

Philippines Internet Journey



From the '90s to today

Philip Smith

(then CTO Consulting Engineer @ Cisco)

(now Senior Network Engineer @ NSRC)

Background

- ❑ Started my own Internet journey at University of Aberdeen
 - Ethernet infrastructure in the Physics & Engineering Departments in the late 1980s
 - IP connectivity for my PhD research lab (between workstations, then joining the initial campus IP over X.25 link)
- ❑ Joined PIPEX (UK's first commercial ISP) in January 1993
 - Rapid growth (20 customers when I joined, >150k when I left, plus merged into the UUNET/MFS/Worldcom conglomerate)
- ❑ Joined Cisco in January 1998, moved to Australia...
 - Corporate Consulting Engineer, tasked with improving the global Internet infrastructure and improving Cisco's awareness internally about Internet technology and operational needs



And then this happened:

- Arrived in Brisbane on 8th February 1998
 - First overseas trip – go to APRICOT they said!
 - APRICOT'98 in Manila
 - Monday 16th to Sunday 22nd February 🤔🤔
 - Feet had barely touched Australian soil, and the career of helping “make the Internet work” had started...



The screenshot shows the APRICOT'99 website with a header banner for the 'Asia Pacific Regional Internet Conference on Operational Technologies' held in Singapore from March 1-5, 1999. The left sidebar contains a navigation menu with links: About APRICOT, New! APRICOT'99, Schedule of Events, Sponsorship, Tutorials, Conference, "Birds of a Feather", Philippines, Hotels, Registration, Apricot 1997, Apricot 1996, About Makati, and Tours. The main content area is divided into sections: 'APRICOT 1998 PARTNERS' featuring logos for APNIC, APJA, and UNDP; 'Diamond Platinum' sponsors including Digital Equipment Asia Pacific Ltd. and Cisco Systems; 'Platinum' sponsors including Cisco Systems (USA) Pte Ltd, Manila Bulletin Publishing Corporation, MecklerMedia, and Philippine Long Distance Telephone Company (PLDT); and 'Diamond Gold' sponsors including Ascend Communications and A-Bone Asia Internet Holding Co., Ltd. The footer notes the website was last updated on 11/9/1998 and credits Mindgate Systems Inc. for web design and creation.

APRICOT 1998 – Shangri-La Makati Manila

From JV Villareal <joyvilla@iphil.net> @
To ama@tirad.herrera.iphil.net @
Subject **PROMOTE YOUR COMPANY INTERNATIONALLY ... BE AN APRICOT LAPTOP BAG SPONSOR!**
User agent QUALCOMM Windows Eudora Light Version 3.0.2 (32)

Greetings ... Mabuhay from the Philippines!

As we all know ... the much-awaited APRICOT 98 is drawing nearer. The excitement of being able to meet up close and personal the pioneers of the Information superhighway is heightened. Exchange of ideas and expertise will definitely make a difference in the Asia Pacific Rim. This rare occasion in the Philippines must never be missed... and so we are inviting you to partake in this undertaking by choosing to be a sponsor for APRICOT 98 official laptop bags to be given to almost a thousand delegates from different countries.

The specifics are as follows:

ITEM:	APRICOT 98 Laptop Bags
QUANTITY:	800 pcs.
DESCRIPTION:	
COST PER BAG:	P170.00 (\$ 4.00 – conversion rate: P42.00 / \$ 1.00)
TOTAL AMNT:	P 136,000.00 (\$3,238.00)

PROMOTIONAL ADVANTAGES:

- * You can promote your company logo and contact nos. outside the laptop bag
- * you can insert your collateral materials inside for promotions

Silver sponsors contribute US\$5,000 Sponsorship provides: (this one converted to P42.00/\$1.00)

"Logo positioning and sponsorship mention in banners, on-line/print advertising, mailings, press releases, and interviews subordinate to GOLD and PLATINUM sponsors.

"Approximately two sq. meters table space to place product information.

"One (1) complementary conference registration.

"Four (4) complementary exhibition passes

APRICOT '98 will be the third staging of the Asia Pacific Regional Internet Conference on Operational Technologies, an annual event underwritten by the Asia Pacific Network Information Centre (APNIC), the Internet registry for the Asia and Pacific Rim region. The first APRICOT, which was held in Singapore, gathered 280 participants from 18 countries. APRICOT '97, hosted by Hong Kong, was attended by 630 delegates from 25 countries. This year, APRICOT '98 is expected to attract some 800 Internet engineers, managers, entrepreneurs, and decision-makers, not only from the region but from around the world.

Some of the most-reknowned experts are coming to Manila to share their expertise to participants: John Gage, director of Sun's Science Office; Henry Chasia, asst. secretary-general of the International Telecommunications Union; Scott Bradner, creator of Harvard University's "Bradner Tests" for routers and switches; Ira Magaziner, President's Clinton's Information Technology policy adviser, and many more!

APRICOT's primary mission is to develop and advance the skills and understanding necessary to grow a robust Internet infrastructure in the Asia-Pacific region. To do this, APRICOT '98 will offer content-rich seminars, workshops, tutorials, conference and birds-of-a-feather sessions, and an exhibit where you can meet -- and learn -- from your peers as well as from some of today's brightest Internet gurus. Pls. let us know as soon

Networkingly yours,

Ms. JV Villareal
Marketing Communications Associate
IPhil Communications Network Inc.
A Local Organizing Committee, APRICOT '98

116 Herrera St. Legaspi Village
Makati City Philippines
Tel.: (+632) 7502288 / 7504946; Fax: (+632) 7504946
e-mail: joyvilla@iphil.net

From
Barry Raveendran Greene <bgreene@cisco.com>

Reply
Reply All
Forward
Archive
Junk
Delete
DKIM
More

To

3/2/1998, 13:02 +0800

Subject
APRICOT ShowNet/Terminal Room Update

Hello All,

[If you see things missing, please jump in and point them out. If you see an area where you can help, also please jump in and volunteer.]

As far as I know, Dave and Joanne has gotten the hotel for a Sunday setup. External bandwidth might be able to go up sooner. So please make Sunday off on your calendar.

1. Gary Mensenares <jug@tirad.herrera.iphil.net> has volunteered to be the ShowNet coordinator. He'll be our central point of contact and will be ticking off the action items and making sure he's got people covering everything. Gary and I will work together to get the list of actions and get volunteers assigned to work on them.
2. Bandwidth Status. We are getting 2 x E1s from a Teleglobe/Intelsat/POTC/PLDT circuit. The satellite circuits will terminate in PHIX (the only IXP in the Philippines). This is in the PLDT facilities across the street from the hotel (make it really nice to have PLDT across the street). The a router will be in the PHIX facilities and connect to the PHIX for local connectivity. 2 x E1 will go from the PHIX router to the room in the hotel. V.35 will be used for all termination.

URGENT ACTION ITEM: We need to name of the room in the hotel sent over to PLDT ASAP so they can complete the order.

3. Equipment. We've got three groups lending equipment for APRICOT - Cisco, Digital, and a local vendor that Gary is working with.

Cisco. Here is a list of what I just shipped up:

Cisco 3640	s/n 364007218	for PHIX
Cisco 3640	s/n 364007206	for hotel termination
Cisco 3620	s/n 362007483	extra
Cisco 3620	s/n 362007485	extra
Cisco 2514	s/n 25980813	PHIX Route Reflector
Cat 1900	s/n WS1900CJ7012746	PHIX
Cat 1900	s/n WS1900CJ7012765	Terminal Room
Cat 1900	s/n WS1900CJ7011868	Terminal Room
Cat 1900	s/n WS1900CJ7011873	Exhibitor area.

The 3640s are for the 2 x E1 - one in PHIX, the other in the hotel. They each have 4 ethernet ports and 4 high speed serial ports. The 3620s are extras just in case. The 2514 will be used as a route reflector at PHIX along with one Cat 1900 (if needed). Each Cat 1900 has 24 ports and a uplink 100 meg port (either fiber or copper interfaces). There are a couple of MicorWeb server to be used for logging, configs, or other misc things.

Digital. Still awaiting the details. Hope to get something today (Tuesday).

Local Vendor. Garry and JR got a local vendor to commit to least 30 Intel Pentium 166's, two 24-port linkbuilder hub and a SuperStack 3000.

So it looks like we have plenty of ethernet ports and some PCs to get us started. If Digital falls through, I may be able to get a Sun Sparc send up from Singapore. Otherwise we can load up LINUX on one of the PCs for a DNS/DHCP server.

4. Cabling. Ethernet Cabling is the major priority. I through in about 15 ethernet cables in the anvil case going up to APRICOT. We need to source for cable.

ACTION. Gary or JR, we need measurements in the hotel of how much cable we need.

ACTION. Gary or JR, we need to know if we can source for cable locally or get it somewhere else.

Note: We were going to ask Datacraft to throw in cable as part of the "barter" arrangement for sponsorship. Did this ever get closure?

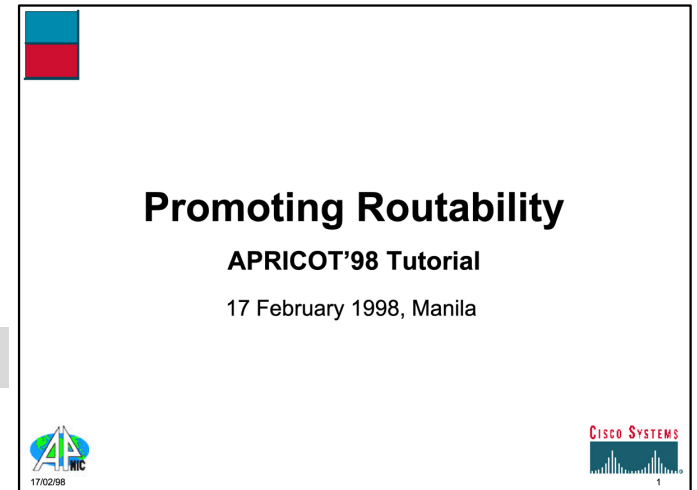
5. Services needed. As a minimum, we need a DNS/DHCP server. Do we really need anything else? We've not talked about Mbone much this year. We could if Digital come through with the workstations. But Mbone is not critical at this point.

6. Other items?

APRICOT 1998 – IRR training

- ❑ The Internet Routing Registry was already used extensively (*de facto* standard) in Europe (RIPE NCC service region)
- ❑ APRICOT request (David Conrad?):
 - *Please present about routing hygiene, especially the IRR*
 - Co-presented with Anne Lord (APNIC)
 - Our PIPEX/UUNET experiences shared
 - Was this the start of my concern/interest in routing good/best practices?

https://bgp4all.com/pfs/_media/conferences/apricot1998-promoting-routability.pdf



APRICOT 1998 – Takeaway

Key takeaway from APRICOT 1998 presentations
(from my report to my group @ Cisco)

Exchange Points reports in AP region

- HKIX: 42 members, 7507 as route server, multilateral peering, but not obligatory. T1 to T3 speeds, and ATM, Cat 5500 switch.
- JPIX - 2500 ISPs registered in Japan, 1200Mbps Internet b/w from Japan to mostly US. 3 WIDE-project IXPs for research orgs, JPIX and MEX commercial exchange points. JPIX started in 11/97 - owned by major players in Japan.
- APJII - Indonesian exchange, 34 ISPs, in 3 locations
- PhIX - Philippine exchange, 5 ISPs.

First "IX" in Philippines

From mailer@cisco.com @

To philsmit@cisco.com @

18/2/1999, 18:40 -0800

Subject **Welcome to ph-ixchange**

--

Welcome to the ph-ixchange mailing list!

If you ever want to remove yourself from this mailing list,
you can send mail to ["mailer@cisco.com"](mailto:mailer@cisco.com) with the following command
in the body of your email message:

unsubscribe ph-ixchange philsmit@cisco.com

Here's the general information for the list you've
subscribed to, in case you don't already have it:

[Last updated on: Sun May 18 22:28:40 US/Pacific 1997]
This list contains the members of the Philippine Internet Exchange Forum (IXChange). It
also contains the names of the Philippine Cisco local support and consultants.

Reply Reply All Forward Archive Junk Delete DKIM More

From Gary Mensenares <jug@ipphil.net>

To Barry Raveendran Greene <bgreene@cisco.com>

11/3/1998, 19:09 +0800

Cc 'PHIX Mailing List' <ph-ix@ipphil.net>, 'Arpakorn Boonkongchuen (Cisco)' <aboonkon@cisco.com>, 'Philip F. Smith (Cisco)' <pfs@cisco.com> [MORE](#)

Subject **Re: [ph-ix] PHIX - BGP Peering Update?**

I was talking to Nereo Gramonte <negra@mn1.sequel.net> about ditching the Microsoft NT box installing Red Hat 5.0 instead. We could run run MRTG from there to monitor everyones traffic. In addition I am proposing we run snmptrapd and make an instant mail notification system when a link goes down. I am also understand that the source code for the digex looking glass is available. We can throw this in so that everybody would know what the routes look like from the IX point of view. IPhil can provide the software and help install the thing. He said he will discuss it with Roy and get back to me.

Now regarding monitoring the IX, I am unable to monitor the other peers. I dont mind doing so should they request it, at least until the Linux server gets installed. But I did begin to monitor mine.

I found out that the link is not use from 12 midnight to 8AM. But I guess this is okay since my international traffic is at its lowest from 1AM ot 6AM and then climbs back up again. But what bothers me is that, based on my graphs, I am peaking at 8kBytes. 8kB converted is actally just 64kbps. But my line to PHiX is supposed to be a 512kbps. Furthermore, I have packet discards during the times that I am maxing out. I have something like 4kBps at most of discards. That is 24kbps!

Hmm... What seems to be going on? Am I really 512kbps to the PHiX?

Sincerely,

Gary Mensenares <jug@ipphil.net>	Network Engineering Group
Consulting Engineer	IPhil Communications Network Incorporated
http://www.iphil.net/~jug	5th Floor, ALSCO Building
Phone: +63 2 750 2288	116 Herrera Street, Legaspi Village
Fax: +63 2 750 4947	Makati, Philippines

Second visit – ISP/IXP Workshop in April 1998

CISCO SYSTEM'S ISP/IXP BACKBONE INTERNETWORKING TECHNOLOGY WORKSHOP

Cisco System's ISP/IXP Workshops are designed to provide an empowering learning environment. They provide a combination of lecture, white papers, books, and hands-on laboratory exercises all focused to teaching the participants how to design, scale, and maintain a production Internet Service Provider backbone.

Who should attend: Technical staff who are now or soon will be building or operating a wide area TCP/IP base Internet Service Provider (ISP) network or Internet eXchange Point (IXP), likely with international and/or multi-provider connectivity.

Prerequisites: Cisco IOS Fundamentals; user level UNIX and maybe some system administration; some use of network design, preferably TCP/IP-based.

What you will learn:

- ❖ Techniques for design, setup, and operation of a metropolitan, regional, or national ISP backbone network. This includes the advanced OSPF, IS-IS, BGP4, policy based routing configurations.
- ❖ IOS Essentials every ISP should be doing. The hidden secrets that all key NSPs have been using for years, but not telling anyone (i.e. competitive advantage).
- ❖ Techniques for multiple connections to the Internet (multihoming), including connections to IXPs, NSP, and oceanic links to the Internet.
- ❖ Techniques for the design, setup, and operation of metropolitan, regional, or national IXPs.
- ❖ Detailed knowledge of routing, network troubleshooting, routing protocols, domain name system, NIC name and address coordination.

Typical agenda of the four day workshop looks something like:

Day 1 - ISP Network & Routing Architectures

- Lab
- Q&A

Day 2 - Multihoming to the Internet and IXPs

- Lab
- Q&A

Day 3 - Internet eXchange Points - Design, peering, security.

- Lab
- General time for extra talks and Lab
- Q&A

Day 4 - More Labs, Case Studies

- IOS Essentials
- ISP Security
- Q&A

Each class is different and tuned to the participants requirements.

Workshop Details:

When: 21st April - 24th April from 0900 until very late

Where: New World Hotel, Philippines (Board Room 7 & 8)

How Much: PHP2500 payable to Cisco Systems (HK) Ltd.

Contact for Reservations: Kathy Roxas, Cisco Systems Malaysia, Tel: (632) 751-2222, Fax: (632) 751-4444, E-mail: kathy@epic.net

Hotel Arrangements: New World Hotel, Makati Philippines. Tel +632 811-6888 (Participants can take advantage of the Cisco Systems Corporate rate if you call Kathy to book the room for you).

~~~~~ Cut Here, Fill in, and E-mail to Kathy Roxas <[kathy@epic.net](mailto:kathy@epic.net)> ~~~~~

Cisco System's Philippines ISP/IXP Workshop 21 April - 24 April

Name:

Company:

Address:

Country:

Tel:

Fax:

E-mail:

Any Specific Requests:

~~~~~  
Instructors: Arpakorn Boonkongchuen & Philip Smith

Second visit – ISP/IXP Workshop in April 1998

To 'pfs@cisco.com' <pfs@cisco.com> @

Subject **Manila Sun 19Apr'98**

User agent Internet Mail Service (5.0.1459.44)

19 APRIL 98 - SUNDAY

		CONFIRMED
QANTAS AIRWAYS	FLIGHT NO: QF513	ECONOMY
DEPART: BRISBANE	AT: 0840	MEAL SERVED: REFRESHMENT
DEPART: DOMESTIC		
ARRIVE: SYDNEY	AT: 1010	AIRCRAFT: BOEING 737 400
	ARRIVE: QANTAS DOMESTIC	
	NON-STOP	

SMITH/P MR

		CONFIRMED
QANTAS AIRWAYS	FLIGHT NO: QF19	ECONOMY
DEPART: SYDNEY	AT: 1125	MEAL SERVED: MEALS
DEPART: INTERNATIONAL TERMINAL		
ARRIVE: MANILA	AT: 1730	AIRCRAFT: BOEING 767 300
	ARRIVE: INTERNATIONAL TERMINAL	
	NON-STOP	

SMITH/P MR

EXIT ROW SEAT 35D RQSTD - ARPT CKIN

From Arpakorn Boonkongchuen <arpakorn@cisco.com> @

To 30/4/1998, 14:06 +0700

Cc

Subject **Summary: ISP/IXP workshop in Manila, April 21-24, 1998**

User agent QUALCOMM Windows Eudora Pro Version 3.0.2 (32)


Hello everyone,


Last week, I and Philip Smith conducted another ISP/IXP workshop with hands-on lab in Manila, Philippines. Thirty four attendants from more than 10 ISPs participated. The session went well with good response from the attendants. Again, getting the equipments into the country proved to be the most difficult task.

After many mistakes by various parties we didn't get anything by Tuesday afternoon so we switched to a backup plan of asking our in-country partners for some loaners. Rio valiantly pulled this off by calling various partners, i.e. Olivetti, Fujitsu, Datacraft and some others, and each contributed two or three routers to make up for most of the lab. For the rest, a few customers brought their own router and extra routers to class (we promised to give them free upgrade 😊). To say the least, I'm very impressed by the friendliness and sense of community of the Filipino.

About class, I think it is the best ever due to the fact that both I and Philip actually spent time on improving the lab material after the Bangkok workshop. We decided to teach and conduct the lab slower to accomodate beginners (which invariably will be some among the attendants) and to make it very clear to the attendant what they should be seeing. The advanced users benefit from learning new tricks and tips, and more explanation/clarification of cisco commands and features. Even with that in mind, I think we should require cisco CLI experience as a pre-requisite for the class.

One area that we would have to improve is getting the equipment in and out of the country. Borrowing routers from partners is not a viable option in all countries. Depending on the country, we might have to allow at least one month of shipping time before the workshop.

From Oscar O. Visaya <ovisaya@cisco.com> 

To pfs@cisco.com 

23/3/1999, 18:09 +0800

Subject **Internet Exchange Questions**

User agent QUALCOMM Windows Eudora Pro Version 4.1

hi philip,

i'm working on an Internet Exchange Project for a telco customer (ETPI/Cable Wireless). ETPI wanted a layer 3 design for the IX network. Some of the concerns raised are:

- 1) how will i connect the existing Internet Gateway Service to the IX?
- 2) For my existing Internet Gateway customers, will i provide them FREE access to the IX? (Reason is BW savings for local traffic)
- 3) What's the disadvantages/advantages of Layer 3 and Layer 2 architectures?
- 4) the project has a budget and implementation date starts May 1999 (just in time for the ISP Seminar in Manila)
- 5) Any design sample for an IX with 10-20 ISP customers?

Their existing ISP network consists of 6 7200s and 1 7513.



Any inputs will be highly appreciated. And if possible, can i also create a mailing list for them?

thanks in advance.

oscar

May 1999 – ISP/IXP Workshop

- Third visit was in May 1999, to teach an ISP/IXP Workshop at the Dusit Hotel Nikko
 - Dialup to Cisco Ph office for Internet – 16800 bps modem bank only, Cisco office has 128k leased line.

From: Oscar O. Visaya <ovisaya@cisco.com> 
To: Philip Smith <pfs@cisco.com> 
Subject: **Re: CEF or Orion 4000**
User agent: QUALCOMM Windows Eudora Pro Version 4.1

hello philip,

You may use this local access no. to get to www.cisco.com:

7525730

Thank you for coming over and i'll surely need to talk to you next week.

welcome to the Philippines...

oscar

From: Philip Smith <pfs@cisco.com> 

To:

27/5/1999, 10:55 +1000

Cc:

Subject: **Philippine ISP Workshop Report**

User agent: QUALCOMM Windows Eudora Pro Version 4.1

Hi everyone,

Last week (17th to 21st May) we ran the second ISP/IXP Workshop to take place in Manila, the Philippines. A total of 28 delegates attended the 5 day event.

I presented this workshop with help in the hands on lab throughout the week provided by Cocoy Claravall. Oscar Visaya provided useful help when he was available. Caryl Villanueva, the Marketing Communications Manager for the Philippine office, gave valuable support throughout the week – this was greatly appreciated and ensured the smooth operation of the workshop from start to finish.

The workshop was held in the Dusit Hotel Nikko, in Makati City. The room was slightly smaller than the specification but turned out to be entirely suitable. Facilities were good and well prepared by the hotel staff. Refreshments and lunch were provided each day.








Those of you who remember the unfortunate problems we had with extracting the equipment from Philippine Customs last year will have a sense of deja vu now. Even allowing for 7 weeks transit time between Bangkok and Manila, the workshop equipment still ended up stuck in Customs. A lot of hard work and much time was put in by Caryl and others, and the Cisco agent, in trying to extract the equipment. The cause this time was a mix up with another Cisco shipment in Customs, but it meant that desperate measures had to be employed again to make sure the hands-on aspect of the workshop happened. In the end Cocoy was able to strip the field lab, plus several attendees contributed routers ranging from 2501s up to 7200s. We had a full workshop operating by Wednesday morning.

Second ISP/IXP Workshop in Manila

□ The 1999 workshop participants:

- Where are they now? 😊

- joseph b. andres - fapenet
- maron abao - philonline
- jhun hubac - philonline
- cornelio migule montalbo - iphil communications
- philip roy sanchez - iphil communications
- jonathan mooney - netgazer
- robert yumul - america online
- sonny bobis - data stream inc.
- lawrence co. - worldtouch tech
- cris arenas - philworld
- ronald costales - philcom corporation
- robert manalo - eastern telecoms
- crispin apostol - eastern telecoms
- rafael dantes - pldt
- carlos angeles iii - pldt
- amante alvaran - globe telecom
- armando lagunilla - globe telecom
- roland marasigan - infocom
- terence bogayong - cyberspace
- froilan mendoza - tridel tech.
- arminda c. cruz - net surfers club
- sergio maranan - bayantel
- paul padilla - impact information systems
- raul eugenio - sky internet
- erik elman - webscape philippines
- aio villagrancia - worldtelp

From Oscar O. Visaya <ovisaya@cisco.com> 
To rllamas@globe.com.ph  19/5/1999, 10:30 +0800
Cc ncoronel@cisco.com , j.romero@globe.com.ph , mithila@globe.com.ph , medel@globe.com.ph , pfs@cisco.com 
Subject **The GIX**
User agent QUALCOMM Windows Eudora Pro Version 4.1

hello robin,

here's the issues raised and discussed during the meeting with Philip Smith last Night:

1) GNET ISP Business Opportunities

- Transit Service (Premium and Standard)
- Web Hosting
- Dialup/VPDN
- Cached Access
- Usage Based Billing

2) GNET ISP Technical Requirements and Options

- Co-located Router in the US – design and considerations
- Satellite Infrastructure for Standard Service
- Leased Line Infrastructure for Premium Service
- CAR, WRED features and limitations
- IMA features and limitations
- Caching design considerations
- Usage Collection

From Philip Smith <pfs@cisco.com> @

To

31/5/1999, 16:01 +1000

Subject **May Monthly**



User agent QUALCOMM Windows Eudora Pro Version 4.1

ETPI:

18th and 20th May – meeting with ETPI (Eastern Telecom, part of C&W and customer of the CWIX, that mis-named US exchange point run by C&W) and local Cisco Philippines team to discuss redesign and expansion of ETPI's IDS (Internet Direct Service). Also discussed the establishment of an exchange point in the Philippines, and the merits of an L2 versus L3 exchange. Aside from internal politics (two BUs both wanting to operate ISPs), this was a chance to provide ETPI with the means to provide a quality service to their customers, and provide an open exchange point which will encourage the further growth of the Philippine Internet. (I'm not convinced about competing IXs in a country, but ETPI want to provide a local connection service to attract ISPs to their International service. IX seems to be a fashionable term these days.) Provided lots of input on scalable network design, transpacific connections, etc. Also insight on the design and philosophy behind the LINX in the UK.

Globe Internet:

19th May – meeting with Globe Internet who also are looking at scaling their Internet offering in the Philippines. And also want to set up an exchange point. Similar discussion to that with ETPI, again covering scalable/modular network design, transpacific connections, and Virtual Leased Lines (sigh). Emphasised that any thoughts behind implementing QoS should come after network design, and that the latter should be done with the former in mind – why is that so hard...?

From Francisco F.J. Claravall IV <fjclarav@cisco.com> 
To pfs@cisco.com 
Subject **Question ...**
User agent QUALCOMM Windows Eudora Pro Version 4.1



20/8/1999, 17:26 +0800

Hi Philip.

Would you know of a website analyzing how much graphics is in the Internet? I'm sure GIFs outnumber text, and this is what we'll use to justify why we get only 1.2 compression ratio. I just need an official study of some sort. It's near impossible to analyze how much graphics is in those http and ftp traffic ...

Thanks,
Cocoy

Francisco ("Cocoy"

From Francisco F.J. Claravall IV <fjclarav@cisco.com> 
To pfs@cisco.com , bgreene@cisco.com 
Subject **CSA Actual Stats**
User agent QUALCOMM Windows Eudora Pro Version 4.1

4/8/1999, 17:31 +0800

Hi Philip/Barry.

What is your experience w/ CSA in the 7206? We are testing this in Globe's E1 link to AboveNet, and getting the following results:

GNET-7206B#sh compress

Serial4/0:0

Hardware compression enabled

CSA in slot 5 in use

Compressed bytes sent: 271955040 bytes 286 Kbits/sec ratio: 1.092

Compressed bytes rcv: 1391701201 bytes 1464 Kbits/sec ratio: 1.221

restarts: 34

last clearing of counters: 7603 seconds

The customer is expecting 2.0 I know the type of traffic affects the ratio, but theirs is mostly web like other ISPs ...

To

29/8/2000, 11:11 +1000

Cc

Reply to pfs@cisco.com

Subject **Manila ISP Workshop Report**

User agent ELM [version 2.5 PL3]

Hi,

Last week (21st to 25th August) I ran the third ISP/IXP Workshop to take place in Manila, Philippines. Around 38 engineers representing 31 ISP customers in the Philippines attended the 5 day workshop.

I presented this workshop, with lab assistance provided by Dom Dayo. Vincent Ng led the 1 day MPLS portion of the workshop we ran on the last day. As on previous occasions, the workshop was held in the Dusit Hotel Nikko in Makati City. This was a case of third time lucky – the previous two workshops we failed, inspite of everyone's best efforts, to get the equipment through Philippines customs. This time, it all worked like clockwork, thanks to the efforts of the local team, and the shipping company Expeditors.

The workshop went really well, covering most of the 5 day's worth of materials in the first 4 days. Likewise, the MPLS portion went well, although I felt the level of understanding was probably lower than both Vincent and I expected. The skill level of the attendees was quite variable, but in general I felt that they had the right level of experience to make this workshop a valuable event. Most of the feedback I've received has been very positive.

From Philip Smith <pfs@cisco.com> @

To

29/9/2000, 19:14 +1000

Cc

Subject **Re: High-Speed Hotel Internet Access**

Don't know if anyone has, but check out <http://www.worldroom.com/>. Someone with the time and inclination could probably trawl through the list of hotels they are present at.

I've just been to Manila in the Philippines where the Dusit Hotel Nikko in Makati City is offering DSL access to the room through these folks. 400 Philippine Pesos (about US\$ 8.60) per 24 hour period. About 15kbytes per second download of e-mail through our ssh gateway, compared with about 1.5kbytes per second over the IS provided dialup in Manila.


philip

--

From Philip Smith <philip@pfs-pc.cisco.com> 

To :

14/2/2001, 12:45 +1000

Reply to pfs@cisco.com 

Subject **Manila ISP Workshop report**

User agent ELM [version 2.5 PL3]

On the week of 29th January to 2nd February I ran an ISP Workshop in Manila, Philippines. This was the second ever BGP Multihoming workshop I have run, and this one was significantly more successful than the first one we held in Bangkok.

The Cisco Philippines office carefully screened the attendees to ensure that they had sufficient ability to cope with the workshop. My recommendation is that all attendees have completed the basic ISP/IXP Workshop. A total of 34 people participated.

I presented the workshop, with lab assistance provided by Cocoy Claravall and by Dom Dayo. As on previous occasions, the workshop was held in the Dusit Hotel Nikko in Makati City. The hotel seems well versed in hosting these now, the whole organisational thing going like clockwork.

The workshop went very well, probably one of the best I've ever been to. A major difference between this one and the basic workshop is that it involves the participants much more in tearing down and rebuilding the lab. This happened at least 8 times through out the week, with the result that every router team could configure OSPF and iBGP properly and correctly by the end of the week. Even being veterans of the old workshop, most had forgotten the essential parts of IGP configuration.

We didn't cover all the materials but covered as much of them as possible to give good experience of the multihoming issues facing service providers today. I also whiteboarded many configuration examples, and will aim to add these to the materials as soon as feasible. Specifically we covered Advanced IOS Essentials, Multihoming to Same and Different ISPs, Using Communities for Multihoming, and the Overseas Collocation Module. Many errors and typos discovered, and fixed for future workshops.

Second ever BGP Multihoming Workshop

For graduates of ISP/IXP Workshop

The workshop also used my new equipment set, based around four 3620s, twelve 2611s and a 2511RJ. Using the 2600s is a significant benefit and we didn't experience any problems throughout the week. The ethernet switches had mysteriously lost their configurations but otherwise all was well.

Outside the workshop I dealt with several questions regarding multihoming and BGP configuration. Also discussed PLDT's network redesign currently under way.

PhNOG begins!

□ January 2007 ! ☺

PhNOG 1
26th

Invited as keynote speaker to the launch of PhNOG (www.phnog.org), the Philippines Network Operations Group, in Manila. PhNOG also saw the launch of Philippines Open IX, the first neutral Internet Exchange Point in the Philippines (the others being commercial transit ventures by the local telco/ISPs).

PhNOG was held on the last day of APAN meeting in Manila, in the EDSA Shangri-la. It was organised by Amante Alvaran of APNIC, who used to work for a major ISP in the Philippines, and is very much one of the leading lights in the local Internet industry now. And a former ISP workshop pupil of mine.



Republic of the Philippines
Department of Science and Technology
ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE
ASTI Bldg., UP Technopark Complex, C.P. Garcia Avenue,
U.P. Campus, Diliman, 1101 Quezon City, Philippines

January 5, 2007

MR. PHILIP SMITH
Internet Architectures Group and
Corporate Consulting Engineering
Cisco Systems

Dear Mr. Smith,

Greetings!

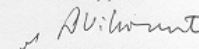
The Advanced Science and Technology Institute (ASTI) in celebration of its 20th founding anniversary and in line with the 23rd Asia-Pacific Advanced Network (APAN) meeting in Manila, is planning to conduct a tutorial on "**Border Gateway Protocol (BGP) Multihoming Techniques**" for local Internet Service Providers (ISP) and Telephone companies. This tutorial will be held on January 26, 2007 at the EDSA Shangri-La Hotel, Ortigas Business District, Pasig City.

In line with this, we would like to invite you to serve as trainer for said topic. We were informed that you have extensive experience as trainer on this topic and has worked with many ISPs in the Asia Pacific region, specifically in network design, configuration, scaling and training. As such, we believe that your knowledge and experience will be instrumental in attaining the objectives of the above tutorial.

Should you have any questions, please contact Mr. Alvin E. Retamar at (632)426-9764 or email ning@asti.dost.gov.ph.

Thank you very much.

Sincerely yours,


DENIS F. VILLORENTE
Director



Followed 10 months later by PhNOG 2

- ❑ 3-7 December 2007 at the EDSA Shangri-La (again)
- ❑ Standalone event:
 - 1-day conference
 - 4-day workshop

PhNOG 2

3rd - 7th, Manila, Philippines

This was the second installment of the Philippines Network Operators Group, started in January of this year by Amante Alvaran (ex of Globe, now of APNIC), along with Gaurab Raj Upadhaya of PCH, and me. Amante is the prime motivator of making this forum work, and he is making use of his wide range of contacts in ASTI, Globe and other ISPs to make a go of the event.

This time we had one day of conference and 4 days of workshop. I was invited to be keynote speaker at the last minute (after Martin Winter turned down the opportunity offered to him). The topic that Cisco Philippines (as major supporter) wanted was about covering Internet Infrastructure improvements and activities world wide. So I gave a public version of my Internet Infrastructure talk - <ftp://ftp-eng.cisco.com/pfs/seminars/PhNOG2-Improving-Infrastructure.pdf>). None of the talk was covered in the press, but I did manage to get my picture on the front of the business pages, a picture taken when I was in the middle of expressing my concerns about the rampant deaggregation that is facing the Internet today. Wasn't flattering.

Also in the plenary I talked about my deaggregation report in somewhat more detail (<ftp://ftp-eng.cisco.com/pfs/seminars/PhNOG2-BGP-Aggregation.pdf>) as originally scheduled. We also had talks on various local topics, covering the Philippines Open Exchange update. Plenary agenda was a



BGP Route Aggregation Best Practices

Philip Smith

PhNOG 2
3rd-7th December 2007
Manila, Philippines





Routing & Multihoming Workshop

Philip Smith & Amante Alvaran
PhNOG 2, Manila
4th-7th December 2007



Improving the Internet Infrastructure

Philip Smith
3 December 2007

From Philip Smith <pfs@cisco.com> 
To Oscar Visaya <ovisaya@cisco.com> 
Subject **thanks!**
User agent Thunderbird 2.0.0.9 (Macintosh/20071031)

8/12/2007, 18:33 +1000



Hi Oscar,

Thanks for your help this week in extracting the kit from customs. I think I bring bad luck to Cisco Philippines as yet again we end up having a customs problem.

Shame we didn't get any chance to catch up during the week though – I guess your lengthy time with customs messed up your working week sometime.

Until next time,

philip
--

From **Oscar Visaya (ovisaya) <ovisaya@cisco.com>** 
To Philip Smith <pfs@cisco.com> 
Subject **Re: thanks!**
User agent Produced By Microsoft Exchange V6.5
DKIM Invalid (No DKIM key found in DNS server)

9/12/2007, 13:05 +0800

Hi Philip,

No worries and yeah I believe it could have been better if we sorted out the customs issues. Too bad our customs is behaving this way...

Up to last Friday, I am still arguing with both EGL and Transteam our forwarder who will shoulder the 240K penalties....but this can be sorted out shortly...

Philippine IPv6 Summit – 2008



IPv6 @ NANOG, APRICOT and other places

Philip Smith

<pfs@cisco.com>

IPv6 Summit/PhNOG3

21st-22nd May 2008

Manila

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IPv6 Security

IPv6 Forum Manila
May 21, 2008

Tony Hain

IPv6 Forum Fellow

Cisco Systems Technical Leader

ahain@cisco.com

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MIT: PHILIPPINE MOVING FORWARD TO IPV6
May 21 – 22, 2008 : Sofitel Philippine Plaza Manila

ABOUT THE IPV6 SUMMIT

The IPv6 Forum Philippines in collaboration with the Philippine Network Operators Group (PhNOG), and the Advanced Science and Technology Institute (ASTI) of the Department of Science and Technology (DOST) spearhead the very first IPv6 Summit in the Philippines. The event coincides with the 3rd PhNOG Meeting.

This event will unite the Philippine Internet Community in a large-scale campaign towards promoting Internet Protocol Version 6 (IPv6), the 'next generation' protocol. The key focus of the summit is to provide a venue to promote the adoption and the deployment of the said upgrade.

During this event, key players from the ICT industry coming from the private and public sector, Internet Service Providers (ISPs), research institutions, and the academe will come together to create and promote a quality and secure New Generation Internet to enable equitable access to knowledge and technology.

21 May 2008, 9:00 am-5:00 pm AGENDA 22 May 2008, 9:00 am-5:00 pm AGENDA

- Opening Remarks**
Hon. Edgardo Angara, Senate Committee on S&T
- IPv6 Around the World**
Ladislav Lodi, President, IPv6 Forum
- Inspirational Message**
Dr. Vint Cerf, Google
- Exhaustion of IPv4**
Amarante Alvaran, Philippine Network Operators Group
- Internet and IP Converge in Asia Pacific – The ISP Implementation**
Hon-Kil Lam, IATA Communications
- IPv6 Security Implementation**
Tony Hain, Cisco Systems
- 12:00-1:00 IPV6 SUMMIT NETWORK TOPOLOGY**
- IPv6 Implementation – Home Networking**
Bruce Sinclair, Hexago/RNI
- ISP Implementation of IPv6**
Takashi Arano, IPv6 ASIAPAC Task Force
- APNIC IPv6 Initiative**
Annaliza Mulingbayan, APNIC
- 5:00-7:00 PM**
- PhNOG Meeting: BoF Session**
Amarante Alvaran, President, PhNOG
- IPv6 Adoption and Approach**
Security Coordination Process
- Internet Routability Issues**
- Philippines Moving Forward to IPv6**
Sec. Ray Anthony Roxas-Chua III
- Migrating to IPv6 – Implementation to Mobile and Fixed Networks**
Marc Blanchet, Viagrange
- Status of IPv6 Deployment in Asia Pacific**
Dr. Sureswaran Ramadass, Malaysia
- Li Dong, China**
Takashi Arano, Japan
- Geng-De Tsai, Taiwan**
Joabum Kim, Korea
- Panita Pongpatboon, Thailand**
- PRESS CONFERENCE (12:00-1:00) w/ francis**
- ASIAPAC Status Report**
Geng-De Tsai, Taiwan
- Dr. Sureswaran Ramadass (to be confirmed)**
- ASTI-DOST Initiative on IPv6**
Dr. Denis Villanorte
- Cecay Dideles**
- NANOG and APRICOT Experience**
Philip Smith, Cisco Systems
- Current Status of the resources in IANA's registries**
John Crain, ICANN
- The Business Case for IPv6**
Laurence Hughes, Infosecapac
- Medel Ramirez, Globe Telecom, Inc.**
- Technologies**
- Success story of Phil Navy Rep, RNI**
- Panel Discussion**

Partners

Platinum



Gold



Silver



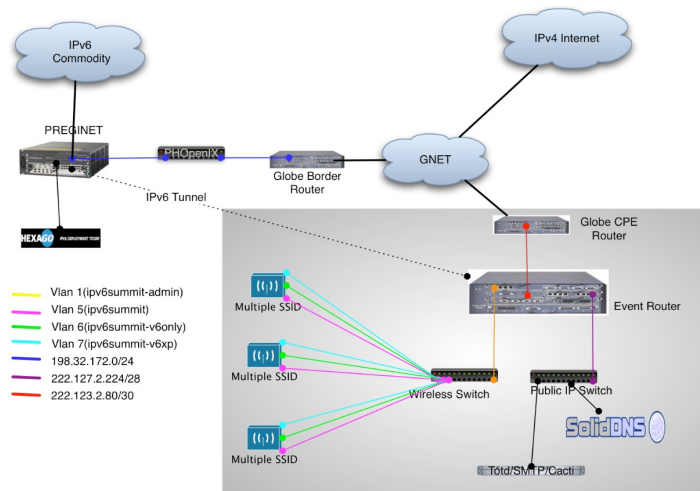
Bronze





Supporters



Combined with
PhNOG 3 (21st &
22nd May 2008)



4-byte ASN

From **Jobert David (jodavid) <jodavid@cisco.com>** 
To Philip Smith <pfs@cisco.com> 
Subject **Re: New Policy from APNIC**
User agent Produced By Microsoft Exchange V6.5
DKIM Invalid (No DKIM key found in DNS server)

7/8/2008, 18:21 +0800

From: Philip Smith [<mailto:pfs@cisco.com>]
Sent: Thursday, August 07, 2008 12:47 PM
To: Jobert David (jodavid)
Subject: Re: New Policy from APNIC

Hi Jobert,

Jobert David (jodavid) said the following on 7/8/08 13:25:

| [How does Cisco is taking this new policy from APNIC?](#)

Ummm, I've no idea really. It's not a new policy from APNIC, it has been on the cards for several years now, with the policy proposed and approved by the community 2 years ago. Cisco simply decided, against my advice at the time, that there was no business case to put 4-byte ASNs into IOS, and now we are in bad shape. Juniper has it in JunOS 9.1, and I know more and more ISPs are putting the requirement into RFPs. Next year is going to be uncomfortable, I fear.

| <http://www.apnic.org/news/2008/0725.html>

| [Any information or updates would be appreciated. Some of our Cisco](#)

| [ISPs are asking on this.](#)

And then APRICOT 2009

Thank you for coming to APRICOT 2009 Manila!

See you next year in Kuala Lumpur, Malaysia for APRICOT 2010 which will be held from February 23 to March 5 and to be hosted by PIKOM, the National ICT Association of Malaysia.

APRICOT 2009 Manila Event Summary:

- No. of attendees: 633
- No. of participating countries: 43
- No. of event partners: 29





APRICOT 2009 MANILA

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Latest News

03-02-2009	APRICOT Lecture Slides
02-25-2009	TEIN3 Philippines Launch
01-06-2009	Early Bird discount Extended until Jan 21, 2009
12-03-2008	List of successful APRICOT 2009 Fellows now available
11-21-2008	APRICOT Opens Registration
11-10-2008	APRICOT Fellowship Closed for Application
11-03-2008	Abstract of Opening Plenary Keynote Speaker Hiroshi Esaki, PhD, Professor at the University of Tokyo and latest tutorial list now open for viewing
10-21-2008	APRICOT Workshop details now available

Welcome to APRICOT 2009 Manila



APRICOT is going to Manila, Philippines on February 18-27, 2009. APRICOT 2009 will be hosted by the Advanced Science and Technology Institute (ASTI), Department of Science and Technology (DOST) in partnership with the Asia Pacific Internet Association (APIA)---the legal entity that supports APRICOT.

Learn, Interact, and Network. Be a part of APRICOT 2009. See you in Manila!

What is APRICOT?

APRICOT stands for **Asia Pacific Regional Internet Conference on Operational Technologies**. Since 1996, APRICOT had been providing a unique and successful educational forum for Internet builders in the Asia Pacific region to learn from their peers and other leaders in the Internet community from around the world...

Your address is: ::1



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APRICOT 2009 MANILA

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Agenda

18-22 February 2009 (Workshops)				
Time	Room	Topic	Presenter	Download
8:30am - 5:30pm	Panay	Network Management and NOC Workshop	Hervey Allen(NSRC), Phil Regnauld (NSRC), Chris Evans (Delta-Risk)	Download
	Leyte	VOIP Deployment Workshop	Jonny Martin(PCH), Daniel Griggs (FX Networks)	Download
	Samar	Network Security Workshop	Damien Holloway (Juniper Networks), Kunjal Trivedi (CISCO), Merike Kaeo (DoubleShot Security)	Download
	Sulu	ISP Routing Workshop using IPv4 and IPv6	Gaurab Raj Upadhaya (PCH), Amante Alvaran (APNIC), Shankar Vridhagiri	Download
	Boracay	Advanced Routing - BGP Multihoming with IPv4 and IPv6	Philip Smith (CISCO), Mark Tinka (GlobalTransit)	Download

23 February 2009				
Time	Room	Topic	Presenter	Download
9:00am – 10:30am	Luzon and Visayas Ballroom	Opening Plenary (Chair: Gaurab Raj Upadhaya)		
		Opening Ceremony		
		Welcome Address	Gaurab Raj Upadhaya (APIA)	
			Denis Villoriente (ASTI)	
		Opening Plenary Keynote Speech: Toward the Internet 2.0	Hiroshi Esaki, Ph.D. (WIDE)	Download
Local Keynote Speech: Advancing the Philippines' Internet Infrastructure		William Torres, Ph.D. (Mozcom)	Download	
APOPS Plenary I – IPv6 Ops (Chair:Philip Smith)				
APOPS Introduction		Philip Smith	Download	
IPv6 at Google: lessons learned, state of the art, and the road to deployment		Lorenzo Colitti (Google)	Download	
IPv6 at Monash University		John Mann (Monash University)	Download	
IPv6 Deployment at IJ		Yoshinobu Matsuzaki(IJ)	Download	
11:00am – 12:30pm		IPv6 Traffic levels on Hurricane Electric's backbone	Martin Levy (Hurricane Electric)	Download

2:00pm - 3:30pm	Romblon & Mindoro	Network Core Infrastructure - Best Practices	Yusuf Bhaiji (Cisco)	Download
2:00pm - 5:30pm	Sulu	Introduction to IPv6	Kurtis Lindqvist (NetNod)	Download
	Boracay	BGP Techniques for Service Providers	Philip Smith (Cisco)	Download
	Panay	Internet Routing Registry Tutorial	APNIC Training Team	Download
4:00pm - 5:30pm	Romblon & Mindoro	Layer 2 Attacks and Mitigation Techniques	Yusuf Bhaiji (Cisco)	Download

More recent familiar names appearing as workshop instructors, tutorial presenters, and conference speakers



Fast forward

- By the time APRICOT 2009 was taking place in the Philippines the Internet landscape had modernised significantly
 - Even if temporary import of equipment was still a nightmare
- Development continued apace over the following decade
 - More ISPs, country-wide Internet coverage, new IXP locations
 - Improved hotel Internet for guests (always a good metric for domestic Internet growth)
 - Mobile networks offering data (but no roaming for me)

PhNOG

- ❑ Sadly PhNOG (version 1) did not continue after PhNOG 3 in 2008
 - No local champion willing to take on the leadership role despite our best efforts
- ❑ PhNOG (version 2) restarted in 2015
 - Along with APNIC Regional Meeting
 - Events every year since (even with pandemic getting in the way)
- ❑ Cannot overstate the value of a NOG for the local operator community

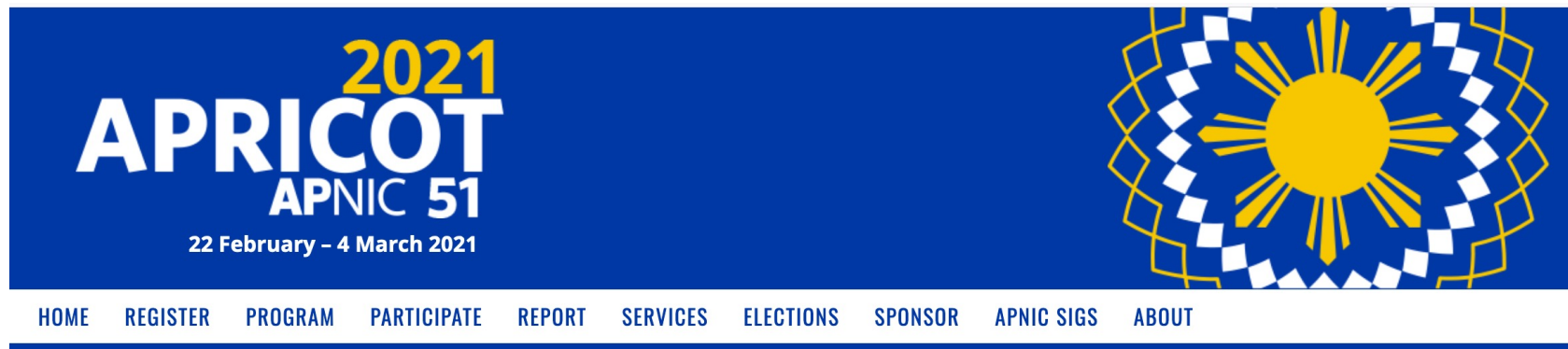
And in the intervening years...

- With NSRC, focus on the Philippine R&E community:
 - 2014: Campus Design workshop, hosted by DOST-ASTI and PREGINET, at UP Los Baños.
 - 2016: Pre-APAN NREN BGP Workshop, hosted by DOST-ASTI
 - 2024: Campus Design workshop, hosted by DOST-ASTI at Camarines Sur Polytechnic Colleges



Pandemic stoppages

- ❑ APRICOT 2021 was meant to be in Manila in February 2021
 - Instead, it was fully online. Still hosted by PhNOG, in collaboration with DOST-ASTI and DICT.
 - Online training (tutorial week) and conference week



Finally!

APRICOT 2023

The first in-person
APRICOT after the
removal of
pandemic travel
restrictions

Hosted by PhNOG!!

Co-hosted by
DOST-ASTI



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VENUE

Conference Venue

Sofitel Philippines
Plaza Manila

Address:

CCP Complex, Roxas Boulevard
1300 Pasay City
Tel: +632 8-573-5555
<https://www.sofitelmanila.com/>



And the future?

- ❑ All of you will determine what happens next...
- ❑ PhNOG is key to ensuring network operator community cohesion
- ❑ Internet infrastructure fundamentals & best practices knowledge sharing always needed:
 - BGP, Multihoming, Peering
 - Campus infrastructure & network design
 - ...
- ❑ Internet operations best practices become ever more important
 - Routing hygiene is a process, not one stop solution
- ❑ Keeping local traffic local ensures scalability as speeds keep on increasing
 - Importance of IXPs, local peering!