

MIS036-P174

Room:Convention Hall

Time:May 27 14:15-16:15

## Kyoshin monitor spreads to the people through Aftershocks and Induced earthquakes

Hiroki Azuma<sup>1\*</sup>, Shin Aoi<sup>1</sup>, Takashi Kunugi<sup>1</sup>, Hiromitsu Nakamura<sup>1</sup>, Toshihiko Hayakawa<sup>2</sup>, Hiroyuki Fujiwara<sup>1</sup>

<sup>1</sup>NIED, <sup>2</sup>Mitsubishi Space Software Co., Ltd.

### 1. Summary

In NIED ( National Research Institute for Earth Science and Disaster Prevention ), we provide realtime strongmotion seismic information from seismometer network called KiK-net through CGI web service ( CGI below) from August, 2008. Thus, after 3.11 2011 off the Pacific coast of Tohoku Earthquake, it overloaded by too many accesses that increase while aftershocks and induced earthquakes occur. To solve this problem, We decided to deliver that KYOSHIN-Monitor by Ustream and we got huge number of views and some perceptions for the future services.

### 2. Hypothesis and Techniques

KYOSHIN-Monitor (CGI) was planned for the expert uses. In the other hand, KYOSHIN-Monitor in Ustream ( UST ) is expected as a dynamic counterplan for enormous amateur access because of the reason below.

- Cloud live delivering services would support distribution of access and let us deliver in fewer costs.
- Ustream enables to provide for Smartphone through their original application.

In addition, to maximize the effect of UST, we shape the followings.

- We selected 2sec refresh rating for UST delivering while CGI is 5sec.
- We opened social stream using Twitter and Facebook as a set, We get announcing easily and spreading effect.

### 3. Result

Many users - about 1.27 million people accessed uniquely and 4 thousand users monitoring on the steady basis. We got 1st in ranking domestically and 2nd in rank of the Ustream all over the world. We picked up some reactions of users below.

3.1. Opposition plans to earthquake intoxication and earthquake psychoneurosis.

3.2. Measures of false report of real-time earthquake information.

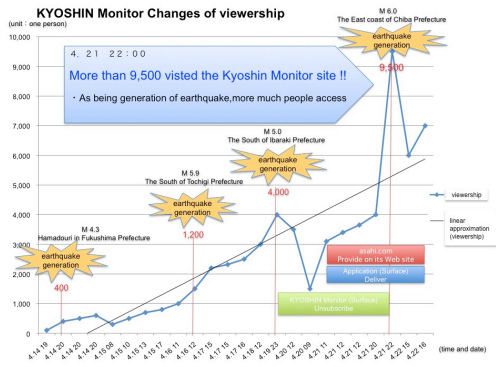
And merits for information distributor ( us ) are below.

3.3. Cost reductions.

3.4. Got a lot of visibility.

### 4. Conclusion

It can be said that this example is an epoch-making case in the meaning of having enabled the offer of about 20 times access escaping from such excessive protection though it tends to put an excessive security network restriction on the information infrastructure when a lot of research laboratories and municipalities, etc. deliver information so far. It becomes possible to correspond to a lot of accesses without multiplying the substantial cost in shifting to cloud services of the mutual operation type excluding the case where a very large, clear disadvantage exists the inconvenience and the dissatisfaction of the users who pays a surplus cost to the conventional type information security that cannot completely exclude the personal risk. It is necessary to provide service that is solidier (Do not fall) so that the severe earthquake monitor is accepted as a society's infrastructure by a lot of users, and it is necessary to grope low latency and high stability in cooperation with stronger cloud services.



Keywords: KYOSHIN-Monitor, Aftershock, Induced Earthquakes, Bosai-Education, Cloud service, access distribution