

Response to the IANA Stewardship Transition Coordination Group Request for Proposals on the IANA from the Internet Number Community

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Appendix: Definitions

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Abstract

This document is a response from the Internet Number Community to the IANA Stewardship Transition Coordination Group (ICG) Request for Proposals made on September 8, 2014. This document was prepared by the CRISP Team, which was established by the Internet Number Community through the Regional Internet Registries specifically for the purpose of producing this document.

Please note that an appendix, including uncommon acronyms and defined terms, is included at the end of this document.

Proposal type

Identify which category of the IANA functions this submission proposes to address:

Names

Numbers

Protocol Parameters

I. The Community's Use of the IANA

This section should list the specific, distinct IANA services or activities your community relies on. For each IANA service or activity on which your community relies, please provide the following:

- *A description of the service or activity.*
- *A description of the customer of the service or activity.*
- *What registries are involved in providing the service or activity.*
- *A description of any overlaps or interdependencies between your IANA requirements and the functions required by other customer communities*

I.A. The service or activity

The IANA activities relevant to the Internet Number Community are:

- the allocation of blocks of Internet Number Resources (namely IPv4 addresses, IPv6 addresses, and Autonomous System Numbers, AS Numbers, or ASNs) to the Regional Internet Registries (RIRs);
- the registration of such allocations in the corresponding IANA Number Registries;
- other related registry management tasks including the management of returned IP address space, and general registry maintenance; and

- the administration of the special-purpose “IN-ADDR.ARPA” and “IP6.ARPA” DNS zones, in accordance with IPv4 and IPv6 allocations, respectively.

These activities are referred to in this document, collectively, as “IANA Numbering Services.”

I.B. The customer of the service or activity

The RIRs, the not-for-profit membership-based organizations accountable to the Internet Number Community, manage the registration and distribution of Internet Number Resources (as defined above) on a regional basis. The five RIRs are:

AFRINIC Serving Africa

APNIC Serving the Asia-Pacific Region

ARIN Serving Canada, some North Atlantic and Caribbean islands, Antarctica, and the United States

LACNIC Serving Latin America and portions of the Caribbean

RIPE NCC Serving Europe, Central Asia, and the Middle East

The RIRs receive blocks of Internet Number Resources from the IANA Number Registries managed by the IANA Numbering Services Operator and distribute and register those number resources at the regional level. The RIRs also fill a secretariat role, facilitating the open, transparent, and bottom-up number resource Policy Development Process.

The RIRs have a long-standing and straightforward operational relationship with the IANA. The IANA maintains the IANA Number Registries from which the RIRs receive allocations to distribute to the community. The RIRs also coordinate with the IANA to correctly register any resources that are returned to the IANA Number Registries. Collectively, the system for administering Internet Number Resources is referred to as the Internet Number Registry System and is described in detail in RFC 7020.

I.C. Registries are involved in providing the service or activity

The relevant IANA registries are:

- the IPv4 address registry: <http://www.iana.org/assignments/ipv4-address-space>
- the IPv6 address registry: <http://www.iana.org/assignments/ipv6-unicast-address-assignments>
- the ASN registry: <http://www.iana.org/assignments/as-numbers>
- the IN-ADDR.ARPA DNS zone
- the IP6.ARPA DNS zone

Collectively these registries are referred to as the IANA Number Registries.

I.D. Overlaps or interdependencies between your IANA requirements and the functions required by other customer communities

The Internet Engineering Task Force (IETF) is responsible for the specification of the entire IP address space and AS number space. Through the respective IANA Number Registries (see above), the IETF delegates unicast IP address and AS number space into the Internet Numbers Registry System (RFC 7020). These registries are published via the IANA.ORG web site.

Within the IANA Number Registries, there may be reserved values or ranges and special-purpose registries which are outside the Internet Number Registry System and instead administered under the direction of the IETF. The delineation of the specific ranges delegated to the Internet Numbers Registry System is provided in RFC 7249. It is expected that this delineation may change from time to time by actions of the IETF (through the RFC process) or the RIRs (through the global policy development process). Potential reasons for changes include the release of previously reserved space for general use and the reservation of previously unused space for a special purpose.

The global Internet community also depends upon the IANA Numbering Services Operator for administration of the special-purpose IN-ADDR.ARPA and IP6.ARPA DNS zones which are associated with IPv4 and IPv6 address spaces, respectively. These zones are delegated to the IANA by the Internet Architecture Board (IAB) and “[s]ub-delegations within this hierarchy are undertaken in accordance with the IANA’s address allocation practices” (RFC 3172). The Internet Corporation for Assigned Names and Numbers (ICANN), in its role as the IANA Numbering Services Operator, administers these zones as “agreed technical work items” per the *IETF-IANA MoU*. This work is outside the scope of the National Telecommunications and Information Administration (NTIA) contract.

Provision of reverse DNS services in the IN-ADDR.ARPA and IP6.ARPA domains may also require interaction with the .ARPA registry. Collectively these registries are referred to as the IANA Number Registries.

The Internet Number Community also makes use of the term IANA in the description of their processes, policies, and public database records.

Relevant links:

IETF-ICANN MoU Concerning the Technical Work of the Internet Assigned Numbers Authority: <https://www.icann.org/resources/unthemed-pages/ietf-icann-mou-2000-03-01-en>

NTIA IANA Functions Contract: <http://www.ntia.doc.gov/page/iana-functions-purchase-order>

RFC 3172, Management Guidelines & Operational Requirements for the Address and Routing Parameter Area Domain (“arpa”): <https://tools.ietf.org/html/rfc3172>

RFC 7020, *The Internet Numbers Registry System*: <https://tools.ietf.org/html/rfc7020>

RFC 7249, *Internet Numbers Registries*: <https://tools.ietf.org/html/rfc7249>

II. Existing Pre-Transition Arrangements

This section should describe how existing IANA-related arrangements work, prior to the transition.

II.A. Policy Sources

This section should identify the specific source(s) of policy which must be followed by the IANA functions operator in its conduct of the services or activities described above. If there are distinct sources of policy or policy development for different IANA activities, then please describe these separately. For each source of policy or policy development, please provide the following:

- *Which IANA service or activity (identified in Section I) is affected.*
- *A description of how policy is developed and established and who is involved in policy development and establishment.*
- *A description of how disputes about policy are resolved.*
- *References to documentation of policy development and dispute resolution processes.*

II.A.1. Affected IANA service or activity

The affected services and activities are those describe in I.A and I.C above.

IANA Numbering Services are provided without involvement by the NTIA.

II.A.2. How policy is developed and established and by whom

The policies under which the IANA Numbering Services are provided are developed and agreed within the Internet Number Community via an open, transparent, and bottom-up policy development process. The community engages in regional policy development processes facilitated by each RIR; these processes are open to all stakeholders regardless of specific background or interest or geographic location of residence or activity. Links to the regional Policy Development Processes (PDPs) are included in the RIR Governance Matrix published on the Number Resource Organization (NRO) web site: www.nro.net/about-the-nro/rir-governance-matrix

Any individual may submit a global policy proposal to the Global Policy Development Process, or gPDP. The community must ratify the proposed policy within each RIR. The NRO Executive Council (NRO EC) then refers the proposal to the Address Supporting Organization Address Council (ASO AC), which reviews the process by which the proposal was developed and, under the terms of the *ASO Memorandum of Understanding (ASO MoU)*, passes it to the ICANN Board of Directors for ratification as a global policy.

There are currently three global policies related to management of the IANA Number Registries of IPv4 addresses, IPv6 addresses, and Autonomous System Numbers: <https://www.nro.net/policies>

- IANA Policy for Allocation of IPv6 Blocks to Regional Internet Registries;
- IANA Policy for Allocation of ASN Blocks to Regional Internet Registries; and
- Global Policy for Post Exhaustion IPv4 Allocation Mechanisms by the IANA.

A fourth global policy, ICP-2, *Criteria for Establishment of New Regional Internet Registries*, governs the community's formation of new RIRs.

The global gPDP described in the *Global Policy Development Process Document* (<https://www.nro.net/documents/global-policy-development-process>) is used for all of the number-related IANA activities described in Section I, but the policy by which "IN-ADDR.ARPA" and "IP6.ARPA" domains must be delegated following IPv4 and IPv6 address allocations is specified by the IETF in RFC 3172.

II.A.3. How disputes about policy are resolved

The gPDP mentioned above is formally defined in Attachment A of the ASO MoU, signed by ICANN and the RIRs in 2004 (and signed by AFRINIC when it was established as the fifth RIR in 2005). This MoU includes provisions for resolving disputes between the IANA Numbering Services Operator and the Internet Number Community. Although the gPDP allows for the ICANN Board to dispute the outcome of a consensus community decision (escalating to mediation between ICANN and the RIRs), it does not include any role for the IANA contract holder (currently the NTIA). The ASO MoU is an agreement between the Internet Number Community and ICANN; the NTIA has no oversight role in policy-making for IANA Numbering Services, and its transition out of its current role would have no effect on the policy-making framework.

A separate MoU, the NRO MoU, establishes the NRO as "a coordinating mechanism of the RIRs to act collectively on matters relating to the interests of the RIRs" and includes provisions for dispute resolutions between RIRs on issues relating to global policy development or implementation.

It is the responsibility of the NRO Number Council ("NRO NC"), a group comprising fifteen community members to confirm that the documented RIR PDPs have been followed in the development of policy. Further, this group reviews the policy followed by the Internet Number Community to assure itself that the significant viewpoints of interested parties are adequately considered, and only after this confirmation does it then consider forwarding global policy proposals to the ICANN Board for ratification.

The NRO NC also acts in the role of the ICANN ASO AC, and as such it presents the agreed global policy proposal to the ICANN Board for ratification and operational implementation.

The ICANN Board reviews the received global number resource policy proposals and may ask questions and otherwise consult with the ASO Address Council and/or the individual RIRs acting collectively through the NRO. The ICANN Board may also consult with other parties as the Board considers appropriate. If the ICANN Board rejects the proposed policy, it delivers to the ASO AC a statement of its concerns with the proposed policy, including in particular an explanation of the significant viewpoints that were not adequately considered during the RIR processes. By consensus of the Internet Number Community in accordance with the PDPs, the ASO AC may forward a proposed new or modified policy to the ICANN Board. If the resubmitted proposed policy is rejected for a second time by ICANN, then the RIRs or ICANN shall refer the matter to mediation.

In case of disputes where mediation has failed to resolve the dispute, the ICANN ASO MoU provides for arbitration. Via the ASO, the RIRs have been participating in the periodic independent reviews by the Accountability and Transparency Review Team (ATRT) that are called for in ICANN's Bylaws.

II.A.4. References to documentation of policy development and dispute resolution processes

Relevant links:

ICANN ASO MoU: <https://www.nro.net/documents/icann-address-supporting-organization-aso-mou>

NRO MoU: <https://www.nro.net/documents/nro-memorandum-of-understanding>

About the NRO Number Council: <https://www.nro.net/about-the-nro/the-nro-number-council>

RIR Governance Matrix: <https://www.nro.net/about-the-nro/rir-governance-matrix>

Global Policies: <https://www.nro.net/policies>

RFC 3172, Management Guidelines & Operational Requirements for the Address and Routing Parameter Area Domain ("arpa"): <https://tools.ietf.org/html/rfc3172>

II.B. Oversight and Accountability

This section should describe all the ways in which oversight is conducted over IANA's provision of the services and activities listed in Section I and all the ways in which IANA is currently held accountable for the provision of those services. For each oversight or accountability mechanism, please provide as many of the following as are applicable:

- *Which IANA service or activity (identified in Section I) is affected.*
- *If the policy sources identified in Section II.A are affected, identify which ones are affected and explain in what way.*
- *A description of the entity or entities that provide oversight or perform accountability functions, including how individuals are selected or removed from participation in those entities.*
- *A description of the mechanism (e.g., contract, reporting scheme, auditing scheme, etc.). This should include a description of the consequences of the IANA functions operator not meeting the standards established by the mechanism, the extent to which the output of the mechanism is transparent and the terms under which the mechanism may change.*
- *Jurisdiction(s) in which the mechanism applies and the legal basis on which the mechanism rests.*

II.B.1. Which IANA service or activity is affected?

The IANA Numbering Services and IANA Number Registries as defined above.

II.B.2. If the policy sources identified in Section II.A are affected, identify which ones are affected and explain in what way.

A decision by the NTIA to discontinue its stewardship of the IANA Numbering Services, and therefore its contractual relationship with the IANA Functions Operator, would have no significant impact on the continuity of IANA Numbering Services currently provided by ICANN. However, it would remove a significant element of oversight from the current system.

ICANN has historically provided IANA Numbering Services via the IANA Number Registries under the terms of the NTIA IANA Functions contract, and therefore IANA Numbering Services for the RIRs are currently subject to change in accordance with that agreement.

II.B.3. The entity or entities that provide oversight or perform accountability functions

A description of the entity or entities that provide oversight or perform accountability functions, including how individuals are selected or removed from participation in those entities.

All institutional actors with a role in management of Internet Number Resources are accountable to the open community that develops the policies under which those resources are distributed and registered. The mechanisms used to ensure and enforce this accountability differ for each of these actors.

II.B.3.i. NTIA

ICANN, as the current IANA Numbering Services Operator, is obligated by the NTIA agreement to manage the IANA Number Registries according to policies developed by the Internet Number Community.

Although the IANA operator escalation and reporting mechanisms are public in nature, the NTIA has an oversight role in the provision of the services through its contract with ICANN. The ultimate consequence of failing to meet the performance standards or reporting requirements is understood to be a decision by the contracting party (the NTIA) to terminate or not renew the IANA Functions Agreement with the current contractor (ICANN).

II.B.3.ii. The Regional Internet Registries

Administration by the IANA Numbering Services Operator consists predominantly of processing of requests from the RIRs for issuance of additional number resources. The five RIRs are intimately familiar with global numbering policies under which the requests are made and maintain communications with the IANA Numbering Services Operator throughout the request process.

The RIRs are not-for-profit membership-based organizations, and as such they are accountable to their members by law. The specific governance processes for each RIR differ depending on where they have been established and the decisions made by their membership, but in all RIRs members have the right to elect individuals to the governing board and to vote on matters related to the respective RIR.

At the same time, an RIR's registration and allocation practices are directed by policies developed by the community. Each RIR's PDP defines how these policies are developed, agreed, and accepted for operational implementation.

The corporate governance documents and PDPs of each RIR are accessible via the RIR Governance Matrix, published on the NRO web site: www.nro.net/about-the-nro/rir-governance-matrix

II.B.4. Description of the mechanism

(e.g., contract, reporting scheme, auditing scheme, etc.). This should include a description of the consequences of the IANA functions operator not meeting the standards established by the mechanism, the extent to which the output of the mechanism is transparent and the terms under which the mechanism may change.

The NTIA IANA Agreement currently defines obligations of the IANA Operator for Internet Number Resources.

This obligation is specifically noted in section C.2.9.3 of the NTIA agreement:

C.2.9.3 Allocate Internet Numbering Resources – The Contractor shall have responsibility for allocated and unallocated IPv4 and IPv6 address space and Autonomous System Number (ASN) space based on established guidelines and policies as developed by interested and affected parties as enumerated in Section C.1.3.

The NTIA agreement also lays out specific deliverables for the IANA Numbering Services Operator (ICANN) to produce as a condition of the agreement (see “Section F – Deliveries and Performance”), including performance standards developed in cooperation with the affected parties (in the case of the IANA Number Registries, the affected parties are the RIRs and the Internet Number Community), customer complaint procedures, and regular performance reporting.

These deliverables are met by ICANN via monthly reporting on their performance in processing requests for the allocation of Internet Number Resources; these reports include IANA operational performance against key metrics of accuracy, timeliness, and transparency, as well as the performance metrics for individual requests. The IANA operations team also provides escalation procedures for use in resolving any issues with requests, as per the “IANA Customer Service Complaint Resolution Process.”

II.B.5. Jurisdiction and legal basis of the mechanism

Jurisdiction for the current mechanism is the United States of America under applicable federal government contracting laws and regulations.

Relevant links:

NTIA IANA Agreement: <http://www.ntia.doc.gov/page/iana-functions-purchase-order>

ICANN ASO MoU: <https://www.nro.net/documents/icann-address-supporting-organization-aso-mou>

NRO MoU: <https://www.nro.net/documents/nro-memorandum-of-understanding>

IANA Customer Service Complaint Resolution Process: <http://www.iana.org/help/escalation-procedure>

IANA Performance Standards Metrics Report: <http://www.iana.org/performance/metrics>

RIR Governance Matrix: <https://www.nro.net/about-the-nro/rir-governance-matrix>

III. Proposed Post-Transition Oversight and Accountability

This section should describe what changes your community is proposing to the arrangements listed in Section II.B in light of the transition. If your community is proposing to replace one or more existing arrangements with new arrangements, that replacement should be explained and all of the elements listed in Section II.B should be described for the new arrangements. Your community should provide its rationale and justification for the new arrangements.

If your community’s proposal carries any implications for the interface between the IANA functions and existing policy arrangements described in Section II.A, those implications should be described here.

If your community is not proposing changes to arrangements listed in Section II.B, the rationale and justification for that choice should be provided here.

III.A. The elements of this proposal

- ICANN to continue as the IANA Functions Operator for the IANA Numbering Services, hereinafter referred to as the IANA Numbering Services Operator, via a contract with the RIRs;
- IPR related to the provision of the IANA services remains with the community;
- Service Level Agreement with the IANA Numbering Services Operator; and
- Establishment of a Review Committee, with representatives from each RIR, to advise the NRO EC on the review of the IANA functions operator's performance and meeting of identified service levels.

This proposal assumes that specific IANA customers (i.e., the number community, the protocol parameter community, and the name community) will have independent arrangements with the IANA Functions Operator related to maintenance of the specific registries for which they are responsible. At the same time, the Internet Number Community wishes to emphasize the importance of communication and coordination between these communities to ensure the stability of the IANA services. Such communication and coordination would be especially vital should the three communities reach different decisions regarding the identity of the IANA Functions Operator after the transition. Efforts to facilitate this communication and coordination should be undertaken by the affected communities via processes distinct from this stewardship transition process.

III.A.1. ICANN to continue as the IANA Numbering Services Operator via a contract with the RIRs

To maintain stability and continuity in operations of the IANA Numbering Services, very minimal changes to the arrangements listed in Section 2.2 are proposed, including the identification of the proposed initial IANA Numbering Services Operator. As noted in numerous NRO communications over the past decade, the RIRs have been very satisfied with the performance of ICANN in the role of the IANA Numbering Services Operator. Taking this into account, and considering the Internet Number Community's strong desire for stability and a minimum of operational change, the Internet Number Community believes that ICANN should remain in the role of the IANA Numbering Services Operator for at least the initial term of the new contract.

Although there are no concrete needs or plans to do so at this point, the Internet Number Community may in the future determine that the IANA Numbering Services related to number resources should be transferred to a different contractor. In such a case, selection of a new contractor shall be conducted in a fair, open, and transparent process, consistent with applicable industry best practices and standards.

III.A.2. IPR related to the provision of the IANA services remains with the community

There are several intellectual properties related to the provision of the IANA services whose status should be clarified as part of the transition: the IANA trademark, the IANA.ORG domain name, and public databases related to the performance of the IANA Numbering Services, including the IANA Numbers Registries.

It is important that the IPR status of the registries remains clear and ensures free and unrestricted access to the public registry data throughout the stewardship transition. It is the expectation of the Internet Number Community that the IANA Number Registries are in the public domain.

It is also the expectation of the Internet Number Community that non-public information related to the IANA number resource registries and corresponding services, including the provision of reverse DNS

delegation in IN-ADDR.ARPA and IP6.ARPA, is managed by the IANA operator and will be transferred to its successor(s). All rights on non-public information related to the IANA number resource registries and corresponding services must be transferred to the RIRs.

It is the preference of the Internet Number Community that all relevant parties agree to these expectations as part of the transition.

With regards to the IANA trademark and the IANA.ORG domain, it is the expectation of the Internet Number Community that both are associated with the IANA Numbering Services and not with a particular IANA Numbering Services Operator. Identifying an organization that is not the IANA Numbering Services Operator and which will permanently hold these assets will facilitate a smooth transition should another operator (or operators) be selected in the future. It is the preference of the Internet Number Community that the IANA trademark and the IANA.ORG domain name be transferred to an entity independent of the IANA Numbering Services Operator, in order to ensure that these assets are used in a non-discriminatory manner for the benefit of the entire community. From the Internet Number Community's perspective, the IETF Trust would be an acceptable candidate for this role.

The transfer of the IANA trademark and IANA.ORG domain to the IETF Trust will require additional coordination with the other affected communities of the IANA Services, namely, protocol parameters and names. It is the preference of the Internet Number Community that all relevant parties agree to these expectations as part of the transition.

III.A.3. Service Level Agreement with the IANA Numbering Services Operator

The Internet Number Community proposes that a new contract be established between the IANA Numbering Services Operator and the five RIRs. The following is a proposal to replace the current NTIA IANA agreement with a new contract that more directly reflects and enforces the IANA Numbering Services Operator's accountability to the Internet Number Community. The proposal attempts to ensure the continuity of processes and mechanisms that have proved successful and with which the community is satisfied.

- The services provided by the IANA Numbering Services Operator in relation to the IANA Numbering Services remain unchanged.
- The policy sources identified in Section II.A are unaffected.
- The oversight and accountability mechanisms detailed in Section II.B remain unchanged.
- The entities that provide oversight or perform accountability functions (the RIRs) remain the same.
- The consequence of failure to meet performance standards remains unchanged: termination or non-renewal of the contract.

The agreement, essentially a Service Level Agreement for the IANA Numbering Services, would obligate the IANA Numbering Services Operator to carry out the IANA Numbering Services according to policies developed by the Internet Number Community via the gPDP as well as management of the delegations within IN-ADDR.ARPA and IP6.ARPA domains. The agreement would include specific requirements for performance and reporting consistent with current mechanisms and would specify consequences should the IANA Numbering Services Operator fail to meet those requirements, the means for the resolution of disputes between the parties, and the terms for renewal or termination of the agreement. IANA Numbering Services should be reliable and consistent, with any registry changes made in an open and transparent manner to the global community. The agreement should also require the IANA Numbering Services Operator to appropriately coordinate with any other operator of IANA services. The agreement would also provide for jurisdiction and governing law regarding the new arrangement.

It is expected that the RIRs, as the contractual party of this agreement, will draft the specific language of this agreement. During the drafting process, the RIRs are expected to consult their respective RIR communities, and that the drafting process will be guided by the principles listed below. References to relevant sections of the current NTIA agreement are also noted, as it is expected the new agreement will share many of the same contractual goals and mechanisms.

IANA Service Level Agreement Principles

1. Separation of Policy Development and Operational Roles

The IANA Numbering Services Operator will merely execute the global policies adopted according to the global Policy Development Process defined in the ASO MoU.

Relevant section(s) in the NTIA contract: C.2.4, C.2.5

2. Description of Services Provided to RIRs

The IANA Numbering Services Operator will maintain the IANA Number Registries and provide IANA Numbering Services to the RIRs in accordance with the specific processes and timelines described in this section of the agreement.

Relevant section(s) in the NTIA contract: C.2.9.3

3. Obligation to Issue Reports on Transparency and Accountability

The IANA Numbering Services Operator will commit to certain obligations so as to perform the function as expected by the Internet Number Community and will be obliged to periodically issue reports illustrating its compliance with the Internet Number Community's expectations.

Relevant section(s) in the NTIA contract: C.2.6, C.2.7, C.2.8

4. Security, Performance, and Audit Requirements

The IANA Numbering Services Operator will commit to specific security standards, metric requirements, and audit requirements and will be obliged to periodically issue reports illustrating its compliance with them.

Relevant section(s) in the NTIA contract: C.3, C.4, C.5

5. Review of the IANA Operations

The RIRs will perform reviews to assess whether the IANA Numbering Services Operator complies with all requirements described in the agreement whenever they deem appropriate. The IANA Numbering Services Operator will be obliged to facilitate this review.

6. Failure to Perform

If the IANA Numbering Services Operator fails to perform as agreed, there will be specific consequences. One of these consequences may be termination of the agreement.

Relevant section(s) in the NTIA contract: E.2, I.67

7. Term and Termination

RIRs will be able to periodically review the agreement and evaluate whether they want to renew the agreement. Either party may terminate the agreement with reasonable prior notice.

Relevant section(s) in the NTIA contract: Page 2 of Award, I.51, I.52, I.53

8. Continuity of Operations

If, at the end of the term, the RIRs decide to sign an agreement for provision of IANA Numbering Services by a different party, the previous IANA Numbering Services Operator will be obliged to ensure an orderly transition of the function while maintaining continuity and security of operations.

Relevant section(s) in the NTIA contract: C.7.3 and I.61

9. Intellectual Property Rights and Rights Over Data

The contract will implement the RIR community expectations as described in section III.A.2.
Relevant section(s) in the NTIA contract: H.4, H.5

10. Resolution of Disputes

Disputes between the parties related to the SLA will be resolved through arbitration.

11. Fee

The fee is based on costs incurred by the IANA Numbering Services Operator in providing the IANA Numbering Service.

Relevant section(s) in the NTIA contract: B.2

III.A.4. Establishment of a Review Committee

To ensure that the service level defined in the proposed agreement is maintained by the IANA Numbering Services Operator, the NRO EC will periodically review the service level of the IANA Numbering Services provided to the Internet Number Community.

The RIRs shall establish a Review Committee that will advise and assist the NRO EC in its periodic review. The Review Committee will, as needed, undertake a review of the level of service received from the IANA Numbering Services Operator and report to the NRO EC any concerns regarding the performance of the IANA Numbering Services Operator, including especially any observed failure or near-failure by the IANA Numbering Services Operator to meet its obligations under the proposed agreement. Any such Review Committee will advise the NRO EC in its capacity solely to oversee the performance of the IANA Numbering Services, and the Review Committee's advice and comment will be limited to the processes followed in the IANA Numbering Services Operator's performance under the proposed agreement. Activities of the Review Committee shall be conducted in an open and transparent manner. Reports from the Review Committee shall be published.

The Review Committee should be a team composed of suitably qualified Internet Number Community representatives from each RIR region. The selection of the Review Committee members should be conducted in an open, transparent, and bottom-up manner appropriate for each RIR region. There should be equal representation from each RIR region within the Review Committee.

III.B. Implications for the interface between the IANA functions and existing policy arrangements

This proposal carries no implication for the interface between IANA Numbering Services and existing policy arrangements described in Section II.A. The text in Attachment A of the ICANN ASO MoU meets the current and anticipated requirements for a community-driven global policy development process.

As an additional measure of security and stability, the RIRs have documented their individual accountability and governance mechanisms and asked the community-based Number Resource Organization Number Council (NRO NC) to undertake a review of these mechanisms and make recommendations for improvements that may be warranted given the nature of the stewardship transition for Internet Number Resources.

IV. Transition Implications

This section should describe what your community views as the implications of the changes it proposed in Section III. These implications may include some or all of the following, or other implications specific to your community:

- *Description of operational requirements to achieve continuity of service and possible new service integration throughout the transition.*
- *Risks to operational continuity and how they will be addressed.*
- *Description of any legal framework requirements in the absence of the NTIA contract.*
- *Description of how you have tested or evaluated the workability of any new technical or operational methods proposed in this document and how they compare to established arrangements.*

IV.A. Operational requirements to achieve continuity of service throughout the transition

- *Describe operational requirements to achieve continuity of service and possible new service integration throughout the transition.*
- *Risks to operational continuity and how they will be addressed.*

The intent of the proposal described above is to:

- Minimize risks to operational continuity of the management of the IANA Numbering Services, and;
- Retain the existing framework for making those policies that describe the management of the IANA Number Registries, as this framework is already structured to ensure open, transparent, and bottom-up development of such policies.

Under current arrangements, the NTIA is responsible for extending or renewing the IANA functions agreement and setting the terms of that contract. A new agreement with the five RIRs and the IANA Numbering Services Operator as signatories would shift the responsibility for renewing, setting terms, or terminating the contract to the RIRs, who would coordinate their decisions via the NRO EC. Decisions made regarding the agreement would be based on operational circumstances, past performance, and input from the Internet Number Community.

The shift from the existing contractual arrangement to one or more new contracts covering the IANA Numbering Services Operator's ongoing management of the IANA Numbering Services should result in no operational change for management of the IANA Number Registries. This will help minimize any operational or continuity risks associated with stewardship transition.

By building on the existing Internet registry system (which is open to participation from all interested parties) and its structures, the proposal reduces the risk associated with creating new organizations whose accountability is unproven.

A new agreement specifying IANA operation of the IANA Number Registries can and should be established well before the September 2015 transition target, as we propose to simply reconcile the contracting party with the policy authority, without changing service levels or reporting.

IV.B. Description of any legal framework requirements in the absence of the NTIA contract

The necessary legal framework in the absence of the NTIA contract will be fulfilled by the proposed agreement between the IANA Numbering Services Operator and the RIRs. As stated in Section III above, the Service Level Agreement for the IANA Numbering Services, would obligate the IANA Numbering Services Operator to carry out those IANA Numbering Services according to policies developed by the community via the gPDP, as well as management of the delegations within IN-ADDR.ARPA and IP6.ARPA domains.

IV.C. Workability of any new technical or operational methods

Description of how you have tested or evaluated the workability of any new technical or operational methods proposed in this document and how they compare to established arrangements.

This proposal does not propose any new technical or operational methods. There is inclusion of a proposed Review Committee to be established by the five RIRs acting cooperatively and coordinating through the NRO EC; however, this does not carry any new operational method, as the IANA Numbering Services Operator would remain accountable to the party with whom it is contracting, in this case the five RIRs in place of the NTIA. The proposed Review Committee is a tool for the Internet Number Community to evaluate and review performance of the IANA Numbering Services provided.

V. NTIA Requirements

Additionally, NTIA has established that the transition proposal must meet the following five requirements:

- *Support and enhance the multistakeholder model;*
- *Maintain the security, stability, and resiliency of the Internet DNS;*
- *Meet the needs and expectation of the global customers and partners of the IANA services;*
- *Maintain the openness of the Internet.*
- *The proposal must not replace the NTIA role with a government-led or an inter-governmental organization solution.*

This section should explain how your community's proposal meets these requirements and how it responds to the global interest in the IANA functions.

This proposal addresses each of the NTIA's requirements:

V.A. Support and enhance the multistakeholder model

The RIRs are not-for-profit membership-based organizations accountable to their community. The processes developed by the community over time are open, transparent, and bottom-up, and inclusive of all stakeholders, ensuring the opportunity for anyone with an interest in management of Internet Number Resources to participate in policy-making.

Shifting stewardship of the IANA Numbering Services to the Internet Number Community is an important step in acknowledging the maturity and stability of the multistakeholder governance model and in recognizing the success and de facto authority of that model under the current arrangement.

V.B. Maintain the security, stability, and resiliency of the Internet DNS

No changes are proposed in this document that affect the security, stability, or resiliency of the DNS.

This proposal is chiefly concerned with Internet Number Resources, which also need security, stability, and resiliency. The existing operational and policy-making structures related to management of the IANA Number Registries have served the Internet community well over time, and the Internet Number Community has expressed a strong desire for stability and operational continuity of this critical element of the Internet infrastructure. Accordingly, this proposal suggests minimal changes to existing processes.

V.C. Meet the needs and expectation of the global customers and partners of the IANA services

The Internet Number Community is the customer of the Internet number resource IANA Numbering Services. The Internet Number Community has often expressed its satisfaction with the current management of the IANA Numbering Services, which have effectively implemented policies developed by the community and efficiently provided Numbering Services to the RIRs. This proposal has been developed by the Internet Number Community, as the customer of the IANA Numbering Services, and meets its need for continuity and stability in the operation of the IANA Numbering Services. It does this by solidifying the IANA Numbering Services Operator's accountability to the Internet Number Community.

V.D. Maintain the openness of the Internet

An open Internet relies on the effective implementation of policies developed via open, transparent, and bottom-up processes, ensuring the transparent and coordinated distribution and registration of Internet Number Resources. The Internet Number Community has a long-standing history of open, transparent, and bottom-up policy-making and operational processes (including the transparent publication of all registration information). By building on the structures developed by the Internet Number Community, this proposal ensures that in this regard the openness of the Internet is maintained.

In addition, the proposed community Review Committee will ensure community involvement in the open and transparent evaluation of the IANA Numbering Services.

V.E. Not a government-led or inter-governmental solution

This proposal does not replace the NTIA role with a government-led or an inter-governmental organization solution. This proposal places the RIRs in the role currently occupied by the NTIA. The RIRs are not-for-profit organizations, accountable to the community. The Internet Number Community is open to anyone who wishes to contribute and includes participants from all Internet stakeholder groups, including operators, civil society, business, the technical community, and governments. Open, community-driven, and consensus-based policy development processes mean that no single stakeholder group has a dominant role in policy-making.

VI. Community Process

This section should describe the process your community used for developing this proposal, including:

- *The steps that were taken to develop the proposal and to determine consensus.*
- *Links to announcements, agendas, mailing lists, consultations and meeting proceedings.*
- *An assessment of the level of consensus behind your community's proposal, including a description of areas of contention or disagreement.*

VI.A. Steps taken to develop consensus and the proposal

The Internet Number Community process is open, transparent, and bottom-up, with the initial discussions and proposal elements agreed on a regional basis in each region of the Internet Number Community. The consensus output of these five regional discussions has been consolidated in a single global proposal.

This process was deliberately modeled on the processes that the Internet Number Community has successfully employed for policy-making at the regional and global levels. It reflects the strong commitment emerging from all community discussions to employing proven structures and mechanisms in this process.

The proposal development can therefore be seen as two distinct phases, first at the regional level and then at the global level. It is important to emphasize that neither of these phases occurred in isolation; throughout the first phase there was communication between the five regions, and during the second phase each region remained apprised of progress and provided feedback on successive iterations of the global proposal.

VI.B. Regional Processes

The Internet Number Community's process for developing a new agreement for operation of the IANA Numbering Services was founded on the regional Internet Number Community structure, in which stakeholders discuss policies and other issues relevant to numbers resources. The Internet Number Community has for many years fostered the open, transparent, and bottom-up participation of a broad range of stakeholders. Existing mechanisms and communication channels therefore existed to facilitate the IANA stewardship transition discussion, eliminating the need for new processes, communication channels, or bodies. The RIRs have worked actively over the years to engage the full range of stakeholders via outreach activities within their regions as part of their commitment to openness, inclusiveness, and transparency. Building on these outreach activities, the RIRs and the CRISP Team have ensured that this proposal has been the product of input and feedback from the full range of stakeholders with an interest in Internet Number Resources.

The RIRs operate according to open, transparent, bottom-up, and consensus-based processes, allowing anyone with an interest to participate in the discussions on an equal footing. Holding the IANA stewardship discussion within this community has ensured broad participation and facilitated examination of the issues raised in the context of local and regional circumstances. The very active community engagement within all regions not only shows the positive commitment of the Internet Number Community to this process but also demonstrates the Internet Number Community's mature and well-functioning decision-making processes.

The Internet Number Community discussed the IANA stewardship issues on five regional and two global mailing lists and at RIR and other public meetings, both face-to-face and via remote participation. Although the discussions have been uniformly open and transparent, with all discussions archived on mailing lists and meeting records, each region has contributed to the community consensus via regionally defined processes suitable to their particular local needs and culture.

Links to specific output documents and archives of all of the Internet Number Community discussions are available at <https://www.nro.net/nro-and-internet-governance/iana-oversight/timeline-for-rirs-engagement-in-iana-stewardship-transition-process>

VI.B.1. AFRINIC regional process

The AFRINIC community held an IANA oversight transition workshop during the May 25 through June 6, 2014, Africa Internet Summit in Djibouti. As a follow-up to the meeting, AFRINIC set up a mailing list to provide a platform for the African Internet community to discuss the IANA oversight transition process. The mailing list was announced on July 4, 2014. The list and its archives can be found at <https://lists.afrinic.net/mailman/listinfo.cgi/ianaoversight>

AFRINIC has a dedicated web portal for sharing information on the IANA stewardship transition: <http://afrinic.net/en/community/iana-oversight-transition>

AFRINIC also conducted a survey seeking community input on the IANA Stewardship Transition: <http://afrinic.net/images/stories/Initiatives/%20survey%20on%20the%20iana%20stewardship%20transition.pdf>

The last face-to-face meeting at which IANA oversight transition consultations were held with the community was during the AFRINIC-21 meeting, held in Mauritius from November 22 through 28, 2014. Recordings of the session are available: <http://meeting.afrinic.net/afrinic-21/en/vod>

Discussions continued on the ianaoversight@afrinic.net mailing list until the closure of comments set by the CRISP Team on January 12, 2015.

The AFRINIC region CRISP Team was appointed by the AFRINIC Board of Directors. Key milestones of the appointment process were:

October 27, 2014: Public Call for nominations — The call was sent by the AFRINIC CEO to major community mailing lists, indicating intent of the Board to make appointments by November 12, 2014: <https://lists.afrinic.net/pipermail/announce/2014/001326.html>

November 8, 2014: The AFRINIC CEO announced the 5 nominated candidates: <https://lists.afrinic.net/pipermail/ianaoversight/2014-November/000099.html>

November 13, 2014: The AFRINIC Board Chair announced the three CRISP Team members selected to the community: <https://lists.afrinic.net/pipermail/rpd/2014/004381.html>

The AFRINIC IANA oversight transition information page: <http://www.afrinic.net/en/community/iana-oversight-transition>

VI.B.2. APNIC regional process

APNIC set up a public mailing list on April 1, 2014, to develop a regional position on the IANA stewardship transition: <http://mailman.apnic.net/mailman/listinfo/IANAxfer>

A web site dedicated to sharing up-to-date information on the IANA stewardship transition was set up:
<http://www.apnic.net/community/iana-transition>

A draft proposal was discussed at the dedicated session at the APNIC 38 Meeting in September 2014, and a regional community consensus was reached. The meeting included bidirectional remote participation via live webcast and a virtual conference room:
<https://conference.apnic.net/38/program#iana>

On October 23, 2014, through a post to the APNIC IANAxfer mailing list, APNIC sought volunteers from the Asia Pacific community to nominate to join the CRISP Team. The nominees were asked to provide information about their qualifications and interest to the APNIC Executive Council for its consideration. The nomination period was open for two weeks. On November 12, 2014, the APNIC Executive Council announced the three APNIC representatives selected to join the CRISP Team: <http://blog.apnic.net/2014/11/13/dr-govind-and-ms-okutani-appointed-to-nro-crisp-team>

Information was also posted on APNIC's IANA oversight transition web site:
<http://www.apnic.net/community/iana-transition>

Discussion continued on the ianaxfer@apnic.net mailing list until the closure of the comments on January 12, 2015.

VI.B.3. ARIN regional process

ARIN held a community consultation from October 1 through October 10, 2014, including a live session on October 9, during the ARIN 34 meeting in Baltimore, USA.

On October 13, ARIN established a mailing list, iana-transition@arin.net, to facilitate regional discussion of the IANA stewardship transition planning process. This mailing list remained open for comments and updates throughout the transition planning process. The archives are open and available for all Internet community members to view: <http://lists.arin.net/pipermail/iana-transition>

A regional survey was conducted from October 13 through 20, 2014, eliciting 64 responses:
https://www.arin.net/participate/governance/iana_survey.pdf

On October 25, 2014, ARIN put a call out for volunteers to serve on the CRISP Team as community representatives of the ARIN region. The call for volunteers ended on October 31, 2014. The ARIN Board of Trustees considered all the resulting nominees and on November 8 announced the appointment of its three CRISP Team members.

On November 21, 2014, the first ARIN draft proposal was shared on iana-transition@arin.net and discussion followed: http://teamarin.net/wp-content/uploads/2014/03/ARIN_draft_proposal.pdf

ARIN has set up a web portal dedicated to the IANA Stewardship Transition planning process:
<http://teamarin.net/education/internet-governance/iana-transition>

VI.B.4. LACNIC regional process

The LACNIC community began a consultative process on August 15, 2014, with a public teleconference in which LACNIC's CEO discussed the methodology, expected timeline, and consultation scope with the community. The primary goal was to obtain the region's input to the multistakeholder debate on the transition of stewardship of the IANA Numbering Services, gathering regional points of view, concerns, suggestions, and recommendations, specifically concerning Internet number resource management.

From that starting point, three representatives from the community guided the regional debate:
<http://www.lacnic.net/en/web/transicion/representantes>

Discussion took place on the internet-gov@lacnic.net mailing list.

From August 15 through September 15, 2014, open discussion was held.

On September 23, moderators presented a preliminary transition document summarizing all contributions and discussions.

A thirty-day community discussion of the preliminary document ended on October 24.

During the October 27 through 31 LACNIC meeting in Santiago, the preliminary transition document was discussed in two sessions. The first session focused on the global IANA oversight transition process and the work done by the name, number, and protocol communities. The second focused on the proposals from the mailing list and began the process of drafting a final LACNIC regional community proposal.

Following these sessions, there was an additional week of community discussion ending November 15, before the proposal was ratified by LACNIC's Board of Directors and submitted to the CRISP Team.

Announcement of the appointment of the LACNIC region members of the CRISP Team:
<http://www.lacnic.net/en/web/anuncios/2014-crisp-team>

After the board appointed the CRISP Team members, there was continued dialog between the Community Leaders and the LACNIC CRISP Team representatives through email and teleconferences.

The final result of the Consultation at LACNIC Community:
<http://www.lacnic.net/en/web/transicion/resultado-consulta-publica>

The list internet-gov@lacnic.net remained open for regional discussion until the closure of the comments on January 12, 2015.

VI.B.5. RIPE regional process

The RIPE community agreed at the RIPE 68 Meeting in May 2014 that the development of a community position on IANA stewardship should take place in the existing RIPE Cooperation Working Group and via that working group's public mailing list: <https://www.ripe.net/ripe/mail/wg-lists/cooperation>

The RIPE NCC, as secretariat for the RIPE community, also facilitated discussion of the IANA stewardship in national and regional forums across the RIPE NCC service region from May through November, 2014. Some of these forums also included remote participation facilities. Summaries of all discussions were posted to the RIPE Cooperation Working Group mailing list and on the RIPE web site: <https://www.ripe.net/iana-discussions>

Although there were active, and at times passionate, discussions in the community throughout the consultation period, there was clearly strong agreement on the needs of the Internet Number Community and the general principles that should underpin transition of IANA stewardship. From September through November 2014, RIPE community discussion converged on a set of principles reflecting the community's primary concerns and needs in the development of an IANA stewardship transition proposal. These discussions are reflected in the discussions on the mailing list from that time:
<http://www.ripe.net/ripe/mail/archives/cooperation-wg>

Discussions at the RIPE 69 meeting in November 2014 reached consensus on the principles discussed on the mailing list. During the RIPE 69 meeting a general invitation for community volunteers to the

CRISP Team was distributed via various RIPE NCC membership and RIPE community mailing lists:
<http://www.ripe.net/ripe/mail/archives/ripe-list/2014-November/000877.html>

This announcement noted the procedure whereby the RIPE Chair, in consultation with the RIPE NCC Executive Board, would select two community representatives and a staff representative. At the conclusion of RIPE 69, the community expressed its support for the three RIPE representatives to the CRISP Team.

RIPE Cooperation Working Group Session: <https://ripe69.ripe.net/programme/meeting-plan/coop-wg/#session1>

RIPE 69 Closing Plenary Session: <https://ripe69.ripe.net/archives/video/10112>

VI.B.6. Internet Number Community Process (CRISP Team)

Following the broad consultations and active discussion within the five regions, a mechanism was established to develop a single proposal from the Internet Number Community, based on the consensus of the five regions.

On October 16, 2014, the Internet Number Community proposed the formation of the CRISP Team to develop a single Internet Number Community proposal to the IANA Stewardship Coordination Group (ICG). Established around a model similar to the community-based NRO Number Council, the CRISP Team comprises three community members from each of the RIR regions (two community members and one RIR staff). The selection of the CRISP Team members from each region was facilitated via transparent but distinct processes within each RIR. Details of these selection processes are included in the RIR process descriptions above.

The CRISP Team members are:

AFRINIC Region:

Alan P. Barrett – Independent Consultant
Mwendwa Kivuva – Network Infrastructure Services, University of Nairobi
Ernest Byaruhanga (Appointed RIR staff)

ARIN Region:

Bill Woodcock – Executive Director, Packet Clearing House
John Sweeting – Sr. Director Network Architecture & Engineering, Time Warner Cable
Michael Abejuela (Appointed RIR staff)

APNIC Region:

Dr Govind – CEO, NIXI
Izumi Okutani – Policy Liaison, JPNIC
Craig Ng (Appointed RIR staff)

LACNIC Region:

Nico Scheper – Manager, Curacao IX
Esteban Lescano – Vice Chairman, Cabase Argentina
Andrés Piazza (Appointed RIR staff)

RIPE NCC Region:

Nurani Nimpuno – Head of Outreach & Communications, Netnod
Andrei Robachevsky – Technology Programme Manager, Internet Society
Paul Rendek (Appointed RIR staff)

VI.B.7. CRISP Team Methodology

The charter of the CRISP Team describes its methodology, to ensure maximum transparency and openness of the process. The charter is available on the NRO web site: <https://www.nro.net/crisp-team>

From that charter:

- The CRISP Team shall meet entirely via teleconference for its activities; these teleconferences will be open to the public who wish to listen to the CRISP Team discussions, and will be facilitated by the Regional Internet Registries.
- The CRISP Team shall also work through a public mailing list and the archive of such mailing list will be publicly available. The name of the mailing list will be ianaxfer@nro.net.
- The results of each CRISP Team meeting shall be published on the ianaxfer@nro.net mailing list and additionally by each RIR to the community. The CRISP Team members from the region shall monitor and participate in the community discussion in their region regarding CRISP Team outputs.

The CRISP Team held its first teleconference on December 9, 2014. At that meeting, Izumi Okutani (APNIC region) and Alan Barrett (AFRINIC region) were selected as the Chair and Vice-Chair, respectively. A timeline for the process was defined, published, and announced. All CRISP teleconferences have been announced on the relevant regional mailing lists as well as the global ianaxfer@nro.net list. As stipulated in the charter, all CRISP teleconferences have been open to observers. Archives of the audio, video, and minutes of all CRISP teleconferences, as well as several iterations of the proposal draft and a spreadsheet of issues raised by community members and their current status, have been made available online: <https://www.nro.net/crisp-team>

Additionally, the CRISP Team decided that in the interests of efficiency an “internal” CRISP mailing list would be established – only members of the CRISP Team would be able to send mail to this list or receive mail sent to the list, but the list content would be archived publicly on the NRO web site. This archive is available: <https://www.nro.net/pipermail/crisp/>

Throughout the CRISP Team process, CRISP Team members have engaged with their regional communities, ensuring that the communities are informed and sharing information with other CRISP Team members on key events and discussions in their regional forums. They have also consulted the discussion archives of their regional communities as necessary throughout the process to ensure the fair and accurate representation of their community’s views. CRISP Team members have been active in encouraging feedback from their regions, whether on the global ianaxfer@nro.net mailing list or in the regional discussion forums.

VI.C. Level of consensus behind the community’s proposal

Throughout CRISP Team deliberations, consensus was determined when, following discussions within the team, no further comments, concerns, or objections were observed. A 24-hour window was set for decisions made during CRISP Team teleconferences and shared on the CRISP Team mailing list to allow those who were not at the call to provide input.

A similar approach was taken for the ianaxfer@nro.net list. Consensus was determined following discussions on the list around an issue raised or a new suggestion when no further comments, concerns, objections were observed.

Prior to submitting this proposal to the ICG, two drafts were published, along with calls for feedback from the global community. These two comment periods were important in ensuring that the community had a chance to actively contribute to resolving issues identified during the process.

In addition, the CRISP Team has called for community feedback on this current draft of the proposal. ICG members and other interested parties can observe the level of support for the proposal in the archives of ianaxfer@nro.net mailing list.

In comparing output coming from each RIR region, many commonalities were identified early in the process, and there was a clear consensus across the five RIR communities on the basic principles for this proposal. The Internet Number Community tradition of open, transparent, and bottom-up processes defined the discussions in all regions, and a solid trust in the RIR system was consistently expressed throughout the process. Although all five regional inputs differed, no major conflicts or irreconcilable points of contention were identified.

Notable points of difference included the views on the format of the agreement to be established between the IANA Numbering Services Operator and the RIRs, and on the need for an oversight body to periodically review the agreement. The current proposal reflects the consensus agreement reached on these issues through discussion within the CRISP Team and in public forums, especially the ianaxfer@nro.net mailing list.

In the global discussions at ianaxfer@nro.net, several issues received close attention and provoked significant discussion. These issues included:

- Composition of Review Committee
- Details of the agreement, including its term and termination conditions, dispute resolution and the need of SLA text to be submitted
- Intellectual property rights of the data and trademarks associated with the IANA Numbering Services

Comments mainly focused on clarification of details of these issues. Support was expressed by several people on the ianaxfer@nro.net mailing list on the final, agreed elements of the proposal listed in Section III.

There was clear agreement from the global community on positions regarding each of these issues, as reflected in the content of the current proposal. The CRISP Team believes therefore that the current proposal fully reflects the consensus of the global Internet Number Community.

Appendix: Definitions

Address Supporting Organization (ASO): a Supporting Organization in the ICANN structure, as defined in the ICANN Bylaws, and was formed in 2004 by the ICANN ASO MoU. The ASO's role is to review and develop recommendations on Internet Protocol (IP) address policy and to advise the ICANN Board. The functions of the ASO are carried out by the Address Supporting Organization Address Council (ASO AC). <https://aso.icann.org/about-the-aso/>

Address Supporting Organization Address Council (ASO AC): has the following responsibilities in the ICANN structure and processes: undertaking a role in the global policy development process; defining procedures for the selection of individuals to serve on other ICANN bodies, in particular seats 9 and 10 on the ICANN Board, and implementing any roles assigned to the AC in such procedures; and providing advice to the ICANN Board on number resource allocation policy, in conjunction with the RIRs. The ASO AC function is carried out by the members of the NRO NC.

CRISP Team: The Consolidated RIR IANA Stewardship Proposal (CRISP) team was established by the five RIRs specifically for the purpose of producing this document.

Global Policies: Internet number resource policies that have the agreement of all RIRs according to their policy development processes and ICANN, and require specific actions or outcomes on the part of IANA or any other external ICANN-related body in order to be implemented.

Global Policy Development Process (gPDP): The RIR communities' process for the development of policy relating to management of the global Internet number registries. The gPDP is employed in the development of policies relating to all of the number-related IANA activities described in Section I, except those relating to maintenance of the "IN-ADDR.ARPA" and "IP6.ARPA" domains. The gPDP is formally defined in Attachment A of the ASO MoU and posted on the NRO website: <https://www.nro.net/documents/global-policy-development-process>

IANA Number Registries: Refers collectively to the IPv4, IPv6, and ASN registries, as well as the associated IN-ADDR.ARPA and IP6.ARPA DNS zones. The registries can be found here: <http://www.iana.org/numbers>

IANA Numbering Services Operator: The party contractually engaged to perform the IANA Numbering Services.

IANA Numbering Services: The IANA activities relevant to the Internet Number Community, which are the allocation of blocks of Internet Number Resources (namely IPv4 addresses, IPv6 addresses, and Autonomous System Numbers or ASNs) to the Regional Internet Registries (RIRs); the registration of such allocations in the corresponding IANA Internet Number Registries; other related registry management tasks including the management of returned IP address space, and general registry maintenance; and the administration of the special-purpose "IN-ADDR.ARPA" and "IP6.ARPA" DNS zones, in accordance with IPv4 and IPv6 allocations, respectively.

ICANN Address Supporting Organization Memorandum of Understanding (ICANN ASO MoU): A Memorandum of Understanding signed by ICANN and the NRO in 2004, under which the NRO shall fulfill the role, responsibilities and functions of the ASO (including that the NRO NC shall carry out the functions of the ASO AC).

Internet Number Community or RIR Community: Collaborative forum operating through decision-making processes that are bottom-up, inclusive and open to all parties interested in the IANA numbering services as well as in the services of the five RIRs.

Internet Number Registry System: The system for administering Internet Number Resources, whereby the IANA maintains the Number Registries from which the RIRs receive allocations to distribute to the community and the RIRs coordinate with the IANA to correctly register any resources that are returned to the Number Registries. This system is described in detail in RFC 7020.

Internet Number Resources: IP addresses (IPv4, IPv6) and Autonomous System (AS) Numbers.

Number Resource Organization (NRO): A coordinating mechanism of the RIRs to act collectively on matters relating to the interests of the RIRs, established by an MoU between the RIRs.

Number Resource Organization (NRO): The Number Resource Organization (NRO) is a coordinating mechanism of the RIRs to act collectively on matters relating to the interests of the RIRs. It was established in 2003 by a Memorandum of Understanding between the four RIRs in operation at that time (and signed by AFRINIC upon its establishment in 2005). <https://nro.net/>

Number Resource Organization Executive Council (NRO EC): A group of appointed representatives of each RIR, normally the CEOs.

Number Resource Organization Executive Council (NRO EC): Body that represents the NRO and its suborganizations in all matters. Made up of one representative from each RIR, generally the CEO or Director of the RIR. Chairmanship of the NRO EC rotates through each of the RIRs on an annual basis.

Number Resource Organization Memorandum of Understanding (NRO MoU): A Memorandum of Understanding signed in 2003 by the four RIRs in operation at the time, and subsequently signed by AFRINIC in 2005. The MoU established the Number Resource Organization and defines its activities and sub-organizations.

Number Resource Organization Number Council (NRO NC): A body made up of three community members from each RIR community. It acts in an advisory capacity to the NRO Executive Council and to review of any global policy proposal to confirm that the documented RIR PDPs and relevant procedures were followed in its development and approval. In the ICANN structure, the members of the NRO NC serve the functions of the Address Supporting Organization Address Council (ASO AC).

Policy Development Process (PDP): The process within each RIR by which the community makes policies relating to the distribution and registration of Internet number resources within its service region. While these PDPs differ in some specifics, they share common characteristics: all RIR PDPs are open to all and follow an established, bottom-up process of collaboration; all RIR PDPs are transparent in their working methods, utilizing public mailing lists and open community forums; all RIR PDPs reach conclusions by community consensus; and the policies produced by an RIR PDP are made freely and publicly available.

Regional Internet Registry (RIR): The not-for-profit membership-based organizations responsible for the distribution and registration of Internet Number Resources in continent-sized geopolitical regions, as first proposed by the IETF in RFC 1366. The RIRs are an important element in the Internet Number Registry System as defined in RFC 7020. The RIRs were established in a bottom-up fashion and serve a secretariat role for their communities, facilitating the open, inclusive, bottom-up development of number resource policy. There are currently five RIRs in operation, as described in Section 1.B. of this document.