

TLNOG2 REPORT

Network Security Workshop & Conference

2025

19 - 21 November 2025 Auditório Room F-FDTL Quartel General Fatuhada Díli



TLNOG2 Workshop and Conference Report

TLNOG2 Workshop & Conference – Network Security

• **Date** : 19 – 21 November 2025

• **Hours**: 09H00 – 17H30

• Venue : Auditório Room, F-FDTL Quartel-General

Fatuhada, Díli Timor-Leste







Background

The Timor-Leste Network Operators' Group (TLNOG) was formally established in August 2024, marking its commitment to enhancing local ICT capacity with its first-ever event, TLNOG1. This initial success laid the groundwork for a robust community focused on technical exchange and collaboration. Achieving a significant organizational milestone, TLNOG was officially registered in July 2025 at the Notary of the Ministry of Justice, Timor-Leste. As a registered entity, TLNOG operates as the primary non-profit technical forum dedicated to fostering knowledge, skills, and best practices among network operators and professionals across the country, driving the development of a secure and resilient internet ecosystem.

TLNOG is dedicated to maintaining the highest standards of excellence in all its activities. TLNOG is committed to inclusivity, ensuring that its programs are accessible to all, regardless of background or experience level. The goal is to create an open and welcoming environment where every member of the community can thrive and contribute to the collective success of network operations in Timor-Leste.

More about TLNOG, please visit: https://nog.tl

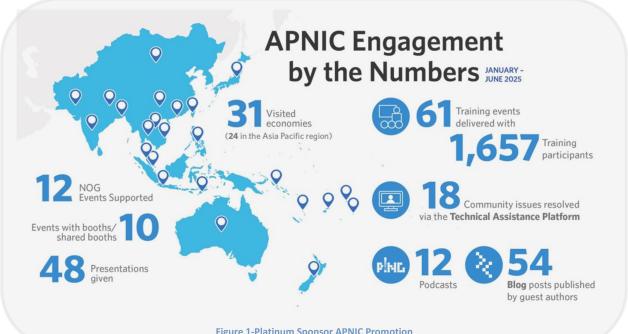






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Executive Summary

The TLNOG2 Network Security Workshop and Conference, held from November 19th to 21st, 2025, marked a significant milestone for Timor-Leste's ICT sector. The three-day event successfully brought together local network engineers, policy makers, and international experts to focus on enhancing national cybersecurity capabilities. The event combined two days of intensive, hands-on technical workshops with a full day of conference presentations, reaffirming TLNOG's commitment to advancing secure and resilient internet infrastructure in Timor-Leste.

Key Achievements

The success of TLNOG2 was marked by several key achievements that significantly raised the profile and capacity of the local ICT community:

- High-Level International & National Engagement: The conference was immensely honored by
 the physical presence of Mr. Jia Rong Low, Director General of APNIC, and Lieutenant Coronel
 Valério Valente, representing Brigadier General José da Costa Soares 'Trix' of the F-FDTL. Their
 presence and participation underscored the strategic importance of the event and strengthened
 the collaboration between the national defense sector and the international internet
 community.
- Capacity Building: The two days of intensive workshops, led by Warren Finch from ISOC and Affan Basalamah from APNIC Community Trainer, provided critical, hands-on training to local engineers, directly improving their ability to manage and secure internet infrastructure against modern threats.

Structure of the Program

This event is primary on the technical capacity building. Packed in the form of Workshops, Conferences and Tutorials, by bringing speakers who are experts in their fields from within and outside the country to provide presentations and issues around the current Information and Communication Technology (ICT).





TLNOG2 event has two parts:

- 1. Two days Workshops, November 19 20, 2025
- 2. One day Conference, November 21, 2025

Workshop Highlights

The training was led by renowned international experts:

- IXP Development Expert (ISOC): Mr. Warren Finch (Internet Society)
- Community Trainer (APNIC): Mr. Affan Basalamah (Asia Pacific Network Information Centre)

The workshops covered essential security concepts, including network security fundamentals, devices and infrastructure security, packet analysis, intrusion detection, DDoS attacks & countermeasures, security operations & monitoring, vulnerability assessment & penetration testing, and honeypots & honeynet. These sessions were highly praised for their real-world applicability and the direct engagement between instructors and local engineers.

1. Topic and Instructor







2. Workshop Programs

Time (GMT+9)	Instructor/Team Programs/Topics				
Wednesday, 19 November 2025					
08Н00	Committee TLNOG & Participants	Registration and T-Shirt+badge ID distribution			
08H35	Master of Ceremony (MC)	Welcomes and opening			
08H40	UAP QG F-FDTL	Housekeeping and Emergency Guidelines			
08H45	TLNOG Chairman	Welcoming speech			
08H50	TLNOG Chairman, ISOC Instructor and APNIC Community Trainer, Participants Representative	Symbolically opening and start the workshops session			
09Н00	Workshop	Session 1			
10H30		Coffee Break & Networking			
11H00	Workshop	Session 2			
12H30		Networking Lunch			
13H30	Workshop	Session 3			
15H00		Coffee Break & Networking			
15H30	Workshop	Session 4			
Thursday, 20 I	November 2025				
09Н00	Workshop	Session 1			
10H30		Coffee Break & Networking			
11H00	Workshop	Session 2			
12H30 Networking Lunch		Networking Lunch			





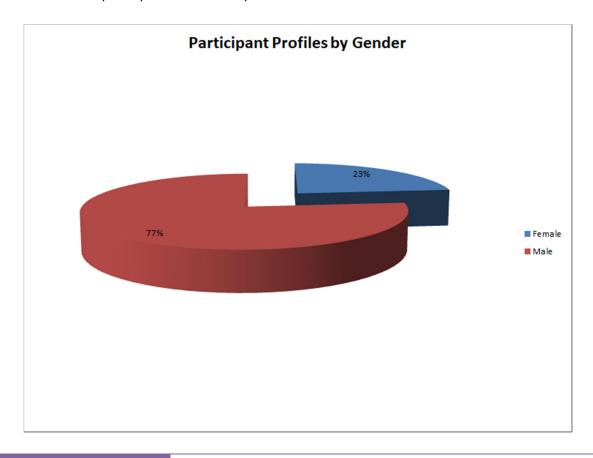
13H30 Workshop		Session 3		
15H00		Coffee Break & Networking		
15H30 Workshop Sess		Session 4		
16H30	All	Closing of Workshops sessions		
17H00	Instructor and Participants	Workshops Certificates distribution		

The workshop materials are available at:

https://academy.apnic.net/en/events?id=a0BOc000001h9CPMAY

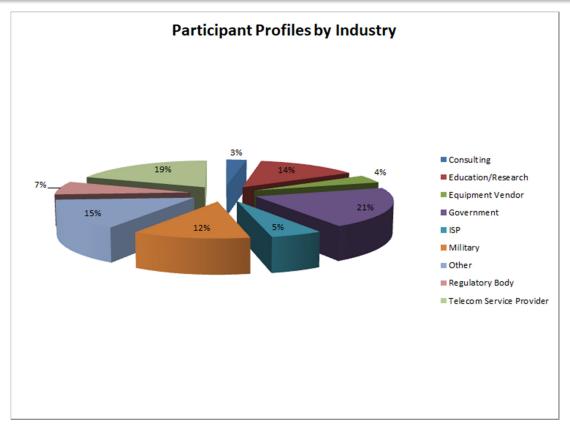
3. Workshop Participant

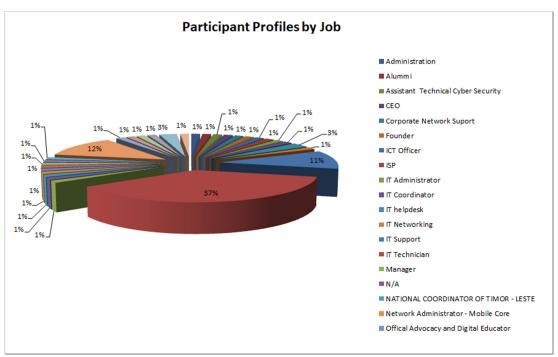
Number of participants in Workshops: 73















4. Workshop Photo Group



Figure 2 - Photo group of TLNOG2 Network Security Workshop Participants



Figure 3 - The workshop sessions were facilitated by Warren and Affan, while Jemris assisted the participants.





Conference Highlights

The final day of the event transitioned into the main conference, featuring keynote speeches and technical sessions on cutting-edge topics.

- Opening Ceremony & Keynote Speeches: The ceremony highlighted the strong partnership between TLNOG, International bodies and National Defense Organizations.
- International keynote: Mr. Jia Rong Low, Director General of APNIC, delivering the opening keynote, emphasizing the global importance of community-led security initiatives line TLNOG and stressing the need for regional collaboration in securing internet infrastructure.
- National keynote: The national defense perspective was delivered by Lieutenant Coronel
 Valério Valente, representing Brigadier General Trix (Sr. José da Costa Soares, Chief of Staff of FFDTL). This address underscored the critical link between network security and national security
 and expressed F-FDTL's continued support for such capacity-building efforts.

1. Keynote Speakers



Welcoming Remarks & Keynote

Mr. Jia Rong LowDirector General of Asia Pacific Network Information
Center (APNIC)

APNIC manages vital IP resources in the Asia Pacific. The urgency of transitioning to IPv6 to accommodate growth, and the importance of enhancing cybersecurity via RPKI. It also notes the benefit of establishing local Internet Exchange Points for efficiency. APNIC promotes financial sustainability, community-driven governance, and invites Timor-Leste to participate in shaping the internet's future.







Welcome Remarks & Ketynote

Mr. Valério Valente
Lieutenant Coronel Chief of Staff of F-FDTL

Reinforced the vital link between technical knowledge and national security for the TLNOG community. Timor-Leste urgently needs broad support to advance technology. The modern threats are sophisticated and invisible, existing in cyberspace. The security, stability, and digital sovereignty of Timor-Leste are now the collective responsibility of all network engineers, both civil and military officers.

2. Technical Session Speakers



BGP Security Best Practices that Matter

Dave PhelanAPNIC Policy Manager and Senior Network Analyst

BGP's trust-based design is vulnerable to prefix hijacking and route leaks. Best practices, guided by RFC 7454, are essential. Key steps include securing BGP speakers with uRPF and ACLs, and using TCP-AO for session authentication. Crucially, operators must implement strict route filtering and deploy RPKI (Resource Public Key Infrastructure) with Route Origin Validation (ROV) to cryptographically prevent route hijacking and enhance global routing stability.







High Fidelity Detection With Honeypots

Andrew Muller
IONIZE CEO and Managing Director

Use **Honeytokens** (e.g., a file labeled SECRET) as **deception technology** to create simple tripwires. Any access to these purpose-less decoys generates an immediate, **high-fidelity alert**, crucial for detecting sophisticated threats like Nation-State Actors and Insiders.



Al for Tetun: Building Timor-Leste's Inclusive Digital Future

Gabriel de Jesus INESC TEC & Timor News Researcher Developing AI for Tetun to create an inclusive digital future for Timor-Leste. Since Tetun is the most spoken official language, building Tetunenabled AI is essential for digital services and information to reach all citizens. The project includes creating foundational resources like the Labadain-30k+ dataset, stemmers, and a tokenizer. Prototypes, like Labadain Chat using Retrieval-Augmented Generation (RAG), showcase efforts to empower local innovation and ensure digital sovereignty.









Solar-Powered ICT Labs

Fátima CaldasUNDP-TL ICT Officer

The UNDP's "Pacific Green
Transformation Project" in TimorLeste aims to solarize 15 schools
across three municipalities,
establishing Solar-Powered ICT Labs.
The goal is to provide a reliable,
uninterrupted power source for ICT
classes and digital learning platforms.
The system includes solar panels (27.3
kWp), a hybrid inverter, and rack
batteries. Crucially, the project
included training for teachers and
maintenance staff on using the new
ICT equipment powered by clean
energy.



Free Software and Open Source Training in Timor-Leste: Catalyzing Digital Growth

Cesarino Ijak Rosa FDSL Chairman The Free and Open Source Software (FOSS) Training in Timor-Leste aims to catalyze digital growth and self-reliance. FOSS reduces licensing costs, builds local independence, and fosters innovation. Objectives include building practical Linux skills, developing local trainers, and integrating FOSS across education, business, and government. The program uses hands-on, localized workshops to address challenges like limited internet access.









Building Open/Shared Internet Access and Capacity for Timor-Leste

Ramon Roca
Guifi Foundation Board

The challenges of expensive and limited internet access in Timor-Leste, and the lack of specific educational infrastructure. redEsperansa.tl and Kalohan Akadémiku (academic cloud), aims to establish affordable, community-driven Internet. This is achieved using a non-commercial, common-good model, deploying a mix of technologies—like fiber, 4G, and LEO satellite gateways—and integrating solar/renewable energy to overcome unstable electricity.



Enhancing Organizational Cyber Resilience Through Red Team Exercise

Abrão Ximenes TLNOG Co-Founder The presentation advocates for **Red Team exercises** as vital for enhancing **cyber resilience** against sophisticated
threats. Unlike penetration testing,
Red Teaming simulates **realistic attacks** on people, processes, and
technology to test the organization's
defensive (Blue Team) and response
capabilities. This proactive approach
helps identify vulnerabilities and
strengthen overall defenses and crisis
communication.







Timor-Leste Internet Exchange Point (TLIXP)-Enhancing Local Internet Performance and Digital Growth

Fábio de Magalhães ANC Technical Regulator The urgent need for a Timor-Leste Internet Exchange Point (TLIXP) to enhance the local digital landscape.

The primary benefits include improving internet speed and reducing latency by localizing traffic exchange between ISPs. Furthermore, the IXP will significantly reduce transit costs for ISPs and increase network resilience. The implementation involves key stakeholders like the ANC (as host), major ISPs, and government bodies, with a policy favoring free, multilateral peering.



Identity & Privacy: New mistakes for an online world

Brook SchofieldNSRC Network Engineer and Trainer

The evolution from physical to digital identity, noting that new mistakes, like excessive data collection for Know Your Customer (KYC), compromise privacy. Recognizing that Timor-Leste is a target for organized crime, the solution proposed for research and education is **Delegated Identity** via **eduroam/eduGAIN**. This system uses WPA2/Enterprise security, promotes **Information Minimisation**, and supports building local knowledge for national digital independence.







IPv6 and RPKI in Timor-Leste

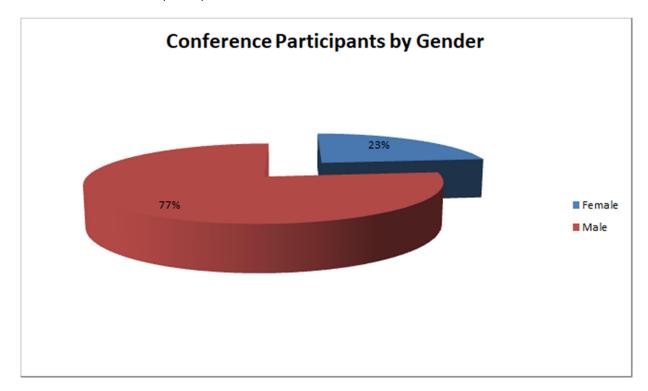
José Dias

TLNOG Chairman and Timor Telecom ISP Manager

Timor-Leste's dual strategy to secure and future-proof its network. To counter IPv4 exhaustion, the 464XLAT model is adopted for a seamless transition to IPv6 for all users. For security, RPKI (Resource Public Key Infrastructure) is implemented to prevent route hijacking. This involves deploying redundant Routinator cache servers and using Route Origin Validation (ROV) via the RTR protocol to cryptographically verify BGP announcements.

3. Conference Participants

Total number of participants in the TLNOG2 conference: 99







4. Conference Program

Time (GMT+9)	Speaker/Organization	Program/Topic		
08Н00		Registration & Coffee		
09Н00	All Delegates/Participant	Opening Ceremony		
		RDTL National Anthem		
	Fundação Cultural Le-Ziaval	Cultural Traditional Dance Likurai Timor-Leste		
09H25	Capitão Bere (UAP Quartel General F- FDTL)	Housekeeping and Emergency Guidelines		
09H30 Jia Ron Low (APNIC Director General) Welcome Remarks and K		Welcome Remarks and Keynote		
09Н45	Sr. Valério (Adjunto Chefe do Estado Maior General F-FDTL)	Welcome Remarks and Keynote		
10H00		Coffee Break & Networking		
10H30	Dave Phelan (Policy Manager and Senior Network Analyst)	BGP Security Best Practices that Matter		
10H45	[Sponsor APNIC slot]			
11H00	Andrew Muller (IONIZE CEO and Managing Director)	High Fidelity Detection With Honeypots		
11H30	Gabriel de Jesus (INESC TEC and Timor News Researcher)	Al for Tetum: Building Timor-Leste's Inclusive Digital Future		
12H00		Networking Lunch		
13H30	Fátima Caldas (UNDP-TL ICT Officer)	Solar-Powered ICT Labs		
13H45	[Sponsor Sacomtel slot]			
14H00 Cesarino Ijak Rosa (FDSL Chairman)		Free Software and Open Source Training in Timor- Leste: Catalyzing Digital Growth		





14H30	Ramon Roca (Guifi Foundation Board)	Building Open/Shared Internet Access and Capacity for Timor-Leste	
14H45 [Sponsor ISOC slot]			
15H00		Coffee Break & Networking	
15H30	Abrão Ximenes (TLNOG Co-Founder)	Enhancing Organizational Cyber Resilience Through Red Team Exercise	
16H00	Fábio de Magalhães (ANC Technical Regulator)	Timor-Leste Internet Exchange Point: Enhancing Local Internet Performance and Digital Growth	
16H30	Brook Schofield (NSRC Network Engineer and Trainer)	Identity & Privacy: New mistakes for an online world	
16H45	[Sponsor APNIC Foundation slot]		
17H00	José Dias (TLNOG chairman)	IPV6 and RPKI in Timor-Leste	
19Н00		TLNOG Closing Social	

5. Some Group Photo



Figure 4 - Photo group of all participants at F-FDTL Auditório Room Yard





Links & Social media & mailing-list

- Portal https://nog.tl
- Budgeting & Expenses https://myfund.nog.tl
- Event pictures https://photos.nog.tl
- WhatsApp Group https://chat.whatsapp.com/lrpSnJCflRN1f101J005DM
- Orbit mailing list https://orbit.apnic.net/mailing-list/tlnog@nog.tl
- Twitter https://x.com/TLNOG240108
- Instagram https://www.instagram.com/tlnog240108/
- Facebook page https://www.facebook.com/profile.php?id=61563606149275
- Youtube channel https://www.youtube.com/@Timor-LesteNOG

Conclusion

The TLNOG2 Network Security Workshop and Conference successfully achieved its goal of raising security awareness and technical capability within the Timor-Leste community. The event's success sets a strong foundation for TLNOG's ongoing mission to support and secure the nation's growing digital ecosystem. TLNOG remains committed to hosting future events focused on practical network operation and security best practices.



LIGA +
La iha limite ho planu
foun TT nian.

Vizita loja TT ka
www.timortelecom.tl

Figure 5-Gold Sponsor Timor Telecom Promotion





Appendix 1 - Budgeting

Event Budget - TLNOG2 November 2025





Expenses description category quantity unit cost amount Venue for Workshop & Conference Location 3 150.00 450.00 Venue cleaning services Location 1 40.00 40.00 Catering for 2 Days Workshops Food & Drink 180 12.00 2,160.00 Catering for 1 Day Conference Food & Drink 120 15.00 1,800.00 Conference packet decoration Food & Drink 1 350.00 350.00 1 Conference morning registration & Coffe Food & Drink 20.00 20.00 T-Shirt Supplies 102 7.00 714.00 Tote bag custom 23x40cm Supplies 100 3.00 300.00 Note book 50 slides 14.8x21cm Supplies 100 1.80 180.00 Custom bulpen Supplies 100 0.50 50.00 **Guest Book** Supplies 2 0.00 100 3.50 Lanyard Supplies 350.00 ID card holder Supplies 100 0.25 25.00 ID card badge Supplies 100 0.75 75.00 Roll Banner 80x200cm Albatros Supplies 3 50.00 150.00 Banner Outdoor 9x3m standard 1 135.00 135.00 Supplies Acrilic Token (15 X 18 CM) Supplies 18 65.00 1,170.00 Certificates Sponsorship Apretiation Supplies 9 14.00 126.00 Workshops on-site attendess certificate: Supplies 14 2.25 31.50 Gift (Shawl- Tais Timor) 25 10.00 250.00 Supplies

15

10.00

150.00

Simultaneous interpretation equipment Supplies





Interpretation service	Supplies	1	400.00	400.00
Opening cultural dance tebedai	Program	1	250.00	250.00
Media (Live & Documentation + one time office use)	Program	1	650.00	650.00
Dorprize or Kuiz Gift	Program	14	9.50	133.00
Diner with Sponsors	Other	15	16.85	252.75
Diner with Committee (Closing Organizers)	Other	12	24.42	293.04
Spidol White Board	Supplies	10	1.00	10.00
TLNOG's Local Meeting Expenses	Program	10	10.00	100.00
Printing Documents (& Other Office Supplies)	Supplies	1	35.00	35.00
Electrical Outlets, Socket & Cables	Supplies	8	12.50	100.00
Battery Alcaline ABC	Supplies	5	1.95	9.75
Others Expenses + Transportation	Other	1	233.75	233.75
Tota			otal Expenses	10,993.79

Income / Funding					
description	unit cost	estimate qty	estimate amt	actual qty	actual amount
ISOC	3,000.00		3,000.00	1	3,000.00
SACOMTEL	3,000.00		3,000.00	1	3,000.00
APNIC	2,000.00		2,000.00	1	2,000.00
APNIC Foundation	2,000.00		2,000.00	1	2,000.00
FLEXOPTIX	1,500.00		1,500.00	1	1,500.00
Team Cymru	1,500.00		1,500.00	1	1,500.00
IONIZE	1,500.00		1,500.00	1	1,500.00
Timor Telecom (Internet Connectivity)				1	
Gardamor	500.00		500.00	1	500.00
Total \$ 15.000.00				Total	\$ 15.000.00



Figure 7-Platinum Sponsor APNIC Foundation Promotion





Appendix 2 – Sponsorships & Partners

Platinum





Platinum





Gold





Gold





Internet Connectivity



Bronze



Founding Partner







Appendix 3 – Photo Documentation

Workshop Days - Network Security



Figure 8-Chairman TLNOG Welcoming Speech on the Workshop Opening



Figure 9-Representative of participant and the instructor also the TLNOG Chair preparing for symbolic opening the workshop session



Figure 10-Symbolic opening by taping the iconic culture drum



Figure 11-Workshop participants enjoying the relaxed atmosphere



Figure 12-It is time to get serious on a focused atmosphere $% \left(1\right) =\left(1\right) \left(1\right)$



Figure 13-Participants coming from different background industry





Workshop Days – Network Security



Figure 14-Affan Basalamah facilities and helping an attendees of Network Security Workshop



Figure 15-APNIC Community training Affan delivering materials of Network Security



Figure 16-TLNOG Co-Chair Jemris Yerros assisting Warren Finch Facilitated the workshop participants



Figure 17-A tense discussion and troubleshooting in the group participant solving a real environment issue



Figure 18-Officer Nary delivering token of appreciation to TLNOG2 Workshop Instructor Affan Basalamah



Figure 19-Bernardina Ly delivering the token of appreciation to Warren Finch, Instructor TLNGO2 Workshop from ISOC





Workshop Days – Network Security



Figure 20-Alferis Mendez delivering thanks and gratitude on behalf of fellows workshops participants



Figure 21-Left to right: Officer Nary, Affan Basalamah APNIC Community Trainer, Bernardina Ly TLNOG2 Committee, Warren Finch ISOC



Figure 22-Registration desk team, left to right Umbelina and Zela



Figure 23-Registration desk getting ready for the guest



Figure 24-Registration desk team pose before getting ready for receiving the distinguish guest



Figure 25-Affan Basalamah and Warren Finch in pose of hand over symbolically Certificate of Network Security Workshops







Figure 26-Opening ceremony TLNOG2 Conference a cultural Traditional Dance Likurai from Fundação Cultural Le-Ziaval



Figure 27-A dance group called Fundação Cultural Le-Ziaval on opening ceremony of TLNOG2 Conference



Figure 28-Director General APNIC Sr.Jia Rong Low deliver his opening remarks and keynote



Figure 29-Tais appreciation of TLNOG2 delivered by Jemris Yeros to Sr. Jia Rong Low



Figure 30-Token of appreciation to Director General APNIC Sr. Jia Rong Low



Figure 31-Director General APNIC and TLNOG Co-Chair in pose assisted by TLNOG2 Committee Bernardina Ly







Figure 32-His Excellency Lieutenant Coronel Sr. Valério Valente delivering his remarks & keynote in representing Brigadier General "Trix"



Figure 33-Token of appreciation delivered by TLNOG Chair to His Excellency Lieutenant Coronel F-FDTL



Figure 34-Express of gratitude to Lieutenant Coronel from TLNOG Chairman



Figure 35-Symbolic start and opening of TLNOG2 Conference by Director General APNIC Sr. Jia Rong Low, Lieutenant Coronel Sr. Valério Valente and TLNOG Chair José Dias



Figure 36-TLNOG Chairman José Dias delivering the welcome messages & remarks



Figure 37-A coffee after the opening ceremony of TLNOG2 Network Security Conference







Figure 38-Andrew Muller delivering the Honeypot & Honeynet presentation



Figure 39-AI for Tetum presentation delivered by Gabriel de Jesus



Figure 40-Appreciation delivered by José Dias to Lu Zhang for Platinum Sponsor APNIC



Figure 41-Appreciation delivered by José Dias to Marcos Sadao Maekawa for Platinum Sponsor APNIC Foundation



Figure 42-Appreciation to Warren Finch for Planum Sponsor ISOC delivered by TLNOG2 Committee Fábio de Magalhães



Figure 43-Appreciation delivered by José Dias to Jorge Soares for Platinum Sponsor SACOMTEL ISP







Figure 44-Appreciation to Andrew Muller delivered by José Dias as IONIZE a Gold Sponsor



Figure 45-Appreciation delivered by Fábio de Magalhães to Leopoldina Alves for Gold Sponsor Timor Telecom on Internet Connectivity



Figure 46-Appreciation delivered by Abrão Ximenes to Lazaro Humberto Sequeira for Bronze Sponsor Gardamor ISP



Figure 47-Photo group wiht Honored Director General APNIC Jia Rong Low



Figure 48-Some photo group on the break session of the conference



Figure 49-APNIC & ISOC booth as Platinum Sponsor on TLNOG2



Thank You

Obrigadu



