

Discussion Paper: ICANN org Cost Estimate for EPDP Phase 2 Team's Proposed System for Standardized Access/Disclosure

5 May 2020

1. Introduction

In November 2019, the Expedited Policy Development Process on the Temporary Specification for gTLD Registration Data (EPDP), as it considered three possible models for a System for Standardized Access/Disclosure (SSAD), [asked ICANN org to provide](#) an estimate of the costs associated with the start-up and ongoing operations related to the team's proposed system requirements. ICANN org provided an update on this work in December 2019, followed in January 2020 by a [list of questions and working assumptions](#) for the team to clarify or confirm. ICANN org received these [responses](#) in March 2020 and reviewed the team's [Initial Report](#), and has since begun work on building the cost estimates based on the EPDP team's replies, as well as the system and service assumptions outlined below.

The estimates presented here are intended to serve as a resource and input for the EPDP Team as it finalizes its recommendations. We hope this analysis and the associated financial information will provide additional and useful insights regarding the model that you are developing. With the intent of further providing input that may be useful, we have considered a few alternative approaches and challenges that may arise when implementing the policy recommendations. As a result, this model reflects assumptions regarding implementation of the final policy recommendations.

Based on the current stage of development of the model, it should be understood that any cost estimates can only be developed at a high level, as a result of high-level assumptions. The assumptions not only help but actually define the cost estimates in the sense that the numbers do not mean much without understanding what assumptions were used to define them. An assumption should also not be mistaken for a decision. Assumptions can and should be discussed, challenged and changed as much as is considered appropriate. That in itself is one of the main benefits of developing estimates. We have tried to document the main assumptions that were

used, so that you have as much clarity and understanding as to the drivers for the cost estimates provided. It should also help you determine what assumptions you may want to challenge or change.

Separately, it is also important to understand that this information is “directional at best,” far from a “budget” for an implementation plan, which would require a lot more detailed planning work to be completed. It is also should not be mistaken for a “quote” or a reference in an RFP (“Requests For Proposal”), as bid/vendor selection would occur in a different context, on the basis of very different information, and these information we are sharing should not be an expectation of what ICANN would accept to spend.

In addition, and as noted in ICANN org’s assumptions which were shared with the EPDP Team in January, this estimate does not account for development or maintenance costs that will be borne by the contracted parties or requestors. Neither does it consider the role of fees in the proposed model. We do believe that the costs for contracted parties and the fees funding the model are very important components of understanding the impact of the policy recommendations, and we welcome any future opportunity to help explore these matters.

As noted on pp. 10-11 of the EPDP Team Phase 2 Initial Report, we understand the benefits of this model to be:

- A single location to submit requests,
- Standardized request forms,
- A built-in authentication process and,
- A standardized review and response process.

As a result, ICANN org has prepared this estimate based on the assumptions that this system is intended (i) to simplify the process for requestors, (ii) unify the requests that go to Contracted Parties, and (iii) provide requestors and the Accreditation Authority with the possibility to track requests over time. We note that the system does not consider costs or processes required for Contracted Parties to conduct a balancing test or reach their own decisions regarding requests for non-public gTLD registration data.

We thank you again for the opportunity to help and contribute to your important work.

2.Assumptions

In addition to the [questions](#) that the EPDP answered in March 2020, additional assumptions were required to build the cost estimate.

2.1 System Assumptions:

2.1.1. Full outsourcing of system development and operation for the Central Gateway, Accreditation Authority, and Identity Providers.

2.1.2 Development of both the Central Gateway and Accreditation Systems will be done in 9 months (after RFP and contract signing). After that, an additional 3 months of integration testing between those systems will be needed.

2.1.3 Although it is very likely that if ICANN org outsources the Central Gateway and/or Accreditation Authority, it would be on a fixed-price basis, for estimation purposes we are using person-hours as a way to measure functional complexity and put a price of USD\$200.00 for each person-hour for outsourced professional work such as this. This assumption has been used in other projects.

2.1.4 Operation to development cost rate of 10%. That is, the software maintenance cost is calculated as 10% of the total development cost.

2.1.5 The Central Gateway, and the Accreditation Authority will be developed and operated by two different entities. Each will have a minimum cost for system administration as part of the ongoing operation costs.

2.1.6 Given the SLAs contained in the initial report that underwent public comment, it is assumed that the resolution of operation issues on the systems could be done within business hours.

2.2 Services Assumptions:

General

2.2.1. Identity providers and auditors will be selected via RFP through the standard procurement process that is designed for transparency and a reduction in conflicts of interest. It also may result in potentially lower costs as a result of a competitive bid process.

2.2.2. The proposed cost model does not include any costs associated with potential appeals or accountability mechanisms triggered by the decisions of contracted parties to approve or reject requests for disclosure.

2.2.3. Blended hourly rates for audit and identity providers are assumed to be between \$150 to \$200/hr depending on the function.

2.2.4. Five-year contracts will be the standard terms for providers and auditors.

Identity Providers

2.2.5. At least 3 identity providers (and 3 are estimated) will be required to provide global coverage, potential future identification of “groups”, conflict-free identification of other providers and redundancy in service delivery in the event a provider is de-accredited.

2.2.6. Each individual identity provider will need to provide all services specified in initial recommendations, but may subcontract particular functions.

2.2.7. Identification costs were primarily influenced and modeled by similar activities that are conducted by certificate authorities for entities and individuals around the world. That model is strictly limited to identifying a legal or natural person. It does not incorporate qualitative review of applicants such as conducting background screening, checks of “good standing” with applicable jurisdictions and so forth as might be conducted during the registrar accreditation process.

2.2.8. Identity providers will need to design an operational process, a training plan, recruit and train staff, etc. They will also need to provide customer-facing services for applicants, identified individuals, field disputes and complaints using functions provided by the Gateway.

2.2.9. Identity providers are not assumed to continually verify the identity or assertions by a user more than once every two years as specified by the small group during the assumptions discussion.

2.2.10. Costs to perform identity verification are likely to vary by jurisdiction.

Audit

2.2.11. Audit providers will conduct audits based upon cadence specified by the working group in response to ICANN org questions.

2.2.12. Annual audit estimates are based on a 10-year annual average.

2.2.13. Auditors will need to perform a one time analysis of the final requirements of the accreditation authorities and Gateway in order to construct an evaluation model.

2.2.14. Selected auditor for the accreditation providers must be free of conflicts.

2.2.15. The estimated audit process for Gateway users is primarily a review of the various system logs generated as a result of user activity. Questionable usage will be identified and reviewed with the final recommendations submitted to ICANN for determination. It was not contemplated that the auditor would conduct on-site visits, reviews of private systems to verify all terms of service.

2.3 General Assumptions:

- 2.3.1. ICANN org is being asked to estimate costs for:
 - 2.3.1.1. Developing technical specifications of the SSAD (including open standards).
 - 2.3.1.2. SSAD system(s) development.
 - 2.3.1.3. SSAD system(s) support/maintenance (including enhancements and bug fixing).
 - 2.3.1.4. SSAD operation (e.g., customer support, other human resource operators, system operation).
 - 2.3.1.5. SSAD periodic auditing.
 - 2.3.1.6. SSAD reporting.
- 2.3.2. For this exercise, ICANN org is not going to:
 - 2.3.2.1. Estimate costs for contracted parties' systems development and operation or any other indirect costs.
 - 2.3.2.2. Estimate costs for requestors' systems development and operation or any other indirect costs.
 - 2.3.2.3. Include in the estimates anything related to potential fees (including cost of billing operations) for requestors. This should be addressed at a later stage.
 - 2.3.2.4. Include risk mitigation costs, which are variable depending on what role ICANN org is slated to play in the chosen model.
- 2.3.3. The SSAD will only support requestors who are accredited. In other words, a potential requestor will have to be accredited before they can submit a request in the system.
- 2.3.4. The SSAD will be required to support requestors from anywhere in the world. In other words, a potential requestor should be accreditable independently of where they are based.
- 2.3.5. Costs as estimated are based upon the content in the initial report. Subsequent evolution of recommendations could fundamentally alter the services required and thus the costs.

3. Challenges

ICANN org identified challenges with developing accurate cost estimates for the following areas:

- 3.1. Cost to perform signed assertion verification services are not included in this services model.
 - 3.1.1. The type and nature of signed assertions described in the policy seem unbounded at this time.
 - 3.1.1.1. Costs may vary by jurisdiction.
 - 3.1.1.2. Costs would vary by the type of assertion. Example: verification of a trademark under the current TMCH model would add \$150 to the cost of an assertion.
 - 3.1.1.3. Some example assertions listed in the initial report were future actions and thus could not be verified. For example, the assertion regarding compliance with laws (e.g., storage, protection and retention/disposal of data) as an assertion is a promise of future actions. It would not seem possible to verify, in advance, that the data (which a requestor has not even received) will be stored, protected and properly disposed of.
- 3.2. As no specific identity standard was specified for identification of legal and natural persons, the approach used to develop the estimate may not be in-line with the intent of the working group.

4. Similar models considered

ICANN org considered the costs and requirements associated with other services it has developed and deployed in constructing this cost estimate. This included the [Trademark Clearinghouse](#) (TMCH), which was developed as part of the New gTLD Program. The TMCH consists of a technical infrastructure and verification function. The verification function has a similar worldwide requirement and includes customer services and dispute mechanism.

Other models that could be considered:

- Basic research was conducted on service offerings by Certificate Authorities that may be able to provide service alternatives.
- There are a growing number of firms that offer identity verification services that could be considered. However, many of them use online databases that might

exclude individuals in emerging markets or where paper records are still common.

5. Cost Estimates

5.1 Total Cost Summary

Amounts in Millions of US\$

Component	Setup	Yearly	Description
Accreditation Authority Audit	\$0.1	\$0.1	Audits on users of SSAD per specified cadence averaged over 10-year horizon
Accreditation Authority	\$3.3	\$1.9	Three identity providers to support all regions worldwide and types of users; cost includes 10-year averaged yearly audits
Central Gateway	\$2.4	\$1.2	Cost includes system and 5x24 email support for gateway users, system functions, etc.
Transaction Costs	N/A	\$2.7	Average of range of costs for accreditation of ~20,000 entities and users. Actual range is \$1.6M to \$3.5M
Direct costs sub-total	\$5.8	\$5.9	
Technical and project management oversight	\$0.9	\$0.9	Management of the overall project/function, management of the outsourced service providers, design, control. Calculated at a standard 15% of direct costs.
Overhead Expense (1)	\$0.6	\$1.2	Overhead expense consists of general and administrative shared costs that are incurred by the infrastructure that support the organization's activities.
Contingency Expense (2)	\$1.7	\$0.9	Contingency expense consist of unforeseen expenses related to implementing and managing new systems and services.
TOTAL	\$9.0	\$8.9	

(1): Overhead expense: Intends to capture the infrastructure general expenses of the organization that manages the project and on-going work. Types of costs usually included in overheads are human resources, finance, legal, communications, administrative, etc.

As the setup costs described above are presumed to be outsourced, the overhead costs of the outsourced service providers are considered embedded in the total costs, and therefore only an additional and reduced rate of overhead costs has been added to

Setup costs, at 10% of direct costs. For the on-going annual service costs to maintain the entire SSAD function, a standard overhead expense of 20% of direct costs has been used.

(2): Contingency: The contingency is a standard approach aimed at reflecting the possible costs of activities or requirements that can not be foreseen. The contingency is usually expressed as a percentage of direct costs. The percentage is set higher when the project relates to customized, one-of-a-kind outcomes, and also at an early stage of design. For more standardized projects, the percentage is set at a lower value. ICANN has used 30% as a usual percentage for one-of-a-kind systems development, and has been applied here to the Setup costs. As it relates to ongoing activities, 15% is commonly used, and has been applied above in the Yearly costs.

5.2 Service Cost Estimate Summary

Service	Description	Est. Startup Costs (One-time)	Est. Fixed Recurring Annual Costs
Accreditation Authority	3 entities to verify identity and provide support in all regions worldwide	\$1,500,000	\$1,140,000 (Total/year)
Accreditation Authority Audit	Perform audits on 3 accreditation authorities per specified cadence	\$32,000	\$63,168 (Average/year**)
Accredited User Audit	Perform audits on usage of SSAD per specified cadence	\$32,000	\$40,824 (Average/year**)
Customer Support for Gateway	Provide 5x24 email support for gateway users, system functions, etc.	\$100,000	\$320,000
Transaction Costs	Average of range of costs for accreditation for a period of 2 years for ~16,000 individuals and ~3,200 entities. Actual range is \$1.9M to \$3.5M	N/A	\$2,731,200*
TOTAL		\$1,664,000	\$4,295,192

* Range for transaction amount calculated based on the number of users and entities provided by the EPDP small team. Identification costs for a two-year period were estimated using a similar cost model range as used in the open market by certificate authorities. Actual range is \$1.9M to \$3.5M. Range average of \$2,731,200 is provided in the table above.

** Averaged over 10-year horizon.

5.3 System Cost Estimate Summary

Sub-system	Cost to deploy	Yearly operational cost
Central gateway's web interface for requestors	\$620,000	\$194,000
Central gateway's API for contracted parties to enable authorization, disclosure, authorization recommendation feedback, and SLA tracking	\$440,000	\$152,000
Central gateway's web interface for contracted parties in NSP to set configuration parameters (e.g., applicable jurisdiction{s}, indicate types of request to be automated)	\$295,000	\$134,000
Central gateway's interface to accreditation authorities' API (and optionally, their identity providers) to enable authentication of requestors	\$370,000	\$134,000
Central gateway's web interface for accreditation authorities in NSP to manage configuration parameters (e.g., indicate their identity providers, manage contacts)	\$315,000	\$140,000
Central gateway's authorization recommendation engine	\$305,000	\$122,000
Accreditation authority's web interface for non-governmental entities wanting to be accredited, complaint submission, billing, etc.	\$640,000	\$250,000
Accreditation authority's internal web interface to handle applications, billing, dispute resolution, complaints, etc.	\$860,000	\$310,000
Accreditation authority's API for central gateway to enable authentication of requestors (accredited non-governmental entities)	\$310,000	\$166,000
TOTAL	\$4,155,000	\$1,602,000