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Department of Communications and the Arts

Review of Australia's .au Domain Management

Submission in Response to Discussion Paper Released November 2017

By

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About the Author:

Dr John Selby is an academic at Macquarie University in Sydney, Australia and a member of the Optus-Macquarie Cybersecurity Hub. He previously worked as a commercial Internet lawyer at (what is now) King & Wood Mallesons, and as a seconded in-house counsel at Telstra.

In 2013, Dr Selby completed his PhD dissertation at UNSW Law School on “A New Institutional Economics Analysis of the History of the Regulation of the .au ccTLD between 1986 and 2002” and, in 2009, was a Postel Center Fellow at the Information Sciences Institute of the University of Southern California (where much of the domain name system was first developed).

Dr Selby has had nearly twenty years of experience in the field of Internet regulation. He has published three scholarly journal articles on the regulation of the domain name industry, been an invited speaker, panel member and panel chair at several Australian Internet Governance Forums, a speaker at two United Nations Internet Governance Forums, and an attendee/participant at ICANN meetings. Whilst a practicing lawyer, he assisted in the drafting of several UDRP domain name dispute decisions, and he is a frequent media commentator on Internet regulatory and cybersecurity topics.

As an independent academic, Dr Selby has made submissions to the following Australian domain name policy reviews:

2006	Department of Communications, IT and the Arts <i>Review of the Structure and Operation of the .au Internet Domain Name</i>
2007	.au Domain Name Administrator <i>Review of the .au Domain Name Policy</i>
2011	.au Domain Name Administrator <i>Review of the auDA Foundation</i>
2015	.au Domain Name Administrator <i>Names Policy Issues Paper</i>
2015	.au Domain Name Administrator <i>Names Policy Panel Draft Recommendations</i>

Notes:

The ideas expressed in this submission are those of the author alone and should not be attributed to his employer, Macquarie University. Due to the author’s other commitments, this submission has been written in a short period of time and is not as detailed as it otherwise might have been. The author provided oral feedback to the Department of Communications at a meeting on 12 December and is willing to provide further information on request. This submission may be made public under my name.

auDA's roles and responsibilities

1. What are auDA's primary roles and responsibilities?

auDA has at least seven primary roles and responsibilities.

The first is to be recognised and accepted by the Australian Internet Community (broadly defined) as the appropriate vehicle through which relevant domain names and numbers should be regulated in Australia. Traditionally, this has been achieved through stakeholder engagement via the multi-stakeholder model.

Second, with respect to domain names, auDA is the industry self-regulatory body (operating within the boundaries of a co-regulatory scheme) which holds a natural monopoly over the management of the .au Country-Code Top-Level Domain (.au ccTLD), including its policy development process. Those policies help create and distribute both the benefits and costs of the .au ccTLD between the various stakeholders that constitute the Australian Internet Community.

Applying those policies, auDA's third responsibility has been to both directly and indirectly negotiate / set standard terms and conditions for contracts with:

- ICANN (operator of the root of the domain name system);
- the .au registry, .au registrars, re-sellers (supply-side of the industry); and
- domain name registrants (demand-side of the industry).

AuDA's fourth responsibility has been to establish a dispute resolution process (the .auDRP) which provides binding decisions about cybersquatting disputes between the demand stakeholders in the industry

Fifth, auDA has responsibility for managing and maintaining a stable and secure Domain Name System in Australia. This includes implementing consumer safeguards designed to mitigate the risk of fraud and abuse via the .au ccTLD.

Sixth, auDA has taken responsibility for helping to educate Australians about the benefits of the Internet, about the .au domain name system, and some aspects of cybersafety / cybersecurity risks.

Seventh, auDA has operated programs designed to support its social licence to operate funded by the fees it collects from the supply-side of the industry (ultimately, those fees are then incorporated into the charges imposed on .au domain name registrants). Historically, these activities included:

- the auDA Foundation Grants;
- sponsorship/hosting of the Australian Internet Governance Forum;
- sponsorship/hosting of the Australia and New Zealand Internet Awards; and
- involvement/funding of participation in international Internet Governance policy development and discussion events, such as ICANN meetings and the United Nations Internet Governance Forum.

2. Do the current terms of endorsement set out appropriate guiding principles for a fit for purpose .au ccTLD manager?

The Ministerial Endorsement of auDA established a number of useful guiding principles. One limitation on these principles is that they do not appear to include explicit reporting requirements to the Ministry / Australian Parliament. This creates a risk that slippage may occur between compliance by auDA (with the letter and/or spirit of the terms) of the Ministerial Endorsement due to information asymmetries or insufficient oversight by the Department.

As the manager of a “public resource” which is now recognised as part of Australia’s critical national infrastructure, it would be useful for auDA to have greater accountability to the Australian people. One way to achieve this would be to require auDA to prepare an annual report on specified topics and to deliver that report to the Ministry / have it tabled in Parliament. Another option would be to treat auDA as being similar to Commonwealth Government Departments: auDA’s executives could then be subject to Senate Estimates questions on an annual basis.

3. Do the terms of endorsement reflect community expectations for the management of the .au ccTLD?

The Ministerial Endorsement is a broad set of principles for good governance of the .au ccTLD. The challenge is that different stakeholders of the Australian Internet Community have different ideas as to what they expect from the .au ccTLD manager. The manager’s role is to balance those competing expectations, with good governance techniques necessary to prevent capture of auDA / its policies by any particular sub-set of stakeholders.

Structural issues and incentives create on-going challenges for good governance and management of the .au ccTLD. The supply-side stakeholders of the industry are generally motivated to maximise its profits (particularly now that some registry operators and registrars are either publicly-listed companies or subsidiaries of publicly-listed companies). As those supply-side stakeholders receive a fee per domain registered, they have a very strong motivation to seek to maximise the volume of registrations in the .au ccTLD. However, maximising the volume of registrations does not necessarily meet the needs of other stakeholders in the .au ccTLD.

On the demand-side, a distinction should be drawn between the goals / expectations of “Domainers” on the one hand, and other domain registrants who operate their domains for useful purposes (i.e. to offer Internet services and/or websites which are actually used to deliver goods/services/information to Australian Internet users). Domainers are speculators who seek to arbitrage between the relatively low-cost of registering a domain and the higher-value to which someone else who actually wants to productively use that domain might be willing to pay for that domain in the secondary market. Domainers tend to desire policies which will lower the transaction costs of domain registration, make it easier for them to re-sell domains, and increases in the volume of domains that are available to register. Domainers are arguably similar to parasites, seeking to maximise their own benefits by passing on higher costs to other Australian Internet users. Domainers are arguably more closely aligned in their interests with the Supply-Side stakeholders than with other Demand-Side stakeholders.

As an individual domain registrant or Internet user, the average member of the Australian Internet Community has a relatively small level of interest and pays a relatively small amount of attention to the management of the .au ccTLD. They might be regarded as being “rationally ignorant”, i.e. unlike traditional economics which assumes perfect information and zero transaction costs, in reality people have greater overall demands on their cognitive abilities than they have cognitive abilities, leading them to have an attention-deficit. Issues which affect them may be ignored, not because of dis-interest – but simply because other more pressing issues in their lives (bills, family, health, etc) preclude the giving of sufficient time/cognitive effort to issues of domain name governance.

Whilst the average individual Australian internet user might be rationally ignorant of .au ccTLD issues, this should not be taken to mean that collectively the overall sum of their interests is insignificant. The Internet is a major part of Australian’s lives, with some calling it “an essential service” and access to it “a human right”. Collectively, their interest in the secure, stable functioning and good governance of the .au ccTLD is a far larger interest than that of the Supply-Side stakeholders.

So as to address this difference between individual rational ignorance and significant collective interest, not-for-profit community action groups have commonly taken on the role of gathering information, monitoring regulator behaviour, gathering input from the public, and providing input on policy issues. Historically, auDA had a board structure which provided separate representation for those community action groups. Its current board structure does not.

The supply-side stakeholders and Domainers have an incentive to actively participate in both auDA’s policy development processes and its governance. By engaging in repeated rounds of interactions with auDA, those stakeholders gain experience and specialised knowledge about its processes and governance. This gives them a competitive advantage over other, less attentive, stakeholders (such as the average domain name registrant or Australian internet user). Even if their goals are not achieved in one-round of policy development or governance changes, Supply-Side stakeholders and Domainers have a very strong incentive to keep participating in subsequent rounds of those activities, so as to wear down opponents and to gradually alter policies or governance processes in their favour. They might also seek to make political donations so as to influence government policies so as to further their profit motivations.

It is arguable that these differences in stakeholders’ incentives, attention and experience create on-going challenges for the good governance and balanced policy development processes of the .au ccTLD manager.

4. What external trends and developments may affect auDA’s roles and responsibilities?

Digital Trade is a cutting-edge issue in global trade regulation. It poses particular challenges because the stakeholder engagement models, policy development processes and dispute resolution mechanisms in the field of trade and the field of internet governance are often in conflict with each other. For example, Internet governance stakeholders have spent more than a decade negotiating exceptions to the general rule that WHOIS registrant information should be publicly available. At the same time, trade negotiators have been negotiating and writing rules about WHOIS into Free Trade Agreements and Next-Generation Trade Agreements, such as the Trans-Pacific Partnership.

For example, the Australia-US Free Trade Agreement contains a provision which requires making .au ccTLD WHOIS registrant information publicly available without exceptions. Publicly-available drafts of the (as-yet-unsigned) Trans-Pacific Partnership have included text which would make WHOIS registrant information generally publicly available with the possibility of some policy exceptions.

auDA currently sets WHOIS policy for the .au ccTLD, including the extent to which registrant information will be publicly available. This is based upon input from the Australian Internet community and engagement with best practices of the global Internet governance community. In the future, auDA's stakeholders' ability to set or alter such policies may be constrained by the existence of commitments made by Australian trade negotiators in a myriad of existing / future trade deals.

Therefore, it is essential that both auDA and the Department of Communications liaise with the Department of Foreign Affairs and Trade (particularly with its trade negotiators) so as to give both the .au ccTLD manager and the entire Australian Internet community the opportunity to have effective input **before** such trade deals are negotiated and **during** rounds of such negotiations.

This is only one example of a myriad of issues relating to digital trade where the worlds of Internet Governance and Trade Regulation are colliding. A lack of time prevents me from providing more detail here.

Corporate governance

5. What best practice approaches and processes should be considered with regard to auDA corporate governance?

A clear separation of stakeholders into different categories without overlap in their interests is a best practice which would benefit auDA's corporate governance.

At present, under Clause 9.5 of auDA's constitution, its Demand Class membership contains a mix of four groups of stakeholders: 1) domain registrants who use their domains to provide benefits to the Australian Internet Community; 2) Australian Internet users who do not fall into any of the other groups; 3) Domainers who seek only to enrich themselves; and 4) employees of Supply-side stakeholders.

Arguably, groups 3) and 4) have strong conflicts of interest with groups 1) and 2). Therefore, it would be an improvement to auDA's corporate governance for groups 3) and 4) to be excluded from the Demand Class of auDA membership.

6. What does good corporate governance for auDA look like? Are the ASX corporate governance principles sufficient? Should other principles also be considered?

Under clauses 4-7 of its Constitution, auDA is a not-for-profit entity registered as a corporation limited by guarantee. ASX Corporate Governance principles are typically designed for to meet the needs of for-profit entities.

It might be useful for the Department and auDA's members to consider the appropriateness of insights which could be gleaned from the Australian Institute for Company Director's "Good Governance Principles and Guidance for Not-for-Profit Organisations".

7. Should reform of existing auDA corporate governance arrangements be considered? If so, what are the reform priorities?

As discussed in 5) above, reform of auDA's membership classes is essential. The mixing of stakeholder interests in the Demand Class is the cause of many of the challenges auDA has faced in both its governance and its policy development processes.

After fixing the Demand Class problem, the next priority could arguably be to re-instate recognition of truly independent community interest groups as a class of Board Directors.

The third priority might be to ensure that auDA's Independent Board Directors are truly independent of the Board Chair, the CEO and the staff of auDA. All potential conflicts of interest must be fully-disclosed and detailed research reports on potential independent directors made available to the membership prior to the appointment of such independent directors. This would be more likely (though not guaranteed) to facilitate the identification of conflicts of interest *before* independent directors are appointed.

8. Do the current board arrangements support auDA in effectively delivering its roles and responsibilities?

As discussed in 5) to 7) above, my answer to this is NO.

9. Should reform of existing board arrangements be considered? If so, what are the reform priorities?

As discussed in 5) to 8) above, my answer to this is YES. My reform priorities are discussed in those answers to questions 5) to 8).

Stakeholder engagement

10. Who are auDA's stakeholders?

See my answer to 3) above. In addition, auDA has external stakeholders such as the Australian Government, ICANN, and the international Internet community.

11. How should auDA engage with its stakeholders? Are there guiding principles which should be considered?

auDA needs to actively listen to and properly address the concerns of all of its stakeholders and be more cognisant that the “rational ignorance” (as discussed above) of many of the individual members of the Australian Internet Community does not mean that their overall interests can be ignored in favour of its Supply-side stakeholders.

12. Are auDA’s stakeholder engagement processes effective?

auDA’s stakeholder engagement processes are not as effective as they could be.

For example, during the recent policy development process to determine whether or not to introduce direct registrations into the .au CCTLD, no/inadequate cost-benefit analysis appears to have been done on the proposal before it was presented to members for consideration. It was only after I made a policy submission identifying significant flaws in the proposal and demonstrating that its costs to the most of the members of the Demand Class of stakeholders would be far greater than the benefits it would deliver almost entirely to the Supply Class of stakeholders that auDA commissioned a study of the costs and benefits. Due to the governance problems identified above, the extent to which Supply Side stakeholders have arguably gained control over auDA’s governance and its policy development processes was made apparent when direct registration was introduced over the top of the real and significant concerns of the Australian Internet community.

auDA used to support the Australian Internet Governance Forum, which was a vehicle through which it could engage with a broader range of Australian Internet stakeholders. That auDA has chosen to not fund the continued operation of the Australian Internet Governance Forum (despite auDA having a very healthy financial situation) is evidence that it has retreated from effective stakeholder engagement.

auDA used to support broader engagement with Australian Internet stakeholders through its auDA Foundation grants program. That it has suspended this grant program is evidence that it has retreated from effective stakeholder engagement.

auDA used to have far more significant and effective engagement with international internet governance activities, through staff attendance, participation and leadership at ICANN meetings, UN IGF meetings, etc. That such attendance, participation and leadership has declined over the last few years (see, for example, the termination of Paul Szyndler as auDA’s international and government relations officer) has diminished not only auDA’s engagement with international stakeholders, but also Australia’s soft-power in the world.

13. Is a transparency and accountability framework effective?

auDA has had significant problems with its transparency in recent years. In particular, its Board of Directors removed member access to the historical minutes of its meetings and proposed not to make publicly available minutes from its subsequent meetings. This policy was only reversed after significant member complaints were lodged. That the Board of Directors even conceived of, and then implemented, such a strategy suggests that auDA has significant transparency and accountability issues. This was only a symptom of deeper underlying causes.

Membership

14. Is auDA's membership structure reflective of the range of stakeholders that rely on, or interact with, the .au domain?

In short, my answer is NO. See my answers in 3) to 12) above.

15. Does auDA's membership structure support it in delivering its roles and responsibilities?

In short, my answer is NO. See my answers in 3) to 12) above.

auDA's existing membership structure hinders its ability to deliver policies which properly balance the interests of Supply-Side stakeholders and Demand-Side stakeholders. The mixing of genuine Demand-Side stakeholders interests with those who are more aligned with Supply-Side stakeholders (e.g. Domainers and employees/associates of Supply-Side stakeholders) means that Supply-Side interests have grown to dominate auDA. This has weakened its ability to meet its responsibilities under the Ministerial Endorsement and its responsibilities to the Australian Internet Community.

Security of the .au domain

16. What emerging risks does auDA face in relation to the security and stability of the .au domain?

There are several cybersecurity risks to the .au domain. The ability of attackers to exploit social-engineering techniques so as to have new IP addresses under their control inserted into domain name registration details is of concern. This can be used to then deliver malware / ransomware / crypto-mining exploits to members of the Australian Internet Community whilst hiding behind the services of (and damaging the reputation of) legitimate domain name registrants.

The stability of the .au domain is challenged by the exhaustion of the IPv4 address space and the relatively slow transition / implementation of IPv6 in Australia (and the world).

The stability of the .au domain is challenged by the sale of inadequately secured Internet-of-Things devices to Australians. These devices are allocated IP addresses and can be converted

by attackers into zombies for launching botnet attacks against the Australian Internet community.

The introduction of direct registration poses significant risks for the Australian Internet Community. Australian internet users use heuristics (simplified rules) which help them to understand whether or not a domain name link is more or less likely to be safe to click upon / type into their browsers. Attackers could exploit those heuristics to register domains under the direct registration process through which they can host malware, etc. As a consequence of their rational ignorance, Australian Internet users are likely to then apply their pre-existing heuristics to those links without recognising that their risk profile has changed due to direct registration.

It is unclear whether auDA has given sufficient consideration as to how it will address these problems prior to the introduction of direct registration. An expensive public awareness campaign will likely be necessary. Without it, the Supply-Side stakeholders will benefit the profits flowing from a higher rate of registrations but the Demand-Side stakeholders will bear increased costs and the risk of undermining confidence in the safety and stability of the .au ccTLD.

17. What is best practice for DNS administration?

Historically, auDA has been recognised as one of the ccTLDs with best practice for DNS administration. Given its significant loss of experienced staff and institutional knowledge over the past few years, it is unclear whether auDA could be regarded as still being a leader in DNS administration.

18. Does auDA maintain appropriate mitigation strategies? What additional mitigation strategies should be considered? How should these strategies be assessed?

Due to a lack of time / information to hand, I will leave this question to other technical experts.

19. What is the optimal mix of capabilities to expand auDA's cybersecurity preparedness?

auDA needs to assess and communicate to its members / the Australian Internet Community / the Australian government its performance on a suitable Cybersecurity Capability Maturity Model and Privacy Maturity Model. This should be undertaken on an urgent basis and progress communicated on an annual basis.

20. How should auDA engage with the Government in its management of risks?

auDA should formally report on at least an annual basis to both its members and the Australian Government as to how it is managing the myriad of risks it faces. A requirement to prepare a formal report to the Commonwealth Parliament each year would motivate auDA to ensure that it engages with necessary technical agencies such as the Australian Signals Directorate, AUSCERT, Australian Cybersecurity Centre, etc and the necessary policy agencies (Dept. of Communications, law enforcement, Department of Foreign Affairs and Trade, etc).

Such reporting would facilitate development of more mature internal processes within auDA so as to capture relevant information and better assessment of the organisations performance trends over time.