BGP
Shutdown Communication

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NTT Communications

Communication can be a challenge…

Data resolution:

Peers Seeing 1 ... 166

Reset Zoom

NTT

AS15562

Feb   Mar   Apr   May

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

(4)

(12)

(1)

(1)

(5)

(2)

(3)

(1)

MyView   ?
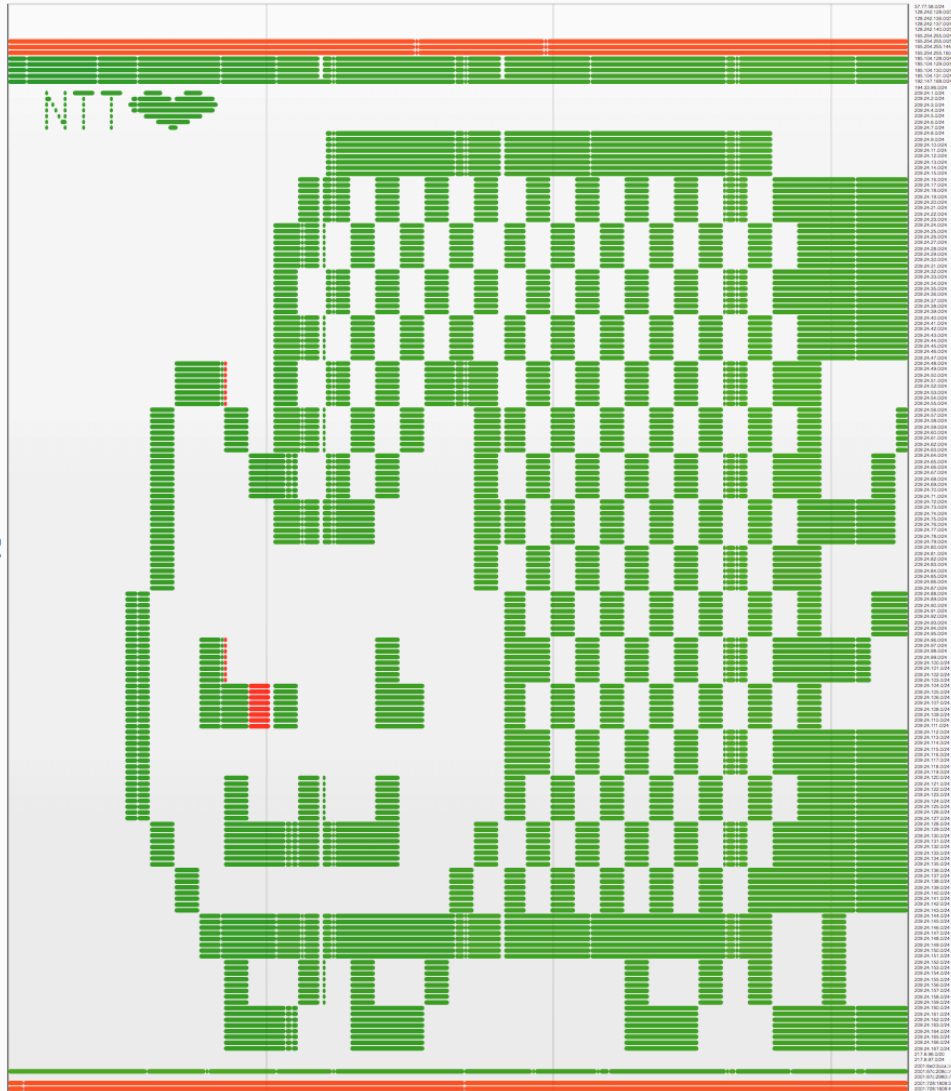
LIGHT THE BEACONS OF MAINTENANCE

BGP Shutdown Communication, RIPE 74

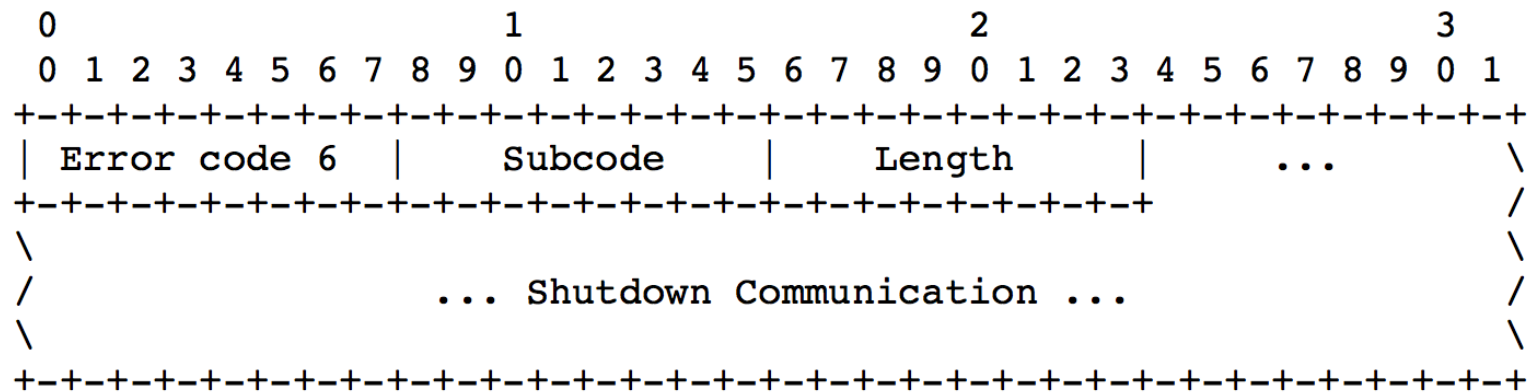https://tools.ietf.org/html/draft-ietf-idr-shutdown

BGP Administrative Shutdown Communication
draft-ietf-idr-shutdown-05

Abstract

   This document enhances the BGP Cease NOTIFICATION message
   "Administrative Shutdown" and "Administrative Reset" subcodes for
   operators to transmit a short freeform message to describe why a BGP
   session was shutdown or reset.

Requirements Language

   The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
   "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
   document are to be interpreted as described in [RFC2119].

```
      0                   1                   2                   3
      0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
     | Error code 6  |    Subcode    |    Length     |     ...       \
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+                /
     \                                                               \
     /             ... Shutdown Communication ...                    /
     \                                                               \
     +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

Subcode: the Error Subcode value MUST be one of the following
   values: 2 ("Administrative Shutdown") or 4 ("Administrative
   Reset").

Length: this 8-bit field represents the length of the Shutdown
   Communication field in octets. The length value MUST range from 0
   to 128 inclusive. When the length value is zero, no Shutdown
   Communication field follows.

Shutdown Communication: to support international characters, the
   Shutdown Communication field MUST be encoded using UTF-8. A
   receiving BGP speaker MUST NOT interpret invalid UTF-8 sequences.
   Note that when the Shutdown Communication contains multibyte
   characters, the number of characters will be less than the length
   value.

Mechanisms concerning the reporting of information contained in the
Shutdown Communication are implementation specific but SHOULD include
methods such as SYSLOG [RFC5424]

Sending a shutdown communication

```
[job@kiera ~]$ bgpctl neighbor 165.254.255.24 down \

    "[TICKET-1-1438367390] we are upgrading to
openbsd 6.1, be back in 30 minutes"

request processed
```

On the receiving side:

```
Jan  8 19:28:54 shutdown bgpd[50719]: neighbor
165.254.255.26: received notification:
    Cease, administratively down

Jan  8 19:28:54 shutdown bgpd[50719]: neighbor
165.254.255.26: received shutdown reason:
    "[TICKET-1-1438367390] we are upgrading to
openbsd 6.1, be back in 30 minutes"
```

```
job@kiera> configure

job@kiera# set protocols bgp \
           group customers \
           neighbor 165.254.255.24
           disable "[TICKET-1-1438367390] we are
upgrading JunOS, be back in 30 minutes"
```

```
job@kiera# clear bgp ipv4 unicast \
    165.254.255.24 \
    "[TICKET-1-2389234] Hopefully clearing a BGP
wedgie"
```

Implementations so far…

Openbsd / OpenBGPd
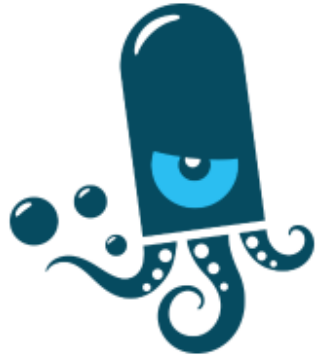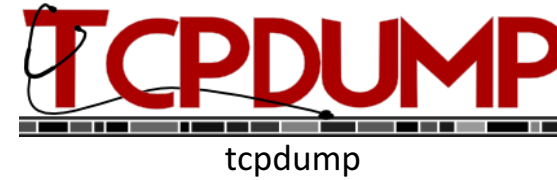
FreeRangeRouting

GoBGP

tcpdump

Believed to be in the works? …

PMAcct

ExaBGP

Wireshark

CISCO

JUNIPER
NETWORKS

NOKIA

BIRD

And yes, UTF-8 / UNICODE works too…