American Registry for Internet Numbers, Ltd.

Summary Results of
Registration Services Department Audit

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Audit Overview

The accounting and advisory firm of Baker Tilly was engaged by the American Registry for Internet Numbers (ARIN) to:

> Assess ARIN's current Registration Services Department (RSD) processes against ARIN's Number Resource Policy Manual (NRPM) in the following areas:
> - Internet Protocol (IP) address space allocation, transfer, and database record maintenance (both public and internal) for version 4 (IPv4) and version 6 (IPv6)
> - Fraud detection, prevention, and follow-up
> - Autonomous system number (ASN) allocation, transfer, and record maintenance
> Test specific tickets, on a sample basis, from all types of customer requests to validate that NRPM requirements and internal procedures are consistently followed

Baker Tilly performed the following activities to meet the objectives of this audit:

> Reviewed relevant documentation (e.g., NRPM, internal procedures, checklists, worksheets) to gain an understanding of ARIN's current registration processes (for a list of all documents reviewed, please see Appendix A)
> Conducted an interview with key RSD personnel to understand changes in RSD's allocation and assignment processes since the previous audit
> Validated that RSD met the requirements in the NRPM and followed internal procedures by testing a sample of 123 tickets used to track various customer requests

Summary Results

During the course of the audit and based on the specific procedures performed, Baker Tilly did not identify any people, processes, or technology that were out of compliance with the NRPM. RSD has worked to maintain ARIN's compliance with the continually changing, community-based NRPM with dedicated people, processes, and technology. The department's collaborative and cross-trained management and staff understand, value, and support ARIN's mission. The department has continued to develop and revise practices adapted to equitably resolving the depleted IPv4 addresses. Staff appear to be mindful of their roles in detecting potential fraud perpetrated by users as they conduct their work. Management continues to look for ways to improve the organization and efficiency of RSD. Baker Tilly identified potential enhancements to clarify and update internal procedure documentation and improve process efficiencies (reference the Themes section for specifics).

Strengths

During the audit, we noted the following strengths exhibited by RSD:

> Understanding, valuing, and supporting ARIN's mission by the dedicated RSD management (i.e., Senior Director of Registration Services, Transfer Services Manager, Senior Resource Analyst, and Principal Technical Analyst) and staff
> Understanding by staff of their roles in identifying potentially fraudulent requests (e.g., understand importance of independence verification of requests, escalating requests to management for further review)
> Automating the process for physically transferring resources between organizations to decrease likelihood that incorrect resources are transferred
> Maintaining reasonably prompt time frames for responding to customers despite the high volume of requests and transfers

Themes

The overarching themes observed during the audit are presented below along with related recommendations for potential enhancements:

#	Theme	Recommendations for ARIN's Consideration
1	**Consistency in following internal procedures** – RSD staff following all key steps in the documented internal procedures supports consistent processing of tickets	ARIN should consider a refresher training with RSD staff to review the internal procedures and emphasize the importance of consistent application of the procedures.
2	**Documentation of current internal procedures** – Clear and updated documentation supports consistent processing of tickets	ARIN should consider a review of internal procedures to verify that the text accurately reflects the current required processing steps and then update the procedures accordingly.
3	**Efficiency of ticket documentation** – Consolidation of various customer and ticket documentation from varied, manual, and paper records to a single, automated electronic system supports efficient processing of tickets	ARIN should consider scanning/digitizing and then uploading copies of all paper ticket documentation to ARIN Online. In addition, ARIN should consider requiring the current offline manual management approvals to be documented in ARIN Online, instead of paper files.
4	**Functionality of ARIN Online** – Clearly defined guidelines and potential additional automation for ARIN Online supports consistent and efficient processing of tickets	ARIN should consider clearly defining the criteria for advancing tickets and using the various resolution types in ARIN Online.

Appendix A: Documentation Reviewed

We reviewed the following documentation:

> - 2017 ARIN Online Tickets [on a sample basis]
> - 2017 Transfer Tickets [on a sample basis]
> - 8.2 Mergers, Acquisitions, and Reorganizations Internal Procedures
> - 8.3 Transfers to Specified Recipients
> - 8.3 Block Swaps Internal Procedures
> - 8.4 Inter-RIR Transfers Internal Procedures
> - Account Reinstatement Requests Internal Procedures
> - ASN Requests Internal Procedures
> - Completing Transfers Internal Procedures
> - Converting a Legacy /8 to an AR Record Internal Procedures
> - Fraud Reporting Internal Procedures
> - General Internal Procedures
> - IPv4 Requests Internal Procedures
> - IPv6 Requests Internal Procedures
> - Legacy Org Recovery Internal Procedures
> - Number Resource Policy Manual (NRPM)
> - Past Due Account Processes Internal Procedures
> - POC Recovery Internal Procedures
> - Org Create (v2.0) Internal Procedures
> - Org Name Changes Internal Procedures
> - Org Recovery Internal Procedures
> - Reissuing IPv4 Blocks Internal Procedures
> - Transfer Billing Review Internal Procedures
> - Transfer Distribution Process Internal Procedures