PTI **STRATEGIC PLAN**

July 2020 - June 2024

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Introduction

This is the first dedicated Strategic Plan for Public Technical Identifiers (PTI). The organization operates the Internet Assigned Numbers Authority (IANA) functions under contract with the Internet Corporation for Assigned Names and Numbers (ICANN). PTI was constituted in 2016 to provide these functions as a result of the IANA Stewardship Transition process. Prior to this, ICANN had operated those functions directly. The IANA Stewardship Transition created and ratified a transition plan that included deliverables and associated milestones and acted as the interim strategy for PTI in its first years of operation.

This Strategic Plan was developed after a process of gathering input from the ICANN organization (ICANN org), the IANA team, and its community stakeholders on the performance of the IANA functions. This input was received during strategic outlook sessions held both with the ICANN org and with the community, internal organizational assessments, annual surveys, and during regular engagement at ICANN Public Meetings and other industry events the team participates in. After analysis of the input received, the team identified PTI's strengths, weaknesses, opportunities, and threats which were used to build this strategy.

The key strength of PTI that was identified is the quality of the services delivered to its customers. The IANA functions performance levels consistently exceed contractual requirements and report high levels of satisfaction from the customer groups. Comprehensive reporting is published regularly for full transparency and accountability. On the opposite note, a key weakness is the small size of the PTI team, which limits its capacity to cross-train and grow its staff into other areas of work and puts project timelines at risk. Given the highly specialized nature of IANA's work, this weakness puts the organization at a higher risk when attrition occurs or if there is a significant change in the work expected.
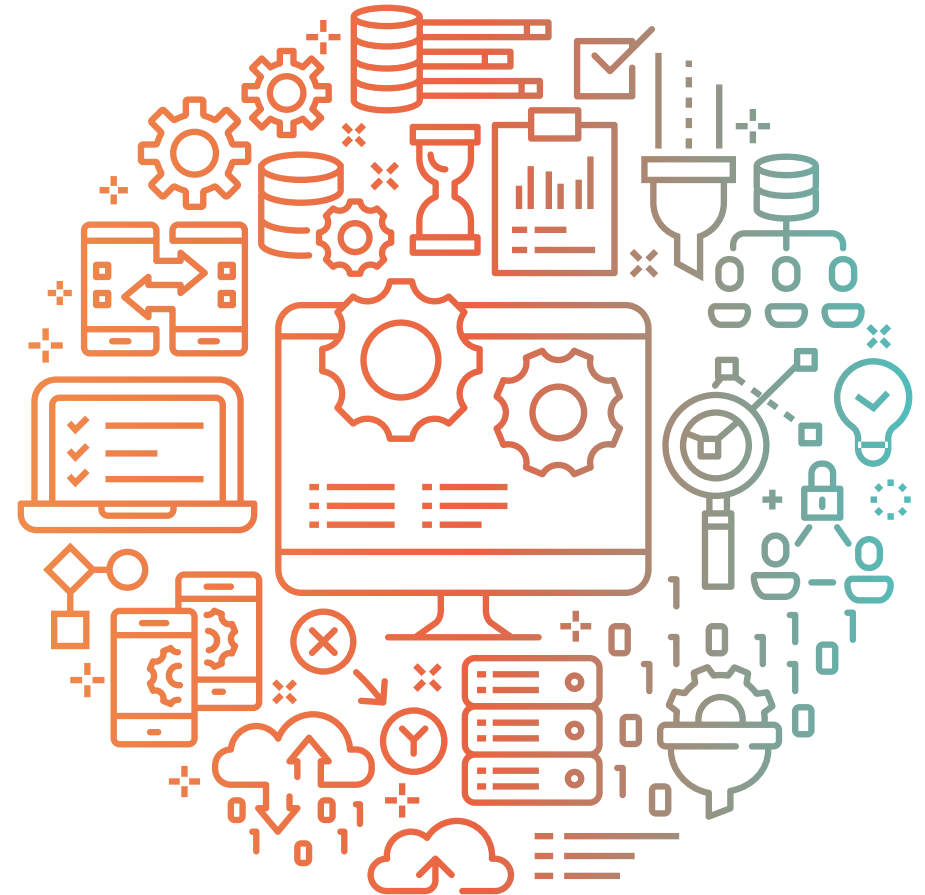
Why Develop a PTI Strategic Plan?

The **PTI Bylaws** require the organization to have its own strategic plan. This requirement affords PTI the opportunity to go into a finer level of detail on IANA-related objectives that otherwise do not surface in the broader ICANN Strategic Plan.

The goals outlined in the strategic plan are operationally aligned with **ICANN's Five-Year Operating Plan**. Funding for the work performed by PTI continues to follow ICANN's Annual Operating Plan and Budget cycle:

Planning Process
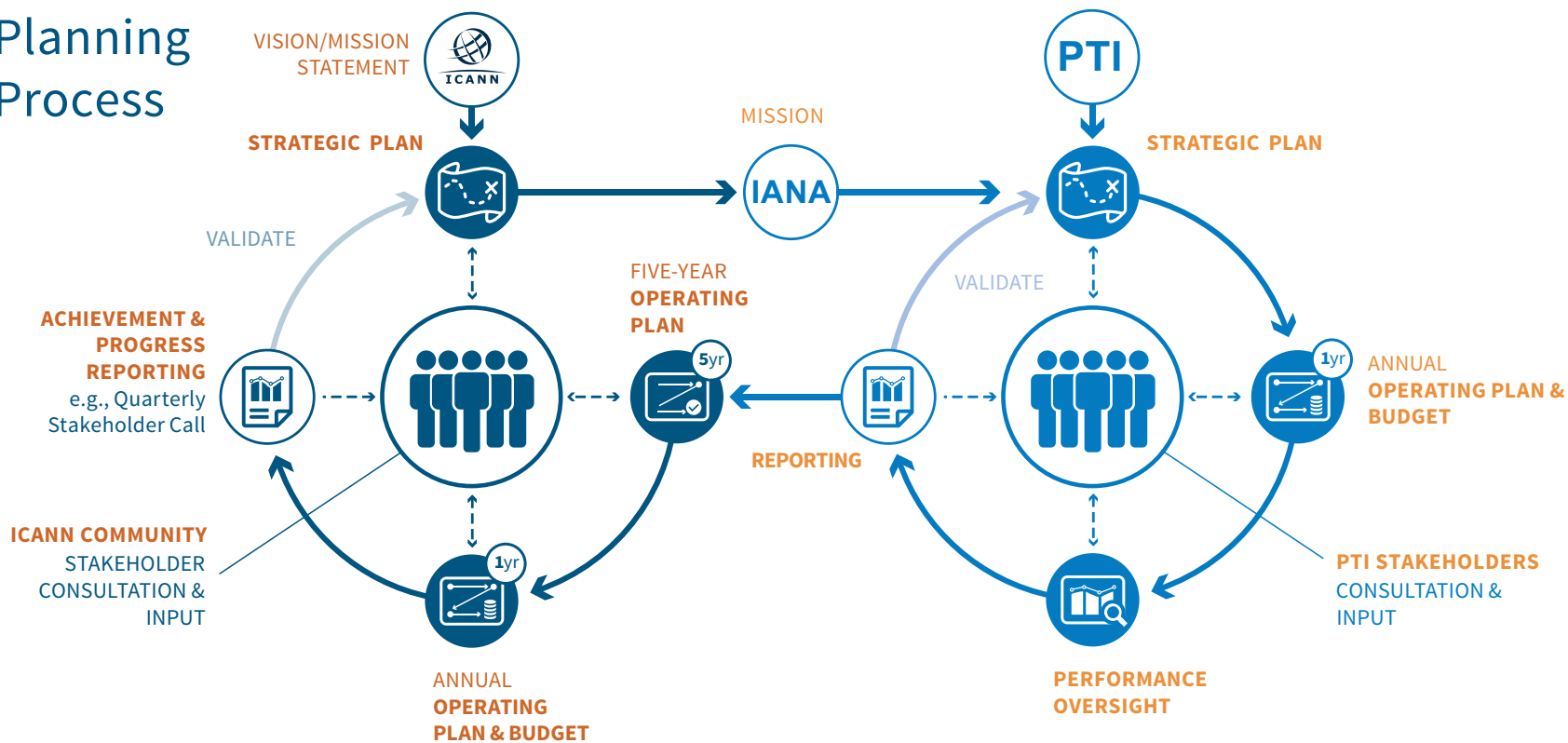
Mandate

The work of PTI is defined by three key inputs: the Bylaws of the company, the contracts held with ICANN for performance of the IANA functions, and the overall strategy of the ICANN organization.

PTI Bylaws

The mission of PTI is defined by the purposes documented in the organization's **Bylaws**. The purposes are:

- The Corporation is a nonprofit public benefit corporation and is not organized for the private gain of any person. It is organized under the California Nonprofit Public Benefit Corporation Law for public and charitable purposes.

- The specific purpose of the Corporation is to operate exclusively to carry out the purposes of the Internet Corporation for Assigned Names and Numbers ("ICANN") by performing the IANA functions on behalf of ICANN.

- The Corporation shall operate to the maximum extent feasible in an open and transparent manner and consistent with procedures designed to ensure fairness.

- The Corporation shall treat the IANA functions with equal priority. The Corporation shall make decisions by applying documented policies consistently, neutrally, objectively, and fairly, without singling out any particular customer for discriminatory treatment (i.e., making an unjustified prejudicial distinction between or among different customers).

- The Corporation shall respect the diversity of customers of the IANA functions and shall provide service to its customers in conformance with technical norms and in support of the global security, stability and resilience of the DNS.

These bylaws expressly limit the work of PTI to the IANA functions and provide touchstones on how those functions are to be performed — e.g., with open and transparent operations, applying policies that ensure fairness neutrally and objectively, while respecting diversity, technical norms, security, stability and resiliency requirements.

Contracts with ICANN

The entire scope of the IANA functions is defined in **contracts** between PTI and ICANN. These agreements are principally divided into three service areas: domain names, number resources, and protocol parameters.

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Domain Names

Manage the DNS root zone, which defines top-level domains. Includes receiving and evaluating changes against policies and operational requirements.

Keep safe the trust anchor for the DNS, including performing key signing ceremonies to maintain community confidence in the system.

Operate the .INT domain for intergovernmental treaty organizations.

Foster support for Internationalized Domain Names (IDNs) by maintaining a shared repository of IDN practices across top-level domain registries.

Number Resources

Manage the global IP address space, which provides unique identifiers for devices on the Internet.

Manage the global Autonomous System (AS) number space, which groups networks on the Internet.

Operate the "reverse" DNS tree to allow for IP address to domain mapping.

Maintain reserved allocations for special-purpose usage as defined in technical standards, such as for private networks.

Protocol Parameters

Generally, record and maintain the registries of unique names and numbers used within the Internet's technical standards.

Includes over 3,000 independent registries defined in work originating within the Internet Engineering Task Force.

Work closely with software implementors and others involved in the standards process to ensure effective management of these identifiers.

ICANN's Strategic Objectives and Goals

ICANN maintains a **five-year Strategic Plan** that includes objectives and goals that pertain to operations of the IANA functions. Additionally, there are other ICANN-wide initiatives that the IANA functions support, and fulfilling these is a key consideration in PTI's work plan.

There is a specific goal that speaks to the entirety of the IANA functions in the ICANN FY21-25 Strategic Plan:

> 3.3 *Continue to deliver and enhance the IANA functions with operational excellence.*

In addition, the following goals within ICANN's FY21-25 Strategic Plan have been identified as having specific relevance to the IANA functions and PTI's scope of work:

> 1.4 *Increase the robustness of the DNS root zone key signing and distribution services and processes.*
>
> 3.2 *Improve assessment of, and responsiveness to, new technologies which impact the security, stability, and resiliency of the Internet's unique identifier systems by greater engagement with relevant parties.*
>
> 3.4 *Support the continued evolution of the Internet's unique identifier systems with a new round of gTLDs that is responsibly funded, managed, risk-evaluated, and consistent with ICANN processes.*

Supporting ICANN's strategy also means that PTI must work towards some of the targeted outcomes of its goals. Outcomes from the ICANN FY21-25 Strategic Plan that merit specific consideration in relation to the IANA functions include:

- Mechanisms are established for ICANN to assess new technologies and, when appropriate, embrace them.

- The reliable, resilient, and interoperable DNS remains the leading trusted platform for the Internet's naming system.

- ICANN promotes and supports awareness of the IANA functions, including among stakeholders, to successfully maintain the broad array of Internet unique identifiers and deliver effective DNS root zone operations.

- ICANN org continues to provide reliable delivery and continuous improvement of the IANA functions, consistent with community service level agreements.

- ICANN collaborates with relevant parties and effectively leverages partnerships in the IETF, Regional Internet Registries, and naming communities to develop and integrate new technologies with existing Internet protocol structures, including the DNS.

Vision

To support the mission stated in the PTI Bylaws, as well as the contractual deliverables, PTI has defined a vision statement that clarifies direction and helps guide the organization to successfully fulfilling its strategy:

We are dedicated to a world where the Internet works seamlessly everywhere through our trusted coordination of unique identifiers. We promote trust by delivering dependable services, satisfying our customers, and always finding opportunities for improvement.

Four-Year Strategic Plan

Strategic Objectives for **Fiscal Years July 2020 - June 2024**

In order to fulfill the vision of PTI and address weaknesses, while still supporting the objectives laid out in the **ICANN Strategic Plan**, PTI developed a strategic roadmap for FY21-FY24 that focuses on five key drivers: Trust, Security, Service Delivery, Operational Excellence, and Governance.

PTI has operated using a relatively stable budget in its first three years of operation, and this four-year strategy is expected to be largely fulfilled based on the assumption of a similar level of funding going forward. Specific initiatives may involve exceptional one-time expenses, and PTI intends to continue to work with the community during the annual Operating Plan and Budget development and review process to make any necessary adjustments.

PTI intends to deliver on this strategy through the following five strategic objectives:

Maintain stakeholders' **trust** that IANA is the proper home for enabling global interoperability through unique identifier coordination.

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Monitor and adapt to security threats and ensure resilient and **secure** IANA operations.

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Continue to drive the implementation of operational initiatives to enhance the **delivery of services** based on the needs of the IANA customer.

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Monitor the delivery and performance of the IANA functions to achieve **operational excellence**.

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Support ICANN org in its **governance** efforts to sustain and improve openness, inclusivity, accountability, and transparency.

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TRUST

Strategic Objective: Maintain stakeholders' trust that IANA is the proper home for enabling global interoperability through unique identifier coordination.

PTI is responsible for the operational aspects of coordinating the Internet's unique identifiers and maintaining the trust of stakeholders to provide these services in an unbiased, responsible and effective manner.

The current geopolitical landscape combined with new technologies and the increase in Internet connectivity worldwide makes it crucial that PTI enhances its relationships with Internet community stakeholders and continues to support those who work to ensure global interoperability.

PTI will achieve this objective by:

1.1 Working closely with the wider ICANN org and partners to monitor and raise awareness of industry trends that help identify whether IANA is being properly utilized to coordinate evolving unique identifiers.

1.2 Continuing to build on engagement efforts with oversight bodies such as the IETF Leadership, RIRs, CSC, and SO/ACs, as well as with the broader Internet community that uses the IANA services.

1.3 Maintaining the high level of transparency within the IANA performance reporting practices.

Targeted Outcomes

- Established cadence of engagement efforts with both traditional and non-traditional communities involved in technical coordination of unique identifiers.

- Improved alignment and awareness of ongoing unique identifiers activities within ICANN org, the IANA customer community, and more broadly in standards development organizations.

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TRUST

Risks and Mitigation

- Inability to keep up with new and evolving technologies results in competition, fragmentation and possible irrelevance of IANA as the proper home to enable their global interoperability. Resources will be allocated and prioritized for system enhancements and development to reduce this risk.

- The evolving data privacy regulation landscape may have impacts on the level of transparency for the IANA registries, which may erode trust and accountability. PTI will continue to monitor this risk and make necessary adaptations with community input on how to address them while staying within **PTI's operational remit**.

SECURITY

Strategic Objective: Monitor and adapt to security threats and ensure resilient and secure IANA operations.

The increase in Internet connectivity worldwide and the rapid advancement of technology requires that PTI enhance its efforts to monitor and adapt to threats that can impact the unique identifiers system it coordinates. The organization must continue to be agile in adjusting processes and procedures to maintain its reputation and satisfactory trust with its relying parties. PTI should also meet evolving audit requirements both in its routine request processing role and as the party responsible for Key Signing Key ceremonies.

PTI will achieve this by:

2.1 Ensuring the systems used to deliver the IANA functions conform with relevant and trusted security standards, and security practices are enhanced as appropriate.

2.2 Performing key ceremonies with high levels of transparency and accountability and improving key management facilities to mitigate security threats and maintain facility quality.

Targeted Outcomes

- Adaptive to evolving requirements concerning the security of critical key materials (e.g. the Root Zone KSK), including evaluation of changes to cryptographic algorithms, reconfiguration of the secure facilities, and the role of recovery key shares as a viable disaster recovery method.

- Appropriately prepared for adverse events through incident response planning, continuity and contingency planning, and penetration and other testing, with associated planning around improving posture and mitigating risks.

- Support new cryptographic technologies that secure other IANA-managed unique identifiers (such as RPKI for IP addresses), in line with customer demand and relevant standards development.

- Policies and procedures are adapted to ensure successful engagement and future operations despite long-term limits on travel due to the COVID-19 pandemic and other similar events.

SECURITY

Risks and Mitigation

- Inability to deliver on increased demands relating to the operating envelope around the Key Signing Key (KSK) management. To reduce this risk, PTI's dedicated Cryptographic Business Operations team works closely with stakeholders to ensure its agility when needing to adapt its KSK policies and processes.

- Security-related attacks could impede the team's ability to perform the IANA functions. PTI reduces this risk by ensuring its systems and tools meet the latest security standards, as well as enhancing incident response planning, and penetration testing procedures.

- Insufficient resources to continuously review and implement evolving security standards in the key systems used to deliver the IANA services. Work to cross-train both PTI and appropriate ICANN org staff allows the organization to maintain enough resources to perform the work needed to reduce this risk.

- Increase in security threats raises concerns about the stability of the DNS root and erodes confidence in its dependability. Regular evaluation of the threat landscape and adapting operations to minimize impact on IANA-related functions.

DELIVERY OF SERVICES

Strategic Objective: Continue to drive the implementation of operational initiatives to enhance the delivery of services based on the needs of the IANA customer.

Although PTI has historically maintained high levels of customer satisfaction when it comes to accuracy in its service delivery, there has been an increased demand for system enhancements and process improvements due to the rapid evolution of emerging technologies and increased baseline expectations of customer service.

PTI will achieve this by:

3.1 Performing the IANA functions in accordance with contractual obligations.

3.2 Evolving the systems that manage the workflow of change requests and publish registry data.

3.3 Ensuring operational readiness for evolving and future technologies and programs.

Targeted Outcomes

- A Root Zone Management System that supports the evolution of the underlying policies and business requirements and adapts to customer requirements for a modern and secure self-service capability.

- A comprehensive system that supports the majority of workflows associated with protocol parameter registrations and number resources, including self-service capabilities for customers and modern real-time performance reporting.

- Ability to shut down historical ticketing and reporting systems after deployment of modern replacements.

- Harmonized processes and data models across different registry workflows to assist with optimizing processing and implementing timeliness and accuracy improvements.

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DELIVERY OF SERVICES

Risks and Mitigation

- Lack of sufficient technical and development resources to design, develop, and deliver the systems and tools required to meet customer expectations. Risk reduction is predominantly through maintaining technical competencies in both PTI technical staff and shared resources from ICANN org to perform the necessary work.

- New community policies can trigger a significant increase in workload, and with insufficient lead time or commensurate resource adjustments, can impact overall IANA function. PTI continuously engages with ICANN's Policy Development Support and Global Stakeholder Engagement functions; the naming, numbers and protocol parameter communities; and with its direct customers to ensure the IANA team can prioritize its resources appropriately.

OPERATIONAL EXCELLENCE

Strategic Objective: Monitor the delivery and performance of the IANA functions to achieve operational excellence.

Continuous improvement has been part of PTI's culture for the past decade. However, evolving technologies, increased customer expectations, broader ICANN org and community work, and the overall industry landscape demonstrate the need for PTI to continue its focus on operational excellence efforts.

PTI will achieve this by:

4.1 Performing regular qualitative and quantitative analysis and review of business processes and service delivery through feedback mechanisms such as customer surveys and third-party audits.

4.2 Enhancing the established project management culture across the organization to ensure timely delivery of projects within the IANA Portfolio.

4.3 Monitoring key performance indicators to ensure performance is in line with established service level agreements (SLAs), and remains trusted, relevant and fit-for-purpose.

Targeted Outcomes

- Near real-time assessment of customer satisfaction from direct customers of the functions, along with annual review of IANA functions from key stakeholder groups.

- Comprehensive framework for project management.

- Continuous re-evaluation of priorities through community engagement.

- Evolve audit practices by continuing to ensure that key processes and systems are independently verifiable, and evaluating opportunities to promote increased confidence through expansion of audit scope and evaluation of alternative audit frameworks.

- Fully cross-trained staff with investment in staff retention through training and career development.

OPERATIONAL EXCELLENCE

Risks and Mitigation

- Inability of current systems to deliver services and maintain satisfaction to changing requirements or increased customer volume while adhering to service-level agreements. PTI is currently developing improved systems to support its core operations in consultation with the community to reduce this risk.

- PTI operating without enough spare resources to allow for cross-training and skill development leads to single points of failure and bottlenecks. Creating opportunities for cross-training PTI staff and dedicating resources for skills development seeks to address this.

- Inability to meet community expectations and contractual deliverables due to dependency on ICANN Operating Plan and Budget. ICANN org understands this risk and ensures that the budget allocated to perform the IANA functions continues to be a priority in the planning process.

GOVERNANCE

Strategic Objective: Support ICANN org in its governance efforts to sustain and improve openness, inclusivity, accountability, and transparency.

As the ICANN affiliate responsible for performing the IANA functions on behalf of ICANN, PTI must deliver services within service level agreements defined in the contracts. Managing such deliverables across several different agreements in an already complex multistakeholder model creates a situation where supporting ICANN on its governance efforts isn't straightforward. Simplifying the approach will be an important driver to achieve this objective.

PTI will achieve this objective by:

5.1 Supporting the various review processes conducted by the community that pertain to the IANA function.

5.2 Reducing unnecessary complexity and duplication between what is in scope for IANA and ICANN.

5.3 Identifying opportunities to streamline oversight agreements and contracts.

Targeted Outcomes

- Alignment of PTI strategic planning timeline to ICANN's five-year planning cycle.

- Alignment of Operating Plan and Budget timelines between ICANN and PTI processes.

- Complexity of oversight requirements is reduced or eliminated.

- ICANN org and community are aligned and educated about ICANN and PTI's remit in regard to the performance of the IANA functions.

- Changes to the intellectual property agreement and oversight documents that allow for clear communication and improved transparency.

- Participation of PTI staff in ICANN org efforts such as the Specific and Organization Reviews and policy development discussions as appropriate.
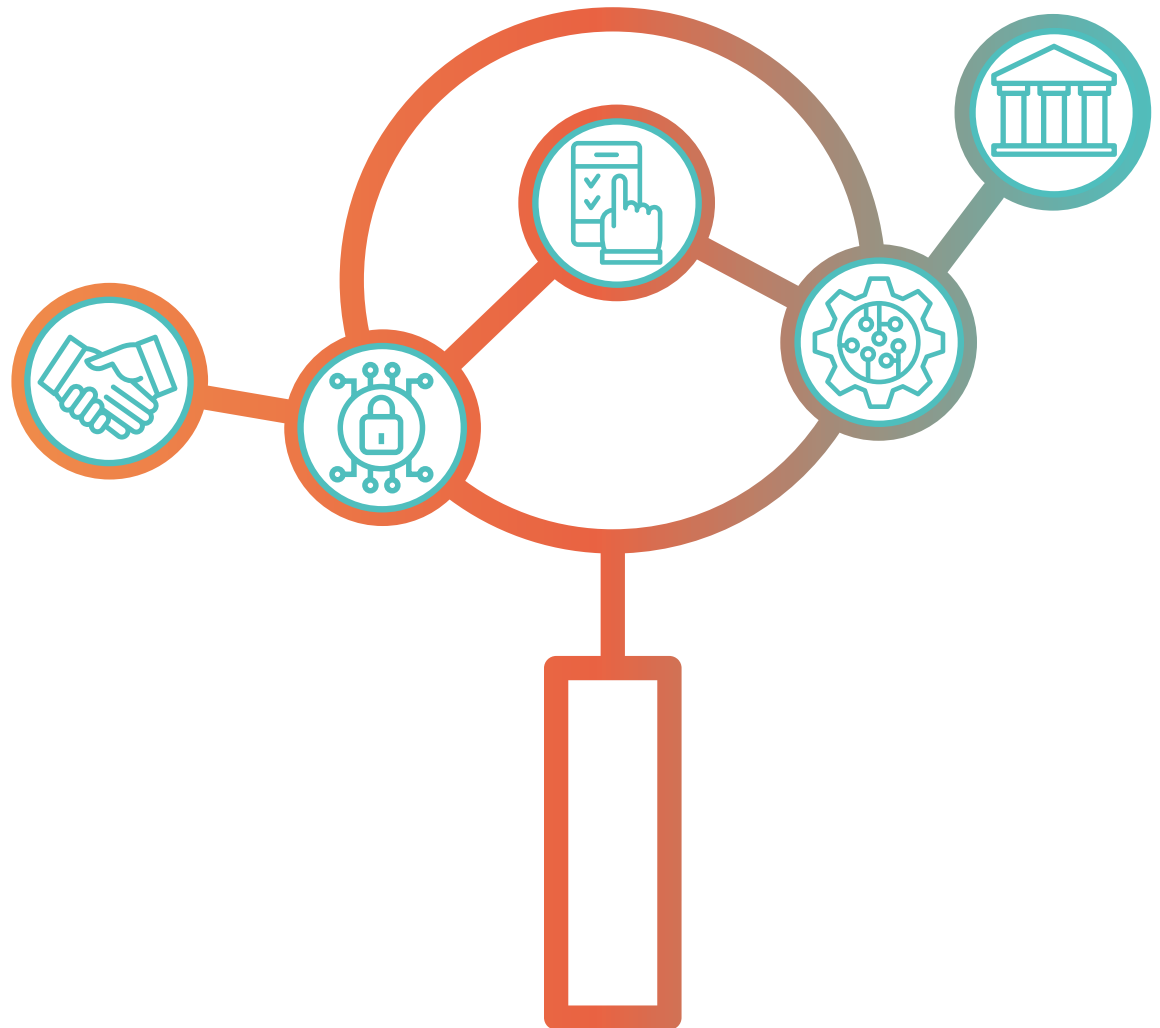
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GOVERNANCE

Risks and Mitigation

- No buy-in to align PTI and ICANN's planning processes due to competing priorities across the ICANN org, board and community. Reducing the complexity in the planning processes has been a high interest topic in PTI's dialogue with the community. PTI will continue to develop the plan to make the necessary adjustments and include all stakeholders throughout the process.

- Inability to streamline oversight agreements leads to undesirable complexity. PTI works closely with oversight bodies - ICANN org, IETF, CSC, RIRs - to ensure that implementation issues are well understood during reviews and evaluations of agreements, and that the deliverables continue to be relevant.

- PTI operates in a silo due to a lack of clarity about the organization's remit within the broader ICANN org and community. Although this risk has been reduced since the incorporation of PTI in 2016, PTI plans to broaden its engagement efforts to include broader Internet communities, and by doing so, increase awareness of the PTI remit across the ICANN org.

- Unsuccessful delivery of the IANA functions undermines ICANN's ability to fulfill its mission. Continuing to operate cohesively through its agreements and shared services will allow for both PTI and ICANN to ensure they are working to fulfill a common mission.

Useful References

- **ICANN Five-Year Strategic Plan (FY21-FY25)**

- **ICANN Five-Year Operating Plan (FY20 Update)**

- **PTI Adopted FY21 Operating Plan and Budget**

- **PTI/IANA-Related Contracts**

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STAY CONNECTED

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