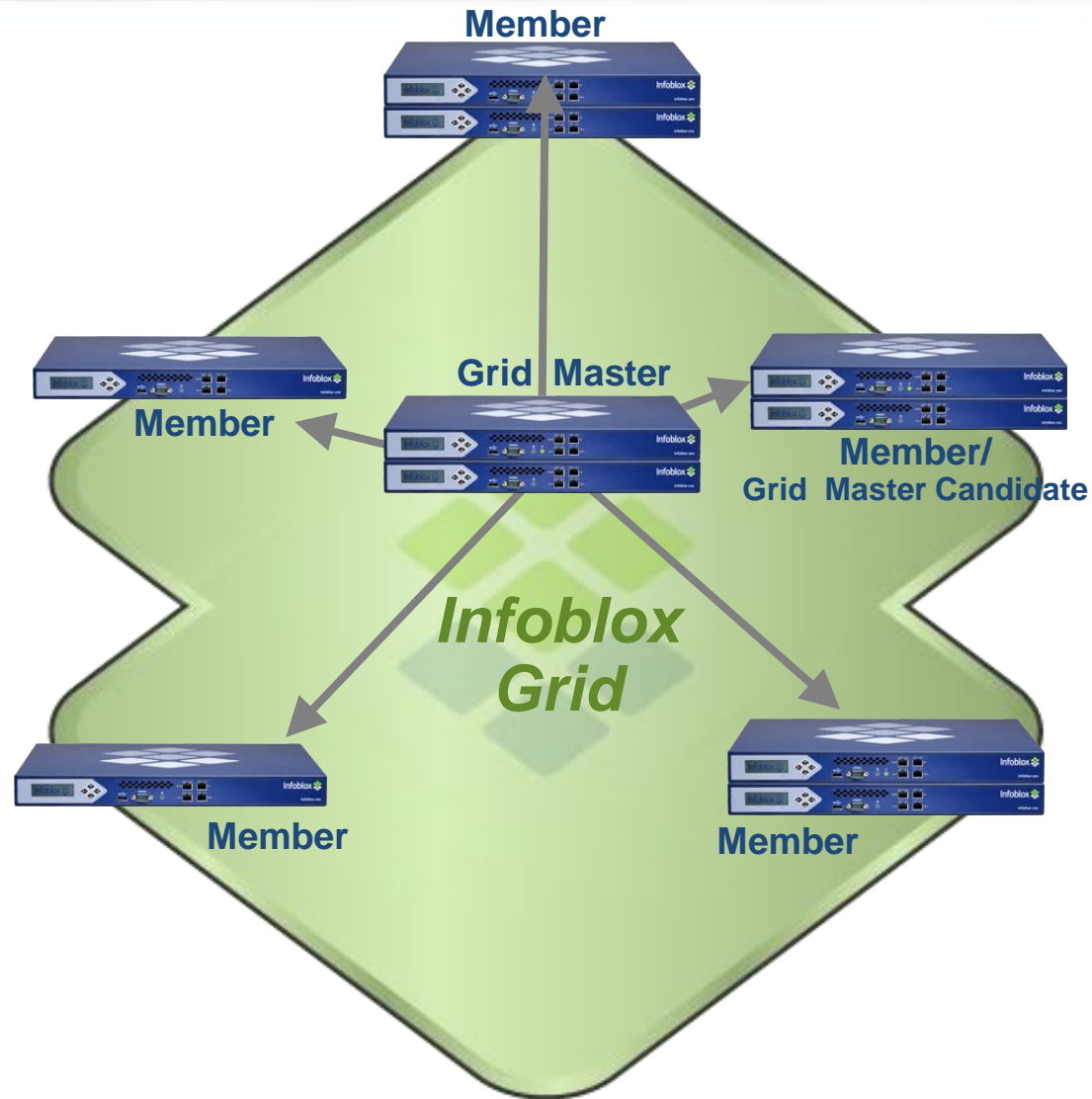
Coordinated by the *grid master*

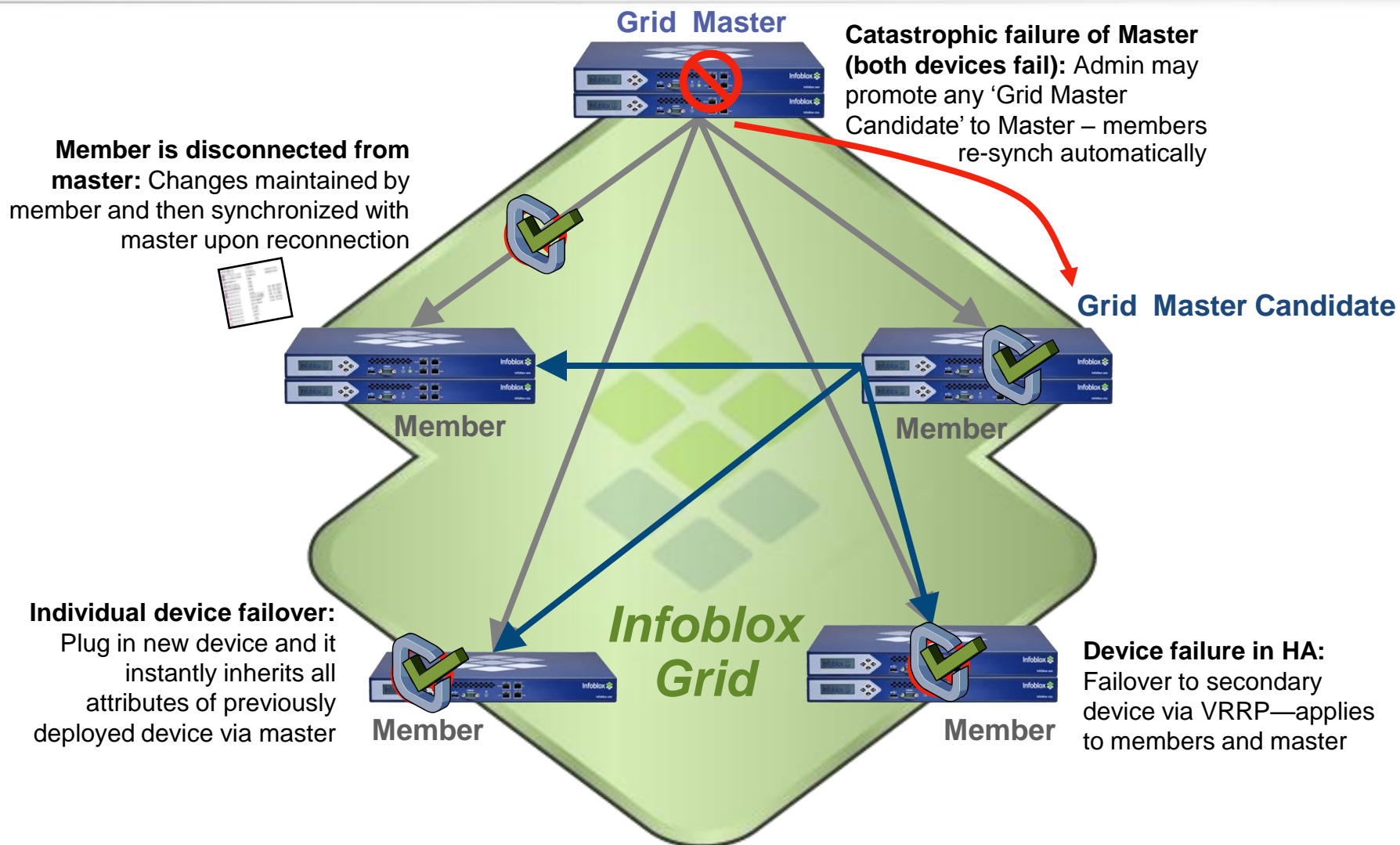
Sharing a distributed database

Communicating via an SSL VPN

Provides:

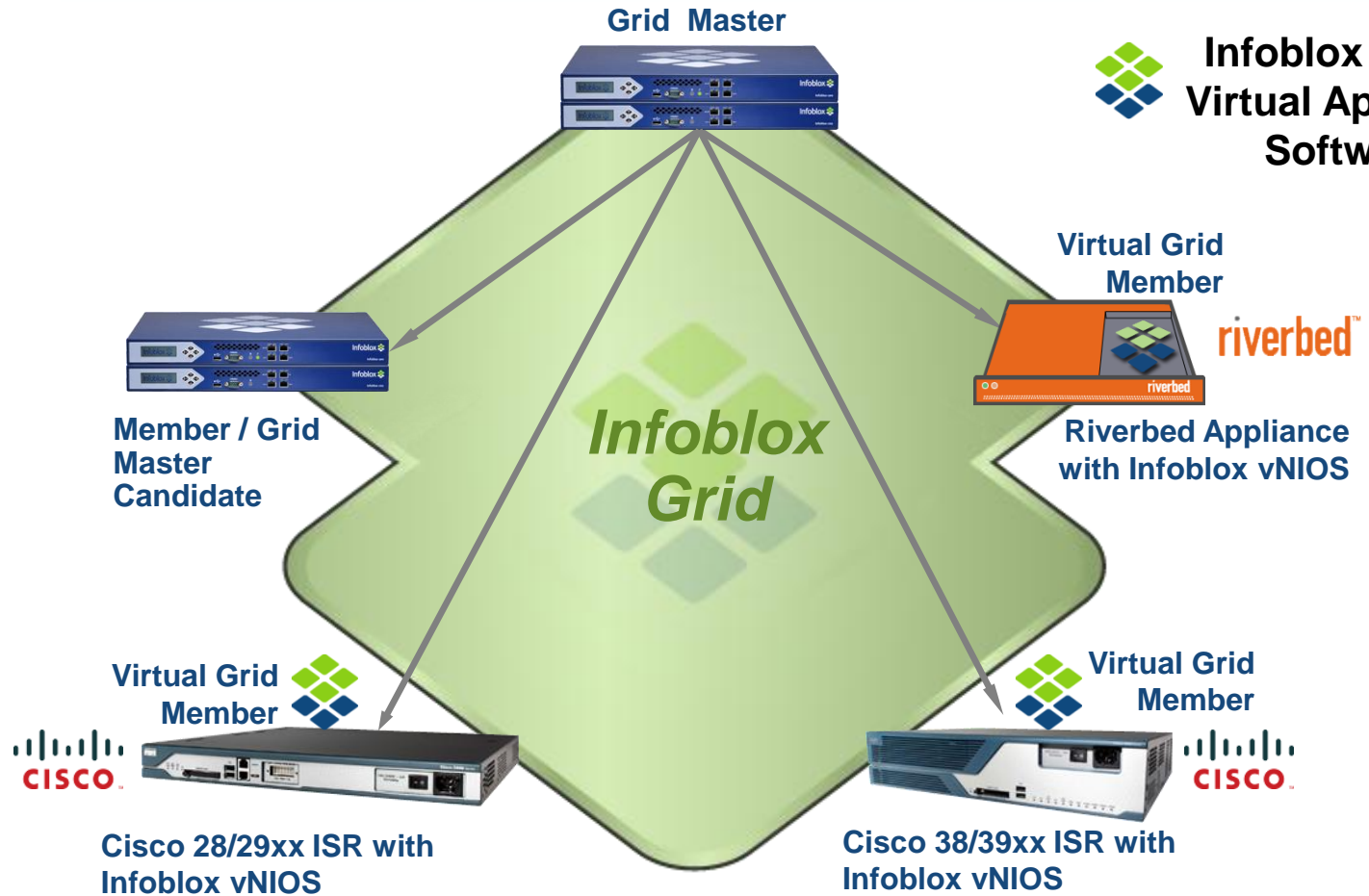
- **Centralized visibility and control**
- **Real time IPAM & discovery**
- **Monitoring and reporting**
- **Failover and disaster recovery for services, data & management**





You can upgrade in production with no downtime!

Infoblox Supports Branch Consolidation with vNIOS™ Virtual Appliance Software



Replacing Servers with Appliances in Branch Offices Improves Performance, Provides Local Survivability, and Drives Compelling ROI

- **Experience with virtualization in life networks since April 2008**
- **VMware Technology Alliance Partner**
- **Full QA testing and fully supported by worldwide TAC**
- **Going beyond just virtualizing the appliance**
 - IPAM for virtual hosts
 - Link with VSphere
 - Integrated virtual network and switch discovery
 - Going beyond DNS/DHCP.....File distribution, NTP, Discovery,...
 - I2.0 vision and implementation
 - IF-MAP support

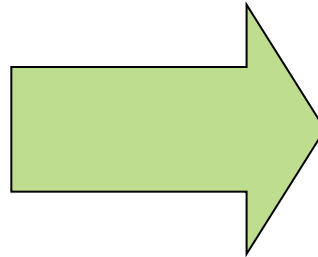


Networks Need to Evolve from Today's Manual Infrastructure to Dynamic, Infrastructure 2.0



INFRASTRUCTURE 1.0

- Static Network
- Limited VMotion
- Static Data Centers
- Tactical Virtualization Benefits
- CAPEX Reduction



INFRASTRUCTURE 2.0

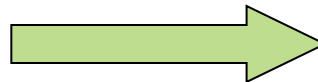
- Dynamic Network
- Fluid VMotion
- Private & public clouds
- Strategic Virtualization Benefits
- Flexibility, speed, DR
- Higher Efficiency, Reduced OPEX

•Manual Core Network Services



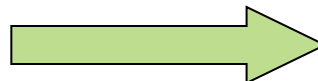
•Automated Core Network Services

•Spreadsheet IP Address Management



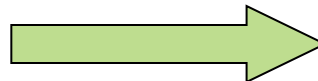
•Automated IP Address Management

•Server & Network Management Silos



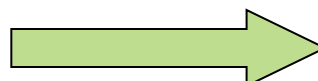
•Integrated Server & Network Management

•Static Network Provisioning



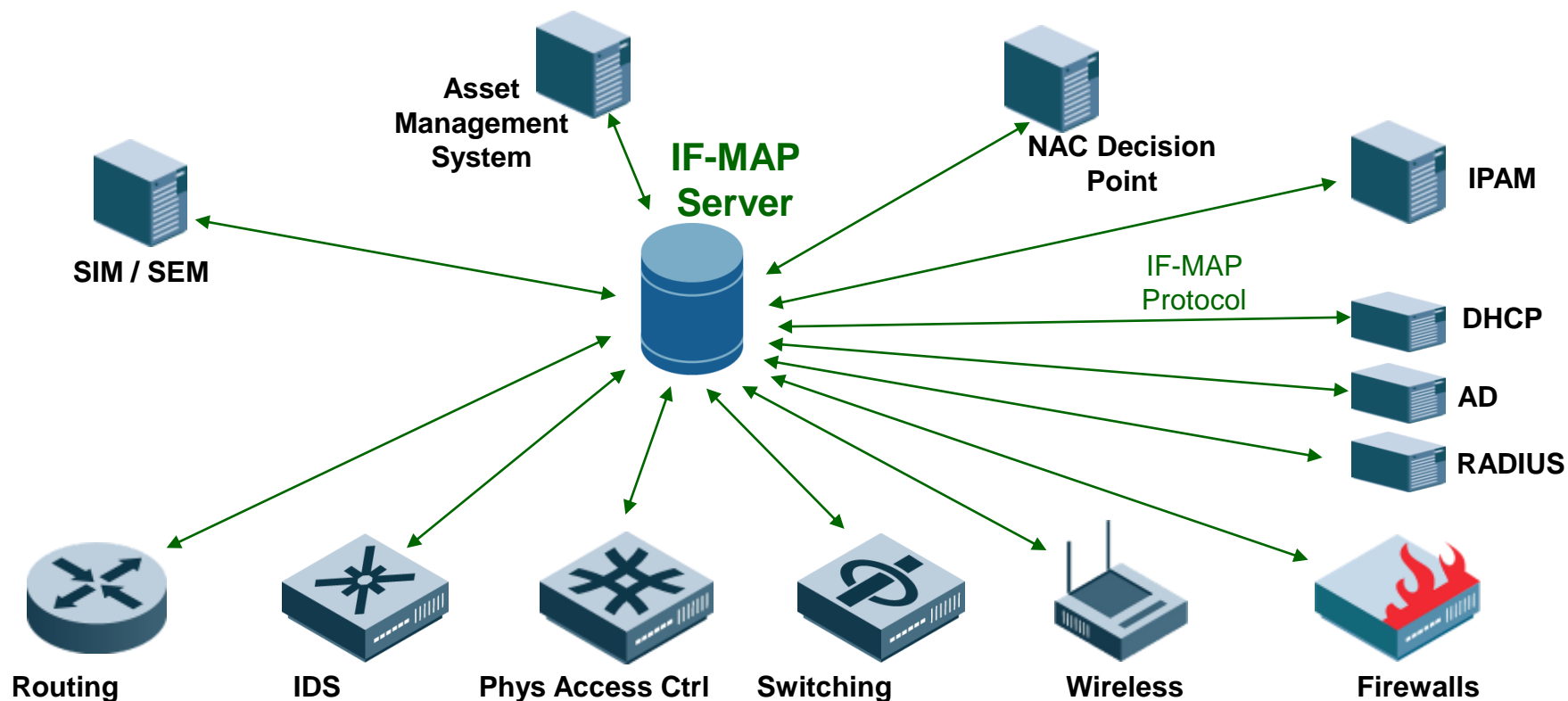
•Dynamic Network Provisioning

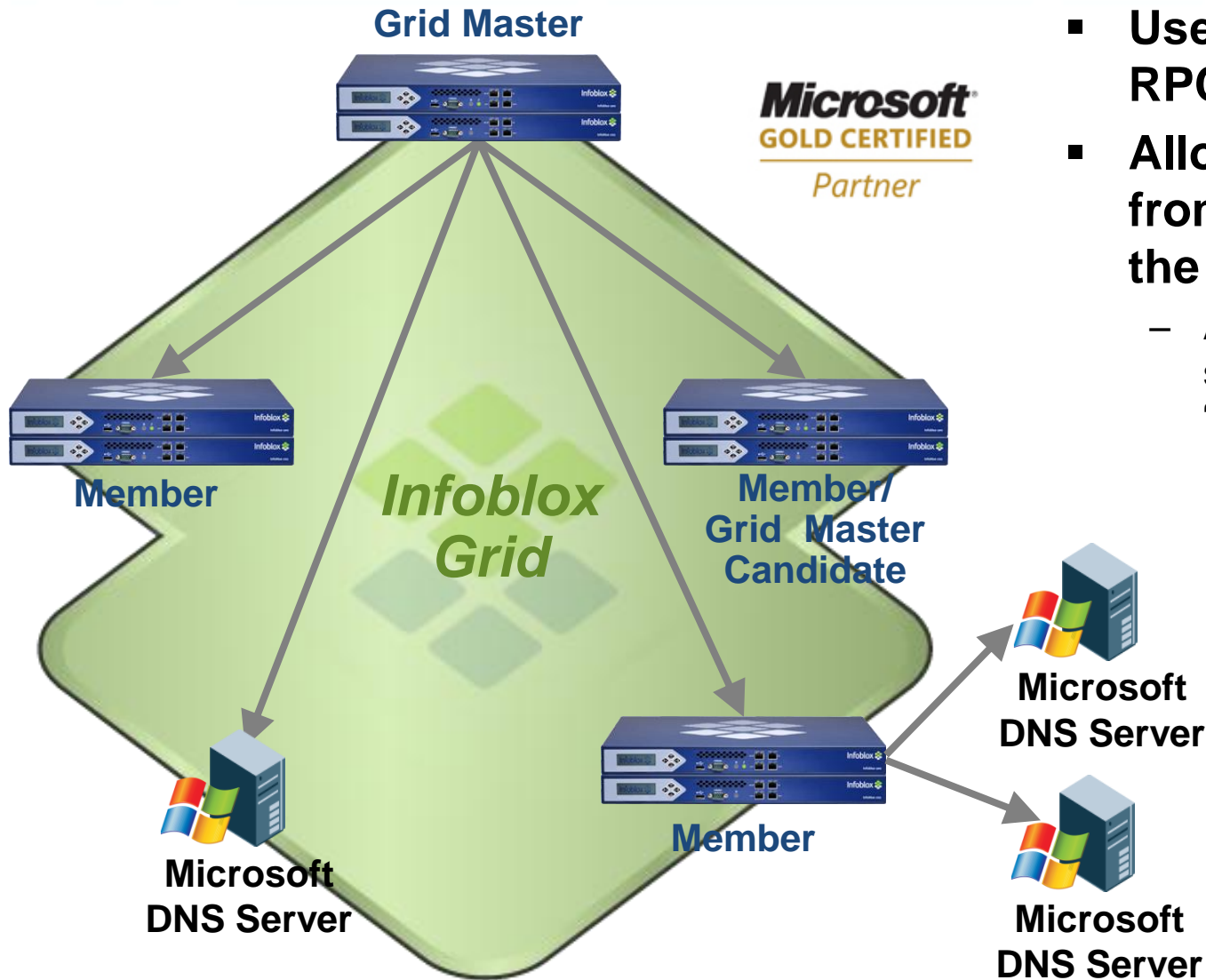
•Manual Security Provisioning



•Automated Security Provisioning

- **Twitter for network devices**
 - **Publish info**
 - **Subscribe to updates**
 - **Search for info**



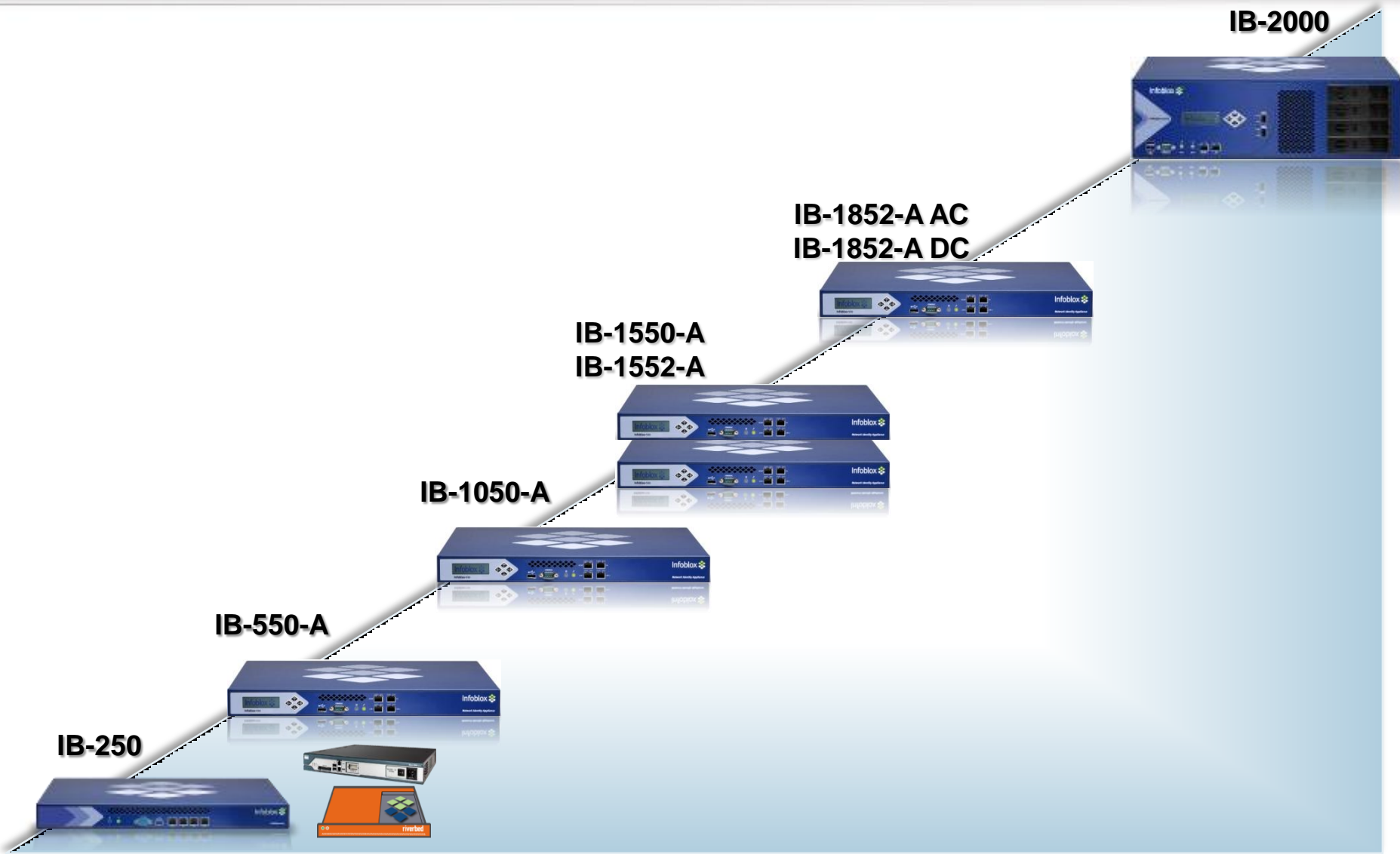


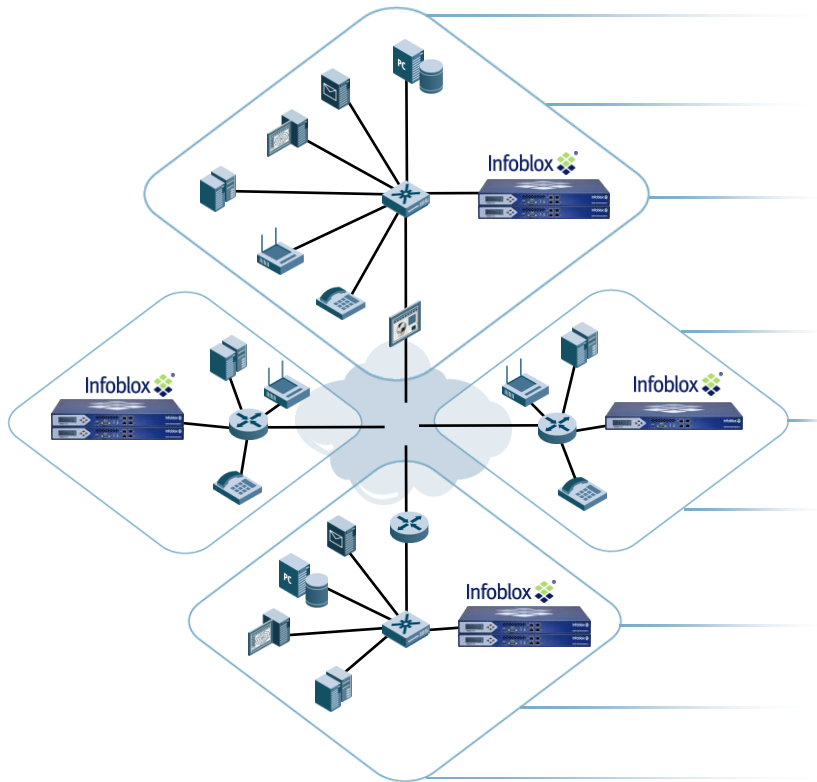
- Uses the “native” MS-RPC protocols
- Allows management from any member in the Grid
 - Allows for very large scale deployments and “remote” management

- **Hardened appliances with no root access**
 - Hardened OS with restricted CLI with audit control
- **Easy, fast response to new vulnerabilities**
 - One-touch software upgrades, in production, with no downtime
 - Infoblox is a member of CERT and has advance notice of new threats
 - Infoblox customers had Kaminsky patch on the day CERT issued their advisory
- **Built-in DNS cache poisoning attack detection and mitigation**
- **Extensive admin logs make audit/compliance easy**
- **One-click zone signing and automatic key management for DNSSEC**
- **IF-MAP...the way to coordinated computing**



Infoblox Appliances Family Enables “Right-Sizing” for Any Environment





SIMPLE

SECURE

RELIABLE



IP Address Management (IPAM)

- Included with Infoblox DNS/DHCP
- Includes switch capacity Management



External DNS

- Secure platform, easy administration, and “one-button” patching



Internal DNS/DHCP, Full AD support

- Overcome MS DNS limitations and avoid dependencies
- Microsoft certified solution.



IP Telephony

- Nonstop DHCP and IP phone config file delivery



Auditing and reporting

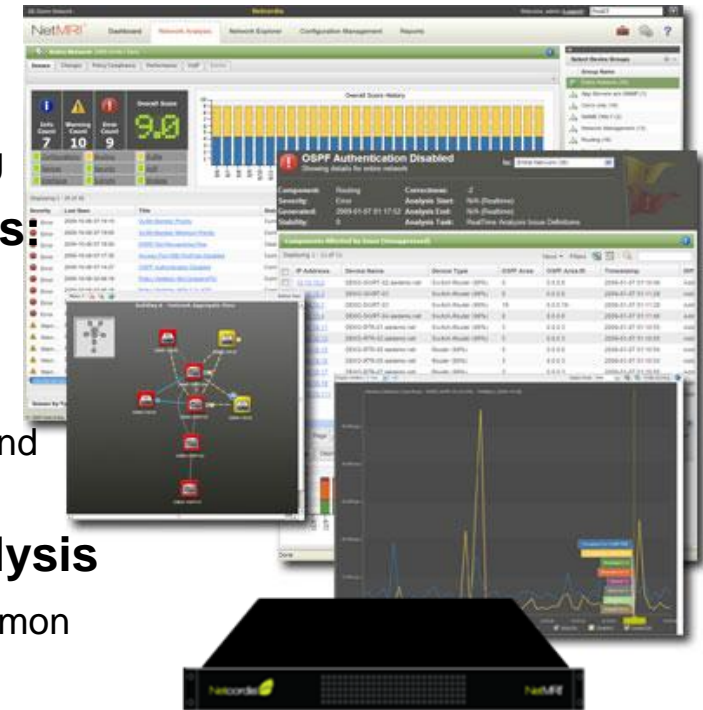
- Switches, switchports, IP endpoints
- Locate devices physically
- Real-time and historic insight



NetMRI A Quick Introduction



- **NCCM Solution**
 - Network Change Automation
 - Configuration Management
 - Compliance and Policy Enforcement and Auditing
- **Focused on #1 cause of network problems: “Change”**
 - Automates change for efficiency and accuracy
 - Monitors change (what, when, where, and who?)
 - Only solution to show impact of change on health and compliance
- **Differentiated by depth of L2/3 Network Analysis**
 - Only solution with built-in, automated analysis of common network problems
 - Network focused, not just device focused



"Like checking my emails or drinking my coffee, opening and looking into our NetMRI has been part of my habit. This tool is just so amazing...With NetMRI, I can have a full picture on what is happening in our network.

Fairmont Raffles Hotels International
Michael Vicera, Network Analyst



Cause & Effect

- Help user identify hard to find issues
- See if a change had a positive or negative impact on health
- Verify if change impacts policy compliance
- View impact on device neighbors

Build Consistency

- Over 200 pre-packaged rules
- Wizard encoding of complex rule logic
- Deploy easily
- Proactive alerts for policy violations
- Built-in remediation
- Live and historical status, trends and reports

The screenshot displays the NetMRI Configuration Management interface. The main window shows the configuration for a rule named 'AAA Login'. The rule details include:

- Rule Name:** AAA Login
- Short Name:** IOS-AAA-002
- Author:** Netcordia, Inc.
- Severity:** error
- Description:** Make sure AAA login is enabled on the device. References: NSA; SANS 4.1.1; PCI 8.3 This rule is...
- Remediation:** As part of AAA setup for the device ensure AAA login is enabled.

Below the rule configuration, a 'Policy Compliance' report is visible, showing a 'Summary of Findings' table:

Section	Requirements	Supporting Evidence	Results
1.1.2	Enable firewall configuration standards that include a current network diagram with all connections to LAN/wireless data, including any wireless networks.	NetMRI automatically provides a detailed discovery of network devices and their connection topology. Please look at table 1, below.	Pass
1.3.6	Secure and synchronize running and startup router configuration files.	NetMRI Event Analysis automatically collects the log data of network devices. Please look at table 2, below.	Pass
2.1	Change vendor-supplied defaults logs and data retrieval credentials.	NetMRI automatically verifies that network devices do not allow logins using vendor supplied defaults and passwords. Please look at table 3, below.	Pass
10.2	Implement automated audit trails for all system components.	NetMRI Event Analysis automatically collects the log data of network devices. Please look at table 4, below.	N/A
10.6	Review logs of system components daily.	NetMRI Event Analysis automatically collects and continuously analyzes the log data of network devices according to user defined rules. Please look at table 4, below.	N/A
10.7	Retain audit trail history for at least one year, with a minimum of 3 months online availability.	NetMRI Event Analysis automatically archives the log data of network devices. Please look at table 4, below.	N/A
11.5	Alert personnel to unauthorized modification of critical system files.	NetMRI automatically detects configuration changes and collects and stores running and saved configurations. An issue is generated when a configuration change is detected. Please look at table 5, below.	Pass
12.10.1	Maintain a list of connected network.	NetMRI automatically discovers network devices.	Pass

The interface also shows a 'Policy Compliance' table with columns for various rules (IOS-AAA-001, IOS-AAA-002, IOS-AUX-001, IOS-AUX-002, IOS-AUX-003, IOS-BAH-001) and a 'Select Device Groups' sidebar on the right.

Empower Staff

- Automate data collection & analysis
- Reduce manual time and effort
- Become proactive
- Improve remediation options
- Multi-user roles and access
- Views based on individual needs





Thank you !

