

SECURE. PRIVATE. UNTRACEABLE.



**MONERO**

Vienna, Austria



# Welcome

Justin Ehrenhofer

Finance  
Management Information Systems

/u/SamsungGalaxyPlayer or sgp\_

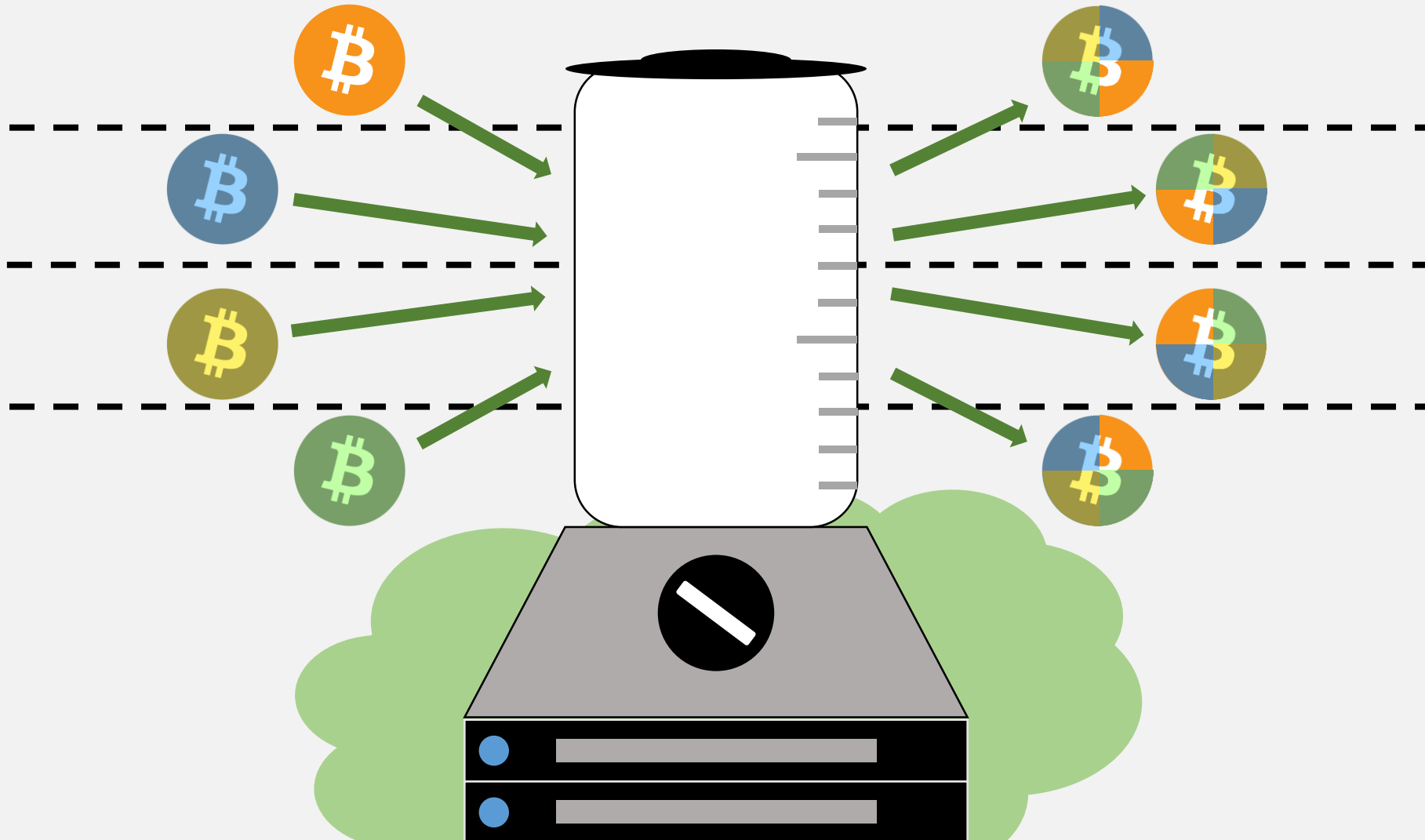


UNIVERSITY OF MINNESOTA  
**Driven to Discover<sup>SM</sup>**

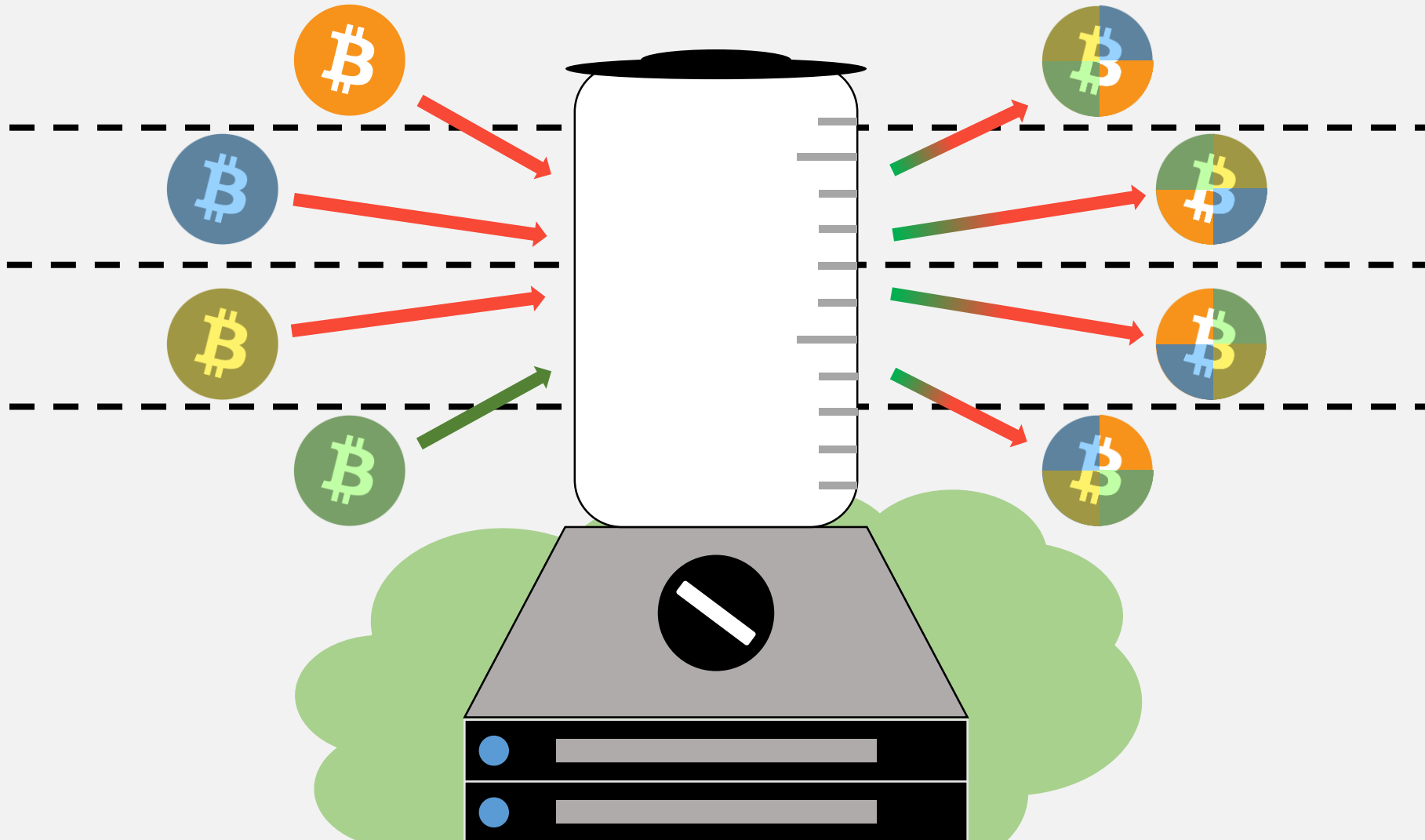


*CryptoUMN.com*

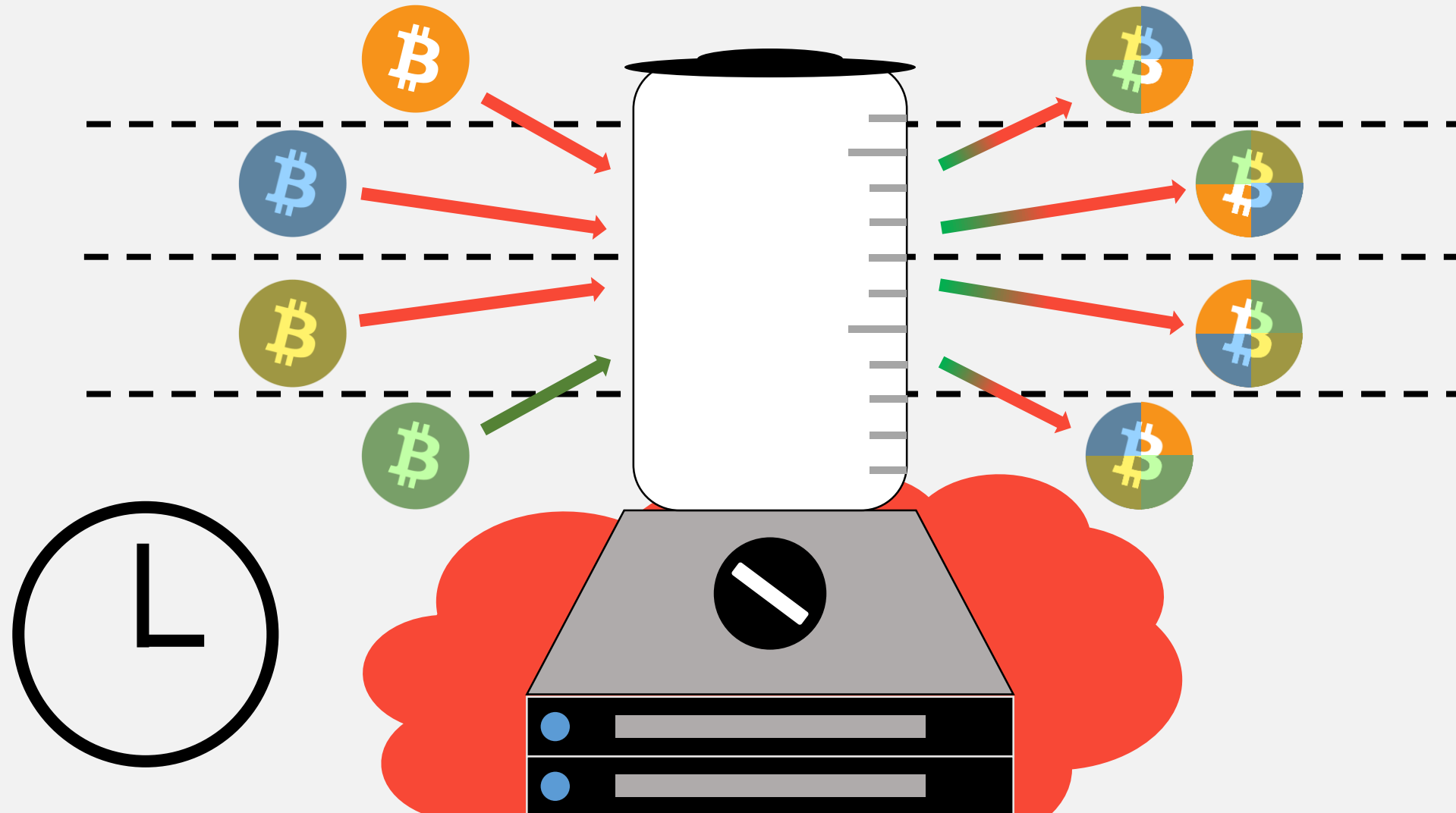
# People Started Adding Tools to Bitcoin



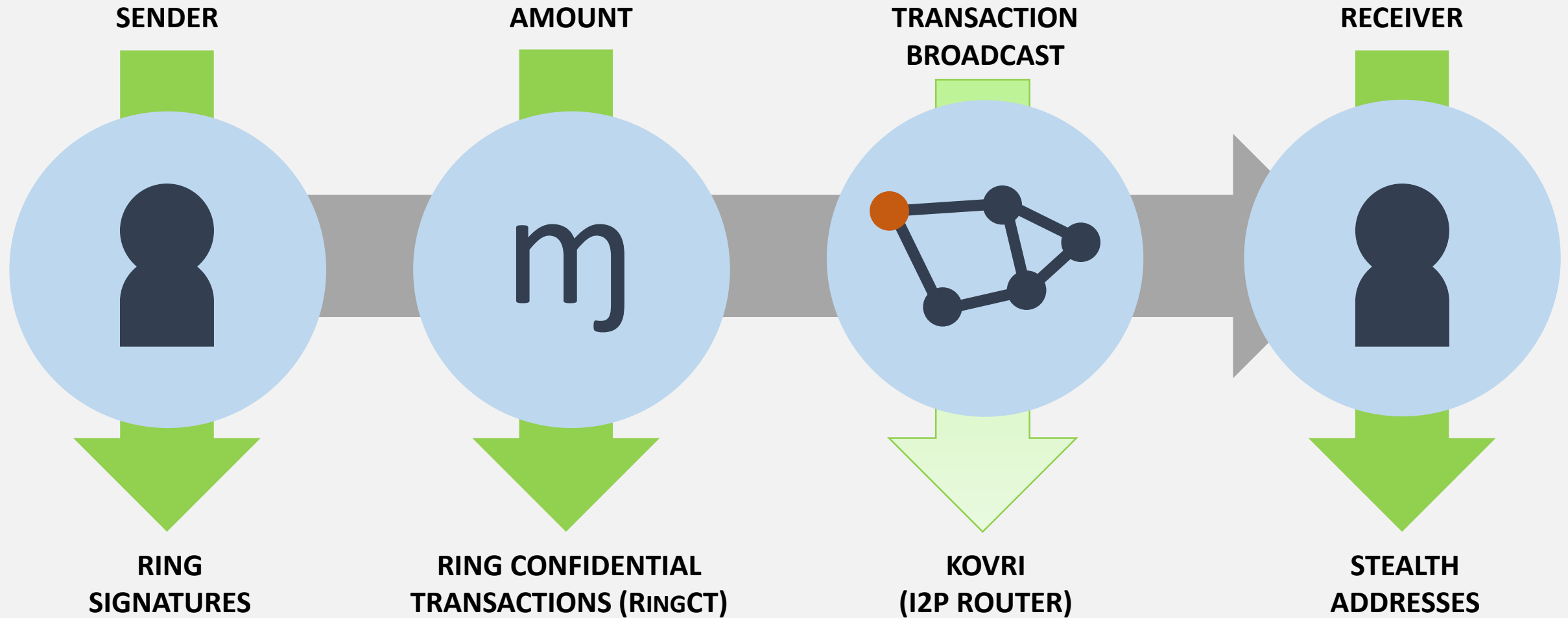
# People Started Adding Tools to Bitcoin



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# The Monero Difference



# Ring Signatures & RingCT

BLOCKCHAIN

1 (Tx ID e4hn4ifqyd5ed)

8 (Tx ID hng6iwfumwf8)

15 (Tx ID wn3f4diiijffwn)

2 (Tx ID eshgni5lsvnf74)

9 (Tx ID cb8vqfi8dfj65f)

16 (Tx ID 5 f8wnfdmmii)

3 (Tx ID wb4f5hdfdicnd)

10 (Tx ID fnidmfnu3dm8)

17 (Tx ID h8fn5mdfi4w)

4 (Tx ID nh5nogsefwjw)

11 (Tx ID twv8mf8dnfas)

18 (Tx ID n48gfwmfdki)

5 (Tx ID fgwinw3fwtk54)

12 (Tx ID h5o8mfdngkd)

19 (Tx ID fnidmnfdsam)

6 (Tx ID ybwnng8nengf)

13 (Tx ID 7nr8mrjffijdtm)

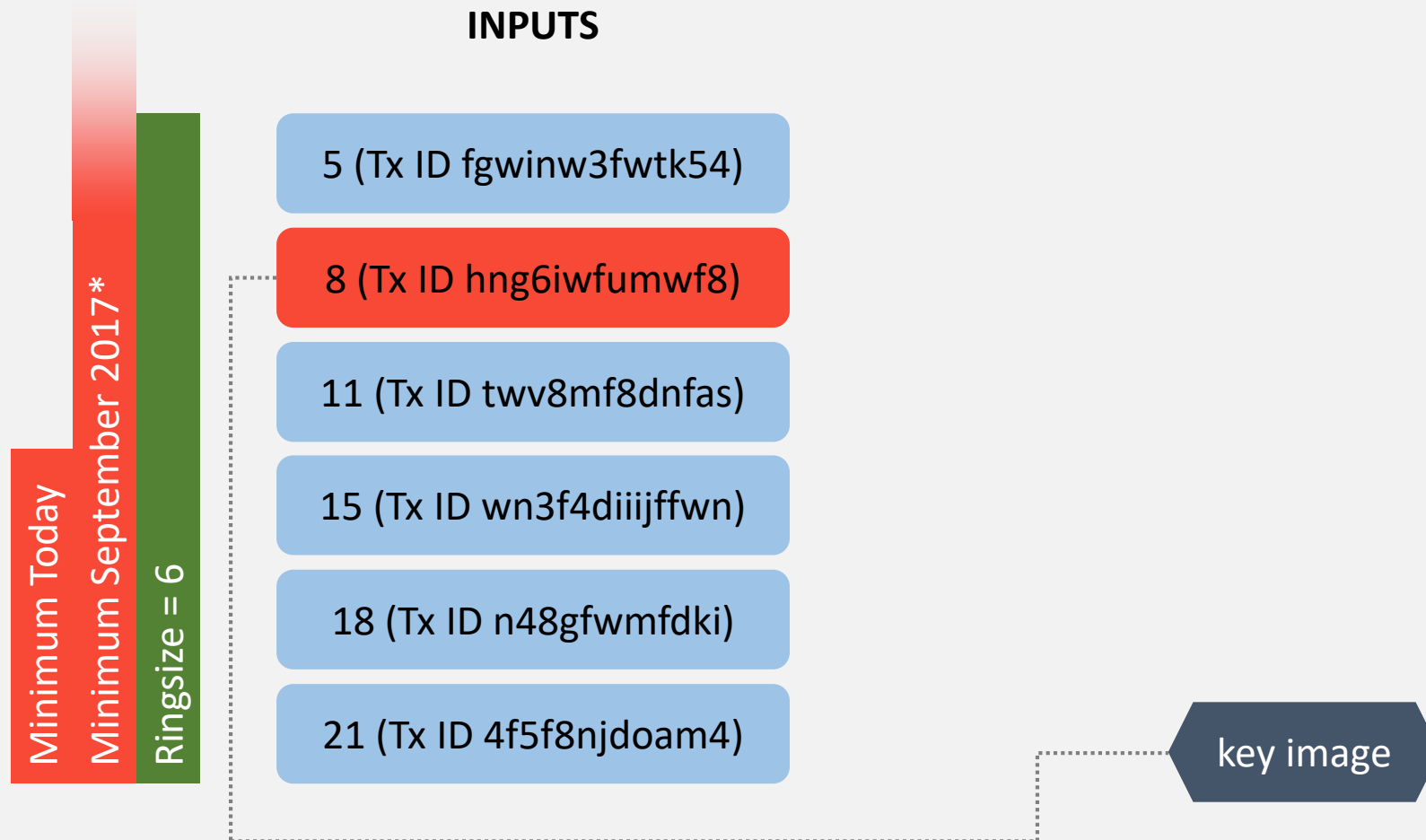
20 (Tx ID t4vn8lf8djer4)

7 (Tx ID e4bgn8flwwrj8)

14 (Tx ID f8n8madkrjmd)

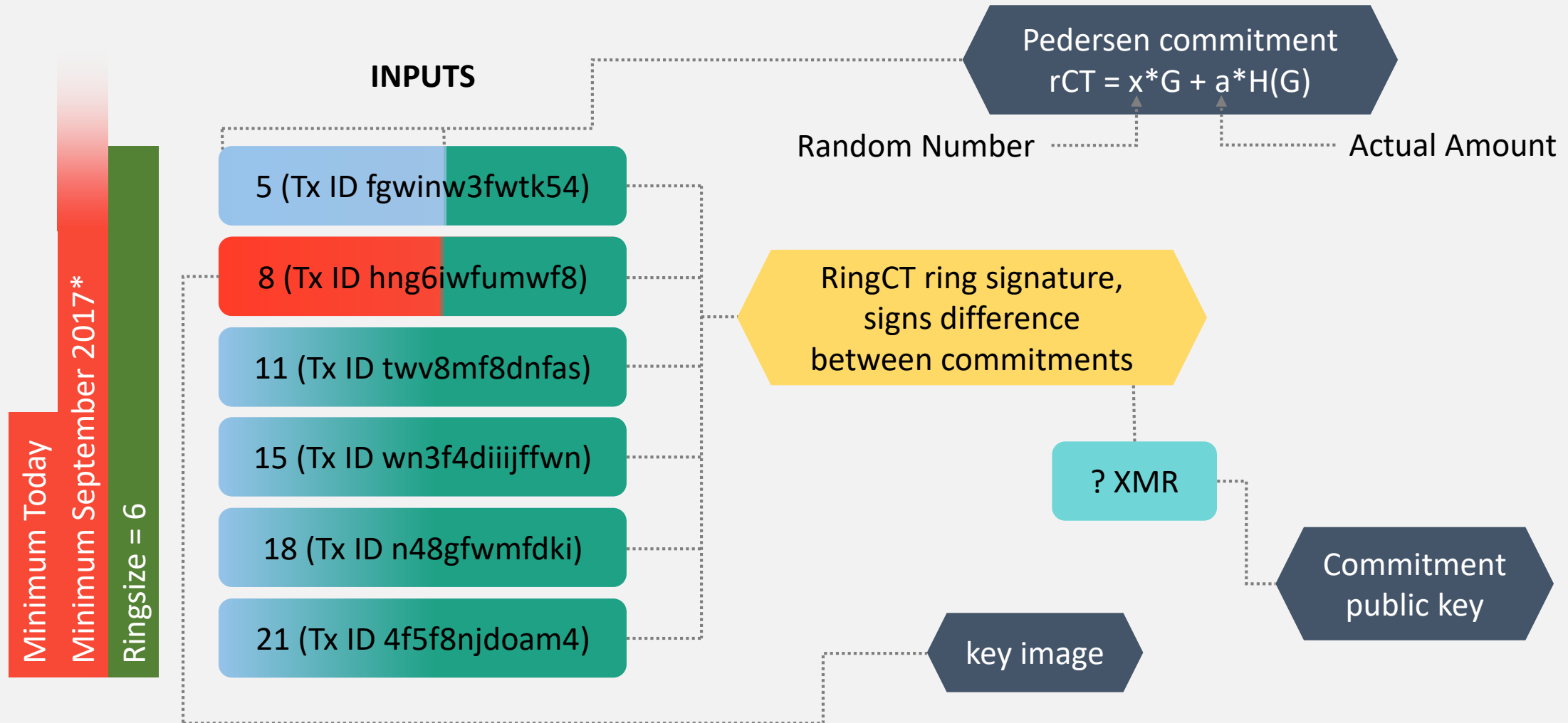
21 (Tx ID 4f5f8njdoam4)

# Ring Signatures & RingCT



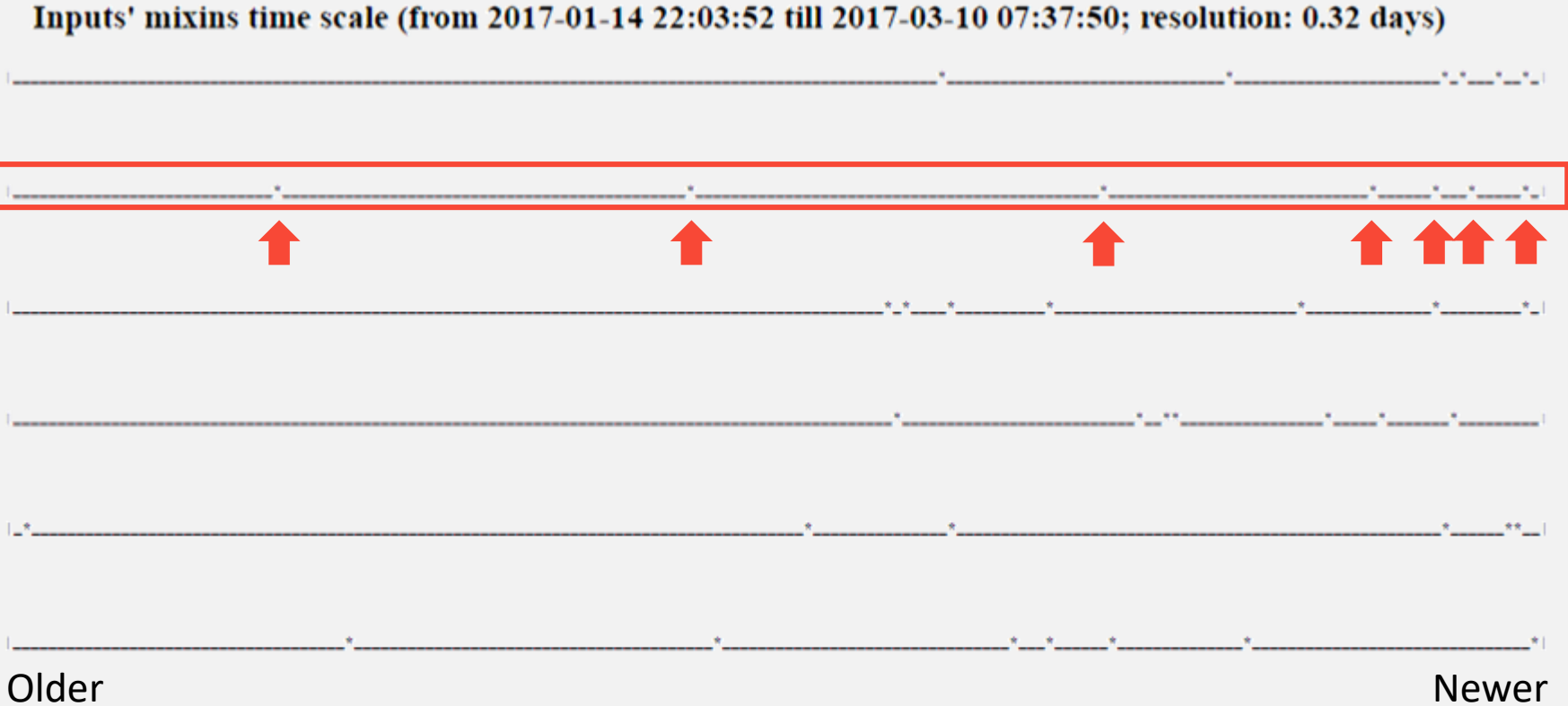
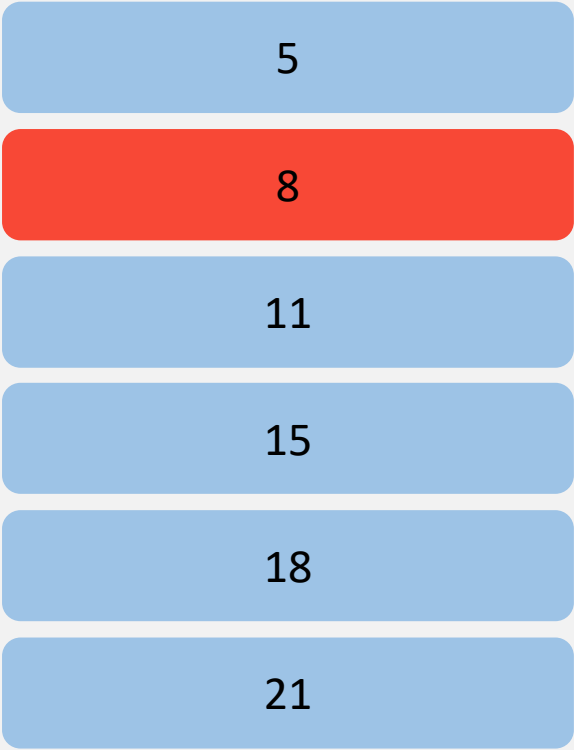


# Ring Signatures & RingCT

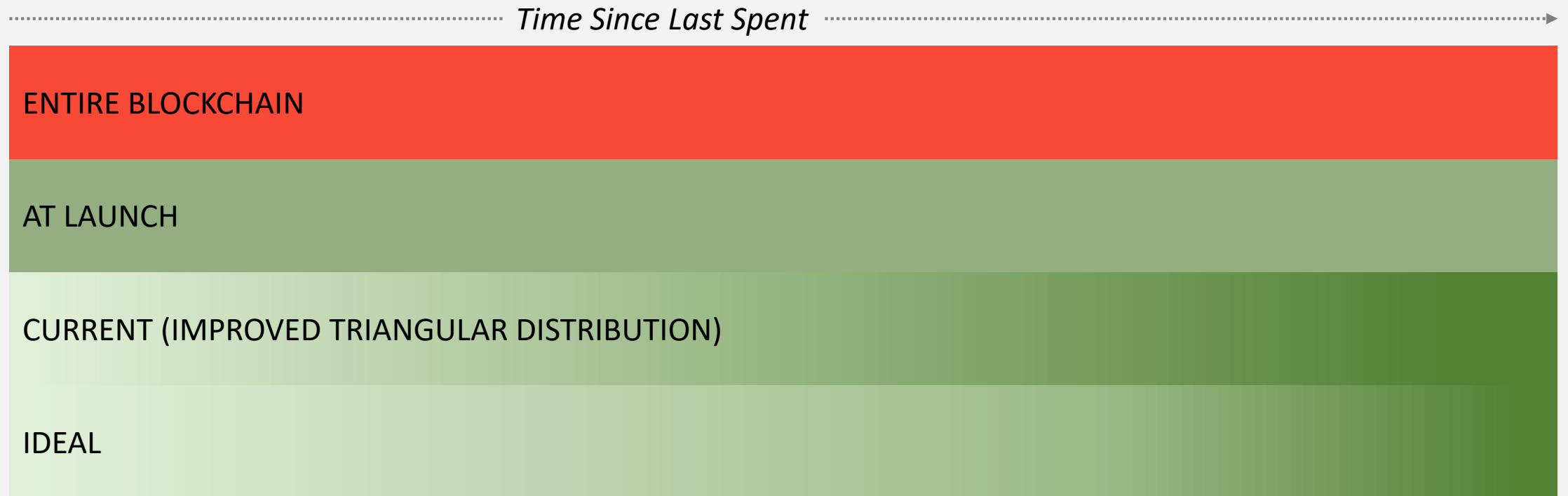


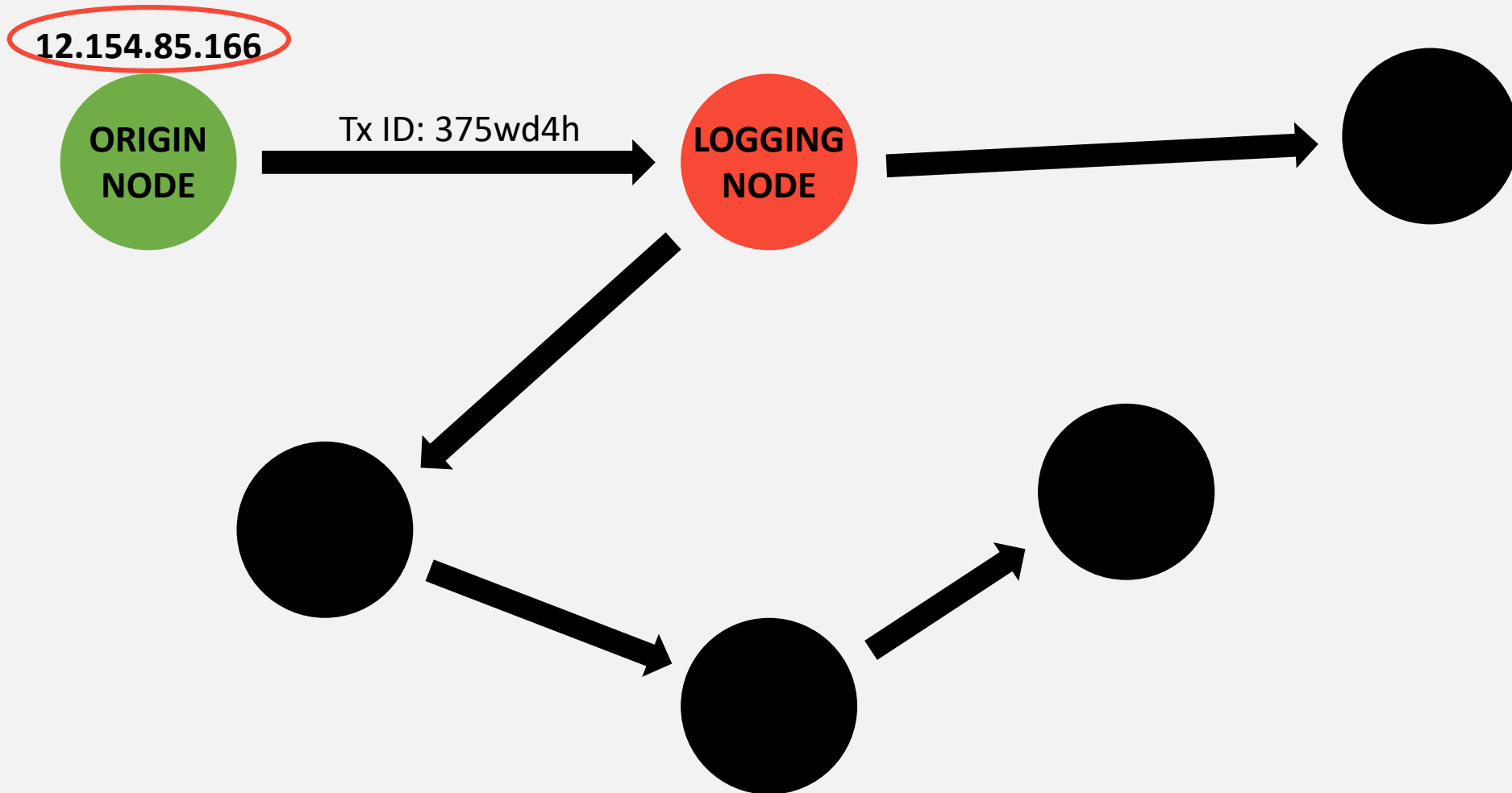
# Ring Signatures & RingCT

## INPUTS

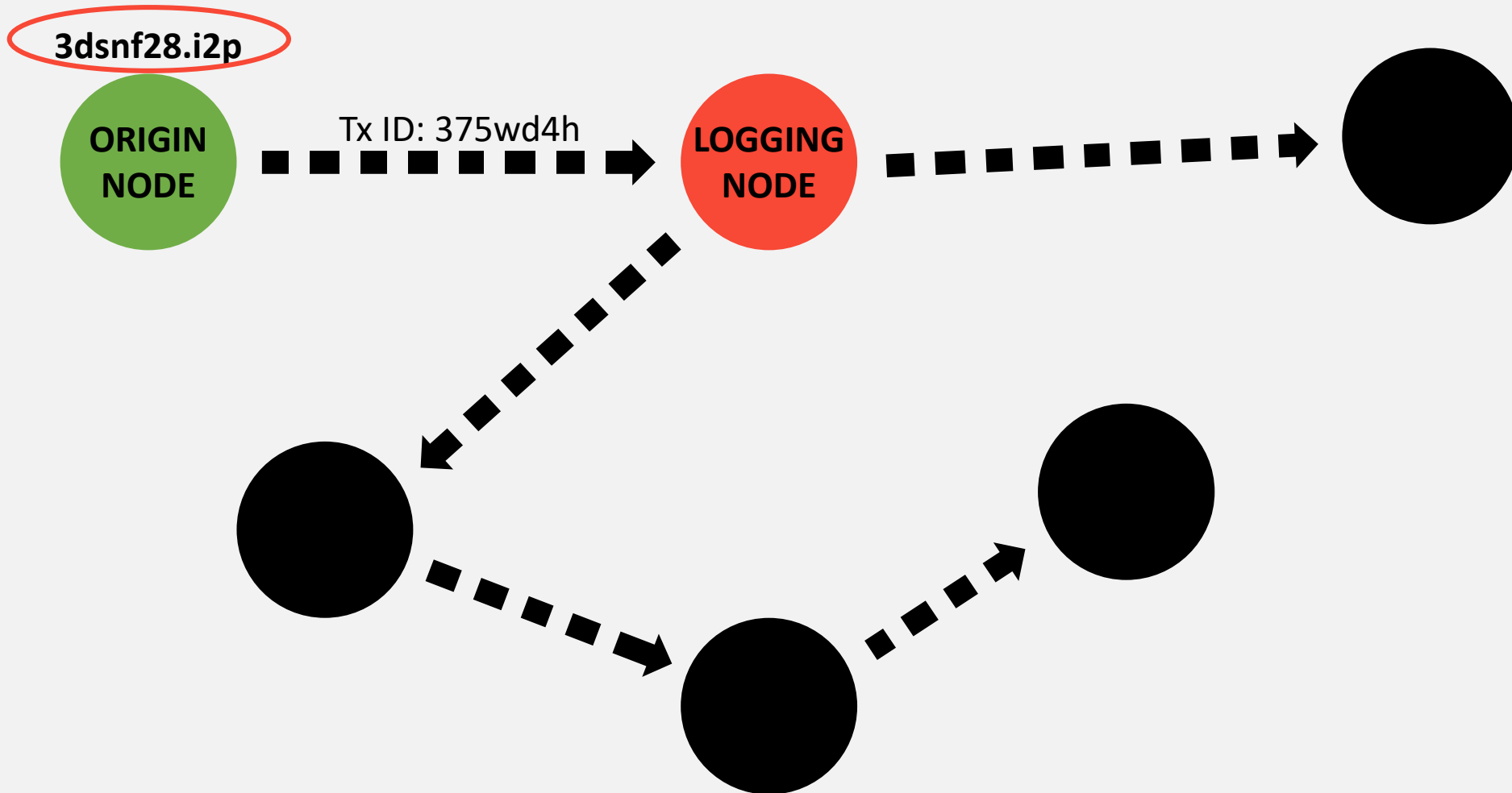


# How Inputs Are Selected











-----BEGIN PGP SIGNED MESSAGE-----  
Hash: SHA256

Coming soon!

Until we are up and running, visit:

<https://getmonero.org>  
<https://github.com/monero-project/kovri>

Contact:

ric@spagni.net  
BDA6 BD70 42B7 21C4 67A9 759D 7455 C5E3 C0CD CEB9

anonical@mail.i2p  
1218 6272 CD48 E253 9E2D D29B 66A7 6ECF 9144 09F1

-----BEGIN PGP SIGNATURE-----  
Version: GnuPG v2

```
iQIcBAEBCAAGBQJWsJidAAoJEGanbs+RRAnxt68QA7m8K9WeVP/1wJ60CSLa9Cpo
uC4h1FrBSTZp0BJ+WHGG9m3IuMm1jVchFvrHdmtuzP3100both+riLb0keGaiM2
r/L+tnqvGmOw4acdS0FDHFLAR9t+rqCWK6YG0zguOAGG15nhRLxTjdUn1ED3n35S
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5qsOX1ZkNHQo8FDLh3+ZCUELsBK6ei3SEzum/xwyoq4k3UV28mABZhyQ4AOW1UjW
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=LwM1
```

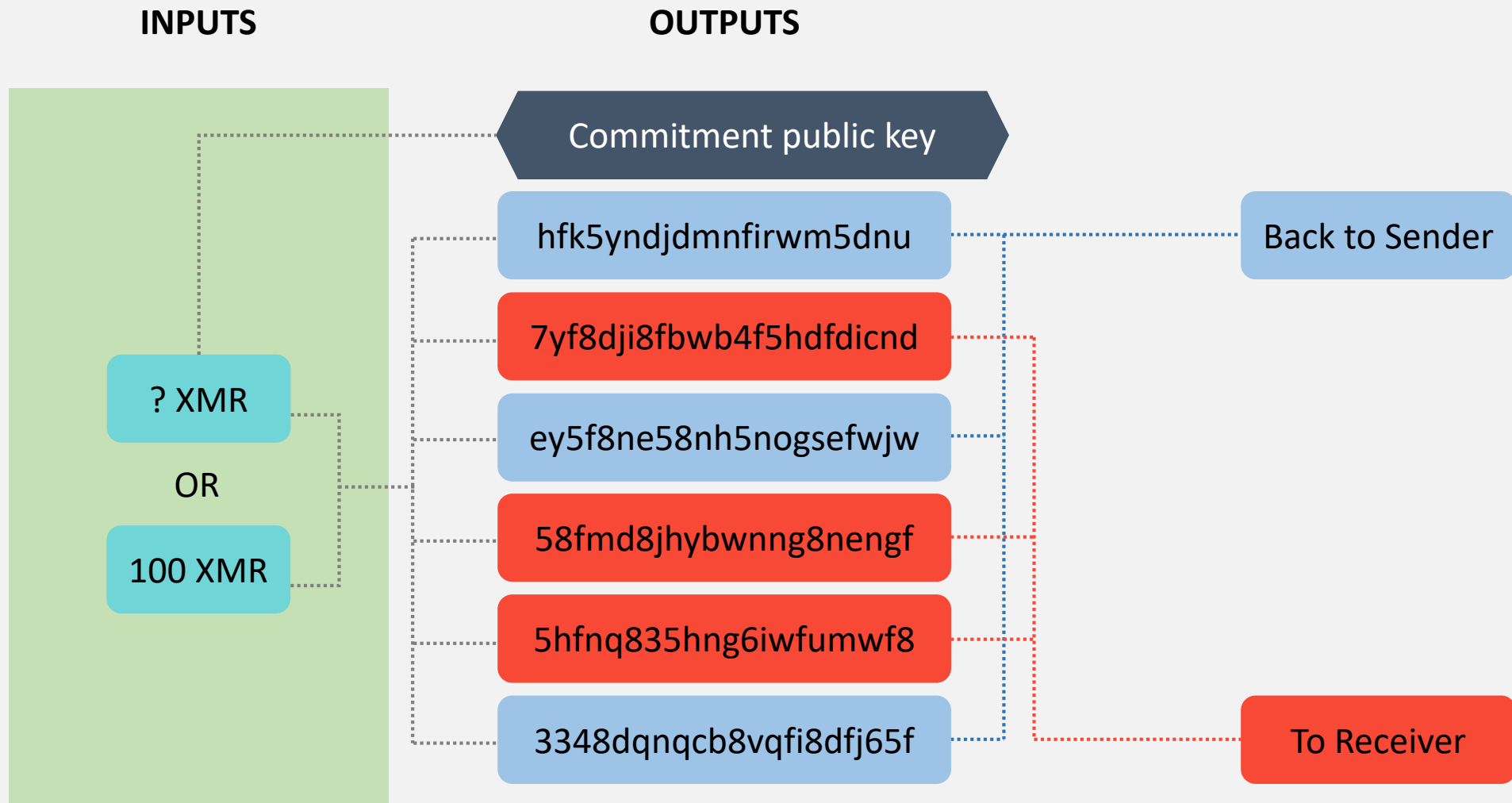
-----END PGP SIGNATURE-----

Downloads

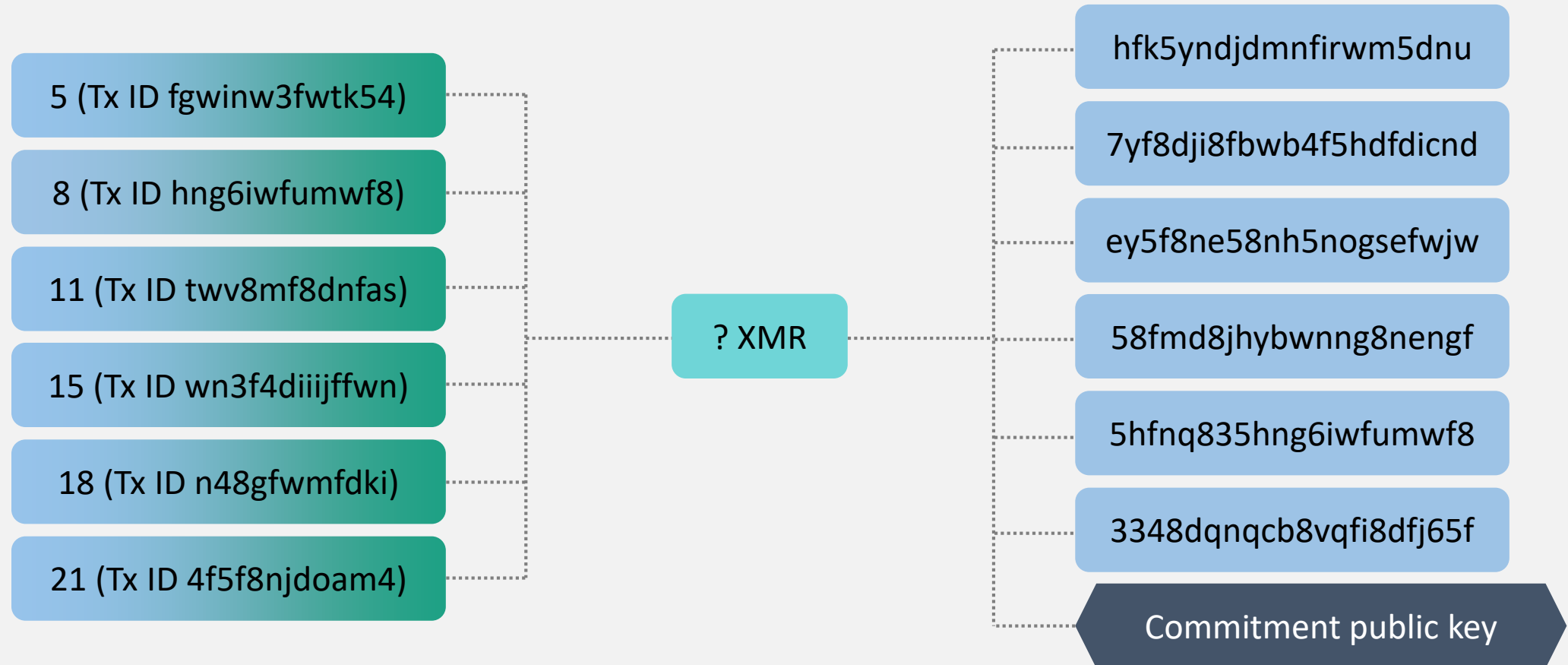
Releases

Alpha release coming soon

# Stealth Addresses



# Summary



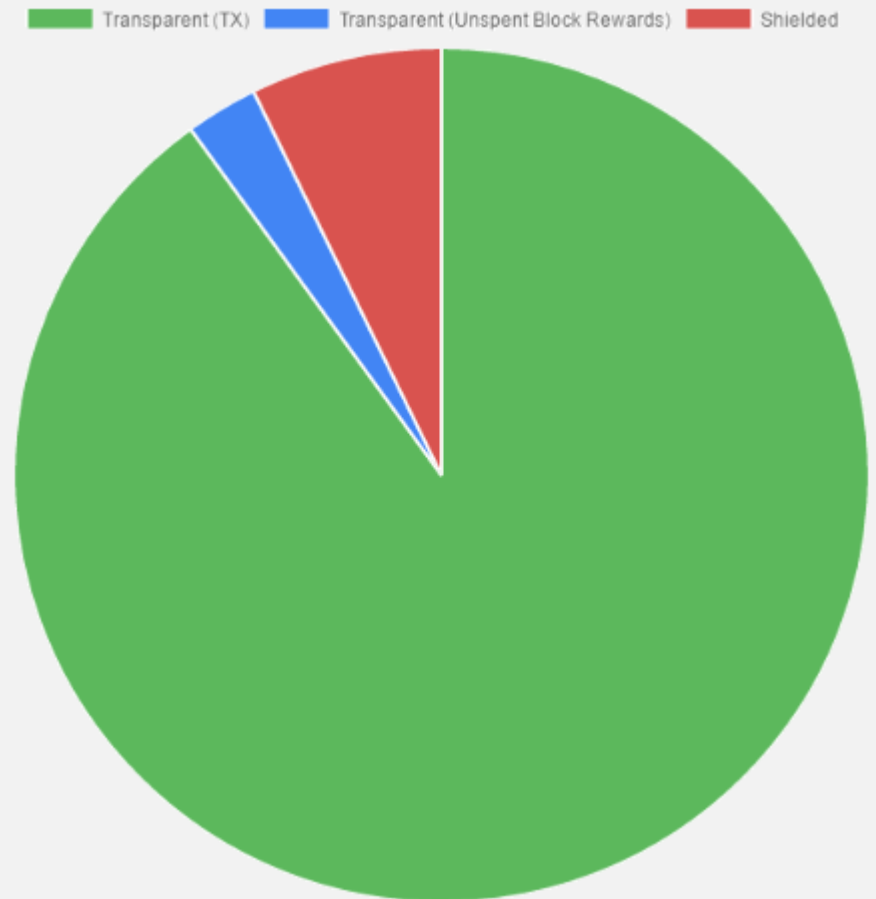


# Mandatory Privacy

## mixins used in transactions (%)

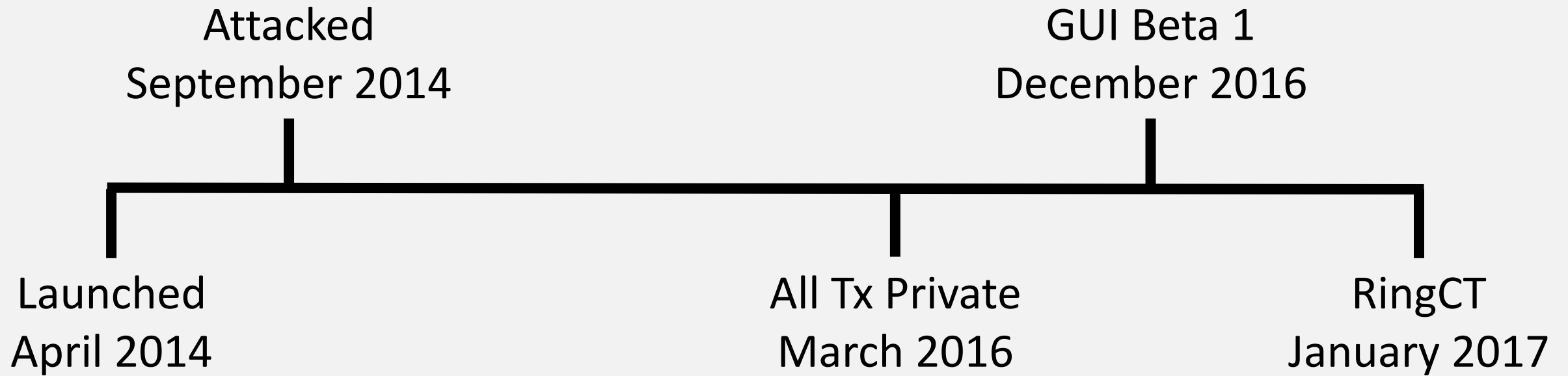
<b>mixin:</b>	<b>none :(</b>	<b>1 - 2</b>	<b>3 - 9</b>
last day	66.74	10.95	20.25
last week	66.11	6.96	24.76
last month	64.47	5.42	28.13
last year	73.04	7.36	18.16

Source: MoneroBlocks.info 24 Feb 2016



Source: zcha.in 15 March 2017

# A Brief History



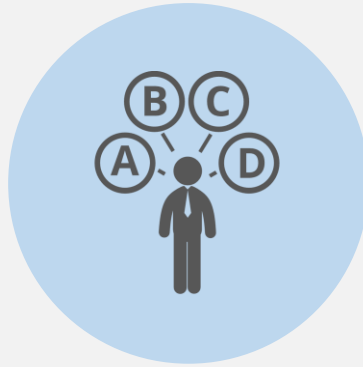
# Regulatory Compliance and Transparency

(with the View Key)



## Transparency

A view key is used to reveal all transactions for a Monero account, or just the key for a single transaction



## Selected Parties

View keys can be given to selected parties, or can be made public



## Charities

By publishing their view key, charities can invite easy public oversight



## Parents

Children can be given their own accounts, and parents can monitor their spending

# Monero Limitations





# Ongoing Development



Multisig



Sub-Addresses &  
Disposable Addresses



Translations

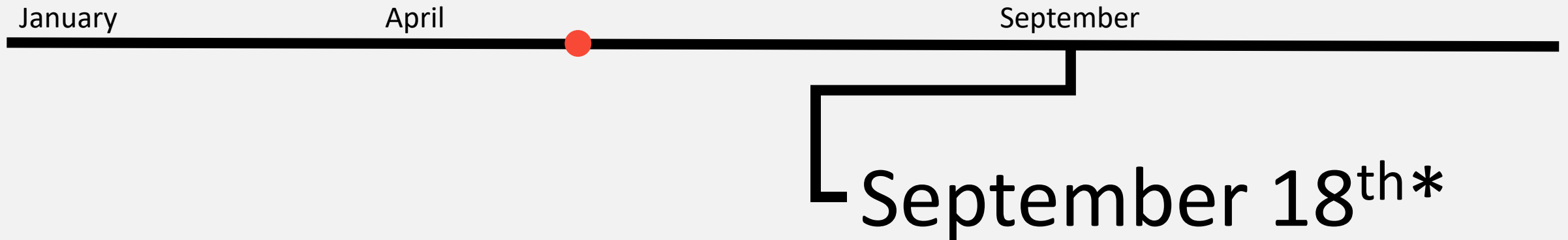


Lightweight  
Wallet



Website  
Redesign

# Hardfork Schedule



- **Mandatory RingCT**
- **Minimum ringsize  $\geq 5$**
- Fluffy blocks
- Improved input selection algorithm

# Thank You!



**[getmonero.org](http://getmonero.org)**



**[/r/Monero](https://www.reddit.com/r/Monero)**



**[monero.stackexchange.com](http://monero.stackexchange.com)**