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AS Number Change Could Affect Internet Routing From 1 January 2009

Manufacturers urged to upgrade routers and network management software to support the use of four-byte Autonomous System numbers by 1 January 2009.

CHANTILLY, VIRGINIA – Several Regional Internet Registries (RIRs), including the American Registry for Internet Numbers (ARIN), have warned that routers and network management software should be upgraded ahead of the increased distribution of four-byte Autonomous System (AS) numbers.

AS numbers are a vital part of the Internet's core routing system, the Border Gateway Protocol (BGP). With existing two-byte AS numbers predicted to run out in early 2011, RIRs will issue four-byte AS numbers by default (unless otherwise specifically requested) beginning 1 January 2009, as the next phase of a transition from two- to four-byte numbers. Following a globally coordinated policy, RIRs began allocating four-byte AS numbers by request only in January 2007; January 2009 marks the transition to allocating four-byte AS numbers by default.

Without timely support from vendors, network operators risk having routers and network administration systems that won't accept the expanded four-byte number format. As such, the RIRs urge operators to verify their vendors' routers will support four-byte AS numbers.

Geoff Huston, Chief Scientist at APNIC, expressed severe concerns over failure to prepare for four-byte AS numbers: "AS numbers are often used to identify external relationships, set routing attributes, and manage traffic. Learning from our current experiences with IPv6 preparation issues, Internet engineers designed four-byte AS numbers to be backward compatible with much of the installed network infrastructure. But new entrants and networks that are expanding or merging will need new AS numbers and as of 1 January 2009 these will be, by default, four-byte AS numbers. If router software and support systems in critical parts of the Internet's infrastructure aren't upgraded by January, we'll encounter some significant network routing problems. We're extremely concerned that a lot of routers and network management software out there cannot and will not be able to recognize four-byte AS numbers."

Raymond A. Plzak, President and CEO of ARIN, further added, "Network operators should be checking with vendors now to make sure they're ready for four-byte ASNs. If they're not, they should be planning to get capable routers as soon as possible."



American Registry for Internet Numbers (ARIN)

Applying the principles of stewardship, ARIN, a nonprofit corporation, allocates Internet Protocol resources; develops consensus-based policies; and facilitates the advancement of the Internet through information and educational outreach.

An Autonomous System (AS) is a collection of networks, or routers, administered as a group sharing a common set of routing policies, each defined with a unique number, or AS number. Massive Internet growth has depleted the existing pool of two-byte AS numbers (65,536 numbers in total). As a result, engineers have expanded the AS number space from two bytes to four bytes, to include over 4 billion AS numbers. Some routers do not currently support the use of four-byte AS numbers.

To help vendors understand what they need to do to provide four-byte AS number support and to help network operators find products that support four-byte AS numbers, APNIC has set up a special website at <http://icons.apnic.net>.

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