

Presentation Title

Optional Subtitle

K. Cong

Faculty of Electrical Engineering, Mathematics and Computer Science
Delft University of Technology

2017

Outline

Background

TrustChain

My Thesis

TrustChain with Checkpoints

Consensus Protocol Overview

Promoter Registration

Outline

Background

TrustChain

My Thesis

TrustChain with Checkpoints

Consensus Protocol Overview

Promoter Registration

TrustChain

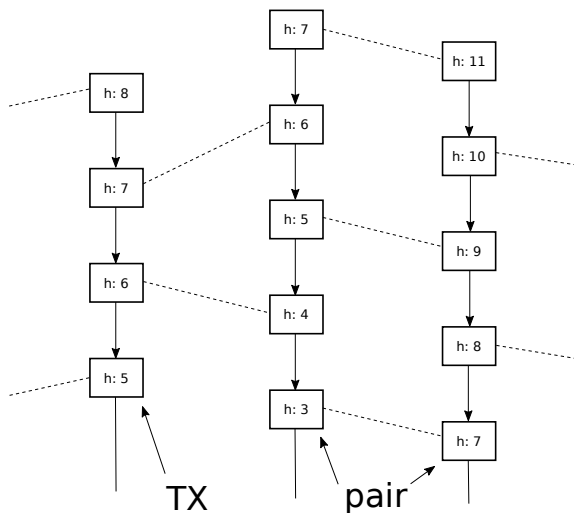


Figure: *TX* block is a six-tuple: $t_{i,j} = (h(b_{i,j-1}), h_s, h_r, s_s, s_r, m)$, one transaction results in two *TX* blocks—a *pair*.

TrustChain

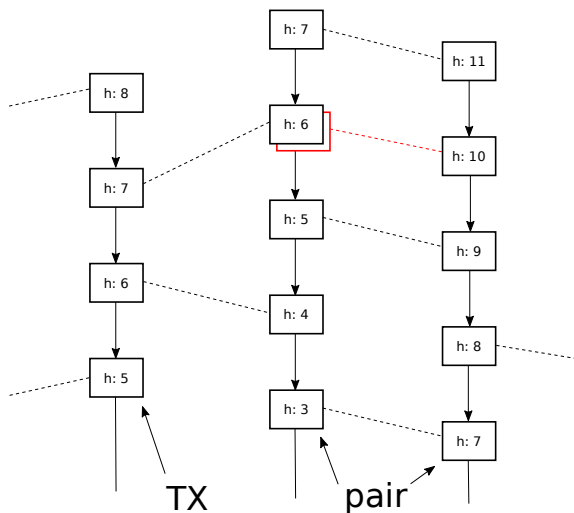


Figure: Fork is two correctly signed TX blocks that has the same h_s but involve different receivers. Only one TX block may be in consensus.

TrustChain

- ▶ Everyone has their own chain
- ▶ Transactions are on arbitrary data m
- ▶ Transactions make the chains intertwined
- ▶ No consensus (my thesis)

Outline

Background

TrustChain

My Thesis

TrustChain with Checkpoints

Consensus Protocol Overview

Promoter Registration

TrustChain with Checkpoints

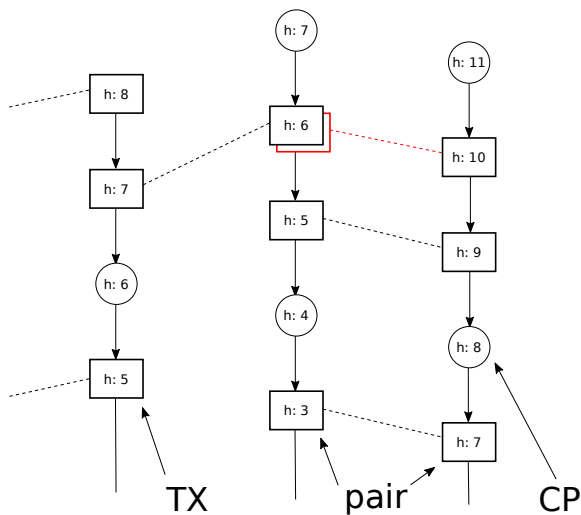


Figure: CP block is a five-tuple: $c_{i,j} = (h(b_{i,j-1}), h(C_r), r, p, s)$, C_r is the consensus result at round r , p = promoter indicator, s = signature.

Outline

Background

TrustChain

My Thesis

TrustChain with Checkpoints

Consensus Protocol Overview

Promoter Registration

Consensus Protocol Overview

1. N lucky nodes are selected at random to act as promoters.
2. Every node sends CP blocks to promoters.
3. Promoters run a BFT (Byzantine Fault Tolerant) consensus algorithm to agree on a set of CP blocks— \mathcal{C}_r .
4. Disseminate \mathcal{C}_r .
5. Any node can verify that their transaction is in consensus.
6. Repeat for next round.

Outline

Background

TrustChain

My Thesis

TrustChain with Checkpoints

Consensus Protocol Overview

Promoter Registration

Promoter Registration

Blocks

Block Title

You can also highlight sections of your presentation in a block, with it's own title

Theorem

There are separate environments for theorems, examples, definitions and proofs.

Example

Here is an example of an example block.

Summary

- ▶ The **first main message** of your talk in one or two lines.
- ▶ The **second main message** of your talk in one or two lines.
- ▶ Perhaps a **third message**, but not more than that.
- ▶ Outlook
 - ▶ Something you haven't solved.
 - ▶ Something else you haven't solved.

For Further Reading I



A. Author.

Handbook of Everything.

Some Press, 1990.



S. Someone.

On this and that.

Journal of This and That, 2(1):50–100, 2000.