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From: Cary Karp [<mailto:ck@nic.museum>]  
Sent: Friday, November 10, 2006 7:49 AM  
To: Kurt Pritz  
Cc: Vinton G Cerf  
Subject: The .museum wildcard

Much of the commentary on this forum, and in the general discussion of wildcard records in TLD zones, makes reference to the A record wildcard in .museum. The fact that it has been resolving for five years without any observed interference with the stable operation of the Internet may well demonstrate that any potentially disruptive effect it may have is lost in the noise floor. It does not, however provide a basis for extrapolating general threshold values beyond which such a situation might be less benign. Much of the discussion has therefore been focused on distinctions between "tolerably small" and "riskily large" TLDs. This obviously resists expression in clear quantitative terms, and a variety of subjective factors have been weighed into the discussion.

The RSTEP report makes reference to a statement that I made during a previous phase of public commentary, when the comparison was between the largest of the gTLD registries and the smallest, with registration in the former not being subject to any eligibility requirements, and there being strictly enforced threshold criteria for inclusion in the latter. This stark polarity certainly doesn't apply to the present case, and the experience with the wildcard in .museum might, indeed, be a reasonable consideration in the assessment of the .travel wildcard proposal.

The RSTEP report does not apply any evaluative criteria other than those with direct implications for security and stability. Since the further consideration of the new proposal may nonetheless involve comparison with .museum, it may be useful for some first-hand observations about our experience with the wildcard to be on record here. I am making no comment, whatsoever, on the extent to which any of it may be applicable to the situation with .travel. These remarks are solely to avoid need for speculation about matters on which I can comment authoritatively.

One of the initial proof-of-concept aspects of .museum was a restricted second-level namespace with intricate three-label naming conventions. As a "familiarization device", an index of all names in the .museum registry was posted at <http://index.museum/> and a wildcard leading to it was placed in the zone. It became apparent at an early stage that key aspects of the functionality the wildcard was intended to provide were not supported by that device alone (due to differences in the way empty nodes in the name tree were handled by BIND8 and BIND9). Although this was rectified with an adjunct facility (using conventional A records), the wildcard could not be eliminated without a noticeable reduction in the scope of the service.

The subsequent introduction of the "root-delegations-only" feature in BIND9 injected a further note of uncertainty about the value of the wildcard (despite the default exclusion of .museum, and the brevity of the situation that gave immediate rise to the feature), and the occasion was used for a general reevaluation of the .museum naming

conventions. Restrictions on the delegation of second-level names were substantially curtailed (which would have happened in any case) and the utility of the index as a familiarization device thus came to an end. Yet again, however, it could be noted that the museum community still ascribed significant value to the wildcard.

Our greatest current interest is focused on the introduction of IDN in .museum and its deployment on all levels of the domain. The appearance in the index of names deriving from different languages had already placed a strain on it, and any significant move beyond the constraints of the ASCII repertoire is certain to increase that strain to the breaking point. Although a successor service is currently being structured and the wildcard might productively be used to draw traffic to it, this lies beyond the original intention of the wildcard.

In light of all this, and in further recognition of the general applicability of many of the concerns delineated in the RSTEP report, we intend to ask ICANN for permission to suspend the operation of the .museum wildcard for a period during which we can assess the target community's response to that change, and test alternate facilities that might be masked by the presence of the wildcard. Although there is no reason to expect this to result in anything that can be registered on the DNS "securitometer", it may nonetheless be worth monitoring simply to verify that the (dis)appearance of a wildcard in a small gTLD is without measurable effect on the stable operation of the Internet.

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Curator of the museum dot