

18th December 2015

Asahi Net, Inc.

Apology and Report from Asahi Net for Outage of 14th December 2015

Announcement No. 5

Dear Asahi Net member,

We sincerely apologize for the inconvenience and trouble that many of our customers have experienced as a result of a failure with Asahi Net's DNS servers on 14th December. We would like to provide you with a report of the current status.

1. Impact of the outage (as reported earlier)

These Asahi Net services could not be used during the outage:

- Fiber-optic, mobile and other Internet connection services (except au Hikari)
- Email service
- Other services including Asahi Net's blog service.

2. Events and countermeasures

(1) Events (as reported earlier)

- ① 11:59 to 17:38 on 14th December: There was a Distributed Denial of Service (DDoS) attack on Asahi Net's DNS servers which put an unexpected loading on them, with the result that the servers could not be used.
- ② 23:45 to 24:02 on 14th December: As a step to handle the outage, we did work to enhance our servers but this unfortunately resulted in deterioration in response times and thereby some of our customers could not use our services.
- ③ 11:26 to 12:00 on 16th December: In the process of investigating the cause of the outage we made a modification to the DNS server settings but this unfortunately placed a larger loading on them than expected which resulted in some of our services being unavailable.

(2) Countermeasures **(updated)**

We took the following measures to help prevent a recurrence of the outage.

- ① Actions aimed at avoiding a DDoS attack
 - a. From 15:30 on 14th December we have been blocking external DNS queries by implementing Inbound Port 53 Blocking (referred to as "IP53B" below).
Forthcoming measures planned for IP53B
We plan to also implement IP53B for dynamic IP addresses. However, for the time being we are in the process of removing IP53B blocking for those customers who have requested it – please see "3. A request to customers running and publishing their own DNS servers" below for how this request can be made.

- ② Investigating the cause of the DDoS attacks and enhancing our DNS system.
 - a. We have changed our policy regarding the threshold for detecting DDoS attacks (completed 15th December).
 - b. Our load balancers were enhanced (completed between 04:00 and 06:00 on 16th December).
 - c. Our DNS servers were enhanced (completed between 04:00 and 06:00 on 17th December, and between 04:00 and 06:00 on 18th December).
- ③ Efforts aimed at providing reliable and timely information when outages occur
 - a. Making information available on Twitter (planned for 24th December)

To increase the reachability of information about the occurrence and resolution of outages, and to provide it in a timely manner, we plan to open a Twitter account dedicated to providing information relevant to service outages. Information about this Twitter account and its operation will be made available on 24th December on Asahi Net's page (<http://asahi-net.jp/>) and be sent to our customer's Asahi Net email addresses.
 - b. Making information available to customer's designated email addresses (planned for January 2016)

Currently we provide our customers with various types of information by email sent to their Asahi Net email address, but in consideration of our customers using other email services like Gmail, Yahoo! Mail and mobile phone company's email services we will change our operation so that information we provide by email about outages reaches the email addresses designated by our customers. Information about how our customers may register their email addresses will be made available on Asahi Net's page (<http://asahi-net.jp/>) and be sent to our customer's Asahi Net email addresses.

3. A request to customers running and publishing their own DNS servers (as reported earlier)

Customers running their own DNS servers and publishing to the Internet may find that IP address queries from the Internet cannot be responded to. Should you be affected in this way, please contact Asahi Net for technical support as explained below. We will need to take steps to remove IP53B for you.

Asahi Net Technical Support Inquiries in English

<https://asahi-net.jp/en/support/contact/technic.html>

- Please complete this form and in the "Details of the problem / your questions" field enter this information about your DNS server:
 1. Affected IP address
 2. Affected Domain name

We would like to apologize again for the outage and for the time it took to recover from it. We have taken this situation with the utmost seriousness and are committed to protecting our customers from threats such as DDoS attacks that are becoming increasingly diversified and sophisticated on a daily basis, and providing a stable and reliable Internet service.

Asahi Net