High Light of Some Open Source Activities in Indonesia

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This paper will briefly high light some of the leading edge open source activities in Indonesia.

- IT Education in high school is receiving a special attention. The ministry of research & technology in collaboration with ministry of informaton & communication as well as ministry of education releasing e-book for IT education for high school. It uses open source operating system and openoffice. The e-book can be freely downloaded from http://bse.telkomspeedy.com/e-buku/. The site has been experiencing very high traffic and reaching 20% of whole Telkom Traffic as knowledge seems to be very important to Indonesian.

- To support the open source community / programmer, PT. Telekomunikasi Indonesia and Ministry of Research & Technology are now supporting Indonesian SourceForge at http://sourceforge.telkomspeedy.com. The system is fairly new, it is currently hosting about 12 Indonesian open source project. Ministry of Research & Technology is now planning to force all funded software development project to share the source code through Source Forge http://sourceforge.telkomspeedy.com.

- The Open Source community, lead by Anton Raharja, is currently running the major VoIP Softswitch server in Indonesia at http://www.voiprakyat.or.id. The system is now receiving fund from Information Society Innovation Fund (ISIF) at http://isif.asia to be used as model of the Asia Pacific region.

- Anton Raharja's group is also releasing Briker http://www.briker.org to enable ordinary person in running softswitch at their offices / apartments. Burning Briker iso into CD, one may easily transform a PC into a VoIP softswitch.

- PT. Telekomunikasi Indonesia is also supporting the Server of the major Indonesian Open Source SpeedyWiki at http://opensource.telkomspeedy.com/wiki. It currently holds close to 4000 pages. There have been a total of **2,363,858** page views, and **10,021** page edits since SpeedyWiki was setup.

- There are about 240.000 schools Indonesia. Unfortunately, only about 4000-5000 schools are connected to the Internet. To enable Internet education in Indonesia without having any Internet connection, a special Linux distro called SchoolOnffLine has been released by Onno W. Purbo. It contains moodle, mediawiki, squirrelmail, ejabberd, knowledgeTree, Senayan, SISFOKOL etc to support Internet education without any connection to the Internet. SchoolOnffLine received a great acceptance among Indonesian schools and now organizing a lot of SchoolOnffLine workshops in various areas. SchoolOnffLine can be freely downloaded from http://sourceforge.telkomspeedy.com/projects/schoolonffline/

- The current earth quake disaster in West Sumatra island has also trigger the development of Disaster Management System. The IT Community is now running several Disaster Management System based on SAHANA (http://www.sahana.lk.). The sites are, http://opensource.telkomspeedy.com/sisfo-bencana and http://dm.saksigempa.org. The database of these systems are synchronized to each other.

There are many other open source activities in Indonesia, such as, BlankOn, SIMAK, Senayan, Uluwatu Lib, SISFOKOL etc etc.. I would like to apology for unable to high light all of them.

About Onno W. Purbo

To see knowledge based society in Indonesia is his ultimate dream and passion. Knowing the Indonesian condition, self-finance and sustainable is an art and must be embedded in the process.

In February 2000, quitting from his honorable position as a lecturer at the Institute. He spent the rest of his lifetime to educate thousands of Indonesians on low cost Internet, Internet Telephony and free open source software. He is now well knows as Indonesian Internet evangelist if not one of the Indonesian Internet founding father as noted in the Indonesian Internet history. He normally copies his 120 Gbyte USB harddisk to local organizers and participants of his talks or workshops.

It is all started in 1993, when he and a couple of his students built a simple 1200bps packet radio gateway to the Internet at the best engineering school Institute of Technology Bandung in Indonesia using refurbish 286 computer. Using the simple technology, a connection to a dozen schools and universities were made. In 1998, the network was grown into a larger Indonesian Education Network as part of Asia Internet Interconnection Initiatives (AI3) connected to WIDE Network lead by Prof. Jun Murray in Japan. Today, the early small education network is grown into Indonesian Education Network on 155Mbps backbone connecting almost all Universities and more than 20.000 schools in Indonesia.

Packet radio 1200bps network was too slow for any real Internet usage. Unfortunately, high speed connection is always a problem in a nation with limited chopper network. Thus, wireless high speed network would be the best alternative to such solution. Initially in early 1998, KarlBridge equipments running on 915MHz at 2Mbps was used. It was upsetting the government as the network illegally used the frequency. He then questioned by the authorities due to unlegally use the 915MHz frequencies.

Shutdown 915MHz network forced the communities to move into 2.4GHz band. 2.4GHz band was a licensed band at that time and cost around US$2300 per node per year. Changing the strategies, he spread the knowledge to the society at large through books, seminars and workshops on how the deploy low cost wireless network in 2.4GHz. It triggers lots of deployment 2.4GHz since then without government licensed.

In 1998, Cybercafe concept is introduced to the society by him and many of the Internet activists. Most of them are using the 2.4GHz infrastructure to get low cost high speed Internet. In 2000-2004, network equipment sweeping was becoming a daily activities. The Indonesian cyberface community suffered due to the sweeping.

To lower the Internet cost, in 2000, he and many Internet activist, such as, Michael Sunggiardi, introduced neighborhood network concept to the society. Different from cybercafe or telecenter approach, neighborhood network is basically an Internet connection sharing in a large neighborhood. Wireless 2.4GHz equipment is used to share the Internet access to 3-4 km neighborhood. In 2000, a 24 hour 64Kbps Internet is around US$400 / month. Today, such neighborhood sharing approach is able to reduce the Internet cost to around US$5-10 / month at 384Kbps.

In the beginning of 2000, the Indonesian government declared an increase in telephone tariff. He then led the ICT community to build H.323 based VoIP Gatekeeper network known as VoIP Merdeka Network to oppose the government plan in increasing the telephone tariff. Penetrating proxies seems to be a big problem for H.323 based VoIP. VoIP Merdeka ceased operation in around 2005 but managed to create an image of free telephony over the Internet for Indonesians.

In 2006, he supported the development Session Initiation Protocol (SIP) based Rebel VoIP network known as VoIP Rakyat who led by Anton Raharja at http://www.voiprakyat.or.id. It is a more advanced technology and uses open source technology. Anton has been keen on providing free SIP VoIP Softswitch installer CD at Briker http://www.biker.org. At the end of 2008, Information Society Innovation Fund (ISIF) http://isif.asia provides grant to the Indonesian VoIP communities to improve their VoIP Softswitch performance into a total of 18 core Xeon processors and provides all documentations in English for International communities. Today, VoIP Rakyat is able to serve 314167 calls equivalent to 552496 minutes with 75244 registered account in all over Indonesia and mostly use actively by corporate users. VoIP Rakyat is able to save US$7000 worth of call since its deployment. We hope to see more adoption of VoIP and open source Next Generation Network (NGN) in the Asia Pacific in the years to come.

In 2002, he received sabbatical award from International Development Research Center (IDRC) and spent most of my time documenting his work and experience in English and spread the words in International communities. In 2003, World Summit on Information Society (WSIS) in Geneva, he gave talk in five (5) different sessions in the Summit as well as at CERN. In 2005, again, he gave a couple of talk at the World Summit on Information Society (WSIS) in Tunis on low cost wireless network and Internet telephony.

Since both WSIS events, lots of International invitations to many countries, such as, Bangladesh, Bhutan, South Africa, etc., are received to share the experiences in community wireless and VoIP based network to these countries. It surprised the Indonesian government that International communities recognized the rebellion approach to lower the Internet and telephony costs. Media pressure became quite high to government as it peaked on January 5, 2005, the Ministry of Transportation of Indonesian government signed a decree to unlicensed the 2.4GHz band. Thus, no license requirement and no fee are necessary to use 2.4GHz band.

Since then, a lot of innovation is happening in 2.4GHz. One of the interesting innovation is the low cost (US$30) Wokbolic for the neighborhood client by Gunadi in Purwakarta, Indonesia. It is basically a USB Wifi client in a PVC tubing waveguide with cooking wok as the parabolic reflector. Onno helps spreading this amusing technology to the public at http://opensource.telkomspeedy.com/wiki/index.php/Wajanbolic_e-goen. It is not surprising today, we see around 2000-3000 new installation of outdoor WiFi node / month. It is approximately around US$60-100.000 / month of business. To fulfill the high demand of wireless equipment, several local WiFi manufacturer is growing, such as, UFOakses http://www.ufoakses.co.id.

Internet and open source education in the early stage would be key to Indonesian capacity in ICT. In 2008, funded by the Ministry of Research and Technology, he led a couple of ICT writers to write e-books on ICT both Internet technology and open source software for high schools in Indonesia. On 28 October 2008, the ICT as well as other e-books are published on the Web at http://www.bse.depdiknas.go.id and http://bse.telkomspeedy.com and consuming more than 10% of Indonesian Internet bandwidth. Roadshows in 12 different cities has been organized to enlight more than 3000 teachers on ICT. We hope to see 30 million students acquainted with open source and the Internet.

Today, we see more than 10 million Indonesian on the Internet through many Neighborhood networks and more than 4000 cybercafes in the country. Free telephony over the Internet is becoming a lifestyle with more than 70.000 subscribers mostly corporate and neighborhood networks. To push the society forward, more than 30 million Indonesian students will be exposed to Internet and open source. It is our dream and hope to see the dawn of knowledge based society in the future Indonesia.

References:

1. http://www.idrc.ca/en/ev-89751-201-1-DO_TOPIC.html (English)
2. http://id.wikipedia.org/wiki/Onno_W._Purbo (Indonesian)
3. http://opensource.telkomspeedy.com/wiki/index.php/Onno_W._Purbo (Indonesian)
4. http://opensource.telkomspeedy.com/wiki/index.php/Sejarah_Internet_Indonesia (Indonesian)