IP Management – Why your business needs to be using it.

Introduction:

IP Address Management (IPAM) is a term used to describe the management, allocation, organisation, reporting and tracking of public and private IP, devices and data. Modern organisations will typically have in-house systems which interact with DHCP (Dynamic Host Configuration Protocol) and DNS to provide them with some control over the IP allocation process.

IPAM solutions discussed in this paper refer to software solutions which interact with an organisation's network, giving visibility of the structure of the IP addresses. IPAM also provides automated allocation of those addresses to prevent potential clashes between devices.

Though IPAM solutions are proven to prevent issues, many IT departments, even in the biggest organisations continue to use manual processes for their IP address management. This can include spreadsheets, databases or in-house developed tools. A survey by Computerworld showed that 66% of 206 business surveyed were still using spreadsheets to manage their IP address management.

As networks grow and the use of more technologies such as VoIP, BYOD, Virtualisation and IoT increases, the number of IP address also increases. This escalates the amount of work the IT teams need to do in tracking and configuration, and also elevates the risk of complications.

The Hidden Costs of Insufficient IP Management

Networks are the life blood of modern businesses. Ensuring the operational speed and up time of your network often means the difference between a happy motivated team and a frustrated less productive one. Ultimately, access to a fast reliable network makes the difference between doing business and not doing business.

Source: http://research.itpro.co.uk/whitepaper3837
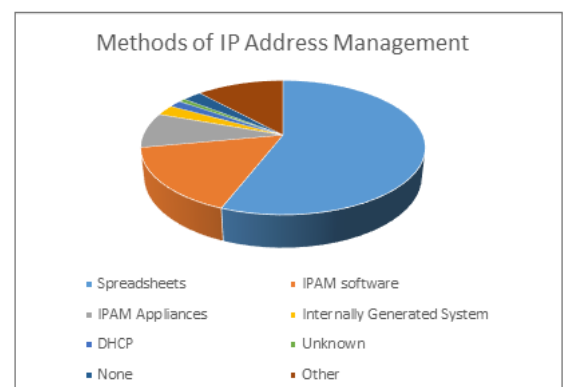
The risks associated with badly managed IP networks are clear: network access problems, security problems and downtime. This is turn leads to dissatisfied teams, dissatisfied customers and potentially lost revenue.

Understand your changing network

Though you may not realise it, your infrastructure needs are always growing and changing to accommodate the requirements of your business, its employees and customers. Modern network managers are not simply dealing with what could be termed as the 'traditional' devices such as printers, routers, switches and servers. Modern workplaces demand the use of more physical, virtual and cloud based infrastructure devices and systems than ever before.

The use of, for example IP telephones, IP cameras, connected door entry systems and environmental monitoring, combined with the explosion of mobile, BYOD and IoT devices has made IP control important across the board. From securing access to a building to making a phone call—it will all be facilitated by the IP network.

Though often convenient, most automated DHCP and DNS solutions do not provide the transparency of address data required. Coupled with a lack of reporting functionality, this makes it very hard to track down IP related issues such as conflicts. For example, a DHCP range may soon run out of IP addresses, but administrators will only find out when users start to complain about network availability.

IPAM solutions simplify and automate the process of IP Management. Allowing addresses to be tracked and allocated safely, eliminating configuration errors. In turn this reduces downtime, reduces operational costs and the time required to implement configuration changes.

## See and understand your connected devices

Lack of reporting capability and visibility of DNS & DHCP data makes the diagnosis of network issues difficult. Most DNS and DHCP solutions do not provide visibility into IPAM data. With the use of more BYOD and IoT devices on networks, and the potential resulting problems with IP clashes and security, the ability to understand what devices are connected to your network is vital:

- **Trouble shooting -** A lack of visualisation means that locating devices on the network becomes an overly manual and time consuming process. In the case of larger networks, unravelling the tangle of devices could make this virtually impossible. Without an IPAM system this manual operation slows the process of identifying bottlenecks, IP clashes and failures, increasing their potential impact.

- **Security -** Security enforcement and audits become difficult as there is little or no understanding of the end point device IPs. Even when an IP shows as a risk, identifying the device it belongs to can take time. Further, with the advent of IoT and BYOD devices, which can hop on and off a network, this gets harder still

IPAM solutions provide reporting, dashboards and automated alerts which allow for the resolution of issues before they escalate. When problems do occur the visual reference and tools make diagnosis much faster, reducing the impact on the business. Additionally, the automation of IP allocation can, in many cases, be used to quickly resolve these conflicts.

As your network grows reduce the risk of allocation error

As networks become larger, more complex and more dynamic, IP address management becomes ever more challenging and costly, especially with the shift to IPv6 and potentially hosting Ipv4 and IPv6 addresses in the same space.

Source: http://research.itpro.co.uk/whitepaper3837
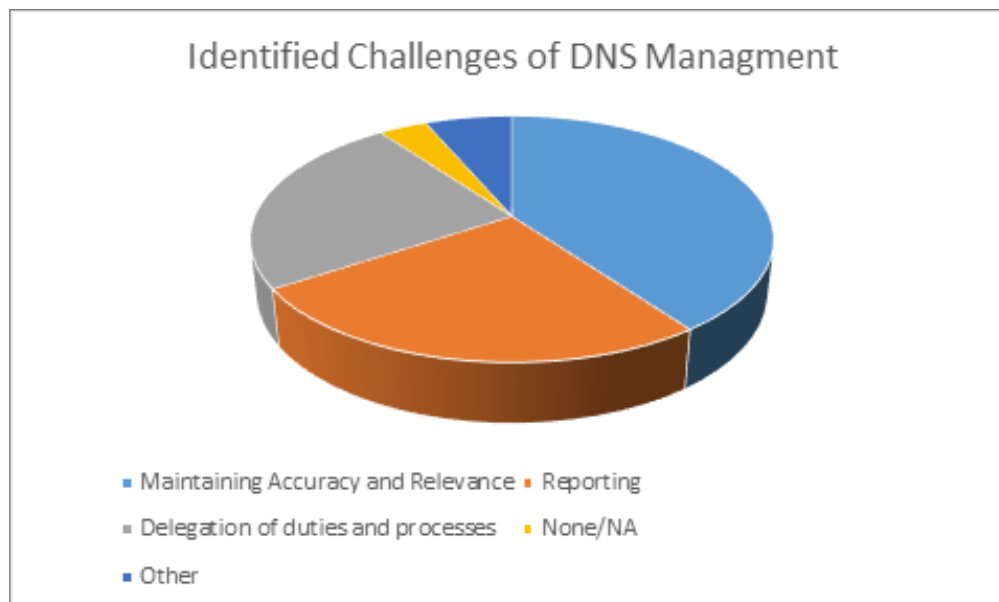
Using manual processes, such as vast spreadsheets, IP address management is no longer practical. Records do not get updated, information lost and human error creeps in, leading to incorrect data being entered into records. This poor record keeping, in turn, leads to increases in operating expenses, reduced flexibility and potential for increased network outages and extended troubleshooting times.

Automated IPAM solutions group your IP addresses and remove the need for the manual checking and time-consuming elements of the process. Removing the human element reduces the risk of error, while also providing better visibility at each stage and faster allocation of addresses.

Reduce pressure on your senior teams; reduce risk and cost

With the potential for serious disruption if IP allocation is not done correctly the authority to allocate the addresses typically requires the involvement of senior team members and multiple departments. This is to ensure there is accountability, security and compliance. Senior team members also have the knowledge to traverse the complex manual set up and configuration of DNS and DHCP systems.

Though this gives businesses the comfort that their IP is in safe hands it also creates a bottleneck for IP allocation requests, increasing the potential for human error and longer service time. IP allocation tasks will also pull senior members of the team from often important projects, which should take precedence.

IPAM software reduces the strain on your senior team and removes the potential for error. With IPAM automated, you are able to cut down on often time-consuming training and delegate the IP allocation and management to less senior staff.

Implementing an IPAM solution

The implementation of an IPAM solution allows a business to grab control of its subnet IP allocation process together with gaining better visibility and reporting of their network and devices. A dedicated IPAM solution provides visibility to the real-time status of your networks IP addresses and increases the speed with which you can both troubleshoot issues and meet IP requirements.

Solutions such as Mutiny's IPAM module provide a robust address management solution to track, allocate and classify the ever-changing devices on your infrastructure. A dedicated IPAM solution should allow for all stages of IP management: address planning, automated discovery, configuration and management of the address space.

Bringing a greater degree of understanding through reporting and dashboards

Comprehensive reporting and real time dashboards help support today's IT managers. Reporting allows device history and maps to be produced showing exactly what devices are coming on and off the network.

Dashboards allow your administrators to see up-to-date and accurate information about their IP estate, including information such as network status, IP address statuses, services and network discovery status. Integration with a monitoring solution such as Mutiny's range of software and appliances allows pro-active warning of potential threats to your network in real time.

Zero risk, automated allocation

An IPAM solution should take the risk away from IP address allocation, allowing more junior team members or even helpdesk staff to undertake IPAM activities. This reduces the burden on senior team members or the need to have specialist training at this level.

Allocation tasks should be automated; simplifying the process and allowing authorised personnel to set up addresses safely and without multiple layers of authority and knowledge.

Conclusion

Trusting your IPAM to outdated spreadsheets and manual solutions is time consuming, expensive and fraught with risk. With the proliferation of non-traditional connected devices such as IoT and BYOD, IPAM is required more than ever. Non adopters risk losing control of their allocation and introduce bottlenecks which could have catastrophic effects on their network and wider business.

With the cost of IPAM so low and the stakes so high for technology dependent organisations can a business really afford not to be using it?

About Mutiny

Founded in 2000 at Manchester University's Manchester Computing Laboratory, Mutiny monitors critical systems on the network and send alerts to operators when faults are detected. A highly scalable and easy to use solution, it offers sophisticated visibility and reporting on IT assets without the cost or complexity of alternative products on the market.

For more information:

w: www.mutiny.com
e: meet.us@mutiny.com
t: +44 (0)8456 521 721