



Australian IPv6 Summit 2010


Migrating to Distributed Data Centres Unified Cloud → no IPv4

paul.pettigrew@mach.com.au | Melbourne, October 2010

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ABN 58 115 162 564
ask@mach.com.au

Offices & Data Centres: Brisbane | Noosa | Cooroy | USA



About Mach Technology



The ICT Challenger

Australia's 1st proven Cloud platform provider that has achieved 5yrs of NO downtime via its open, quad-redundant Data Centre, XaaS platform!

- Next-generation: Consulting | Services | Technology
- Operating 5yrs; 40% annual compound growth
- Tier1 commitment to quality; yet nimble and able to innovate & deliver real low cost value
- Offices and Data Centres:
 - Tenerife, Eagle Farm, Noosa, Cooroy, USA, Sydney, (Melbourne soon)
 - Not a moment of downtime of our HA services since live in 2005
- First to market and proven/critically acclaimed thought leaders in Australia on Cloud and XaaS, with integrated service management

Quality Endorsed Company

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Setting the context



- IPv6 is essential to the future architecture and capability of internetworking – a given
- However, it is a very technical issue, and this combined with “defer the issue” workarounds (NAT et al) mean no a distinct compelling event to change
 - Change early = cost and complexity, your competitors do not have
 - Change late = disruption and potentially, higher cost
- So – this is a business decision/timing problem, not a technology problem
- Mach, fortunately, is able to coincide IPv6 with our “Next Generation” rollout – we will again leapfrog the competition and remain 2-5yrs “ahead of the pack”
 - Must not introduce complexity and cost
 - Must be complete migration (no IPv4 hybrid)
 - Must not confuse our customers or kill our sales!



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What does Cloud mean for us?



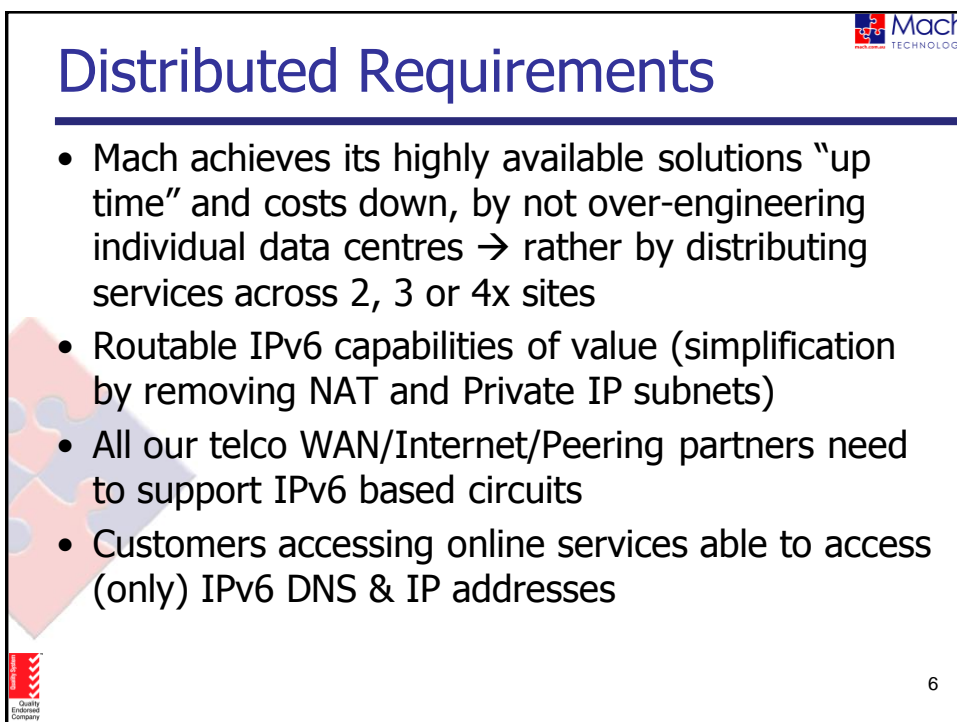
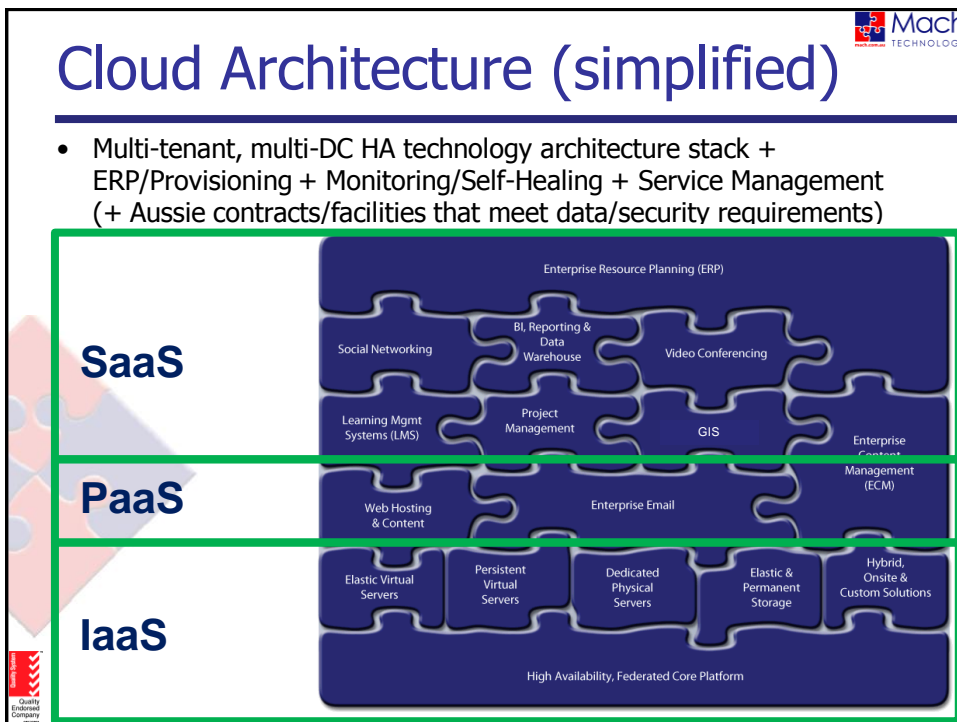
- That an increasing amount of the software stack will be delivered by \$0 free, Open Source software
- That the days of selling a closed, vertically integrated and tightly coupled commercial software/hardware stack are over
- Also means the days of networks & apps (public &/or private) that “assume” IPv4 is underpinning them will ultimately end
 - Challenge mainly in the Apps space
- Must support on-demand, multi-tenant services: SaaS, PaaS, IaaS
- Must help our clients transition from traditional (IPv4) solutions, to next-generation (IPv6) technology solutions delivered as a service



Cloud

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Infrastructure Services



- Comms: WAN, intra DC's, and inter-DC's
 - Direct Ethernet, and via VPN tunnels
- Storage: via same above (IP based, not FC)
 - Elastic & Permanent (>10yrs)
- Compute:
 - Elastic Virtual, Dedicated Virtual, and Metal
 - KVM, Xen, VMware, Virtuozzo, Linux-Vserver
- Security & Firewall:
 - Dedicated Virtual, Metal
- DNS
- DHCP (for on-demand provisioned resources)



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Issues Identified in Planning



1. Customer education & awareness
2. Staff training and skills
3. Most applications assume IPv4 (dialog boxes, doco, etc)
4. Carriers not ready and uniform
5. Migrate existing services into new IPv6 platform



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Project to Date



- Our team understand and appreciate the requirement to change
- The more we dig, the more we realise there is much to learn...feels like "Alice down the rabbit hole..."
- Whilst we feel we can deliver "pure" IPv6 for ourselves and our services...
 - Are customers ready to buy a basic cloud VM or website hosting that does not have an IPv4 address?
 - Are government and other corporate tenders going to explicitly state IPv4?
 - Will applications we cannot control run without an IPv4 stack?



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Completing the Platform



- Deferring as long as we can...
- ...so as to avoid (or at least minimise) "dual stack" and other workarounds such as "4in6", "6to4", "6in4", "6over4", "6rd" et al
- However, the more we delay – the more clients we provision on our current IPv4 platforms = larger migration project, more cost, more risk
- Difficulty identifying the right expertise or doco to implement....hence at this conference to learn 😊



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Conclusion



Mach Technology is Australia's leader in some of the aspects required (Cloud: IaaS, PaaS, SaaS & Outsourced ICT Service Management)

→ Invitation open to IPv6 expertise, relevant to our plans, to be involved in leading case study!

- **Mach is ideally placed to complete the rollout of a pure IPv6 multi-DC Public+Private Cloud platform**
- **Impediments at this stage include:**
 - **Customers ready?**
 - **Staff skills?**
 - **Additional costs and complexity of supporting both until migration completed**
 - **Knowledge "out there" is very technical in select areas...but not what we need at this stage**
- **We wish to complete within months – but is now the optimal time to commit?**

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Mach

TECHNOLOGY



Suite 1, Level 1 "No7 Wool Store"
130 Commercial Road
Teneriffe QLD 4006

Noosa **Brisbane** Cooroy USA

Offices & Data Centres

Paul Pettigrew
Managing Director

t: 1300-MACH-00
paul.pettigrew@mach.com.au