The AHTIC IXP

Emergency response update

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The Internet Infrastructure before the Earthquake

- International bandwidth:
  - 1Gb capacity going through the Dominican Republic (wireless OC3 links)
  - 10Gb submarine cable in Port-au-Prince coming from Bahamas
  - 300Mb of pre-Wimax installed and 45Mb of Wimax installed
- 4 ISPs running WIMAX networks and other wireless technologies
- 3 mobile operators (2 GSM and 1 CDMA) for a total of 3million mobile subscribers on a population of 9 million
- The incumbent TELECO in the process of “recapitalization”. The offer of VIETEL has been retained
- About 60.000 Internet users

The Internet Infrastructure before the Earthquake (cont..)

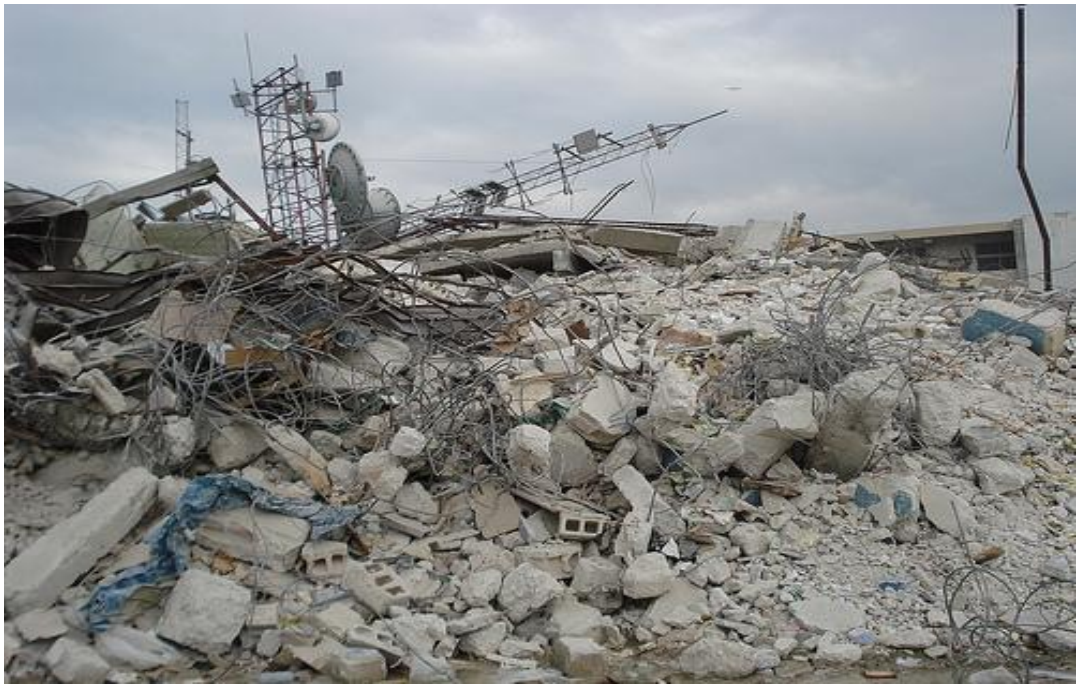
- An Internet Exchange Point (IXP) operational since May 6, 2009
- Currently, all 4 ISPs are connected to the Exchange
  - 2 are connected via a fiber optic link
  - 1 reaches the IX location by a radio link then connect via Ethernet
  - 1 connects via Ethernet (because it is close to the IX switch fabric)
- The IXP is a result of a cooperation between theNetwork Startup Resource Center at the University of Oregon and the local ICT Trade Association (AHTIC)

The Internet Infrastructure before the earthquake (cont…)

- The management of the .ht domain is done locally since the “redelegation” to a local organization in 2004
- The DNS servers are scattered on three different continents and we are using a shadow master outside the country

January 12, 2010 4:53

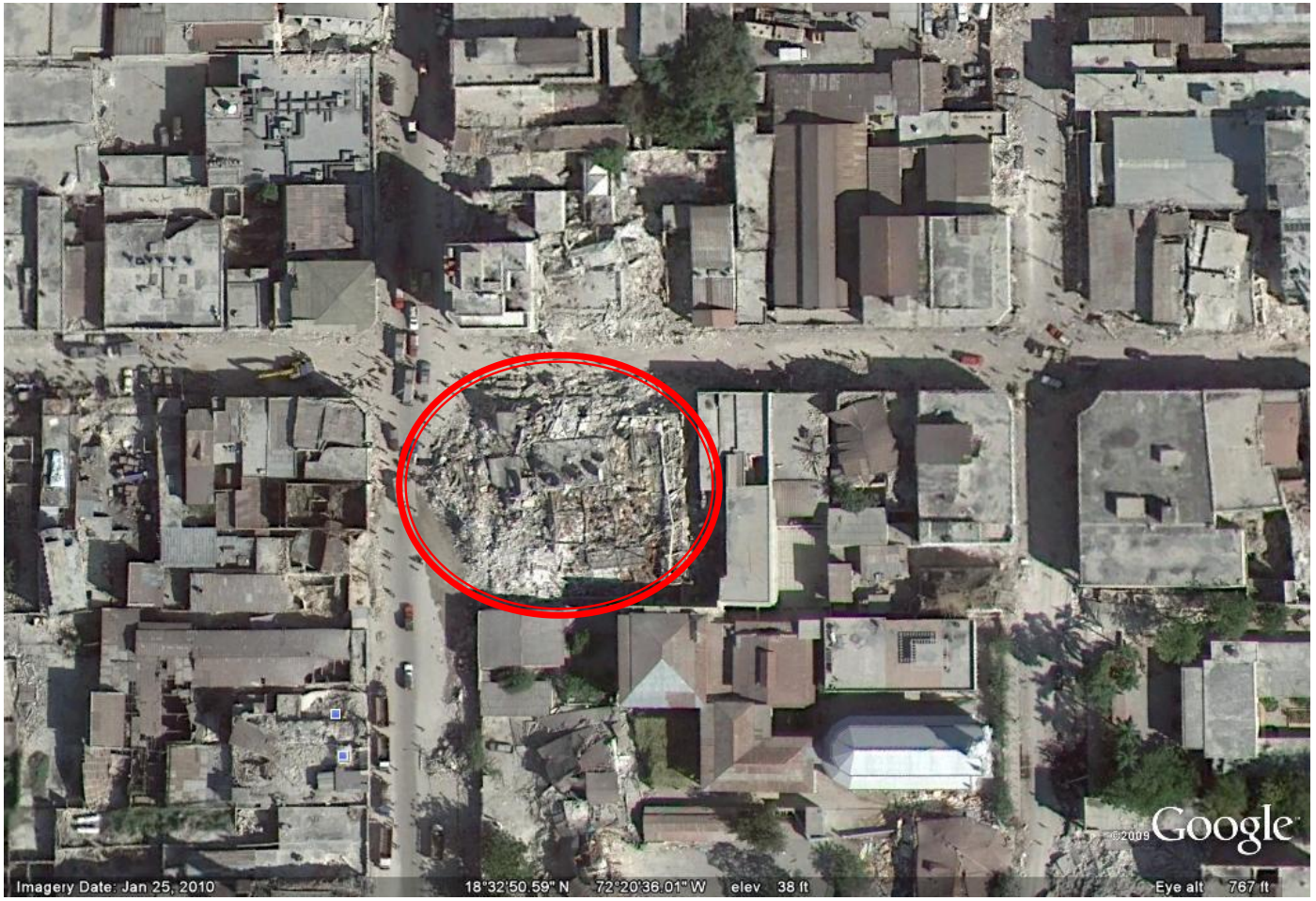
- At 16:53 the Earthquake strike
- The incombent TELECO NOC collapsed



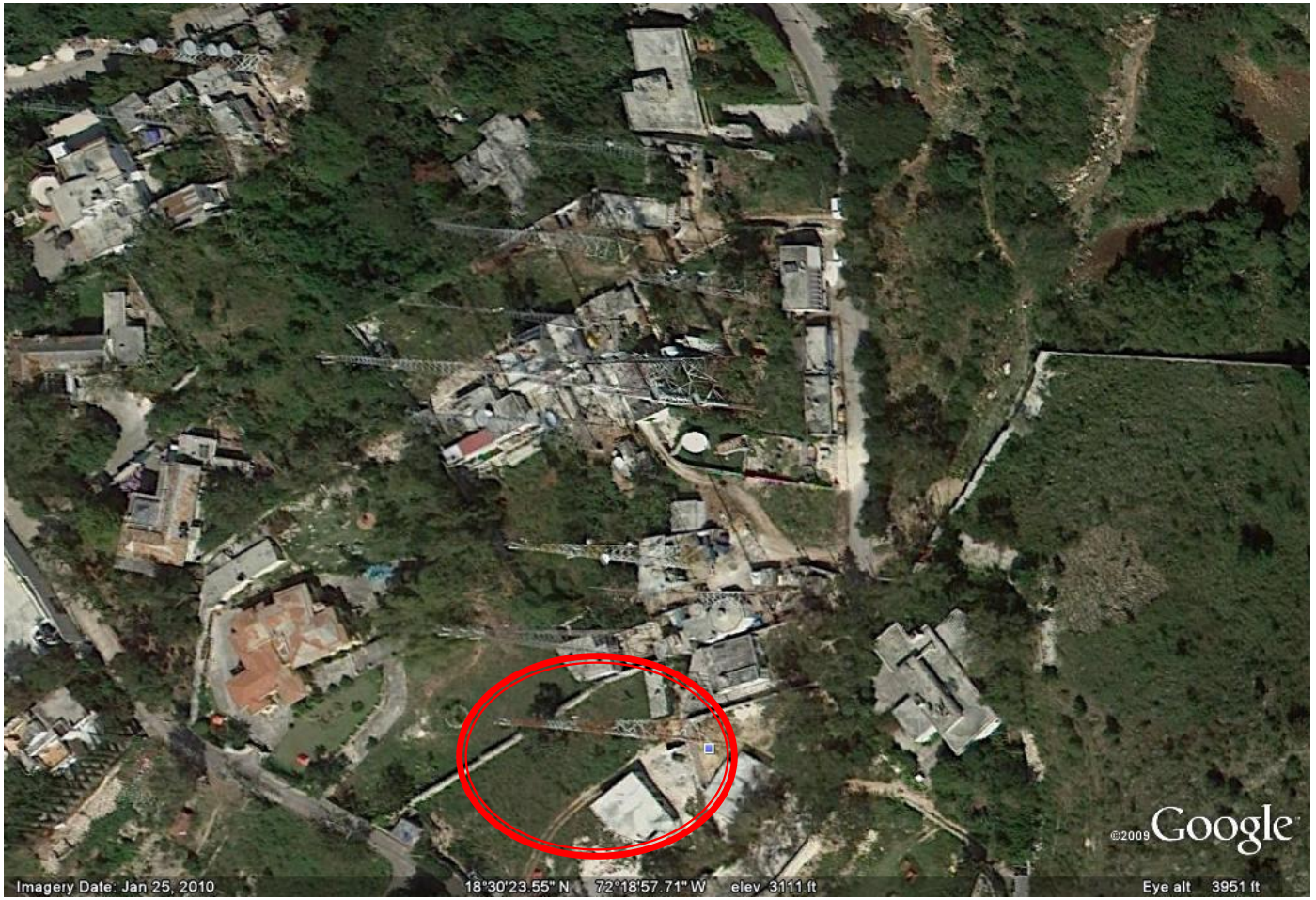
After the quake

- Due to the destruction of base stations and cell towers, telecommunications were badly hit, mobile operators the worse, with limited service
- But the core Internet infrastructure survived, as well as the IXP
- Because of the extensive use of wireless technologies, telecommunications were restored rapidly ISPs had lost about 40% of their clientele and have regained about 20%
- It is believed that their capacity has been restored at 98%; but some glitches still remain
- Congestion at peak hour from an operator to another

Google Earth Image



While the IXP resisted



The role IT played during the earthquake

- Thanks to its distributed architecture and coordinated intervention of the ICANN community and .ht managers, the .ht domain service neverstopped working
- The IXP never stopped working during the quake but:
  - 2 ISPs will have their fibers cut during the aftershocks.
  - Communications still effective between 2 of them (Alpha Communications Networks and Multilink
  - Traffic drops from 2 Mb to only 128 kbps
  - 1 fiber (ACCESSHAITI) is already fixed and will be re-connected by the end of this week
  - Ongoing work with HAINET to get the second fiber fixed

The role IT played during the earthquake (cont…)

- People was able to send messages from their cellphones while under rubbles
- Messages on Facebook posted by people who were receiving SMS messages from friends and families texting under the rubbles
- Stephane Bruno started collecting those messages, and with the help of Steven Huter from NSRC, relayed them to State Dep. which in turn sent them to rescue workers on the field (http://bit.ly/a2nlaW)

Lessons learned and Perspectives

- The earthquake has emphasized the need to decentralize The paralysis of the State and the Public Administration that relied on paper created awareness on the necessity to modernize and to use more technology in the management of the State
- A lot of money is being poured into the country and the international community will team up with nationals for the management of those funds
- The ICT task force leaded a project with IDB to equip the public administration with an information system where services can be “plugged in”, with an emphasis on mobile applications

Lessons learned and Perspectives

- Time to develop local contents and local hosting market.
- Implement geographically distributed systems
- Exploring and exploiting the potential of other big cities like Cap Haitian, Jacmel among others
- Building more resilient and more stronger infrastructure
- Ongoing discussions NREN fiber initiatives

Recovery initiatives

- The landing station for the undersea cable was completely destroyed. However, VIETEL which was concluding the deal to invest in TELECO, stated that they are still interested and the deal has gone forward
- VIETEL will restore the landing station to put the cable in service again
- VIETEL will install about 5.000kms of fiber optic network in the country within a year or so (as stated by the CEO)
- A second cable is said to be brought to Haiti Currently, operators are considering creating a consortium to manage a second cable
- Convincing the big operators (Digicel, Voila, Viettel) to join the IXP

Recovery Initiative

- Adopt-an-haitian-Internet-technician-or-facility inspired by Eric Brummer Williams
- Supportive words from LACNIC colleagues,
- An anycast F-Root Server will be soon installed in the IX
- Thanks to Roque Gagliano, Raul Echeverria, Francisco and all of you that have worked to make it happen.

Thanks in the Relief effort & Recovery Initiative

- Fuel aid coordinated online on the Nanog list (Thanks to Eric Brummer)
- My family evacuation to Miami facilitated by friends on the Nanog list
- Stephane hurt nephew evacuated with the help of Dominican regulators
- Tents for technicians family provided by Google, Intel, NSRC (Thanks to all the contributors like Vint Cerf, Steve Huter, Jose Dominguez and all the others)
- Initiative to protect the local ISP's and help them back to business with the ISP locator communications services sponsored by Google, NSRC, AHTIC

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Merci
Thank you
Gracias

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