Network Working Group
Request for Comments: 5396
Category: Standards Track

G. Huston
G. Michaelson
APNIC

December 2008

Textual Representation of Autonomous System (AS) Numbers

Status of This Memo

Copyright Notice

Abstract

A textual representation for Autonomous System (AS) numbers is defined as the decimal value of the AS number. This textual representation is to be used by all documents, systems, and user interfaces referring to AS numbers.

Table of Contents

1. Introduction

A textual representation for Autonomous System (AS) numbers is defined as the decimal value of the AS number. This textual representation is to be used by all documents, systems, and user interfaces referring to AS numbers.

This document notes a number of potential representation formats and proposes the adoption of a decimal value notation for AS numbers, or "asplain" according to the representation taxonomy described here.

2. Taxonomy of Representation Formats

A taxonomy of representation for AS numbers is as follows:

asplain
: refers to a syntax scheme of representing all AS numbers using decimal integer notation. Using asplain notation, an AS number of value 65526 would be represented as the string "65526" and an AS number of value 65546 would be represented as the string "65546".

asdot+
: refers to a syntax scheme of representing all AS numbers using a notation of two integer values joined by a period character: <high order 16-bit value in decimal>.<low order 16-bit value in decimal>. Using asdot+ notation, an AS number of value 65526 would be represented as the string "0.65526" and an AS number of value 65546 would be represented as the string "1.10".

asdot
: refers to a syntax scheme of representing AS number values less than 65536 using asplain notation and representing AS number values equal to or greater than 65536 using asdot+ notation. Using asdot notation, an AS number of value 65526 would be represented as the string "65526" and an AS number of value 65546 would be represented as the string "1.10".

3. Representation of AS Number Values

To avoid confusion, a single textual notation is useful for documentation, configuration systems, reports, and external tools and information repositories. The decimal value representation, or "asplain" is proposed as the textual notation to use for AS numbers.

The "asplain" representation represents the number as its decimal value, without any field delimiter, corresponding to the lack of any internal structure required by the use of AS numbers in the inter-domain routing context.

4. IANA Considerations

IANA Registries should use decimal representation ("asplain") for AS numbers.

5. Security Considerations

This document does not refer to matters associated with security of routing systems.

6. Acknowledgments

The terminology of "asplain", "asdot", and "asdot+" was originally devised and described by Juergen Kammer in January 2007 [KAMMER2007].

7. Informative References

[KAMMER2007] Kammer, J., "AS Number Formats", Jan 2007, <http://quagga.ncc.eurodata.de/asnumformat.html>.

Authors' Addresses

Geoff Huston
Asia Pacific Network Information Centre

EMail: gih@apnic.net

George Michaelson
Asia Pacific Network Information Centre

EMail: ggm@apnic.net