DNS, DHCP, IP Address Management
Time to get serious!

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Who are we?

- 28 years combined experience with DNS, DHCP and IPAM technologies
- Many large deployments across all verticals

Paul assessed and balanced a set of very complex technical dependencies and steered the project to successful completion.

BT Global Services

Paul completed an installation of a DNS & DHCP management solution and it will be a pleasure to work with him in the future.

Heineken

Kier provided the Lloyds Integration programme with sound advice and is a trusted member of the team.

Lloyds Banking Group

Providing outstanding customer service to all, Paul is both motivated and customer focused.

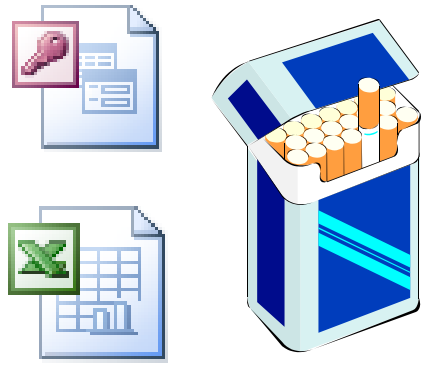
HSBC

Paul was always on hand to resolve any issues with good humour. The cutover was handled so professionally that the users were unaware that the work had been completed.

Orange

What IPAM solution are you using today?

- Excel spreadsheet(s)
- Open source
- In-house custom system
- Feature of another product
- Another solution



Existing DNS environment?

- Are you using BIND on Linux
  - ...and Microsoft DNS, due to Active Directory?
- Keeping BIND updated can be a challenge
  - Constant security vulnerabilities
  - How do you patch?
    - Install latest binaries with yum/apt-get or rpm/dpkg?
    - Download sources and compile with gcc?
    - Enter #dependencyhell
- Do you integrate BIND and AD?

DNS support & resilience

- Can you count on a vendor for support?
- Have you configured any kind of resilience?
  - E.g. CARP/VRRP VIPs or Windows/Linux Cluster
  - RAID 1 to combat HDD failure?
  - Dual PSU?
- Are you doing any monitoring?

DNS zone file maintenance

- How are you updating zone files?
  - vi is fine for small changes, provided you know what you are doing
    - But do others?
    - Is all the knowledge in one persons head?
- How are zones synchronised?
  - Zone transfer? Multi-master?
  - What about named.conf?
    - Any discrepancies sneaking in?
    - What about audit an trail? Or role-based access?

DHCP

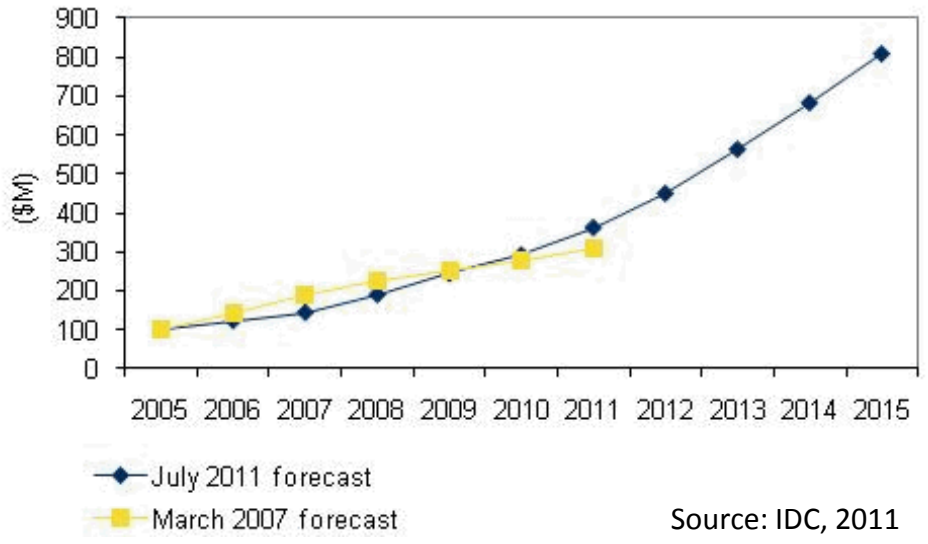
- Linux and/or Microsoft?
  - Microsoft – Windows 2012 now supports failover
  - Linux – has supported failover for some time
    - However, are you monitoring it?
    - How are you synchronising the configs?
    - Have you tested it recently?
- Support/management/monitoring
- How do you document static allocations?

Management headaches

- Microsoft DNS/DHCP use separate MMC consoles
  - And you have to know which server to connect to
- Linux is primarily command line driven
- IPAM normally done elsewhere
- No integrated management or global view
  - Can lead to errors

The DDI market is growing

- Gartner coined the term DDI for their first MarketScope report in 2009
- Both Gartner and IDC predict annual growth > 20% per annum



Source: IDC, 2011

How does this relate to the education sector?

- Student fees have increased
  - Students now expect/demand a commercial grade service
- Explosion in number of devices
  - IP addresses
  - Wireless AP's
  - Subnet/VLAN partitioning
- Adoption of new (well, old really) technology such as IPv6

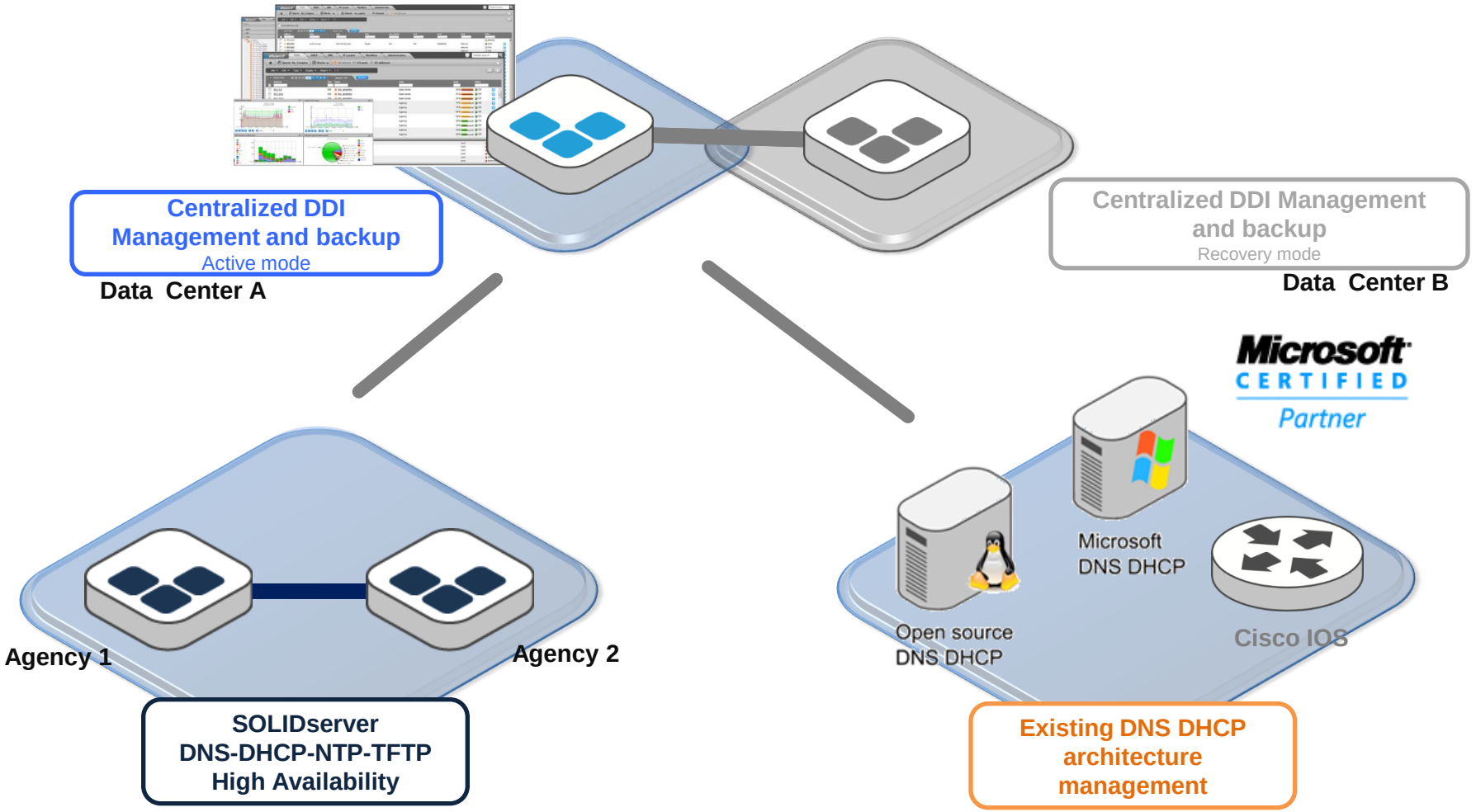
Introducing a DDI solution

SOLID™ server

vmware

- IP address plan management
- Integrated network services engines: DNS-DHCP-NTP-TFTP
- Multi-vendor DNS & DHCP services management
  - Microsoft – ISC – Cisco – SOLIDServer™
- Active IP address tracking with IPLocator module
- Built-in work flow
- Unified system management
  - Integrated zero admin database
  - Hardened OS with embedded stateful firewall
  - Simplified upgrades, backups and disaster recovery

Multi-vendor/heterogeneous support

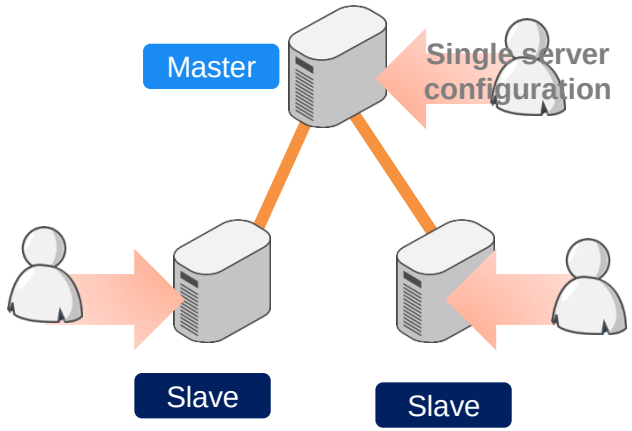


Resilience and support options

- Built-in database replication to hot standby
- Network link aggregation/failover
- Single or multiple VIPs
- DHCP Failover (one-to-one or star)
- 24 x 7 support option
  - 4 hour on-site advanced replacement service available

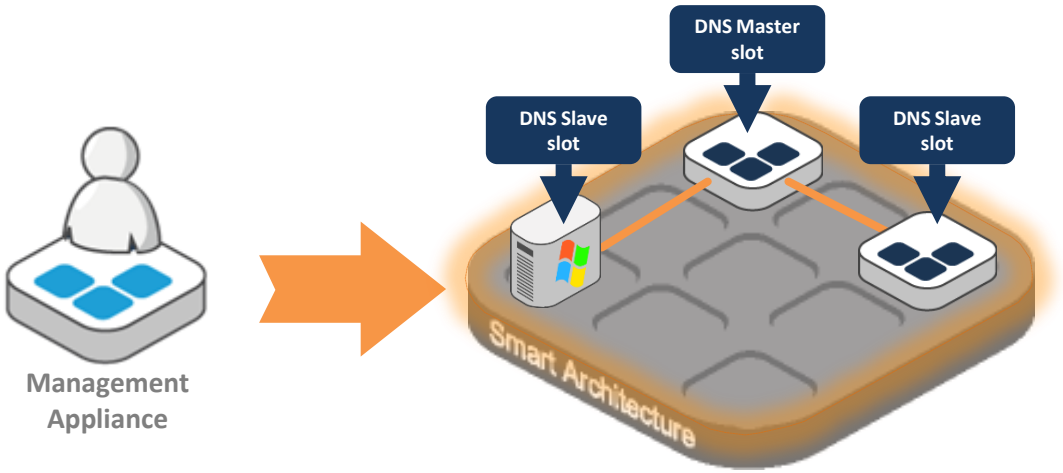
SMART Architectures™: Changing DNS-DHCP Deployments

- Classic deployment process of DNS-DHCP architectures
  - Each server is individually configured to build an architecture
    - Deployment of 10 zones on one master and 3 slave servers = Multiple repetitive tasks !
  - No embedded architecture concept
    - Complexity of architecture deployment
    - High risk of misconfiguration
    - No Embedded Best Practices
  - Difficult and risky architecture modification
    - Add/remove a server
    - Change the architecture type : Master/slave to DNS stealth



Classic Model
Per server administration to build an architecture

SMART Architectures™: DNS-DHCP Architecture Management



Each slot has a predefined role in the SmartArchitecture™

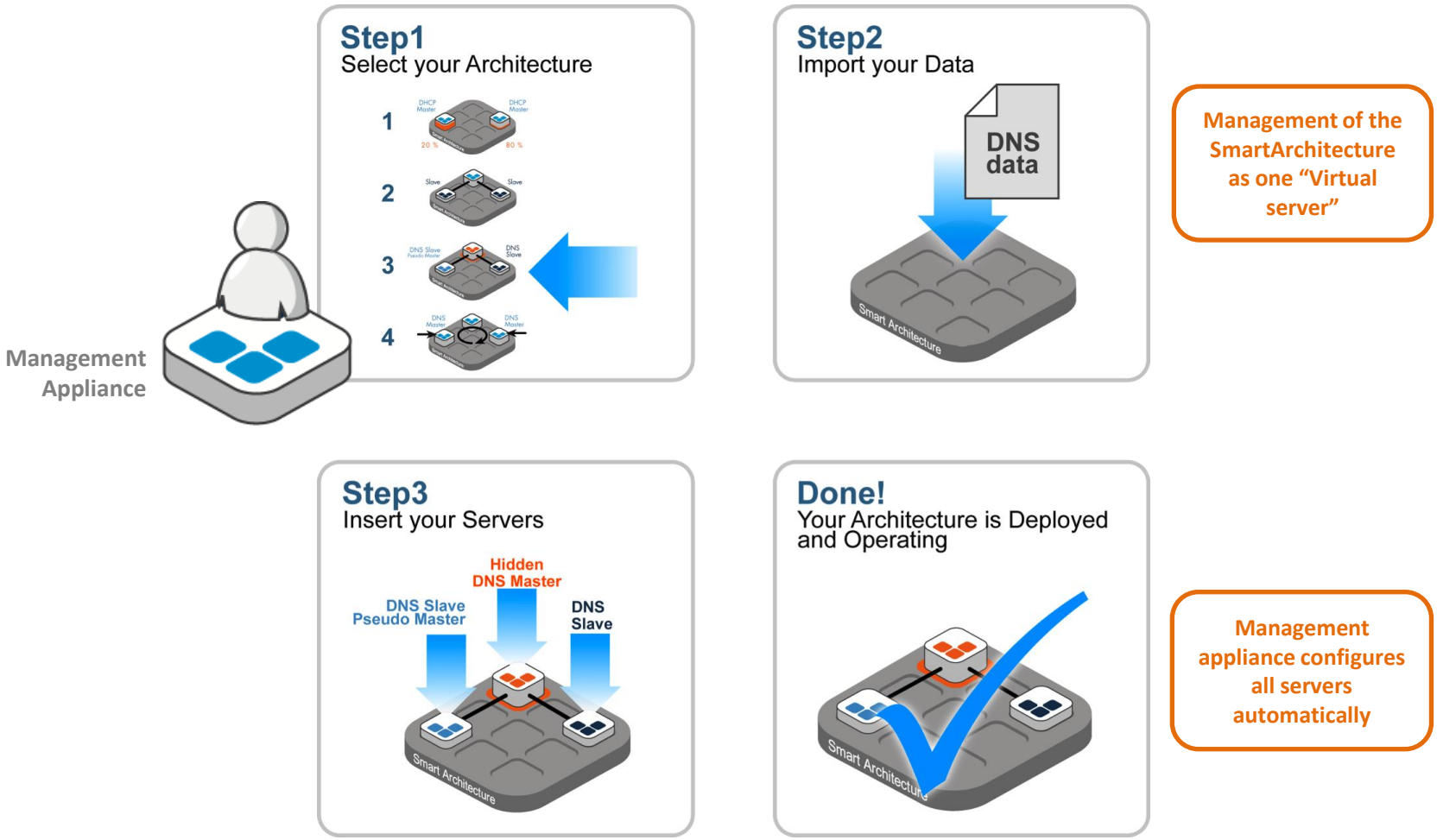
Each DNS server is inserted in the appropriate slot

Automated configurations of all servers according to their role in the SmartArchitecture™

SmartArchitecture™ are Templates of DNS or DHCP architectures

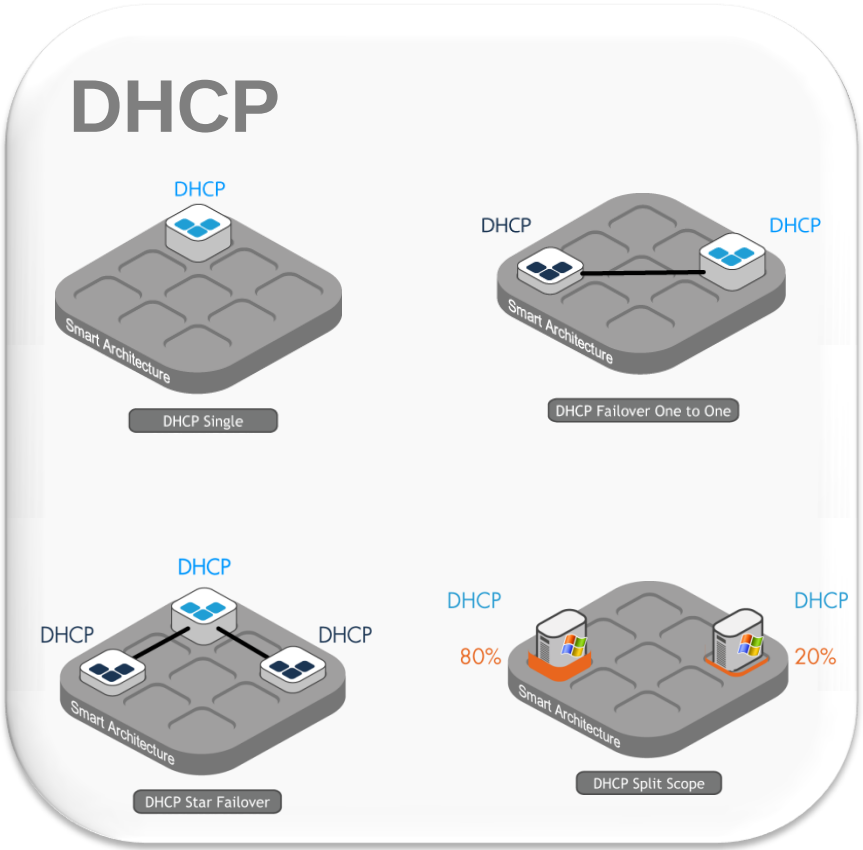
Ex: Master-Slave

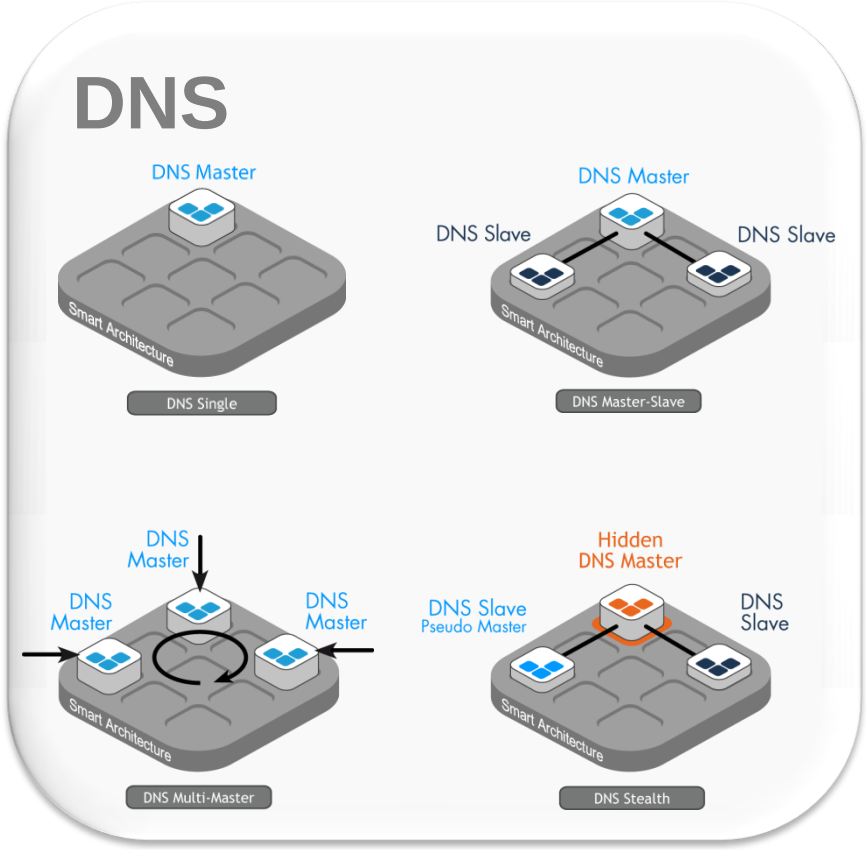
SMART Architectures™: Automated Architecture Deployment



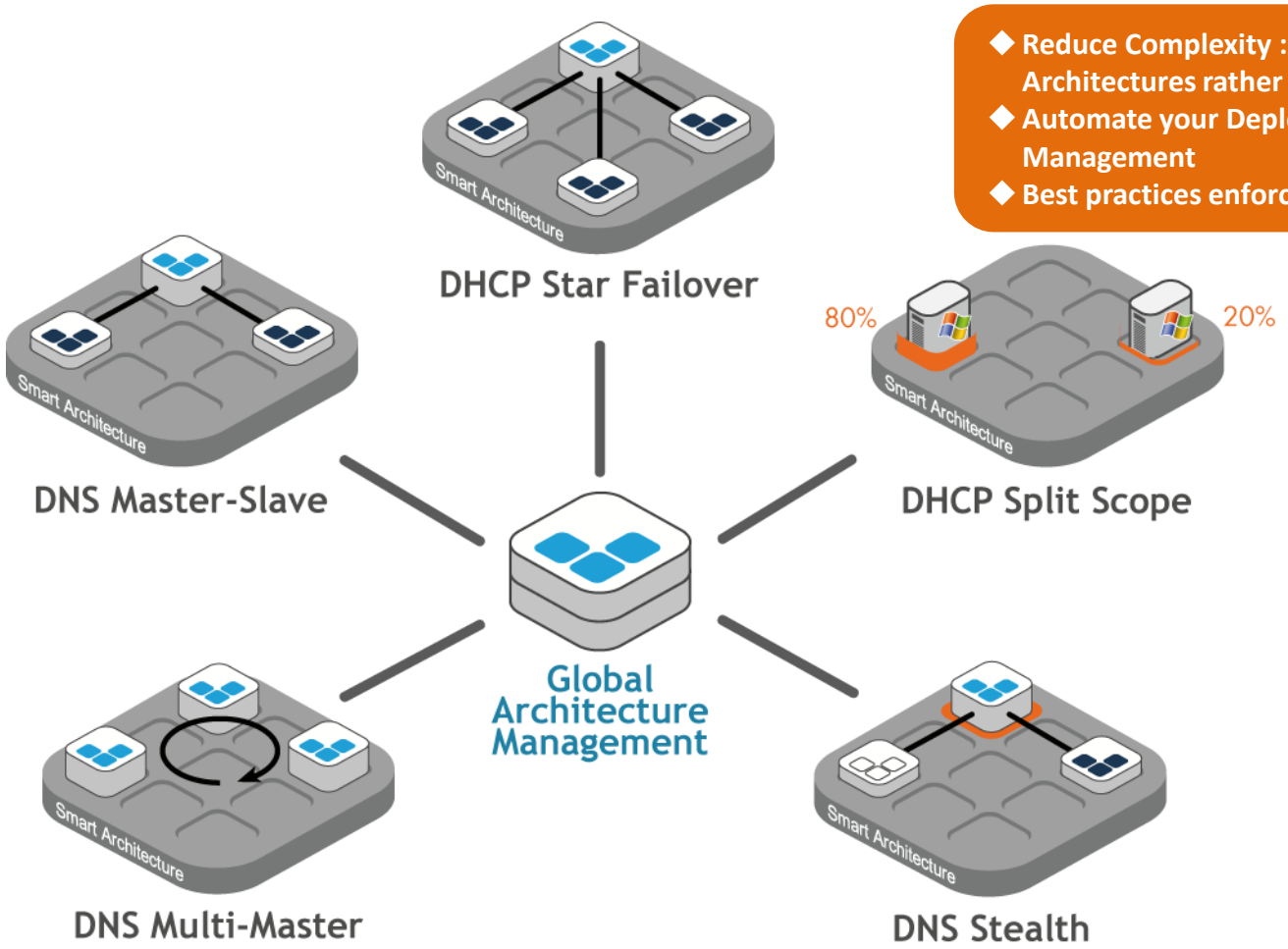
SMART Architectures™: Architecture Management

- Smart Architecture™ Library

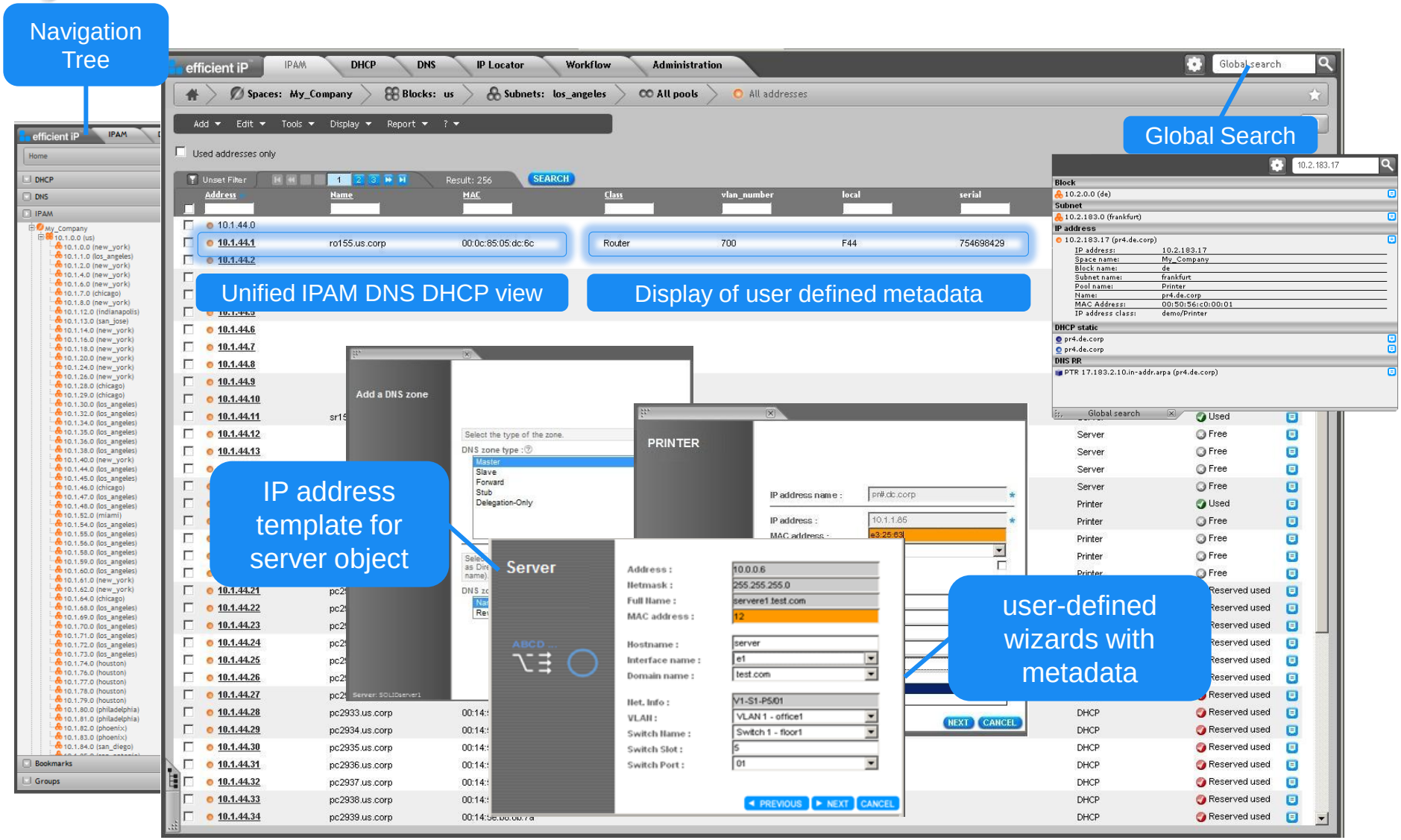




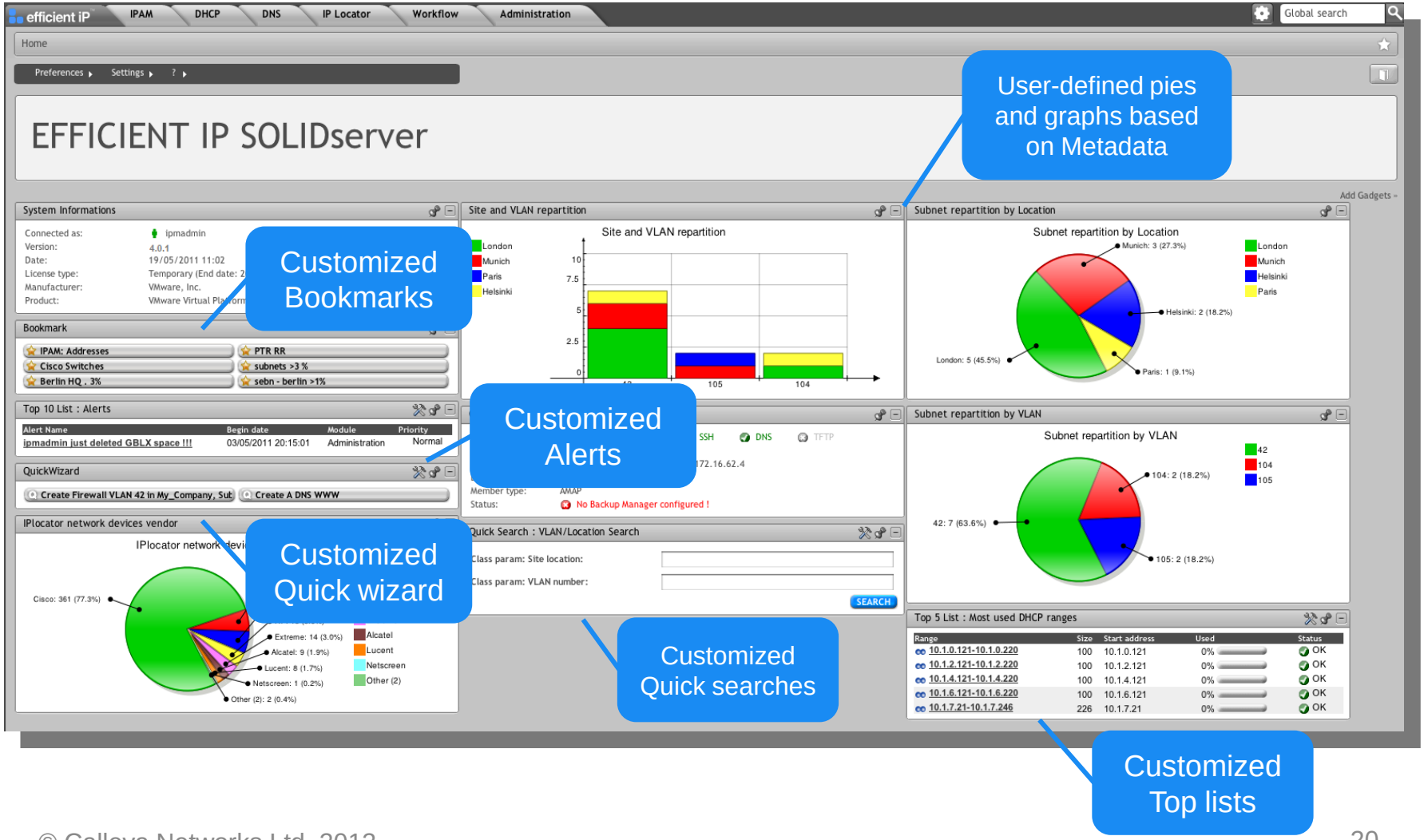
SMART Architectures™: Move to Architecture Management



Intuitive full function UI

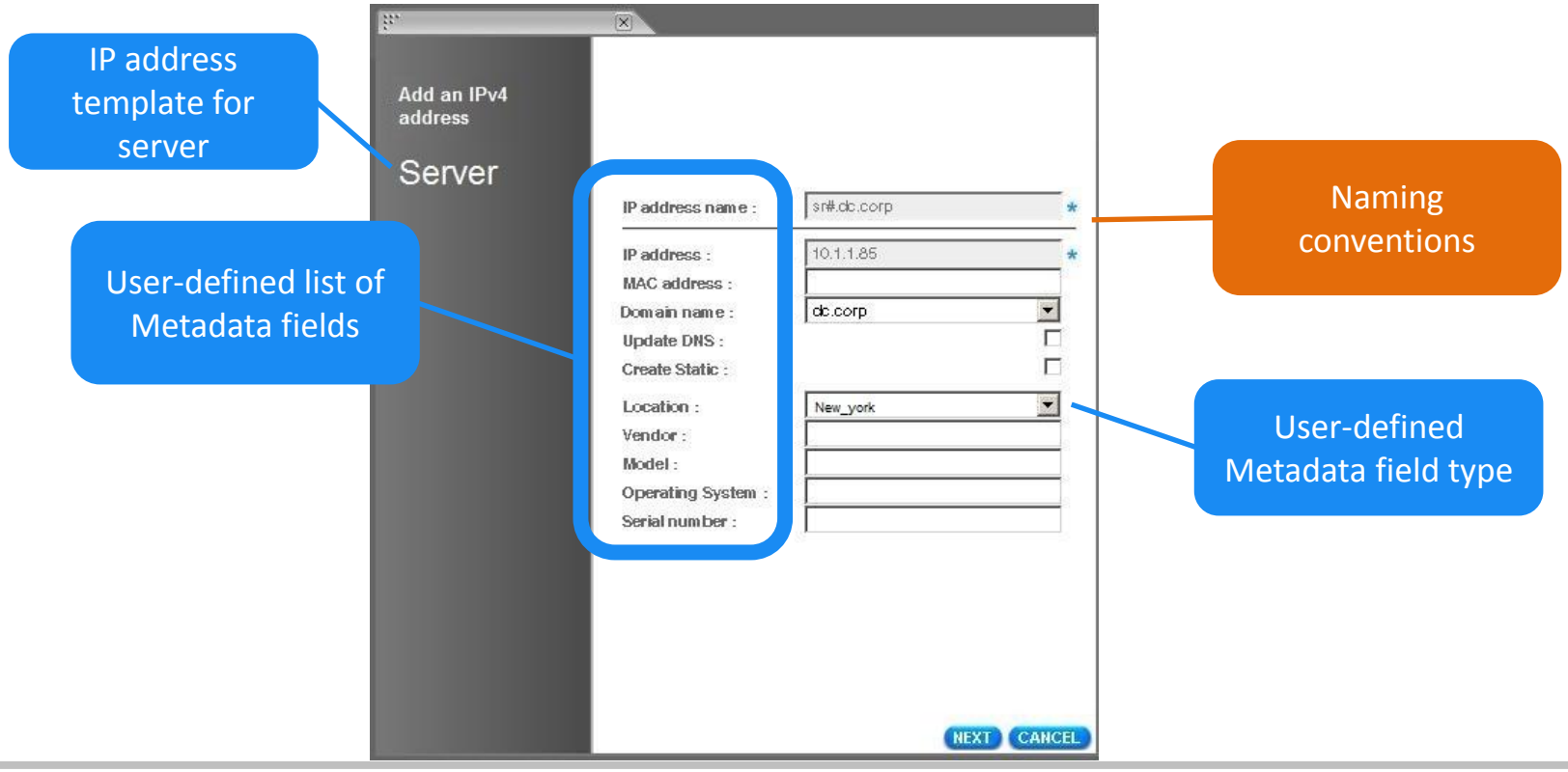


User defined home pages



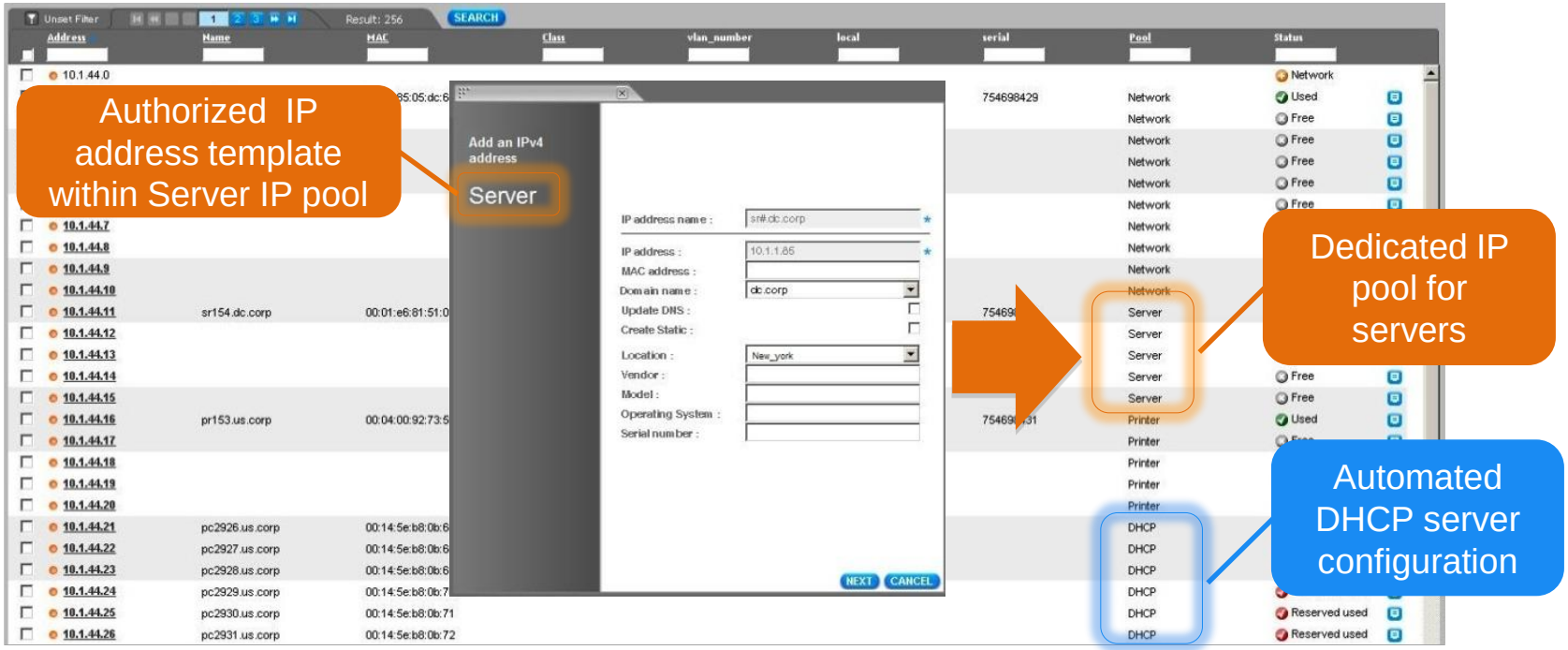
Conformity Management

- User-defined templates enable you to enforce policies
  - e.g. device templates, custom fields, naming conventions etc.



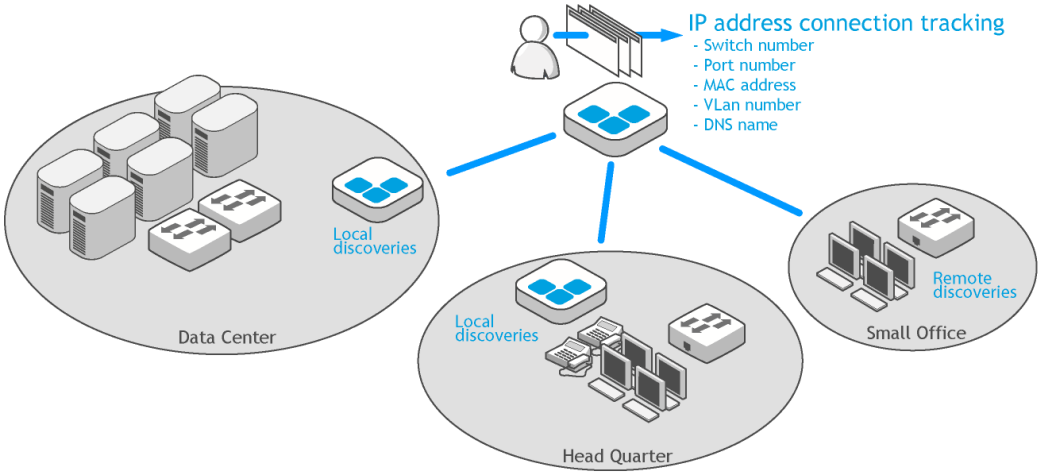
Conformity Management

- Streamline DDI resource deployment
  - Subnet templates: Automate subnet splitting into dedicated IP pools (printer, server, DHCP)

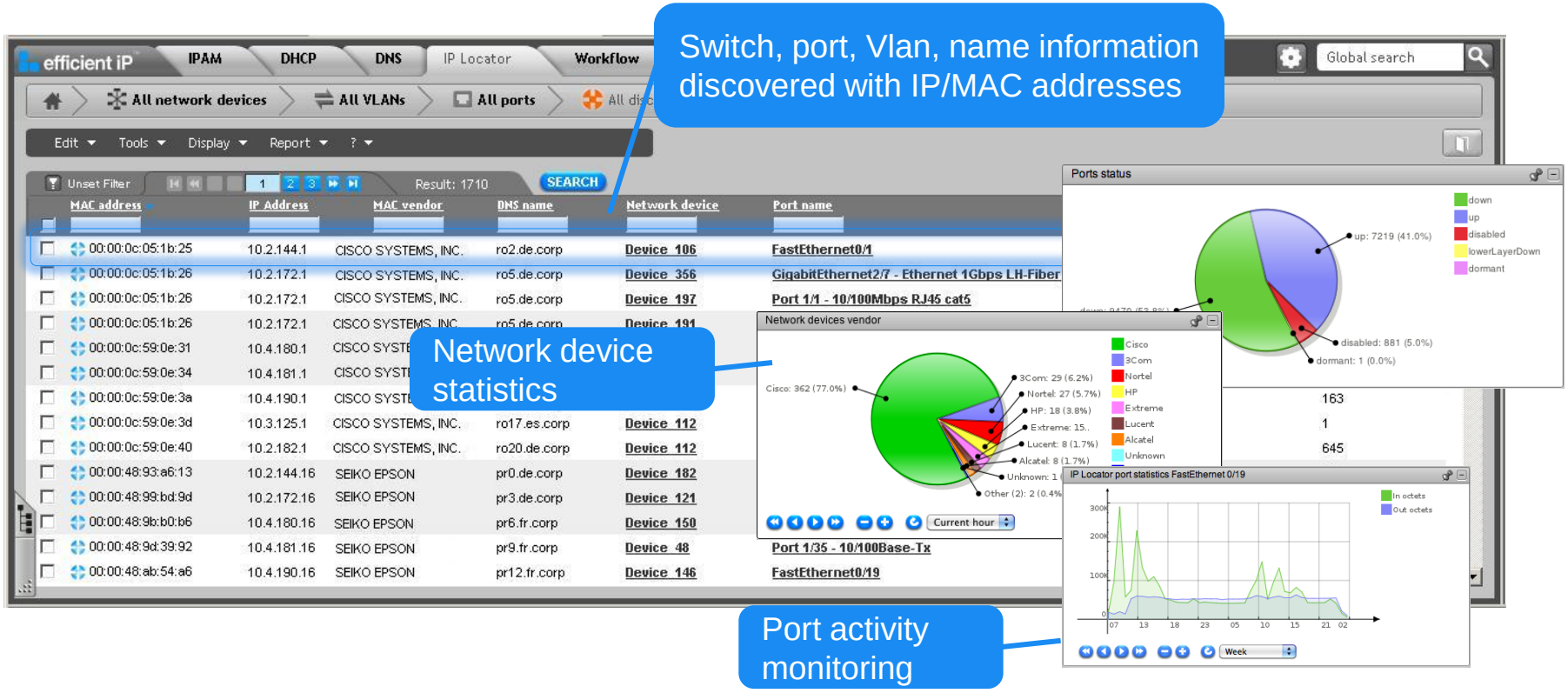


DDI Reconciliation

- Active IP address tracking with IPLocator
  - Identify IP/MAC address connections on the network
  - Identify associated switch and switch port



DDI Reconciliation



Hardware/Software Appliance Suite

- A range of hardware appliances to suit
- Software Appliance
  - Appliance image on a CD or download
- “Boot and Run” appliance technology
  - Auto-install appliance image on industry standard hardware or Virtual server
- Benefits
  - Get appliance benefits without hardware constraints
    - No dedicated spare platforms required
    - Added value of appliance combined with world wide hardware vendor’s service

What else do we do?

- DNS Managed Service
- Agentless NAC
- Stratum 1 NTP Servers
- Wi-Fi design and implementation

Thank you

Come and see us on Efficient IP's stand EH23

Paul Roberts

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