



# SubPro WT 4: IDN / Technical / Operations

Meeting #25 2000 UTC 01 March 2018

# Agenda

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Welcome, Opening  
Remarks and  
SOI updates

2

Path to Initial Report

3

Registry System  
Testing

4

AOB

# 1. Welcome, Opening Remarks and SOI updates

## 2. Path to Initial Report

# 3. Registry System Testing

# Applicable GNSO Guidance

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- Principle D: A set of technical criteria must be used for assessing a new gTLD registry applicant to minimise the risk of harming the operational stability, security and global interoperability of the Internet.
- Principle E: A set of capability criteria for a new gTLD registry applicant must be used to provide an assurance that an applicant has the capability to meet its obligations under the terms of ICANN's registry agreement.
- Recommendation 4: Strings must not cause any technical instability.
- Recommendation 7: Applicants must be able to demonstrate their technical capability to run a registry operation for the purpose that the applicant sets out.
- Recommendation 9: There must be a clear and pre-published application process using objective and measurable criteria.
- Recommendation 18: If an applicant offers an IDN service, then ICANN's IDN guidelines must be followed.

# Registry System Testing (RST)

## Pre-Delegation Testing (PDT)

### Test Area

- ⊙ Data Escrow
- ⊙ DNS
- ⊙ Documentation
- ⊙ EPP
- ⊙ IDN
- ⊙ WHOIS



## RSP Change Testing

### Test Area

- ⊙ Data Escrow
- ⊙ DNS
- ⊙ Documentation
- ⊙ EPP
- ⊙ IDN
- ⊙ WHOIS
- ⊙ SRS Gateway



## Other Testing

### Test Area

- ⊙ IDN Review
- ⊙ First-time RSP testing



- ⊙ **Pre-Delegation Testing (PDT)** allows ICANN to determine if registries meet specific technical and operational requirements before being delegated into the root zone.
- ⊙ **Registry System Testing (RST)** ensures that a registry operator has the capacity to operate a new generic top-level domain in a stable and secure manner, by testing critical registry functions as described in the Registry Agreement. This testing applies to registry operators that have already delegated but are changing their registry service provider (RSP).
- ⊙ **Other Testing** is performed as needed by ICANN to further ensure the reliability of a registry operator. This testing is performed as needed on registry operators that have been delegated.

# Identified issues

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- From PIRR:
  - Review the requirements for self-certifying tests and the effectiveness of each. Is SLA monitoring more effective, or should they be converted to operational tests ?
  - Review PDT effectiveness as a whole to determine what optimizations can be done. Inefficient to test every TLD.
  - Reviewing of IDN tables during PDT be limited to confirm compliance with TLD IDN Policy
- From Registries:
  - Repeated evaluation of identical documents for each TLD in an RSP
  - Repeated testing of the same infrastructure
  - Added time and cost during RSP Change
  - Opposition to RSP accreditation and certification, although not to pre-approval



# Technical Services Recommendations 1/5

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- Operational tests in PDT
  - Since many of the issues seen by the SLAM system are caused by problems in operational tasks, having RSPs tested on their ability to do certain key operational tasks (e.g., key rollover, resigning TLD zone) could improve the chances of success when operating TLDs in production
- Ongoing monitoring to predict potential performance issues
  - In order to remove some tests from PDT and to improve the chances of proper operation of TLDs, ICANN recommends relying on ongoing monitoring of TLD operations against existing contractual requirements. ICANN is already planning to improve its active monitoring capabilities to cover as much as possible existing contractual provisions. Consideration should also be given as to whether repeated breaches should result in stricter penalties for Registry Operators/RSPs.

# Technical Services Recommendations 2/5

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- Require certifications, minimum standards for operational and security practices, infrastructure and resourcing capabilities, and business continuity plans from the Registry Operators (ROs) and/or RSPs
  - In order to improve the chances that a given RO/RSP is able to execute operation procedures within the expected standards, ICANN recommends considering requiring certifications or independent assessments (e.g., ITIL, ISO, CISSP, SOC2/3) of ROs/RSPs and/or key employees as well as requiring minimum operational and security practices, infrastructure and resourcing capabilities, certifications on infrastructure used, and setting criteria for business continuity plans.
- Periodic audits of RSP operations
  - In order to ensure the operation of the RSP continues to be of the expected standards, ICANN recommends considering conducting periodic audits of the RSP operations.

# Technical Services Recommendations 3/5

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- RSP pre-approval
  - Having all RSPs complete pre-approval, which could incorporate many of the Technical and Operational evaluation questions, and would be independent of the TLD, would help to make the evaluation processes more efficient, as all RSPs will have undergone basic testing and vetting and are deemed ready to operate TLDs. A pre-approval approach would also help in ensuring a more secure and stable DNS by having a faster and more efficient mechanism to deal with potential issues that occur during the operation of a TLD. A pre-approval approach could consider the operations record of the RSP (e.g., lack of SLA breaches in a given amount of time) to avoid adding extra requirements for proven operators. A pre-approval approach could also support different tiers of approvals, approving an RSP for a specific capacity of TLDs or domains under management.

# Technical Services Recommendations 4/5

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- Conduct some tests once per RSP and others for each TLD
  - In order to improve the efficiency of RST and avoid duplicative testing, ICANN recommends removing tests from RST that are conducted independent of the TLD being tested (e.g., the documentation on load testing). Instead, ICANN recommends doing such tests only once per RSP (this could pair nicely with the concept of RSP pre-approval). The remaining tests that vary by TLD could be done as they are done now with an additional improvement to only have fully automated tests on a per TLD basis.
- Remove Internationalized Domain Name (IDN) table review from PDT
  - During the 2012 round of the New gTLD Program, PDT included IDN table review. ICANN recommends that PDT only require automated testing that ensures IDN registration rules comply with stated policies and tables. ICANN would also recommend the adoption of reference tables pre-vetted by the community, so that any registry that uses those tables would forgo the need for table review. If a registry wanted to use a table that is not pre-vetted, the review could happen at some point before PDT.

# Technical Services Recommendations 5/5

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- Consider the number of TLDs and expected registrations in a given RSP infrastructure
  - During the 2012 round of the New gTLD Program, no consideration of the number of TLDs or expected registrations was given when reviewing RSP infrastructure. ICANN recommends that in order to ensure a secure and stable DNS, this consideration should be made as part of RST.
- Incorporate most existing questions into the RSP evaluation
  - In the 2012 round of the New gTLD Program, the application included 21 questions to evaluate the technical and operational capability of the applicant. ICANN recommends that most of these questions be addressed by the RSP pre-approval program described above. While it is envisioned that the Technical and Operational evaluation questions could be greatly streamlined, Registry-Operator applicants could still propose variations, additions, etc. applicable to a particular string from their RSP baseline that could be evaluated as part of individual applications

# Convergence of recommendations

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- Split RST between overall RSP matters and specific TLD testing
- Remove a better part or all of self-certification assessments
- Rely on SLA Monitoring for most if not all overall RSP testing
- Limiting IDN testing to specific TLD policy
- RSP Pre-Approval Program

# TS recommendations that are not convergent

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- IDN testing
  - TS suggested ditching review, PIRR didn't
- Additional operational tests
  - Key roll-over, zone resigning
- 3rd-party certifications of ROs/RSPs infrastructure and key personnel
- Periodic RSP audits
- Stricter penalties for repeated SLA breaches
- Consideration of number of TLDs per RSP in RST

# AOB and closing

- AAS outstanding issues
- AOB ?
- Next meeting: F2F @ ICANN 61, March 10 12:15 local time, 16:15 UTC