Introduction to BSafe.Network

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## Evolution of the Internet

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1969</td>
<td>ARPANET</td>
</tr>
<tr>
<td>1981</td>
<td>CSNet</td>
</tr>
<tr>
<td>1985</td>
<td>Research Networks (NSFNET) Non-Profit</td>
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<tr>
<td>1991</td>
<td>Externalizing Costs Commercial ISPs Making $$$</td>
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<tr>
<td>1995</td>
<td>CIX</td>
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- **Berkeley Software Distribution (BSD)**
- **NSFNET T3 Network 1992**
Academic Research for the rescue

The Case of Internet Technology

Research (University) → Implementation (Company) → Standardization → Business (Company)

“BSD” and open-source facilitated innovation

The Case of Bitcoin and Blockchain

Satoshi’s Paper → Implementation (Company) → Business (Company)

Need to rebuild by Standardization

Research (University)

Help of Academia

Business motivated Innovation
BSafe.network: Plays the same role as NSFNet and BSD

- A neutral, stable and sustainable research test network for Blockchain technology by international universities.
- Founded by Shinichiro Matsuo and Pindar Wong in March 2016. Each university becomes a blockchain node.
- Research on Blockchain and its applications
  - Not limited to Security. All aspects will be researched.

- Neutral platform
- de-anchored trust of Blockchain network
- More nodes (with Neutrality)
- Testbed for academic research
23 International Universities Have Already Join and More to come.

- MIT
- Boston Univ
- Georgetown
- Duke
- Univ. Illinois
- St. Mary’s Law
- University of British Columbia
- Telecom Sud Paris
- Univ. Autonoma de Barcelona
- Univ. of Nicosia
- Univ. of Cape Coast
- Indian Statistical Institute
- ETHZurich EPFL
- Univ. of Tokyo
- Keio Univ.
- Toho Univ.
- Ritsumeikan Univ.
- SIM Univ.
To be part of the network..

• Check the site: https://bsafe.network
• Please drop an email to info@bsafe.network or shigeya
Layer 2 Competition by BSafe.Network
Layer 2 Competition for Blockchain

Two categories of competitions

Layer 2 Protocol Proposal
New protocol and implementation of Layer 2 technology to enhance scalability, privacy and security, and their trade-offs

Layer 2 Measurement method and tool
Measurement mechanisms
Standard dataset for evaluation
Goal of Layer 2 Competition

Provide neutral evaluation results from experiment and reviews by experts
1) Collecting attack model on layer 2 network,
2) Building measurement of security and performance of layer 2 technology
3) Finding better and best realization

Not selecting something, but provide academia backed data and research results to public

Outcome to public
Program codes: cc-by license
Evaluation software/platform
Layer 2 software

Data for Evaluation

Byproduct
Security testing theory and tools for Layer 2 technology
Overview of the Competition

Submission

Theoretical Evaluation

Experimental Evaluation

by academia

Announcement of a winner

Publish open-sourced code

Technology Presentation and Awarding

by BSafe actual network
Evaluation Criteria

1. Performance

Number of transactions / sec
Diversity of countries
Network latency

2. Security/trust

Resistance to fault/crash/attack to nodes
How decentralized
DoS attack to make layer 2 transaction fail
Scenario and data set to evaluate
Availability of layer 2 nodes

3. Other
Schedule

- Submission: February 28, 2018
- Theoretical Evaluation
- Experimental Evaluation
- May 31, 2018
- Announcement of a winner
- Publish open-sourced code
- June 2018
- Technology Presentation and Awarding
- Summer 2018
Call for Participation and award

How to join

Technical documents which explains design rationale, exact algorithm and protocols, self evaluation in security and efficiency

Program Codes

Details will be announced at the end of November

B-Prize

Prize for a winner and great technology