



ETHTerakoya

June 2021

Session 1

Blockchain Scaling Workshop

Agenda

- 1. About ETHTerakoya**
- 2. Introducing Members**
- 3. About the Working Group**
 - 1. Issues and Objectives**
 - 2. The Ultimate Goal and Outcomes**
 - 3. Schedule**
 - 4. Activities**
- 4. Tasks for the Next Session**
 - 1. Measurement Method**
 - 2. What to Measure**
 - 3. Metrics and Benchmarks**

1. About ETHTerakoya

2. Introducing Members

- Organization belongs to
- Activities
- What to expect from this working group, etc.

3. About the Working Group

❑ Issues and Objectives

❑ Issues

- ❑ There are no standard metrics
- ❑ Each business sets its own criteria and performs measurements
- ❑ [Example](#)

❑ Objectives

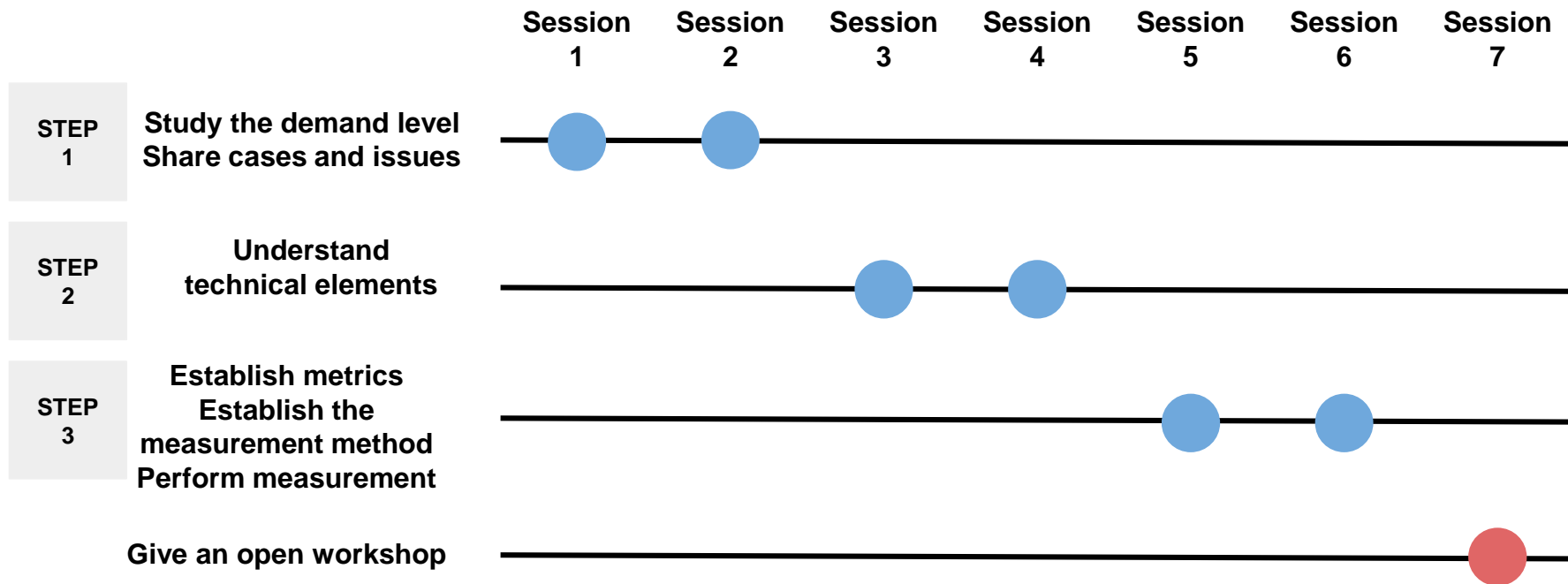
- ❑ Establish performance metrics
 - ❑ Establish measurement criteria and parameters
 - ❑ Discuss "practical" performance requirements in specific use cases

3. About the Working Group

- ❑ **The Ultimate Goal and Outcomes**
 - ❑ **Determine the metrics**
 - ❑ **Keep the record**
 - ❑ **Example**
 - ❑ **Experiment measurement based on the above criteria**

3. About the Working Group

□ Schedule



3. About the Working Group

□ Activities

STEP
1

Study the demand level
Share cases and issues

- Share project examples, issues, and the demand level of improving performance scaling for specific products or use cases

STEP
2

Understand
technical elements

- Introduce technical elements that help improve performance measurement

STEP
3

Establish metrics
Establish the
measurement method
Perform measurement

- Have discussions on metrics based on STEP 1
- Establish standard metrics and select measurement tools/software
- Measure performance

Give an open workshop

- Present our activities above (STEP 1–3) in the open workshop

3. About the Working Group

□ Activities

STEP 1
Study the demand level
Share cases and issues

- Share project examples, issues, and the demand level of improving performance scaling for specific products or use cases

STEP 2
Understand technical elements

- Introduce technical elements that help improve performance measurement

STEP 3
Establish metrics
Establish the measurement method
Perform measurement

- Have discussions on metrics based on STEP 1
- Establish standard metrics and select measurement tools/software
- Measure performance

- Present our activities above (STEP 1–3) in the open workshop

4. Tasks for the Next Session

Measurement Method

- Which measurement tools should be used?
- Examples: [Hyperledger Cariper](#), [Blockbench](#)

What to Measure

- Examples: Ethereum: Mainnet, PoA, Quorum, L2 chains, etc.
- Examples: Hyperledger: Fabric, Indy, Besu, Iroha, etc.
- Examples: Other blockchains: Mina Protocol, Flow, etc.

Metrics and Benchmarks

- Which use case will be used as a standard?
- Which benchmarks will be used?
- Examples: throughput, latency, scalability (Can be varied with parameter changes)

References

Issues in measurement

- ❑ There are no standard metrics
- ❑ Each entity uses its own metrics
 - ❑ ↓ From Flow's white paper
 - ❑ Result of sending 7995tx
 - ❑ What are the CPU specs, latency, and workloads?

	Processing Time [s]	Throughput [TX/s]
Experiment (I)	5.14	1555.4
Experiment (II)	291	27.5
Experiment (III)	293	27.3

Issues in measurement

- ❑ **Performance evaluation vs. benchmarking**
 - ❑ **Performance evaluation:**
 - ❑ The process of measuring the performance of a system under test
 - ❑ **Benchmarking:**
 - ❑ The process of making standard measurements to compare one system to another

Source: [Hyperledger Blockchain Performance Metrics](#)