



Aeternity & Erlang

Aeternity vs The World

Michal Zajda | architect @ aeternity
t: @michalzajda

Agenda

- PART 1: Advantages of Erlang
- PART 2: Blockchains



Before we start...

Who am I?
Who is the team?

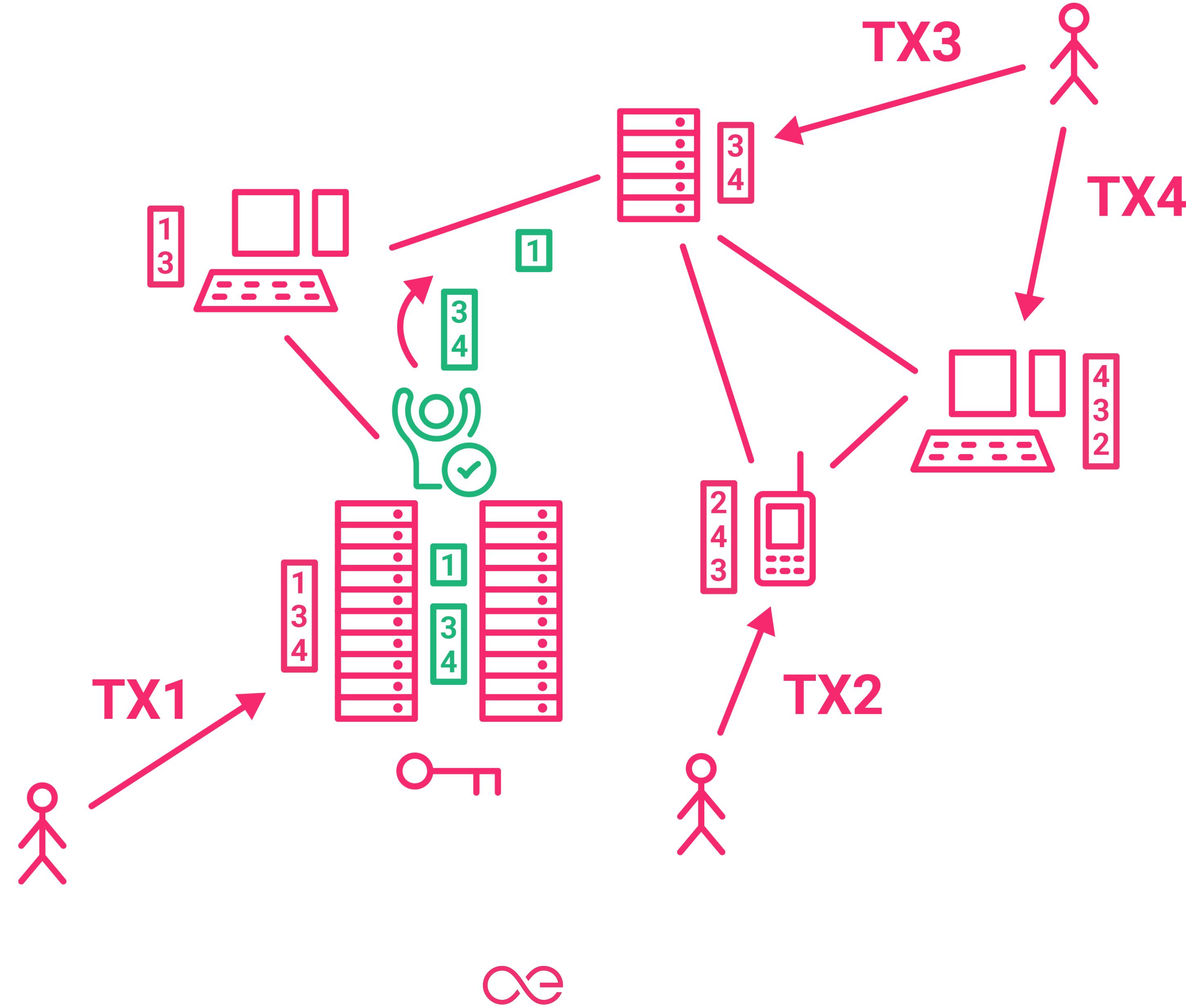
- over 200 years of Erlang experience



Continuous Operations

- stable version from the very beginning
- compare and reason about improvements
- scaling the team and process





II

Networking

- Efficient libraries
- Natural to program network interactions



III

Cryptography noise protocol

- Bitsyntax
- More network friendliness



```

148  handle_data(S = #state{ rawbuf = Buf, rx = Rx }, Data) ->
149      case <<Buf/binary, Data/binary>> of
150          B = <<Len:16, Rest/binary>> when Len > byte_size(Rest) ->
151              {S#state{ rawbuf = B }, []}; %% Not a full Noise message – save it
152          <<Len:16, Rest/binary>> ->
153              <<Msg:Len/binary, Rest2/binary>> = Rest,
154              case enoise_cipher_state:decrypt_with_ad(Rx, <>, Msg) of
155                  {ok, Rx1, Msg1} ->
156                      {S1, Msgs} = handle_data(S#state{ rawbuf = Rest2, rx = Rx1 }, <>),
157                      {S1, [Msg1 | Msgs]};
158                  {error, _} ->
159                      error({enoise_error, decrypt_input_failed})
160              end;
161          EmptyOrSingleByte ->
162              {S#state{ rawbuf = EmptyOrSingleByte }, []}
163      end.

```



IV

State Machine

- (CORE) Orchestrating components of the system
- (CHANNELS) Managing peers' states



V

All The Small Things

- HTTP, components, pools, daemonizaton, parallel processing



PART 2

The most frequently
asked **question**



Protocol designed from scratch

Naming, Oracles and...



Consensus

lower latency but still for open
platform



VM

Powerful but suitable for
blockchain

safe, native



Channels

Real game changer

Erlang! Quality when native!



Thank you!

- Bitcoin: A Peer-to-Peer Electronic Cash System, Satoshi Nakamoto, 2008
- <git://aeternity/protocol>
- <git://aeternity/enoise>
- <https://aeternity.com/>

