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THE IANA: HOT POTATO, OR "ROOT" VEGETABLE?

"… ICANN is looking to reinvent itself; Strategies focus on its Participants, silence surrounds its Operational Entities. The periscope's been raised on the IANA; the timing is right to examine its relevance & operational role, but to examine it from a different perspective, that of Marketing …"

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1.   INTRODUCTION

After 3 years of operations, ICANN has recognized that its endeavors have yielded mixed success, and that its environment may have changed (Lynn 2002). To survive and prosper, they've initiated an "Evolution & Reform Committee" (ERC), and signaled a need for "significant structural reform" leading to changes in mission, structure, process, funding & participation (ICANN 2002a).

Is this introspection or retrospection?

To the onlooker, debate seems front-loaded toward breaking down organizational stasis by reconstitution and dissection of the same_old_cake.

The weight of ICANN's ERC debate dwells upon realignment of Supporting Organizations, and changes in Participants (Customers to use marketing parlance).

Meanwhile key customer groups (IETF, Regional Internet Registries, ccTLD's), are defining their needs.

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Whilst most would agree that a process of reconstruction is necessary, as it stands, is it **sufficient**? Furthermore, with such strategic reconsideration underway, isn't it appropriate to bring **customers** and **how we service them** into the debate?

The answers are no, and yes. The process of debate continues on, much in the form of the past; it lacks an external frame for reference. A new dialectic is needed, and this article suggests that perhaps the time has come to inspect the Governance debate, but through the lens of Marketing.

2. NEED TO THINK "MARKETING" ...

2.1 OPERATIONAL ENTITIES: IS REALIGNMENT AN OPTION?

Marketing is about "finding and filling needs" (Kotler 1999), and to most people, the process of purchasing Internet services can be likened to that used when buying a "Big Mac". Whilst likely to be interested in attributes of service at the point of purchase (speed, cleanliness, friendliness et al), generally speaking, customers would not be overly concerned with issues of McDonald's governance.

Rather than focus the debate on internal Governance per se, Marketing forces us to look from the outside in, to reconsider life from the customer's perspective. There is no good reason why we should not focus on customers & service delivery, i.e. the operational entities that ICANN manages.

By way of example, let us focus on one of ICANN's operational entities, the IANA. Whilst most "end consumers" would be unaware of its existence, those customers at the heart of the Internet to which the IANA deliver services direct would be aware. For instance, the IANA provides TLD entries into the root zone, and ccTLD's swear an allegiance to it under the auspices of RFC 1591.

The IANA is clearly of significant import to the reliable operations of the Internet, has considerable inertia and is steeped in tradition. Furthermore, it is a key platform for service delivery, and is one of ICANN's very few operational amanuenses. Yet, the pressure is on for the IANA to change,

- Regional Registries propose absorption of its services into their operations (RIR 2002)
- IETF is scoping services delivered through its IANA relationship (Huston & Bradner 2002)
- ccTLD Registries have commented on its role vs. their needs (CENTR 2002, Nominet 2002)

Change to this entity might not be so easy. Some may consider it sacrosanct to consider any notion of IANA change, others might perceive it heretical to even consider thinking about defining proposals! Tough yes, but do we truly believe in contributing to the Governance debate at a Strategic level?

If yes, then we need to elevate the debate to focus on Customers, their Service Delivery needs and the Servicing Processes delivered through ICANN's operational entities, e.g. the IANA. To do otherwise is to derogate from the strategic debate we've been asked, and chosen, to partake.

2.2 THE COBBLERS SHOE SYNDROME -- THE IANA

The Internet has seen major investment by the operators of TLD Registries (ccTLD & gTLD) since the mid '90's. Generally speaking, this has resulted in dramatic improvements to Customer service delivery and Technical performance. Taken together, these have virtuously combined to deliver lower prices and improved financial results for the entities concerned.

ICANN itself championed change at the gTLD level with its Registry-Registrar split. Their initiatives led to development of innovative new technical protocols, production of software for automated entry at lower cost, better performance and higher security at the delegated TLD level.

Yet, whilst all this change has been underway, there has been one TLD where change has silently slid right on by; namely, the root TLD managed by the IANA. The cobbler really has been too busy to mend his son's shoes, and we have stood by and allowed this to occur.

Perhaps … from a TLD perspective, the IANA needs to be less of an amanuensis of ICANN, and more of a free standing enterprise inside an appropriately structured Governance wrapper? Perhaps … if this were so, ICANN would require the IANA to deliver a business plan relating customers, to services delivered; to changes required, investment levels, operational costs and timeframes?

Perhaps … if this were so, ICANN could remove the Policy burden from the IANA, have a clear division of duties that re-channel Policy development through its Supporting Organizations? Perhaps … if this were so, it would be a major step on the road to transparency and meeting Customer needs?

Given that ICANN have chosen to put the organization under the scalpel, now is the time to consider these issues, but what can we do? Self-surgery may be fine, but to paraphrase Cake's old love song,

> " If we can't make our minds up
> … we'll never get started
>   … perhaps … perhaps … perhaps …"

2.3 CUSTOMERS: NEED FUNDAMENTAL RECOGNITION

Customers have needs, and the mission of an organization is to service those needs. ICANN should be no exception; "for profit" and "not for profit" organizations all service Customers, and the more enlightened of them embrace that old Marketing concept. Marketing is not a new rocket science, according to Lancaster & Massingham (1985), it is the "management process which identifies, anticipates, and supplies customer requirements efficiently and profitably".

"Marketing" is a management process that I've yet to observe arising out of the ERC considerations. "Customers" too are notable by their lack of reference, "Participants" being the closest proxy. Yes, ccTLD's are "Participants", but they are also Customers of the ICANN process, whilst the IANA is a "Supplier", delivering a range of TLD specific services.

Most published statements are consistent in relation to the IANA; whilst its functions are vital, its operations should be simple. To highlight a few key points in the recent Nominet statement (Black 2002), to be responsive to the needs its ccTLD customers, the IANA needs to,

- Define its **Services**
- Agree to Service **Levels**
- Contract to its **Customers**
- Improve operational **Effectiveness**
- Reduce **Bureaucracy**
- **Charge** accordingly

2.4 SERVICES: REQUIRE BETTER DEFINITION

Much of the debate and confusion appears to relate to the "Policy" richness inherent in the IANA today. This in turn seems to be related to a lack of transparency in its operations vis a vis services delivered (for TLD's, IETF, RIR's et al); operational opacity emanating more by way of happenstance.

Regional Registries (RIR 2002) have begun their process to define what services IANA delivers, and how better to deliver them in the future. Huston & Bradner (2002) have embarked upon a definition of services delivered through ICANN, by the IANA on behalf of the IETF. In relation to the DNS, they consider the delegation of TLD's to be a service "outside the scope of their IETF-IANA" relationship.

This is an aspect over which Registry Operators (ccTLD & gTLD) would presumably agree? As customers of the IANA services, one assumes that TLD operators are taking responsibility for that which they have authority over, and have also begun the process of redefining their needs?

It is interesting to note the efforts being put in by ICANN under the auspices of the ccNSO Assistance group (ICANN 2002b). From a service delivery standpoint, ICANN have taken a positive step forward to clarify the two key functions required on a day-to-day basis by TLD's from the IANA. Though there may be debate about the authority and construction of this group, it would appear that the points of definition are being received with much equanimity, vis,

- Date Entry Function (**DEF**)
- Name Service Function (**NSF**)

3.   ... TO RE-THINK SOLUTIONS

3.1   FROM THE IANA, TO THE "ROOT ZONE REGISTRY SERVICE"

The IANA has traditionally been organized along technological lines, customers have existed all along. Perhaps though, in the earlier days their needs were less paramount than, and remained subservient to, those of the technologists. Times have changed, and today it is not the technology per se, but the customers and "uses of the Internet that create economic value" (Porter 2001).

From a TLD customer perspective, the services delivered through the IANA function would equate to those expected from a typical gTLD or ccTLD Registry; the IANA is no different, it **is a TLD Registry**. Therefore its future operations need to be reconstructed along the service delivery lines seen in other modern day Registries (for TLD Holder read Name Holder),

- Separate the activities of policy development to those of implementation
- Publicize clear rules covering roles, requirements & TLD Holder policies
- Provide the TLD Holder with a robust authentication method
- Automate authenticated changes as efficiently as possible
- Provide out-of-band channel for handling exceptions
- Provide public access to query the database
- Provide equal access to all TLD Holders
- Keep an audit trail of changes
- Reporting on service delivery levels
- Publish a new zone at defined intervals
- Manage the operational performance of the published zone

Presumably the IANA covers a good spread of these activities already, albeit on a manual basis? ICANN needs to take a long strategic look at the IANA, and,

- Redefine its purpose: to serve its TLD customer base
- Recognize that it does not serve those customers well currently
- Demonstrate political will and vision to change: to deliver effective service to its customers

In summary, the IANA needs a major transformation to enable it to effectively service its markets.

Investment is required to define & deliver those services required by its TLD Registry customer base. From a Governance viewpoint, implementation & control will most probably be enhanced through the creation of a new enterprise; for the sake of simplicity, let's call this the "Root Zone Registry Service".

3.2 POLICY DEVELOPMENT & PUBLICATION OF THE ROOT ZONE

Lynn (2002) has already signaled the likely levels of funding (US$ 12-13m) required for IANA & Root zone operations. These are major ticket items that require servicing by the IANA Customer base. ccTLD's have previously signaled a willingness to pay their share, but they need to work constructively within a framework that allows them to purchase only those services they require.

Placing responsibility for the TLD Registry, publication & operations of the TLD root into one entity (the Root Zone Registry Service) could address current customer concerns.   It also provides its owner the ability to manage the investment in an economical way, emphasizing transparency and governance.   It could also provide ICANN the capability to develop and implement centrally coordinated strategies for the safe operations of the root TLD, and an efficient mechanism to facilitate their continuing initiative; entry of new TLD's into the root (ICANN 2002c).

There are two areas to specifically highlight.

a.   Publication of the Root Zone

Historically, it made eminent sense to manage TLD zone operations on a volunteer basis; the Internet was small(er), there were a willing bunch of volunteer organizations, costs were very low, and this was all pre-September 11. It may have also been pragmatic to let the operator and creator of the "dot.COM" zone also double up as de facto publisher for the Root Zone. How times have changed.

Nowadays TLD operators are tending to take over full responsibility for the management of their entire zone; the soup to nuts of definition, quality control, publication, access, operations, problem resolution performance as well as reporting. In-Sourcing reflects a drive to tighten local domain Governance, and to match-up what they are accountable for, with what they are responsible for. Typically their approach is justified on the basis of performance, security and cost.

Today's modern Registries recognize the integral nature and synergies between what ICANN calls the "DEF & NSF registry functions", so why doesn't the root zone? Assuming that one of ICANN's prime roles is to oversee entry of TLD's into the root zone, then publication of a robust and secure root zone, and the operational performance of that zone must surely be concomitant with that responsibility?

The reality appears much different. Lack of technical skills cannot be the issue; ICANN already has in-house access to appropriate technical skills through its DNS root server system advisory committee. They can also draw freely from the expertise of other observers who from time to time, provide public commentary, e.g. Auerbach (2001).

From a layman's perspective, the issue seems much more fundamental than technology aspects. ICANN lacks control over the root, and lacks any operational centre through which it could exercise that control. Reconstruction of the IANA could provide the means through which the operations management and performance of the root could be channelled.

Clearly before ICANN considers any change to the publication of this critical resource, appropriate technical advice from respected experts is a prerequisite part of the Board's risk management strategy. Meanwhile the current situation prevails, leaving existing root zone operators free to implement whatever path they see fit, e.g. the recent Internet Software Consortium proposal and RIPE draft (ISC 2002, RIPE 2002).

b.   Development of Policy

There is a growing trend amongst ccTLD's to remove policy making from service delivery; a variety of differing governance approaches exist to suit the local needs. For example, in "dot.UK", the registry operator Nominet develops policy through its Policy Advisory Board. In the "dot.AU" space, policy emanates through AUDA, an elected industry body which is a separate entity to the registry operator.

Registries have recognized that separation of duties is the preferred method to improve Governance of their TLD; ICANN could implement a similar approach. What is wrong with the original tenets of ICANN; policy development through TLD Supporting Organizations, with their implications translated by ICANN through to the IANA for incorporation into Service Delivery?

A reconstructed IANA should be high on implementation and service and low on policy development, to enable it to service its customer's transactions efficiently.

4. CONCLUSION

Considerable effort has been underway during 2002 with an exercise to re-invent ICANN. So far, the debate has focused more on the participants within the process. The role played by ICANN's operational entities, such as the IANA, does not appear to have been integrated into this process; e.g. the services offered/delivered, the customer base, the needs of those customers.

It makes strategic sense to include explicitly the IANA, a key operational entity, and consider how varying its form might impact positively on Governance of the Internet. This paper suggests creation of a separate entity to service the needs of the TLD operators; the Root Zone Registry Service.

Finally, the paper advocates introduction & application of a Marketing approach, to add value to the debate as ICANN goes about its strategic thinking. The underlying premise is that change should be driven by the needs of the customers, rather than pushed down from above.

Top down is not always successful, as the internet has already shown us; "Push" technology failed to live up to its optimistic expectations. The world has shifted, as Marks (1999) acknowledged, from "production-centered push to customer-centered pull". Today, we are in a world where the customer is truly king; "right here, right now, served up the way I like it" says McKenna (1997).

Accommodating McKenna's axiomatic mantra is surely, what a "Bottom up" process should reflect?

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