Developing a Collaborative BGP Routing Analyzing and Diagnosing Platform

Jilong Wang, Changqing An, Jie An	Tsinghua University, China
Xiaohong Huang	BUPT, China
Chalermpol Charnsripinyo	ThaiREN, Thailand
Simon Peter Green	SingAREN, Singapore

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Outline

- Project Information & Partnership
- Objectives & Deliverables
- Work We Have Done
- Activity Plans
- Timeline of Activities
- Governance and Collaboration
- Funding

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Project Information

- Name: Developing a Collaborative BGP Routing Analyzing and Diagnosing Platform
- Co-PI: Jilong Wang, (Tsinghua University, CERNET, China)
  Co-PI: Chalermpol Charnsripinyo (ThaiREN, Thailand) Co
  -PI: Simon Peter Green (SingAREN, Singapore)

- Date: 2022.2.1 - 2023.7.30 (tbc with APNIC Foundation)
- APNIC ISIF Grants : US$150,000.00
- Tsinghua University In-Kind Contribution: US$69,660.00
- Partnership: 13 Countries/Economies provided the letters of support
  - CERNET(China), ThaiREN(Thailand), SingAREN(Singapore), APAN-JP, HARNET/JUCC(Hong Kong, China), LEARN(Sri Lanka), BdREN(Bangladesh), MYREN(Malaysia), NREN(Nepal), ERNET(India), DOST-ASTI(PREGINET, Philippines), Gottingen University(Germany), Surrey University(UK), AfgREN(Afghanistan?)

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Objectives & Deliverables

- Build a collaborative BGP routing analyzing and diagnosing platform
  - Looking Glass platform
  - BGP routing sharing platform
  - BGP monitoring and diagnosing platform, focusing on routing hijacking detection and mitigation system
  - BGP analysis platform, focusing on invulnerability analysis of regional routing
- Set up a website for sharing knowledge
- Enhance the NREN capacity of network operation and measurement in Asia Pacific area and promote international collaborations

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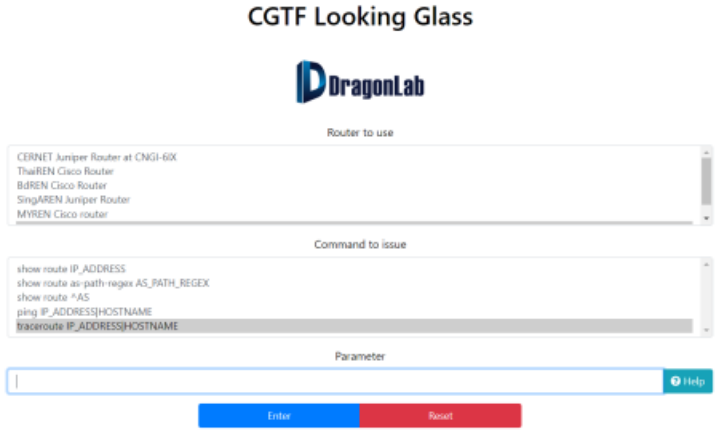
Works We Have Done

- We have got the funding support from the Research and Development Program of China for “Joint Research on IPv6 Network Management: Research Development and Demonstration”
- A small-scale looking glass platform is under development
- A small-scale BGP routing collection platform is under development
- A BGP Hijacking Monitoring Platform is under development



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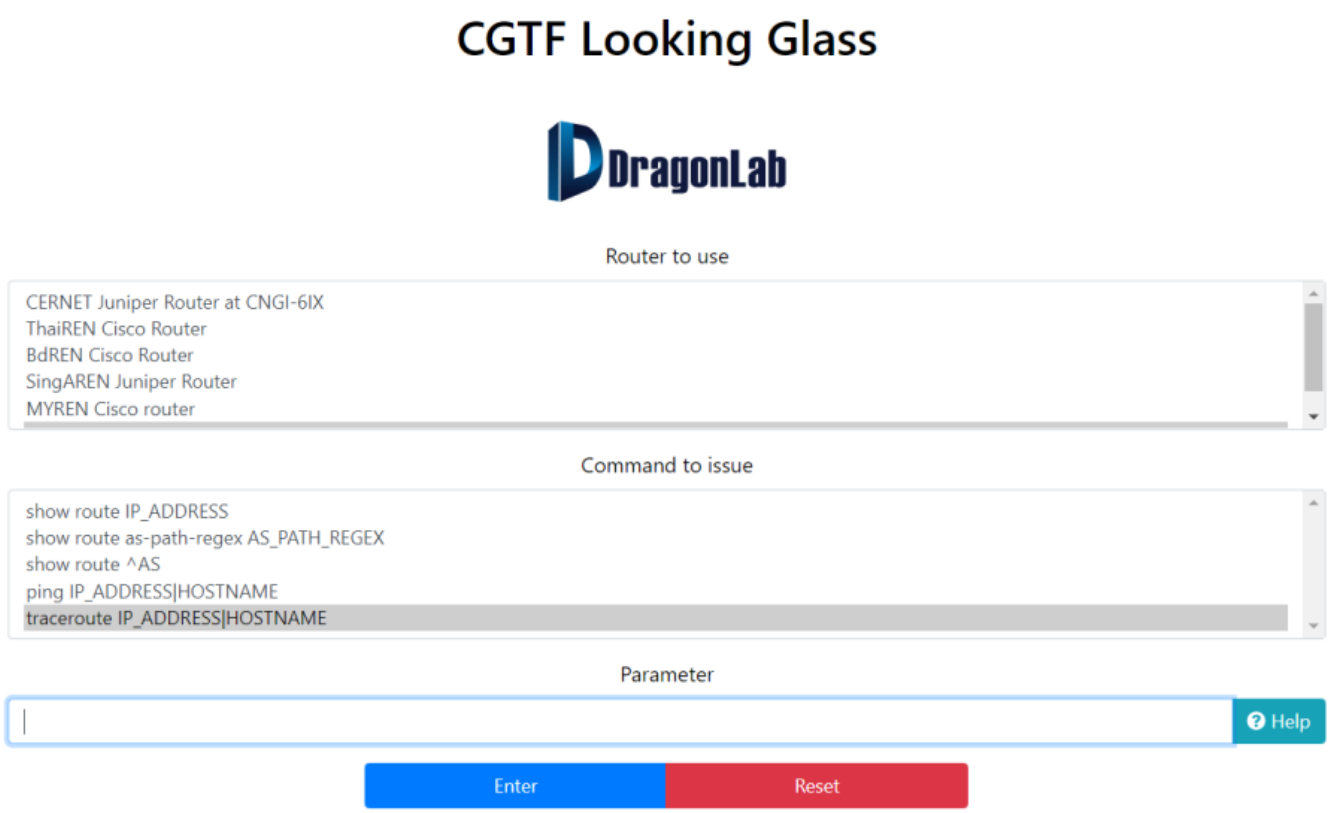
Looking Glass(1st Phase)



NRENs' contribution:

CERNET, ThaiREN, BdREN, SingAREN, MYREN,LEARN

The participation will be open to all other NRENs which are interested in.

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BGP Routing Collection Platform(1st Phase)

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Name	Last modified	Size	Description
readme.txt	2022-01-11 07:14	808	
ribs/	2022-02-17 12:05	-	
updates/	2022-02-17 12:45	-	

```
Our collector is currently peering with Following AS(Vantage Points) by private AS number 65534.
AS 23855(SINGAREN)
AS 4538(CERNET))
AS 38229(LEARN)
AS 63961(BDREN)
AS 24475(ThaiREN)

BGP RIB snapshot of colletor and BGP update messages it receives are periodically dumped,
2h for rib and 20 minutes for updates messages.

You can use 'bgpdump' to decompress  the compressed MRT format file for analysis.

This data is made available to anyone without restrictions.
If you copy the data and publish an analysis, please cite us in your publication.

Any question, please contact dev@dragonlab.org .
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NRENs' Contribution:

- CERNET
- SingAREN
- BdREN
- LEARN
- ThaiREN

- The participation will be open to all other NRENs which are interested in.

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BGP Hijacking Monitoring Platform (1st Phase)

NRENs' Contribution: CERNET, SingAREN, BdREN, LEARN, ThaiREN

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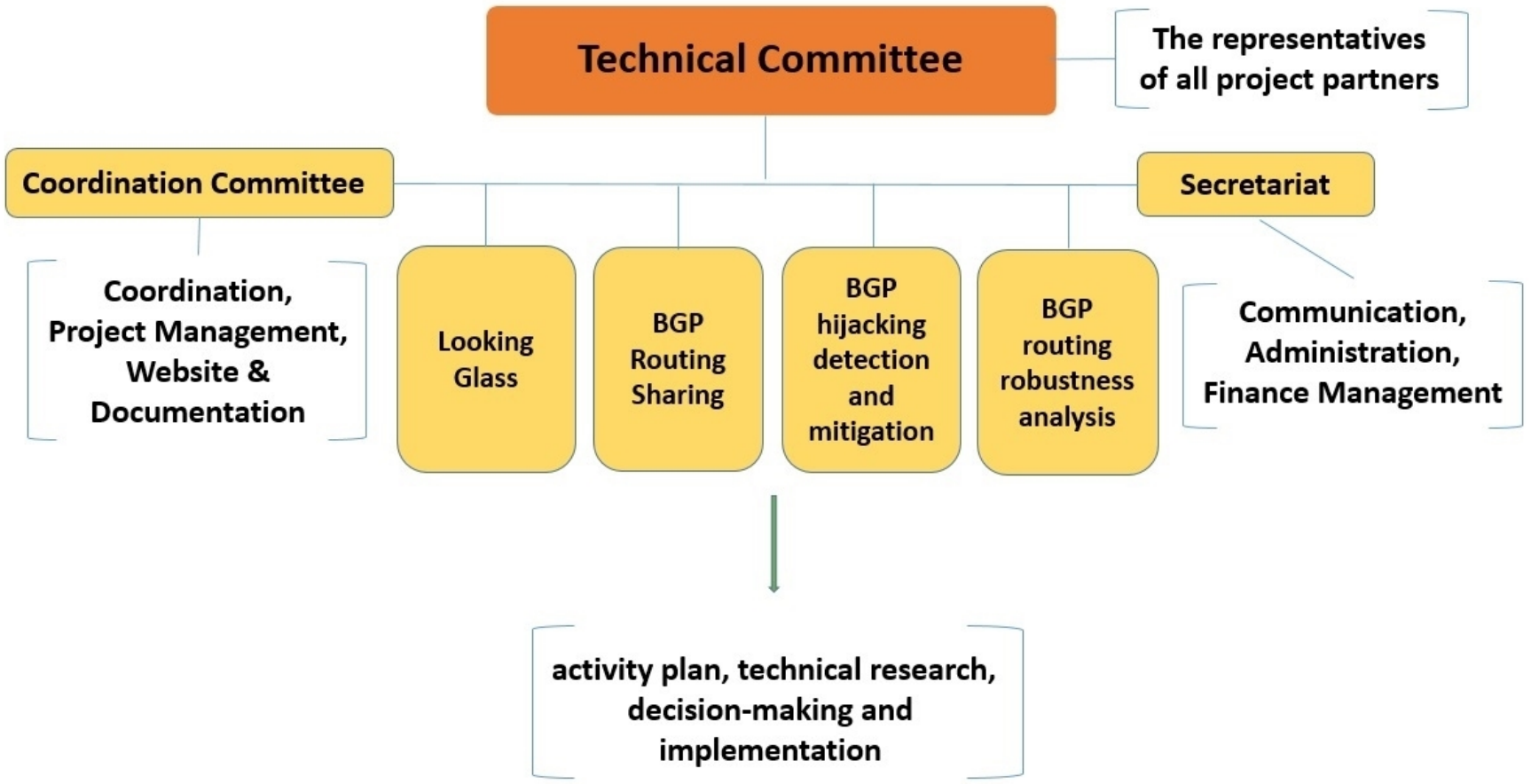
Proposed Activity Plans for Further Discussion

- Set up Coordination Committee and Technical Committee by meeting with all partner organizations
- Set up working mailing list and project website
- Arrange periodical online meetings of Coordination Committee and Technical Committee to discuss technical and collaborative issues, explore solutions and reach the consensuses
- Collaborate the platform development, implementation, test and demonstration
- Deliver meeting presentations, technical documentation and periodical project reports on website and via emails
- Organize online/offline project meetings and workshops at APAN meetings for exchanging information and welcome more participation

Activity and Timeline (Draft for Further Discussion)

	Activity	Tentative Timeline
1	Kick-off the project	Feb. 2022
2	Set up Coordination Committee and Technical Committee and working mailing list	Mar., 2022
3	Set up project website	Apr., 2022
4	Discuss technical and collaborative issues and collaborate on the platform development, implementation, test and demonstration	Apr. -
5	Arrange online meetings of Coordination Committee(bi-weekly) and Technical Committee(monthly)	Apr. 2022 – Jun. 2023
6	Organize online/offline project meetings(quarterly) and workshops at APAN meetings for information sharing and publicity to welcome more participation	Apr. 2022 – Jul. 2023
7	Deliver meeting presentations, technical documentation and periodical project reports on website and via emails	Jun.2022 – Jul. 2023

Governance and Collaboration



Consolidated Budget

	ISIF Asia Impact Grant	Applicant's in-kind contribution	Remarks
Training session (one-day offline) / backup plan	46,680		The costs associated with engagement conducted by the project team internationally (including travel)
Professional development and collaborative work	72,000		The costs associated with training and professional development for the staff project team
Support Services Fees	31,320		This cost is related to hosting, translation, office supplies, tax, adminitration fee, website, and so forth.
Human Resources of Project Coordination Committee/technical support/Secretariat		41,700	The cost of project management work conducted by the project coordination team members in China will be covered by Chinese funding resources, including 'Joint IPv6 Project'.
The regular participation of the 12 international partner organization (listed in 'Joint IPv6 Project')		10,800	The 12 international partner organizations listed in 'Joint IPv6 Project' could get half financial support from 'Joint IPv6 Project' funding for their regular participation in ISIF proposal activities.
The service fee of cloud server		9,000	This cloud server will be used for this ISIF grant proposal for 18 months, the service fee is around 9,000USD (500USD/month x 18 months).
The travel expenses of one-day offline event for 4 Chinese team members		8,160	This will be covered by 'Joint IPv6 Project'.
Total	**150,000**	**69,660**	

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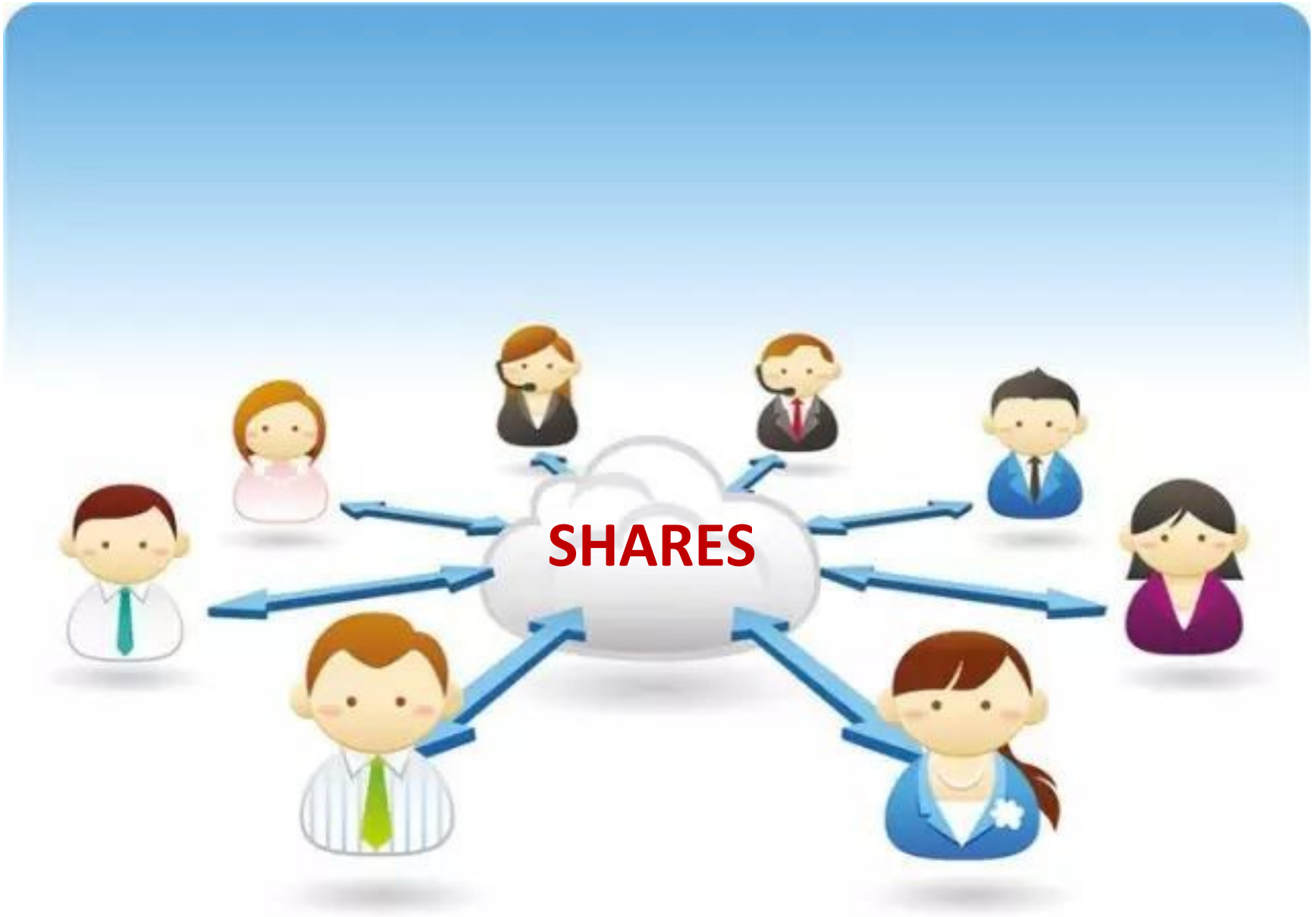
Professional development for the staff project team

Description	Unit	Unit rate(in USD)	Remarks
Regular participation of periodically activities of professional development for platform deployment, testing and sharing	per month, per organization	1,800	It's estimated that the total working hours of NREN partner organizations in this project is one month for each organization.
Expertise participation of monthly activities of professional development for platform development, sharing and training	per month, per expertise	3,000	It's planned that the expertise work from partner organizations will be invited. The financial support for these work will be provided based the working hours.
Collaborative documentation work of papers, reports, etc.,	per month, per person	2,500	This includes analizing data, writing, editing, proof-reading, etc. The estimaged working hours in this whole project is 6 months and the average monthly cost is 2,500USD. The support from partner organizations are most welcome.


SHARES