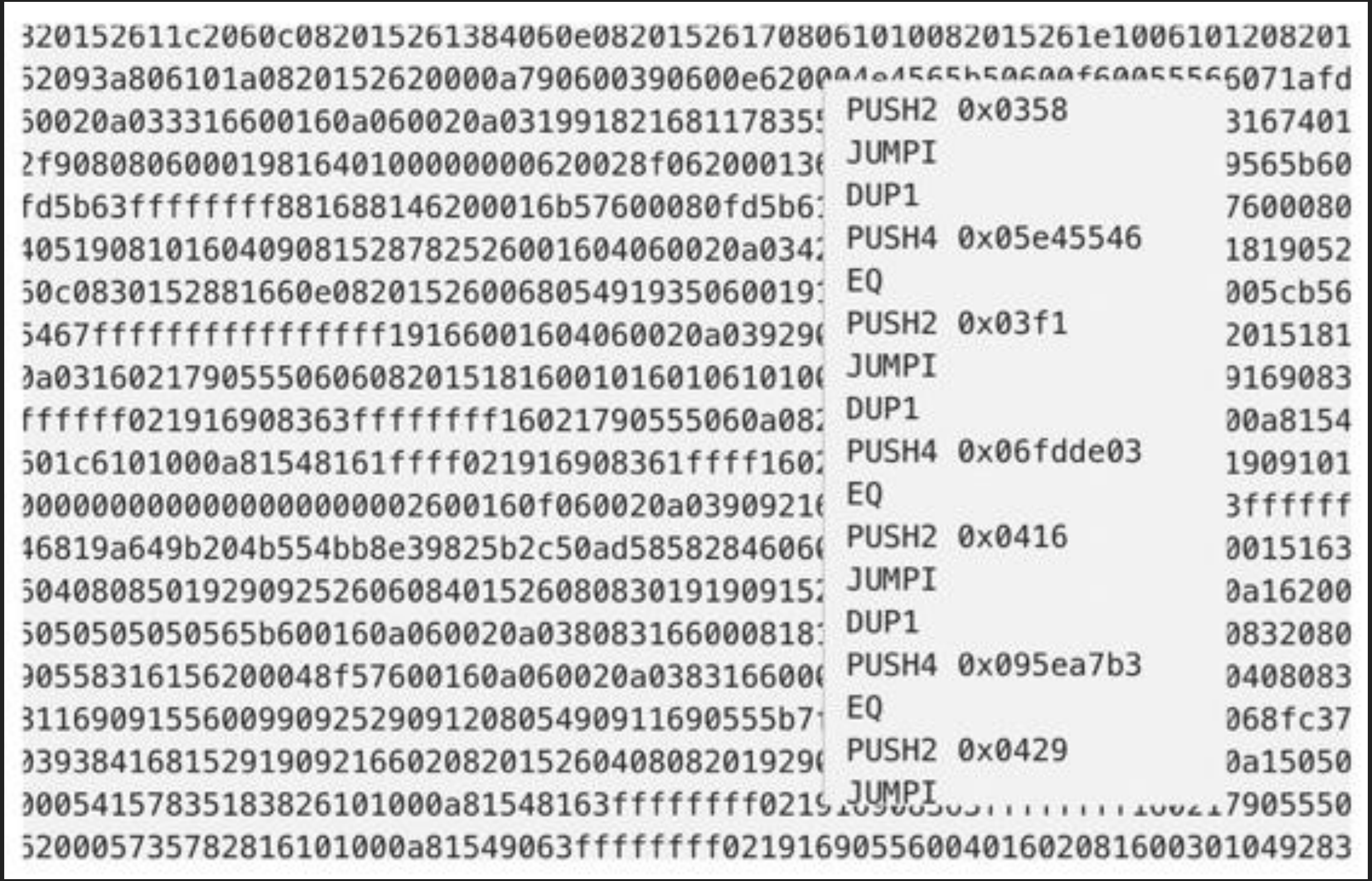
STATEBOX

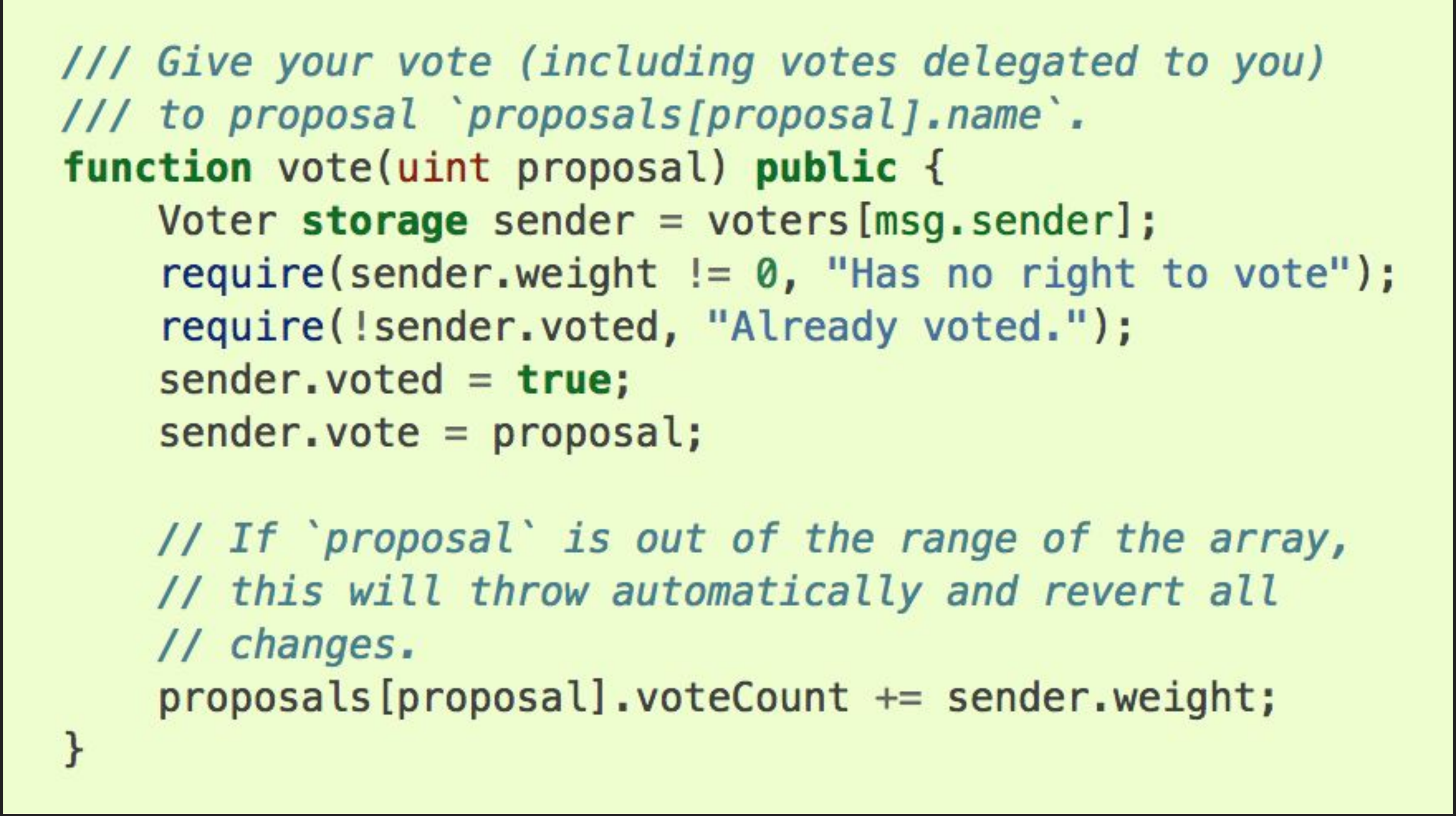
Programming Reinvented

The Problems Statebox is Solving

- The **increasing complexity** of business requirements
- The difficulty encountered when **integrating different systems**
- High **cost of maintaining**, upgrading and building complex systems
- Gap between **understanding code** and people
- The **slow pace** at which mission-critical software is developed

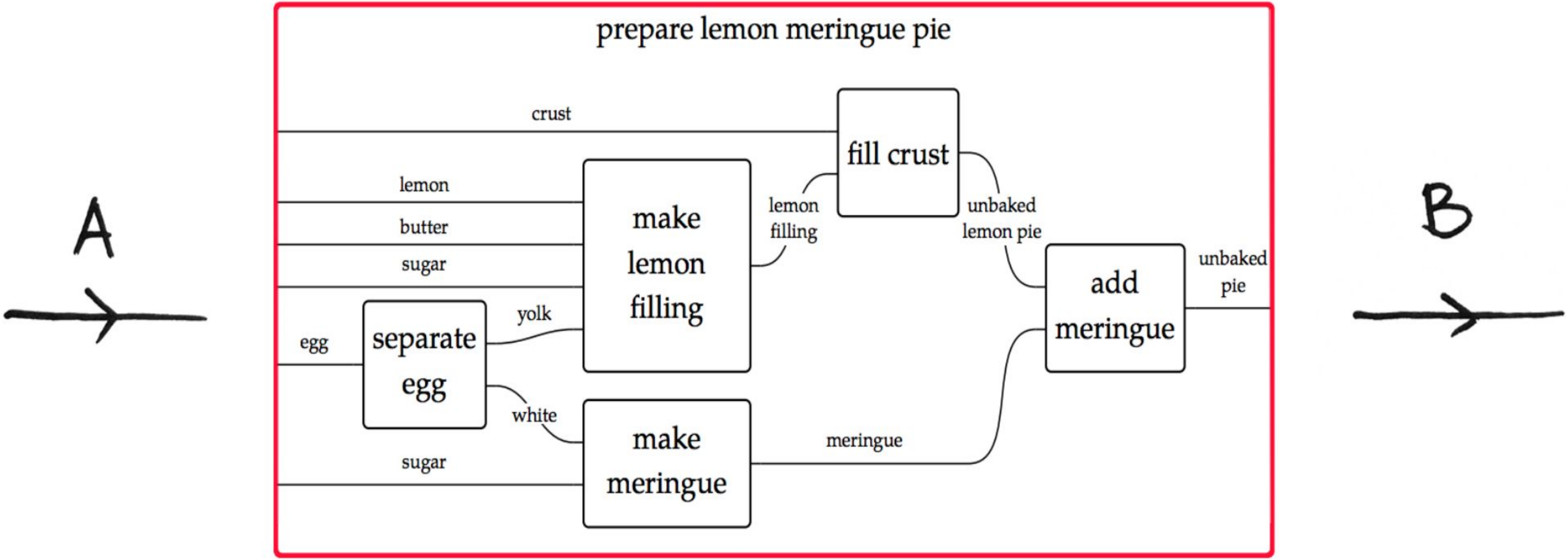


```
320152611c2060c082015261384060e082015261708061010082015261e1006101208201
52093a806101a0820152620000a790600390600e620004e4565b50600f60055566071afd
50020a033316600160a060020a0319918216811783555  PUSH2 0x0358              3167401
2f908080600019816401000000000620028f062000136  JUMPI                     9565b60
fd5b63ffffffff881688146200016b57600080fd5b61  DUP1                      7600080
405190810160409081528782526001604060020a0342  PUSH4 0x05e45546          1819052
50c0830152881660e08201526006805491935060019  EQ                         005cb56
5467ffffffffffffffff191660016040600020a03929  PUSH2 0x03f1              2015181
0a031602179055506060820151816001016010610100  JUMPI                     9169083
ffffff021916908363ffffffff1602179055506 0a082  DUP1                      00a8154
501c6101000a81548161ffff021916908361ffff1602  PUSH4 0x06fdde03          1909101
0000000000000000000000002600160f060020a0390921  EQ                         3ffffff
46819a649b204b554bb8e39825b2c50ad58582846060  PUSH2 0x0416              0015163
5040808501929092526060840152608083019190915  JUMPI                     0a16200
505050505050565b600160a060020a038083166000818  DUP1                      0832080
90558316156200048f57600160a060020a0383166000  PUSH4 0x095ea7b3          0408083
3116909155600990925290912080549091169055b7  EQ                         068fc37
03938416815291909216602082015260408082019290  PUSH2 0x0429              0a15050
00054157835183826101000a81548163ffffffff0219  JUMPI                     7905550
52000573578281610100 0a81549063ffffffff021916905560040160208160030104 9283
```



```
/// Give your vote (including votes delegated to you)
/// to proposal `proposals[proposal].name`.
function vote(uint proposal) public {
    Voter storage sender = voters[msg.sender];
    require(sender.weight != 0, "Has no right to vote");
    require(!sender.voted, "Already voted.");
    sender.voted = true;
    sender.vote = proposal;

    // If `proposal` is out of the range of the array,
    // this will throw automatically and revert all
    // changes.
    proposals[proposal].voteCount += sender.weight;
}
```



A

prepare lemon meringue pie

crust

lemon

butter

sugar

egg

separate egg

yolk

white

sugar

make lemon filling

make meringue

lemon filling

fill crust

meringue

unbaked lemon pie

add meringue

unbaked pie

B

Target Market

Statebox is creating a formally verified, scalable/compositional, visual software based on category theory / universal properties, which allows for the creation of an entirely new class of softwares:

- across domains
- decentralized
- understandable
- turing incomplete

Statebox improves the existing software landscape:

- Cloud hosting solutions (AWS, GoogleCloud, Azure) can use Statebox synergistically with their existing software.
- IoT, blockchain, big data integration is in need of reliable software which is easy to learn and use.

Competitive Advantages

- Statebox uses the power of **category theory** for software and hardware construction.
- Our programming paradigm: Every “line of code” adds to the *entire* ecosystem and has **exponentially increasing ROI**, whereas big traditional codebases are expensive to maintain and have diminishing ROI.
- The **elimination of** entire families of architectural problems and **bugs** thanks to cutting edge programming techniques.
- **Easy integration with different systems** by means of *compositionality* and *agnosticity*.
- Our **academic support**: The founding pioneers of string diagrams and many prominent category theorists are associated with Statebox. This reflects in the high quality of our research.

Who is Statebox

- Team: Experienced functional developers, mathematicians, formal verification experts, blockchain veterans.
- Advisors: Academic researchers in mathematics, economics and computer science from world-renowned universities (Oxford, MIT, St. Gallen, Strathclyde).
- Partners: GUTS, Lamassu Cryptomats, Truebit, Categorical Informatics.

Current Status

Statebox Studio

- Enables the creation and edit of processes via a graphical user interface.
- Implements rules about data “shape” (types) to ensure correctness.
- Configures user permissions and assign roles for different actions.

Statebox Engine

- Ensures the accuracy of executing the process.
- Automatically generates API which allows interaction with the hosted process.
- Native interfaces for different languages.

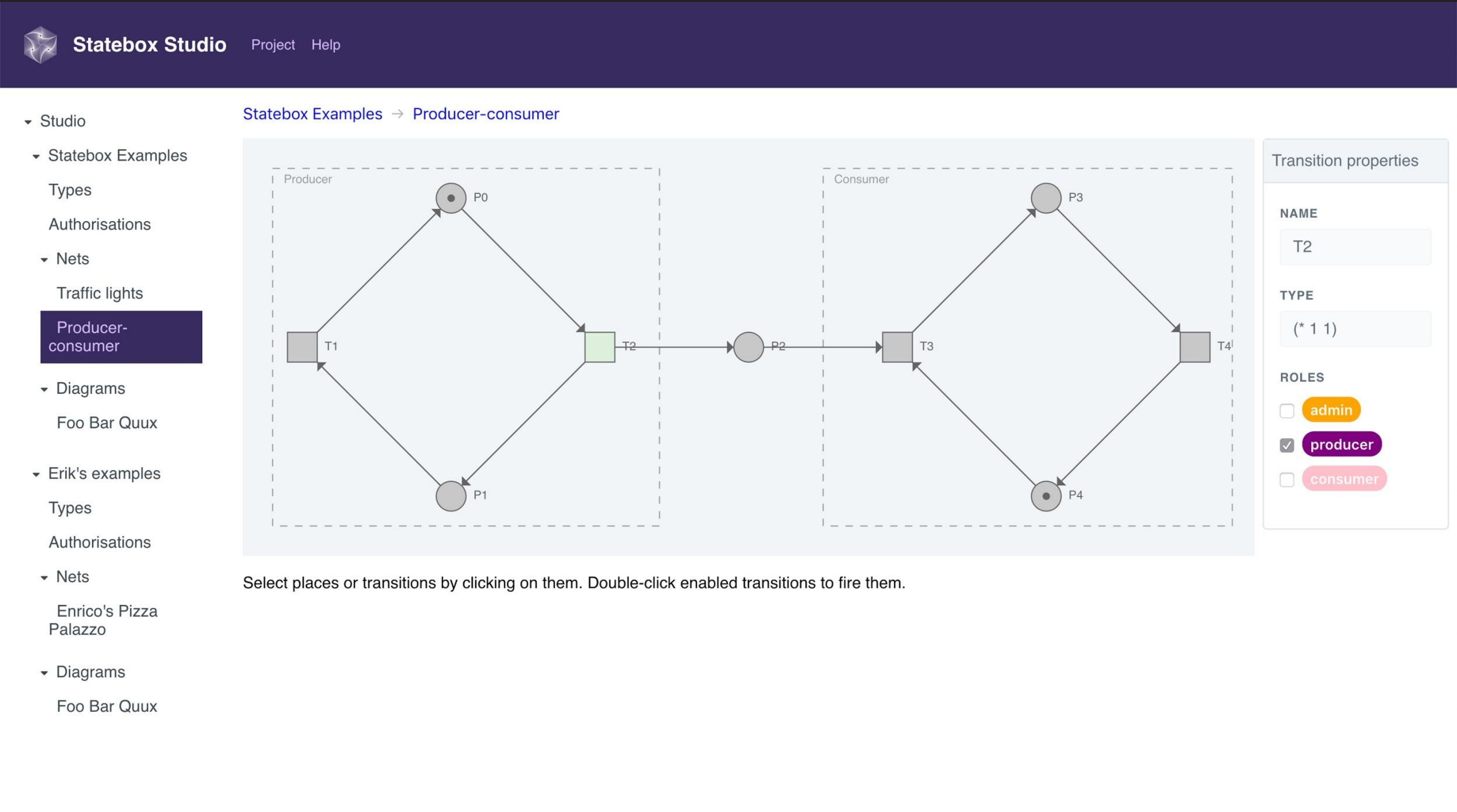
Current Status

Statebox Cloud

- Initially available as a GraphQL API.
- Authentication & key management.
- Integration with Statebox Studio.

Typedefs

- An intermediary language which translates types from Statebox processes into target languages. It is essentially a well-structured data encoder/decoder.



Transition properties

NAME

T2

TYPE

(* 1 1)

ROLES

□ admin

☑ producer

□ consumer

Select places or transitions by clicking on them. Double-click enabled transitions to fire them.

Thank you!

Follow us on Twitter @statebox or join our Telegram channel.

More info at Statebox.org