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           Textual Representation of Autonomous System (AS) Numbers

Status of This Memo

   This document specifies an Internet standards track protocol for the
   Internet community, and requests discussion and suggestions for
   improvements. Please refer to the current edition of the "Internet
   Official Protocol Standards" (STD 1) for the standardization state
   and status of this protocol. Distribution of this memo is unlimited.

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.

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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>.

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