What happened and What We did after the Earthquakes in Kumamoto

July 7, 2016
JANOG38 LT@Okinawa

Service Operation Center, Technical Division,
Kyushu Telecommunication Network Co. (QTNet)

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Self Introduction

- Name: 西田　圭(Kei Nishida)

  -Janog36,37　ORG staff

- Affiliation: Kyushu Telecommunication Network Co. (QTNet)

  -in16th year

  -Network design of IP services, maintenance of routers and servers

  -Operation and management of facilities like electric power supplies and air conditioners, and a relay network

The First EQ (Foreshock?)

- April 14, 2016 (Thu) 9:26PM JST

  –Max Seismic Intensity 7 (Intensity 4 at Fukuoka)

  –Mobile phones of more than dozen team members received Emergency Earthquake Warning(EEW) at once

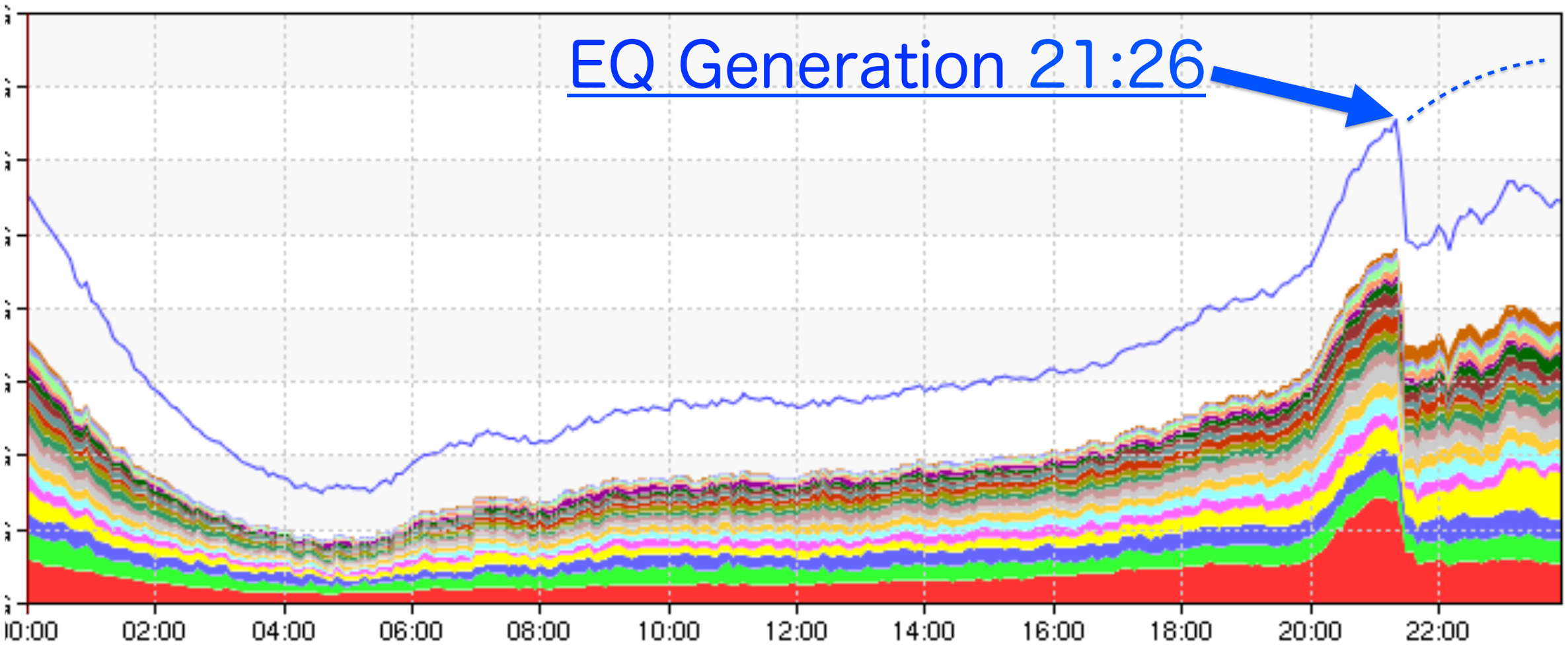
  –A big shake occurred in Fukuoka a few seconds later

  –There had been a series of aftershocks

Traffic(Internet)

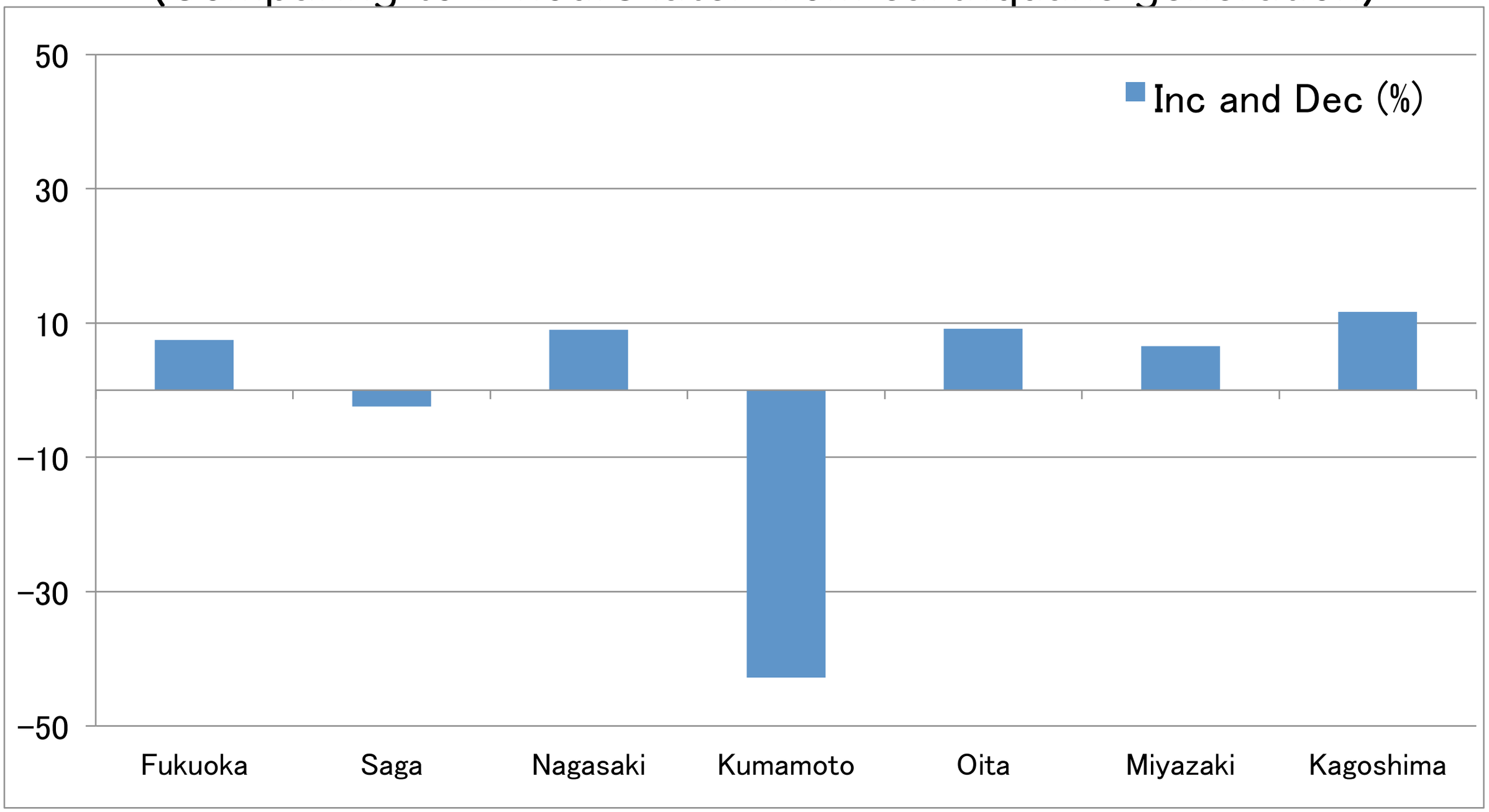
Internet ⇒ AS7679

(Apr. 14 0:00 - 23:59)



Percentage of Increase and Decrease of Traffic / Area

(Comparing to 2 hours later from earthquake generation)



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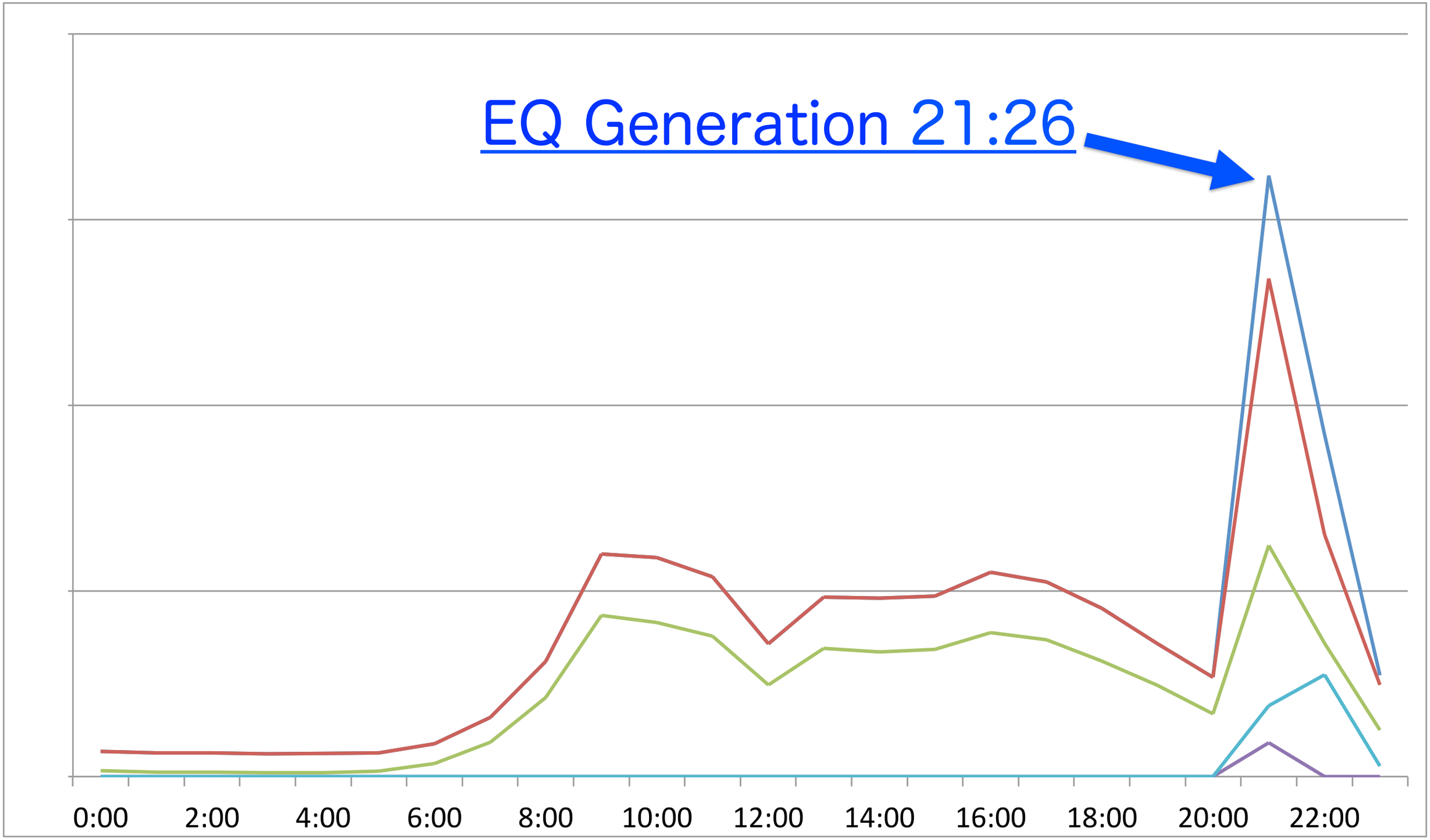
Telephone

Change in Volume of Calls



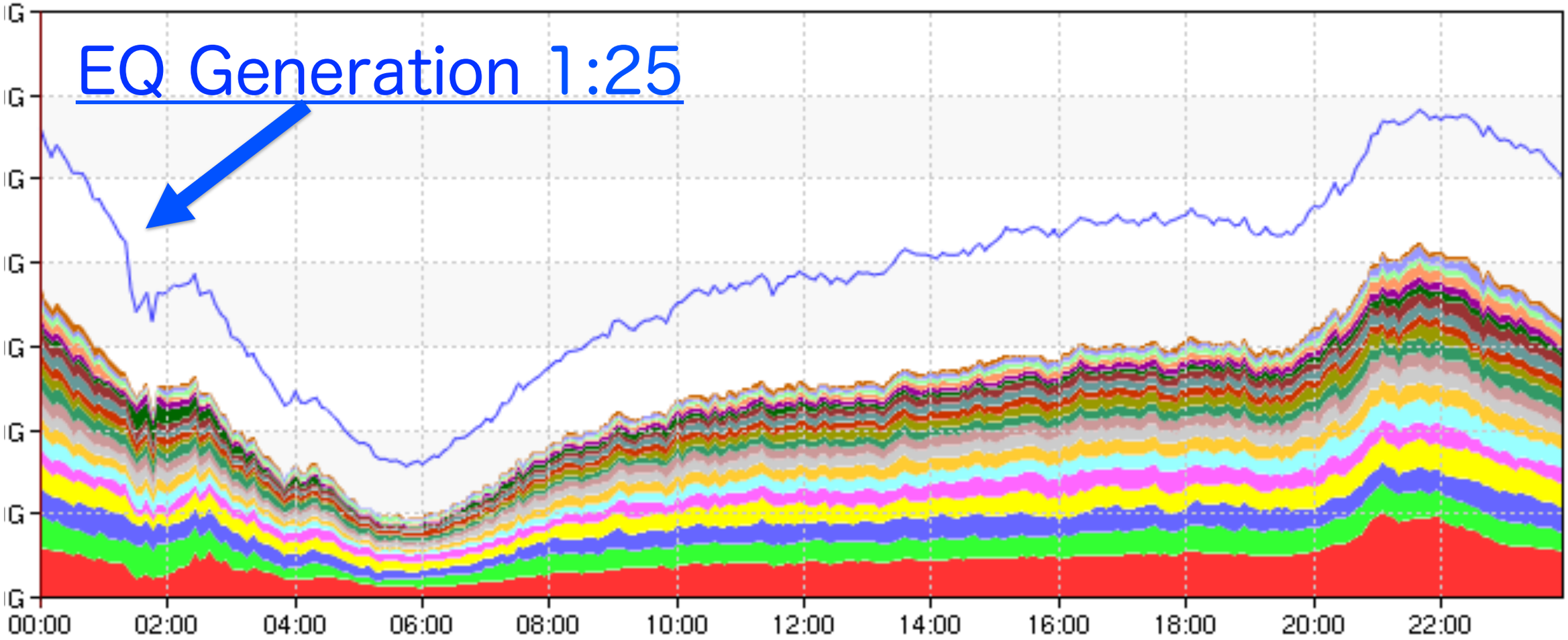
The Next EQ(Main Shock?)

- April 16, 2016 (Sat) 1:25AM
  - Max Seismic Intensity 7 (Intensity 5 at Fukuoka)
  - EEW while sleeping after the response on the previous day!!
  - immediately went to the office
  - could not get a taxi... got in after an hour

Traffic(Internet)

Internet ⇒ AS7679

(4/16 0:00～23:59)



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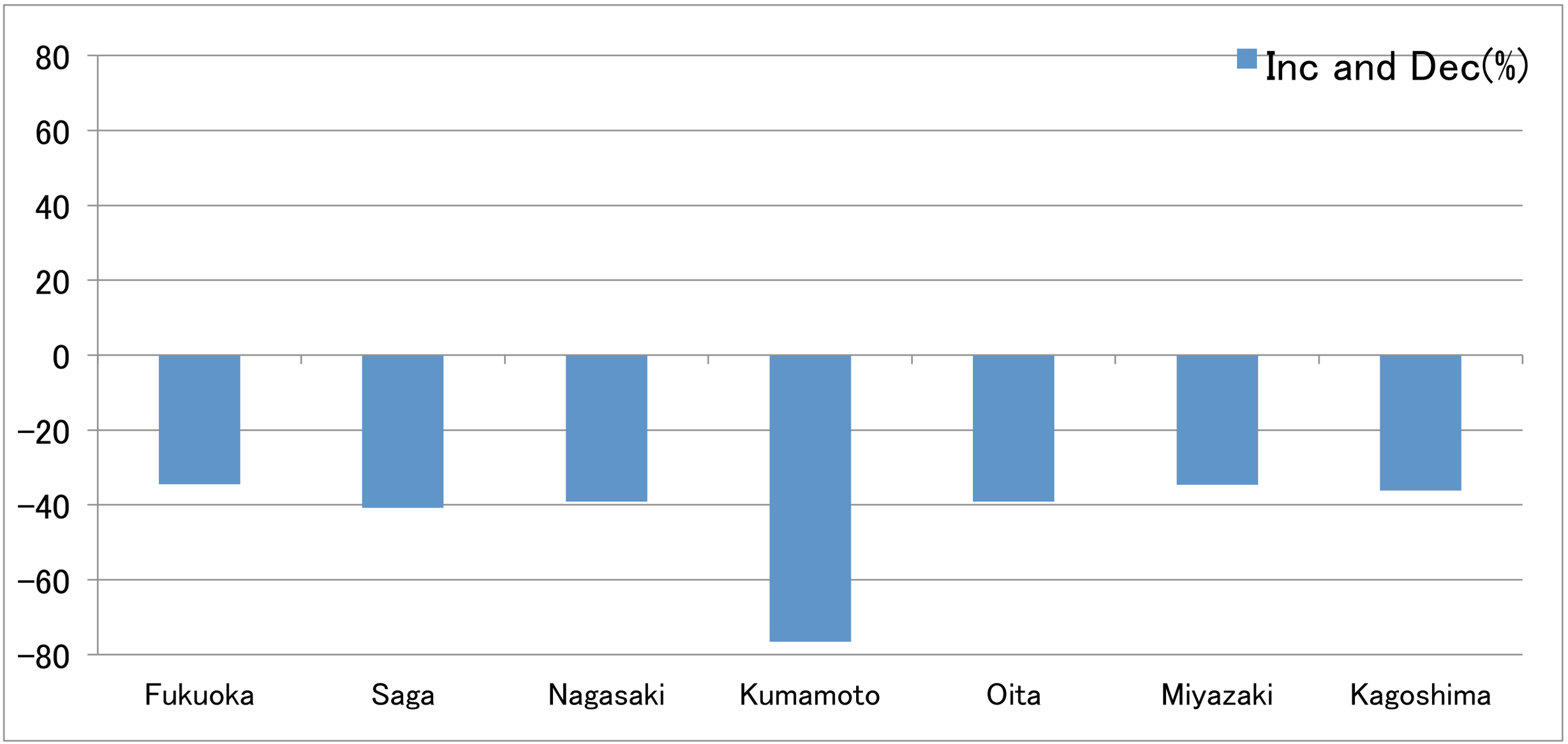

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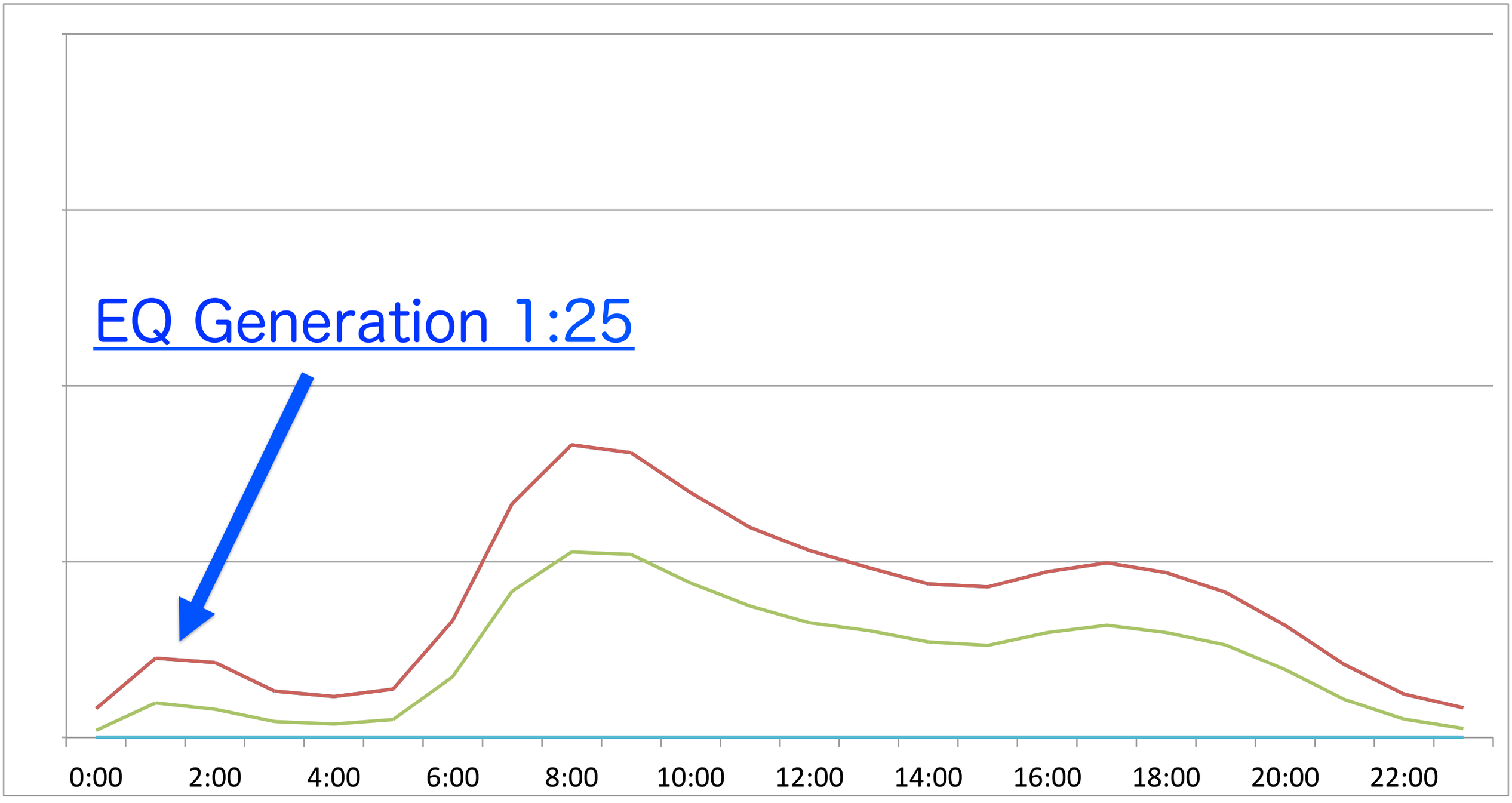

Response to Blackout

- Blackout occurred at several centers in Kumamoto area

  – storage batteries temporarily supplied power source for a certain time, corresponding to the size of centers

  – power-supply cars deployed in each zone were dispatched to the spot
    - started power supply and continued it for about 4 days until recovery of the commercial power source by supplying fuel
    - no power outage at the centers

Response to Blackout

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Response to Fiber Cut

- Optical fibers were cut by a landslide
  - Identified the spot and repaired by splicing in a patch
  - if not possible, laid new rerouted fibers

Response to Fiber Cut

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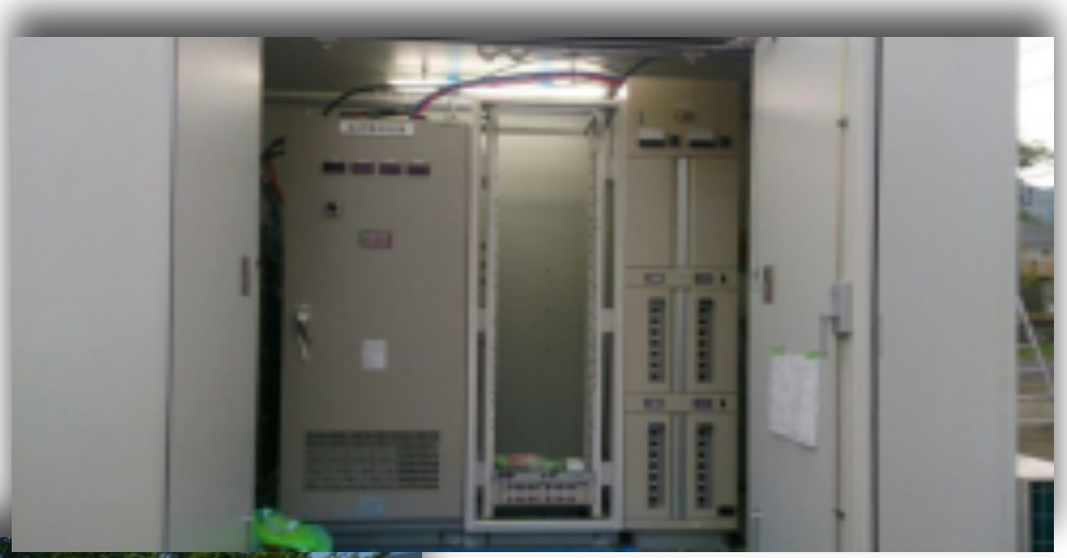
Setting Up A Temporary Center

- For circuits which are not easy to recover, set a temporary center up.
  - negotiate a site for the building, build temporary Center, install power supplies
  - transport network devices in, install and test
  - recovered the circuit with in a few days!!

Setting Temporary Center Up



What I Felt

1. Co-operation between service providers
   Electric power companies nationwide supported each other
   eg. dispatching about 80 power-supply cars

➡ISP, CATV and carriers based in local communities, and also nationwide datacenter providers, mobile providers and carriers; we are carrying information during natural disasters, so we can do something by cooperating with each other.

2. On recovering failures

➡ Communication lines carry information.
   There are humans or devices needing the information at both end of the link
   We carry not just information, but also heart.

Fight! Kumamoto!!

Thank you!!