New gTLD Program		
Overarching Issues		
1.2.1	Continuing Subsequent Procedures	Overarching Issues
1.2.2	Predictability	Overarching Issues
1.2.1	*Community Engagement*	Overarching Issues
1.2.2	*Clarity of Application Process*	Work Track 1
1.2.3	Applications Assessed in Rounds	Overarching Issues
1.2.4	Different TLD Types	Overarching Issues
1.2.5	Applications Submission Limits	Overarching Issues
1.2.6	Accreditation Programs (e.g., RSP Pre-Approval)	Work Track 1
Foundational Issues		
1.3.1	Competition, Consumer Choice and Consumer Trust	Work Track 1
1.3.2	Global Public Interest	Work Track 2
1.3.3	Applicant Freedom of Expression	Work Track 3
1.3.4	Universal Acceptance	Work Track 4
Pre-Launch Activities		

1.4.1	Applicant Guidebook	Work Track 1
1.4.2	Communications	Work Track 1
1.4.3	Systems	Work Track 1
Application Submission		
1.5.1	Application Fees	Work Track 1
1.5.2	Variable Fees	Work Track 1
1.5.3	Application Submission Period	Work Track 1
1.5.4	Applicant Support	Work Track 1
1.5.5	Terms & Conditions	Work Track 2
Application Processing		
1.6.1	Application Queuing	Work Track 1
Application Evaluation/Criteria		
1.7.1	Reserved Names	Work Track 2
1.7.1.1	*IGO/INGO Protections*	*Work Track 2*
1.7.1.2	*Geographic Names*	*Work Track 5*
1.7.2	Registrant Protections	Work Track 2
1.7.3	Closed Generics	Work Track 2
1.7.4	String Similarity	Work Track 3
1.7.5	IDNs	Work Track 4

1.7.6	Security and Stability	Work Track 4
1.7.7	Applicant Reviews: Technical/Operational, Financial and Registry Services	Work Track 4
1.7.8	Name Collisions	Work Track 4
Dispute Proceedings		
1.8.1	Objections	Work Track 3
1.8.2	Accountability Mechanisms	Work Track 3
String Contention Resolution		
1.9.1	Community Applications	Work Track 3
Contracting		
1.10.1	Base Registry Agreement	Work Track 2
1.10.2	Registrar Non-Discrimination / Registry/Registrar Standardization	Work Track 2
Pre-Delegation		
1.11.1	Security and Stability	Work Track 4
Post-Delegation		
1.12.1	TLD Rollout	Work Track 2
1.12.2	Second-level Rights Protection Mechanisms	Work Track 2
1.12.3	Contractual Compliance	Work Track 2

1.11 Deliberations and Recommendations: Pre-Delegation Testing

Pre-Delegation		
1.11.1	Security and Stability	

1.11.1 Registry System Testing

a. What is the relevant policy and/or implementation guidance (if any)?

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 8: *Applicants must be able to demonstrate their financial and organisational operational capability.*

b. How was it implemented in the 2012 round of the New gTLD Program?

In the 2012 round, the purpose of Pre-Delegation Testing (PDT) was to verify that the applicant was able to meet certain operational criteria described in Module 2 of the Applicant Guidebook.

Stiftelsen för Internetinfrastruktur (IIS), the registry operator for the .SE ccTLD, was selected by ICANN to perform PDT on each of the registry operators for each individual TLD prior to the delegation of the TLD. This consisted of both (a), conducting some operational tests as well as (b) requiring some self-certifications from the registry operator (often through its Registry Services Provider) that it could comply with other operational requirements.

As stated above, PDT was done on a per-TLD basis for every single TLD. Thus, PDT was required for every string regardless of the number of times the Registry Operator and/or its back-end Registry Service Provider (RSP) had already been through the same set of tests previously. For example, this meant that a Registry Operator who entered into contracts with ICANN to operate 100 TLDs had to undergo the same exact test 100 times. In addition, due to resource constraints, ICANN was limited to the testing of only 20 TLDs per week. Although ICANN was able to increase their capacity to test up to 100 TLDs per week, this did result in delaying the delegation of TLD strings which may not have existed had Registry Operators been required to go through testing once for all of its strings as opposed to once for each of its strings.

In order to refine its testing procedures, Registry Service Providers were able to participate in pilot and beta programs prior to the launch of the PDT program. In addition, these were also

employed when refinements were made to the PDT process mid-flight, improving the process as well as test requirements and specifications.

Though not the subject of this Working Group, we note that PDT was also used post-delegation to approve "gaining" Registry Service Providers when Registry Operators proposed transitioning the operation of its TLD(s) to a new RSP. This is one of the reasons it was renamed Registry System Testing (RST).

c. What are the preliminary recommendations and/or implementation guidelines?

- RST should be split between overall RSP matters and specific application/TLD testing.
- Remove a better part or all self-certification assessments.
- Rely on Service Level Agreement (SLA) monitoring for most if not all overall RSP testing.
- Limit Internationalized Domain Name (IDN) testing to specific TLD policies; do not perform an IDN table review in RST.
- Include additional operational tests to assess readiness for Domain Name System Security Extensions (DNSSEC) contingencies (key roll-over, zone re-signing).

Possible Language: "Applicants must be able demonstrate their technical capability to run a registry operation for the purpose that the applicant sets out, either by submitting it to evaluation at application time or agreeing to use a previously approved* infrastructure"

* Could mean in the same procedure or previous procedures if an RSP program exists.

d. What are the options under consideration, along with the associated benefits / drawbacks?

None beyond the preliminary recommendations above.

e. What specific questions are the PDP WG seeking feedback on?

CANN's Technical Services group provided some recommendations[1] to Work Track 4 on what it believed were improvements that could be made to improve its testing procedures to attempt to detect operational issues that its Service Level Monitoring system has uncovered with some registry service providers. Lthough the Work Track discuss this letter in some detail, the Work Track has not reached any consensus on whether those recommendations should be accepted. Therefore, we would like feedback from the community on whether any of the recommendations should be adopted by the Work Track in the final report. More specifically, we seek feedback on recommendation numbers 1 (PDT Operational Tests),2 (monitoring), 3 (3rd Party Certifications),4 (audits), 6 (Frequency of tests), 7 (Removal of testing IDN tables) and 8

[1] See full response here: https://community.icann.org/download/attachments/58735969/Response%20to%20WT4%20re%20RST%20improvements.pdf?version=2&modificationDate=1502939084000&api=v2

(consideration of number of TLDs). Some of the other recommendations, including number 4 (RSP Pre-approval) are discussed in Section [1.2.6] of this report.

f. Deliberations

In its deliberations, the Work Track reviewed the Community Comment 2 (CC2) responses and also consulted with ICANN Technical Services. There was only one question in the CC2 that related specifically to recommendation 7, that applicants must be able to demonstrate their technical capability to run a registry operation for the purpose that the applicant sets out. However, there are related recommendations, community comments, and deliberations detailed above in section 1.7.7 on Applicant Reviews: Technical & Operational, Financial and Registry Services.

With respect to the CC2 question, "Do you believe that technical capability should be demonstrated at application time, or could be demonstrated at, or just before, contract-signing time? Or at both times? Please explain" respondents agreed that technical capability should be demonstrated at application time as was done in the 2012 round. However, some respondents noted that if there was a program to evaluate RSPs, then individual registry testing might not be necessary. The Work Track noted that in the 2012, round redundant analysis and testing of similar infrastructures caused delay and increased costs. The Work Track thus agreed in its suggested language (see above) that an applicant could agree to use a previously approved infrastructure (if a RSP program exists) to eliminate redundancies.

In its deliberations on RST in the 2012 round, the Work Track noted several issues:

- Lack of perceived effectiveness in preventing operational failures, since such failures happened even for approved RSPs and TLDs.
- Too broad analysis of IDN functionality.
- A redundant testing procedure, which increased time and cost spent by ICANN, applicants, and registries.

With respect to the lack of perceived effectiveness in preventing operational failures, the Work Track noted that despite registries and RSPs passing PDT, there are still breaches of SLAs. Thus, the Work Track considered that there are likely some practical improvements that can be made to the operational readiness testing. To assist in its deliberations on this issue, the Work Track requested ICANN's recommendations for updating RST (i.e., Pre-Delegation Testing (PDT) and Registry Service Provider (RSP) Change Testing) based on issues or breaches seen by the SLA Monitoring (SLAM) system, as well as ICANN's recommendations generally for improving testing and technical evaluations. The Work Track agreed with the recommendation that 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.

On the issue of too broad analysis of IDN functionality, the Work Track agreed with ICANN's recommendation to remove IDN table review from the PDT. ICANN noted that during the 2012 round of the New gTLD Program, PDT included IDN table review. The Work Track agreed with ICANN's recommendation that PDT only require automated testing that ensures IDN registration rules comply with stated policies and tables.

On the redundant testing procedure, the Work Track agreed with the Program Implementation Review Report[2] that some PDT aspects should be per RSP, while others should be per TLD. Specifically, the Work Track agreed that RST should be split between overall RSP matters and specific TLD testing.

Furthermore, the Work Track agreed with ICANN's recommendation that in order to remove some tests from PDT and to improve the chances of proper operation of TLDs, ICANN should be relying on ongoing monitoring of TLD operations against existing contractual requirements. Specifically, the Work Track agreed that ICANN should rely on SLA monitoring for most if not all overall RSP testing.

The Work Track did not agree to ICANN's recommendations concerning the use of 3rd-party certifications of Registry Operator (RO)/RSP infrastructure and key personnel, periodic RSP audits, and stricter penalties for repeated SLA breaches. The Work Track agreed to recommend the removal of a better part or all self-certification assessments.

g. Are there other activities in the community that may serve as a dependency or future input to this topic?

- RSP Pre-Approval Program (Discussed in Section [1.2.6])
- Evolution of ICANN SLA Monitoring[3]

[2] See Program Implementation Review Report here: https://www.icann.org/en/system/files/files/program-review-29jan16-en.pdf

[3] More information on recent developments SLA Monitoring can be found at https://www.icann.org/en/system/files/files/presentation-slam-13may17-en.pdf and https://www.icann.org/news/multimedia/2801; future ICANN meetings might present further engagement opportunities.