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Asian Internet Interconnection Initiatives

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1 Technical Activities

1.1　Network Services with Single Board Computers

With the idea to switch all AI3 services to small sized single board computers, we performed benchmarking on a Raspberry Pi 3 machine, focusing on the DNS, web, and mail services. The results are as follows:

1. DNS (using Bind and Unbound): around 20kqps
2. Web (using Nginx with SSL): around 250qps for small image files
3. Mail (using Postifx and Dovecot): around 40qps

These results were achieved using an external USB hard drive, instead of the MicroSD card. In addition to the benchmark, we also tested the configurations to enable netboot for several Pi 3 machines and NAT-PT using Tayga. The tests were deemed successful, however they have not been extensively tested for performance.

With these results, we decided to test-deploy a Raspberry Pi 3 to the AI3 environment, and now running as DNS and mail servers.

1.2　Small UDL Receivers

Small UDL receiver initiative is an effort to develop a receiver for the AI3 UDL network that consists of a USB UDL receiver and a Raspberry Pi 3 machine as the replacement of the current receiver. This initiative is porting the current UDL receiver code to the Raspbian Jessie, and the works is being led by Universitas Brawijaya, a partner in Indonesia. The porting efforts are expected to finish by Q2 of 2018.

2 Meetings

2.1　Spring 2017

The Spring 2017 meeting was held on May 15-17 in Manado, Indonesia, with Sam Ratulangi University as the host. It was the first time for AI3 and SOI Asia to hold a meeting there.

The meeting was attended by around 20 participants with the following schedule:

May 15: Workshop on the applications of NFC and BLE for smart city
May 16: General meetings
May 17: Directors meeting

The decisions in this meeting include the handling of ai3.net domain and transferring of other internet resources to SFC.

In this meeting, the Suguru Yamaguchi Award is awarded to Achmad Husni Thamrin, Keio University.

2.2　Fall 2017

The Fall 2017 meeting was hosted by UNESCO Office Jakarta on Oct 12-14 in Jakarta in conjunction with UNESCO MasterClass on Local and Indigenous Knowledge Systems. The meeting was originally planned to be co-hosted by UNESCO Office Jakarta and National University of Timor Leste (UNTL), but moved to Jakarta in the last minute due to logistics issues and concerns about the possible eruption of Mount Agung in Bali, where all participants would use as transit. Thanks to the quick efforts by UNESCO Jakarta, the venues and all other logistics could be secured for the meeting.

The meeting was attended by around 20 participants and the MasterClass was attended by a dozen of participants remotely from UNESCO Office Dili, Timor Leste. The schedule is:

Oct 12: MasterClass on Local and Indigenous Knowledge Systems

Oct 13: General meetings

Oct 14: Directors meeting

The decisions in this meeting include the push for IPv6 operations in the partners and handling ai3.net domain, which we have to let expire and try to reclaim it in some other way after the expiration.

In this meeting, Wan Tat Chee of Universiti Sains Malaysia received the Suguru Yamaguchi Award.