

IRS21

irs-sec@ietf.to

2009/9/14

NTTデータ 豊洲センタービル

IRS21 Agenda

- Introduction
- BGP Malformed AS_PATH (15:00-15:30)
 - シスコ 小川さん、Alaxala 角川さん
ブロケード 橋本さん、ジュニパー 河野さん、NTTCom 吉田
- Windows7 DirectAccess (15:30-16:30)
 - マイクロソフト 高橋さん
- BGP scalability (16:45-17:20)
 - シスコ Robert Raszukさん
- prefix増大とルータのリソース問題 (17:20-17:50)
 - さくらインターネット研究所 大久保さん

New web

- <http://irs.ietf.to/>
 - 昔 : <http://www.bugest.net/irs/>

はじめる前に

- 軽く会場インストラクション
 - NTTデータ 吉野さん
- 懇親会費
 - 本会議終了後 18:15-?
 - 上にあがって36F restaurant
 - 4,000円
 - 休憩時間に、NTTデータLA担当の方へ
- ロガー募集

8/18 BGP Malformed AS_PATH Attribute Incident

IRS21

Tomoya Yoshida

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2009/9/14

nanog@nanog.org 8/18

----- Original Message -----

From: "Ballard, Eric" <Eric.Ballard@suddenlink.com>

To: "nanog-post@rsuc.gweep.net" <nanog-post@rsuc.gweep.net>, randal k
<nanog@data102.com>, "nanog@nanog.org" <nanog@nanog.org>, "as9354@cnci.co.jp"
<as9354@cnci.co.jp>

Date: Mon, 17 Aug 2009 17:21:08 -0500

Subject: RE: Anyone else seeing "(invalid or corrupt AS path) 3 bytes E01100" ?

With the help from our transit providers and Cisco TAC the issues looks to be that AS9354 is sending ASO and causing the corruption when processed in our Cisco CRS routers.

AS9354 shows to be Community Network Center Inc. (CNCI) or TDNC and directly connected to KDDI AS2516.

If anyone from AS9354 is on this list please contact me or stop this advertisement or someone from KDDI please assist.

Several BGP peers were down

- bgp_read_v4_message: NOTIFICATION received from xxx.xxx.xxx.xxx (ExternalAS 65400):
- code 3 (Update Message Error) subcode 11 (AS path attribute problem), **Data: e0 11 00**

Value	Code	Reference
1	ORIGIN	[RFC4271]
2	AS_PATH	[RFC4271]
3	NEXT_HOP	[RFC4271]
4	MULTI_EXIT_DISC	[RFC4271]
5	LOCAL_PREF	[RFC4271]
6	ATOMIC_AGGREGATE	[RFC4271]
7	AGGREGATOR	[RFC4271]
8	COMMUNITY	[RFC1997]
9	ORIGINATOR_ID	[RFC4456]
10	CLUSTER_LIST	[RFC4456]
11	DPA	[Chen, E., Bates, T., "Destination Preference Attribute for BGP", Work in progress, March 1996.]
12	ADVERTISER (Historic)	[RFC1863][RFC4223]
13	RCID_PATH / CLUSTER_ID (Historic)	[RFC1863][RFC4223]
14	MP_REACH_NLRI	[RFC4760]
15	MP_UNREACH_NLRI	[RFC4760]
16	EXTENDED_COMMUNITIES	[Eric_Rosen][draft-ramachandra-bgp-ext-communities-00][RFC4360]
17	AS4_PATH	[RFC4893]
18	AS4_AGGREGATOR	[RFC4893]
19	SAFI Specific Attribute (SSA)	[Gargi_Nalawade][draft-kapoor-nalawade-idr-bgp-ssa-00][draft-nalawade-idr-mdt-safi-00][draft-wijnands-mt-discovery-00]
20	Connector Attribute	[Gargi_Nalawade][draft-kapoor-nalawade-idr-bgp-ssa-00][draft-nalawade-idr-mdt-safi-00][draft-wijnands-mt-discovery-00]
21	AS_PATHLIMIT (TEMPORARY - Expires 27 October 2007)	[draft-ietf-idr-as-pathlimit]
22	PMSI_TUNNEL (TEMPORARY - Expires 19 June 2008)	[draft-ietf-l3vpn-2547bis-mcast-bgp]
23	Tunnel Encapsulation Attribute	[RFC5512]
24	Traffic Engineering	[RFC5543]
25-254	Unassigned	
255	Reserved for development	

e:

1:optional

1 transitive

1 partial

0 attribute length=1octet

O:

0x11=17

00: path attribute length

BGP Update @ AS38639

```
Aug 18 02:07:25.304209 BGP RECV message type 2 (Update) length 61
Aug 18 02:07:25.304223 BGP RECV flags 0x40 code Origin(1): IGP
Aug 18 02:07:25.304236 BGP RECV flags 0x40 code ASPath(2) length 6: 4713 9354
Aug 18 02:07:25.304247 BGP RECV flags 0x40 code NextHop(3): x.x.x.x
Aug 18 02:07:25.304256 BGP RECV flags 0x80 code MultiExitDisc(4): 0
Aug 18 02:07:25.304266 BGP RECV flags 0xe0 code AS4Path(17) length 0: <null>
Aug 18 02:07:25.304287 BGP RECV      xxx.xxx.192.0/20 , xxx.xxx.112.0/20
Aug 18 02:07:25.304368 bgp_rcv_nlri: xxx.xxx.192.0/20
Aug 18 02:07:25.304398 bgp_rcv_nlri: xxx.xxx.192.0/20 duplicate update
Aug 18 02:07:25.304409 bgp_rcv_nlri: xxx.xxx.112.0/20
Aug 18 02:07:25.304425 bgp_rcv_nlri: xxx.xxx.112.0/20 duplicate update
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過去のIRS19

http://irs.ietf.to/past/docs_20090218/irs19_MK_IRS_AS4_PATH.pdf



そもそもの問題

- 4 byte AS対応JunOS(R9.1以降)において、
 - Confederation使用時 AND
 - NEW to OLD 変換時
 - AS4_PATH attributeに、confed-segment {CONFED_AS_SET / CONFED_AS_SEQUENCE} を付けたまま出してしまう

→ rfc4893 violation

“To prevent the possible propagation of confederation path segments outside of a confederation, the path segment types AS_CONFED_SEQUENCE and AS_CONFED_SET [RFC3065] are declared invalid for the AS4_PATH attribute. “

- PR417046
 - 9.1R4, 9.2R4, 9.3R3, 9.4R2, 9.4R1, 9.4R1.3 にて修正済み

91.207.218.0/23

Path Attributes - Origin: Incomplete

Flags: 0x40 (Well-known, Transitive, Complete)

Origin: Incomplete (2)

AS_PATH: xx xx 35320 23456 (13 bytes)

AS4_PATH: (65044 65057) 196629 (7 bytes)

2009/9/14

今回の件について各Vendorさんより報告

- Cisco 小川さん
- Alaxala 角川さん
- Brocade 橋本さん
- Juniper 河野さん