

Client for automatic scalability measurement



<Author>
<Organization>
<date>

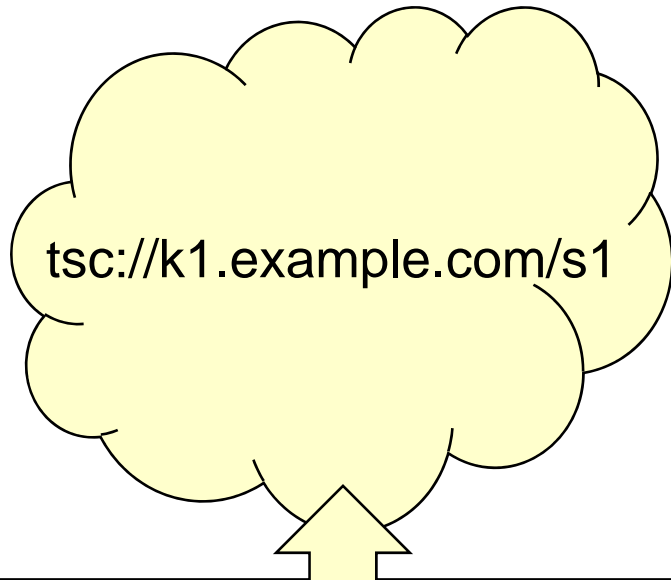


- Multiple clients execute tests simultaneously
- Configured via RDF triples
 - Operation
 - Number of repetitions
 - ...
- CPU, memory consumption can be monitored (using JMX)
- Duration of executed operation has to be measured by clients

Scalability Client



Operator



space containing the test configuration for all kernels



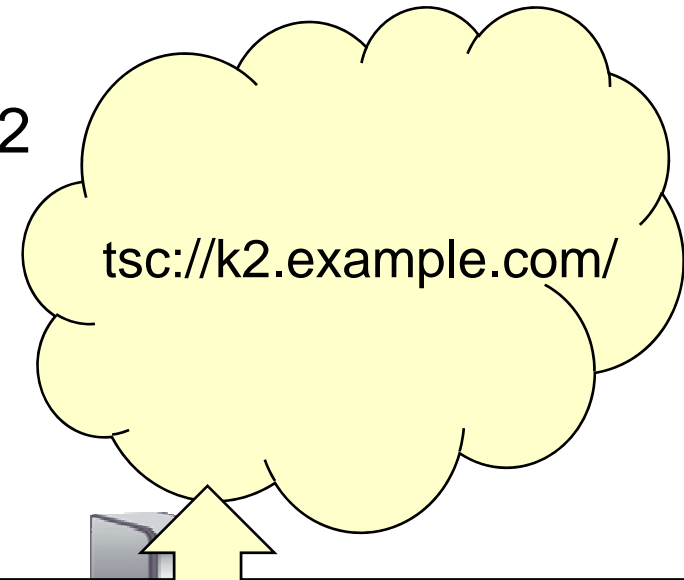
Client1



Client2



Client3

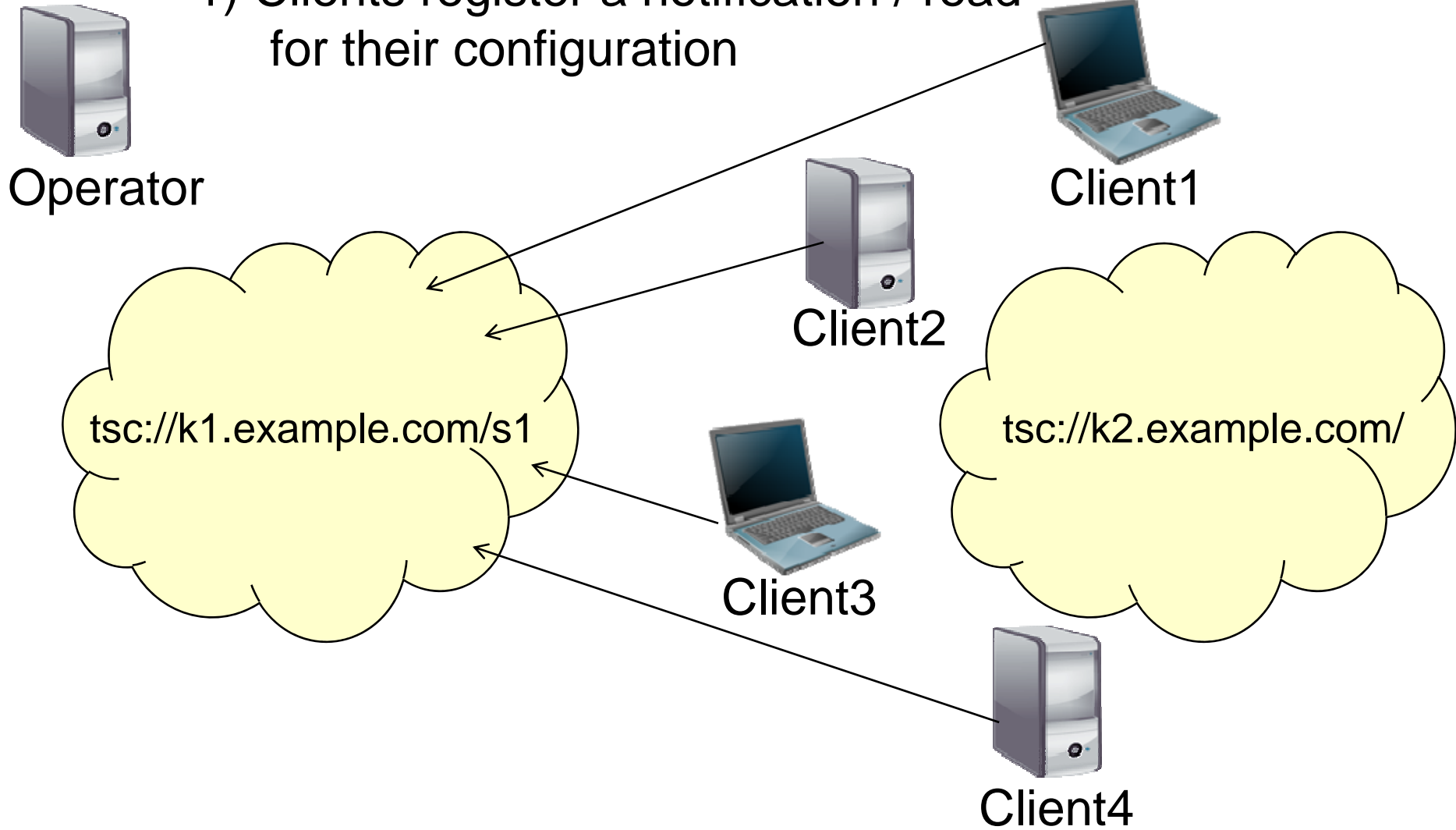


tested kernels may contain multiple (sub)spaces

Scalability Client



1) Clients register a notification / read for their configuration

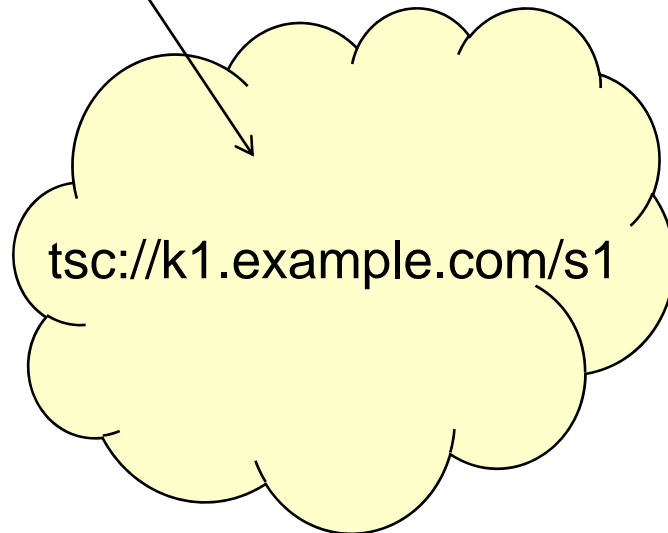


Scalability Client

2) Operator writes the configurations for the clients



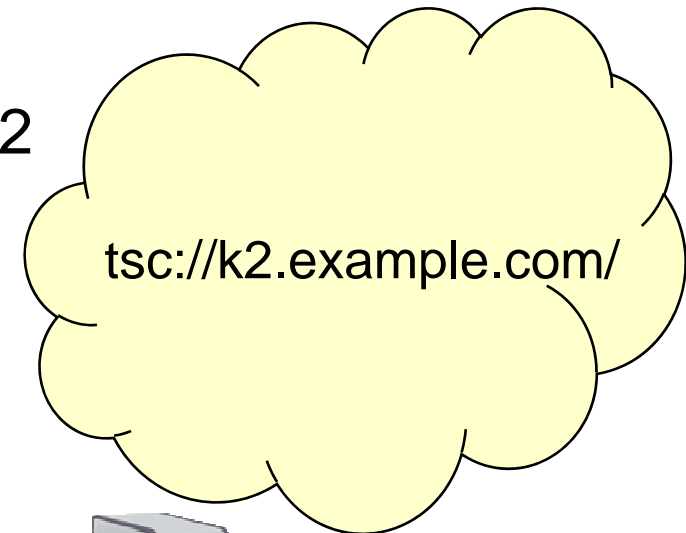
Operator



Client1



Client2



Client3

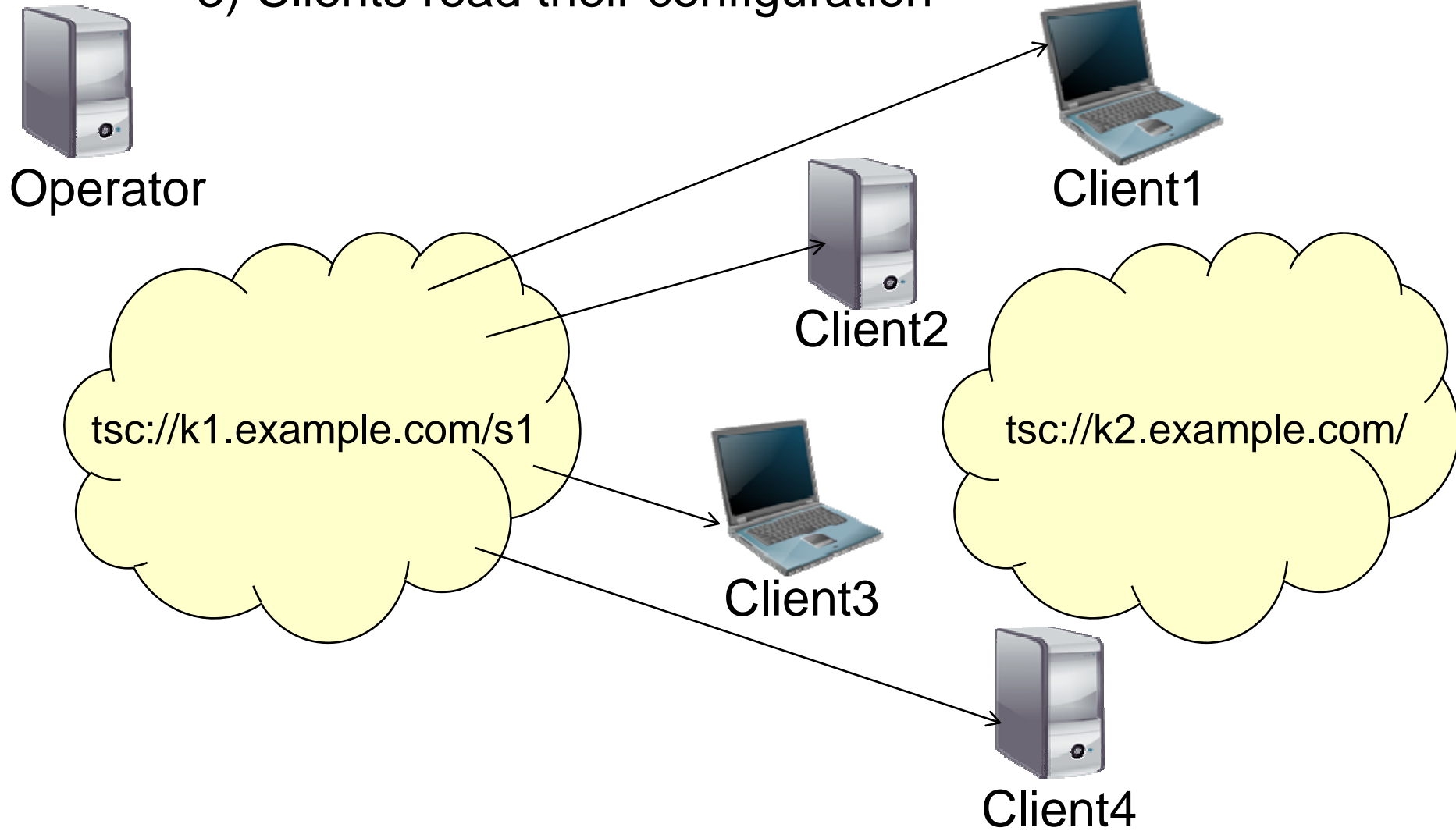


Client4

Scalability Client



3) Clients read their configuration

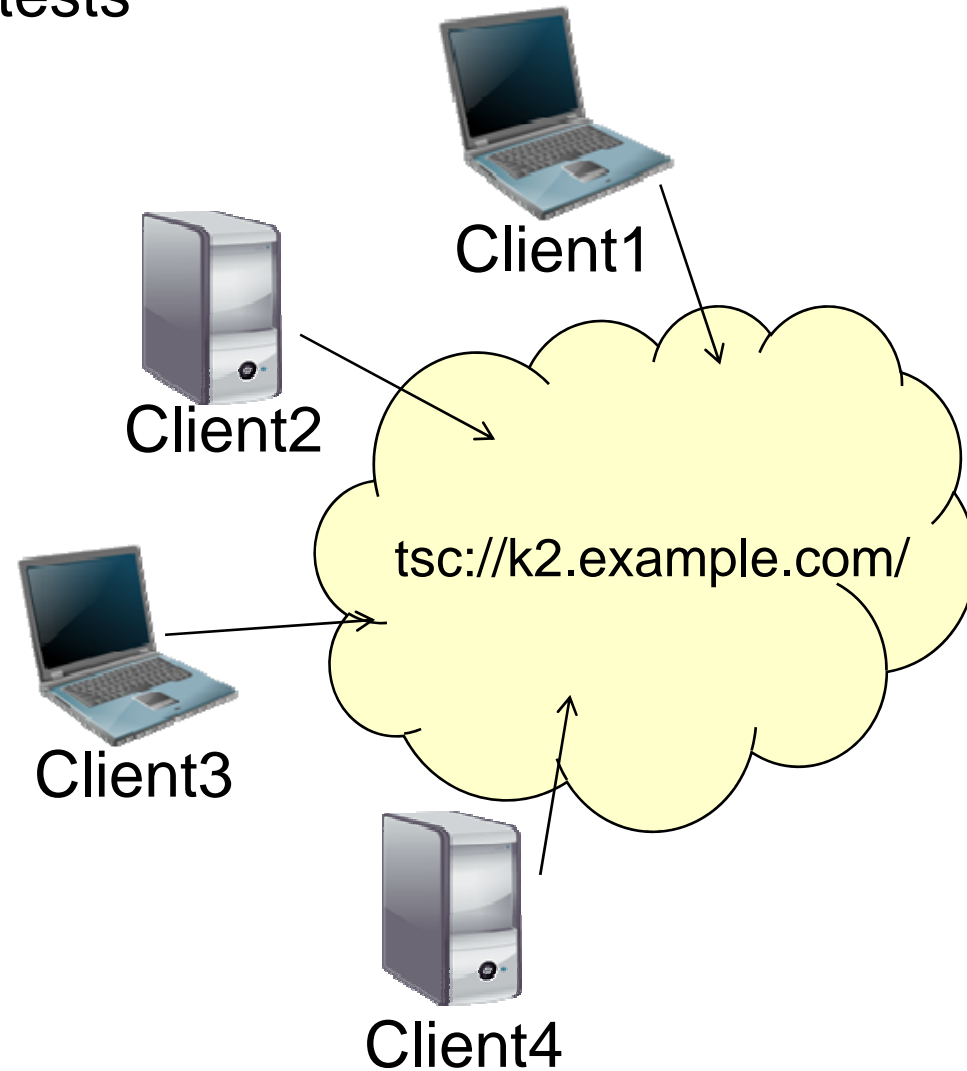
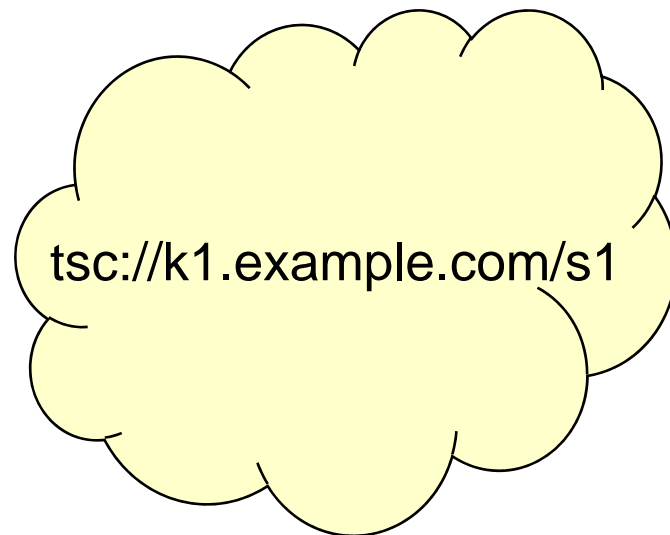


Scalability Client

4) Clients execute the tests



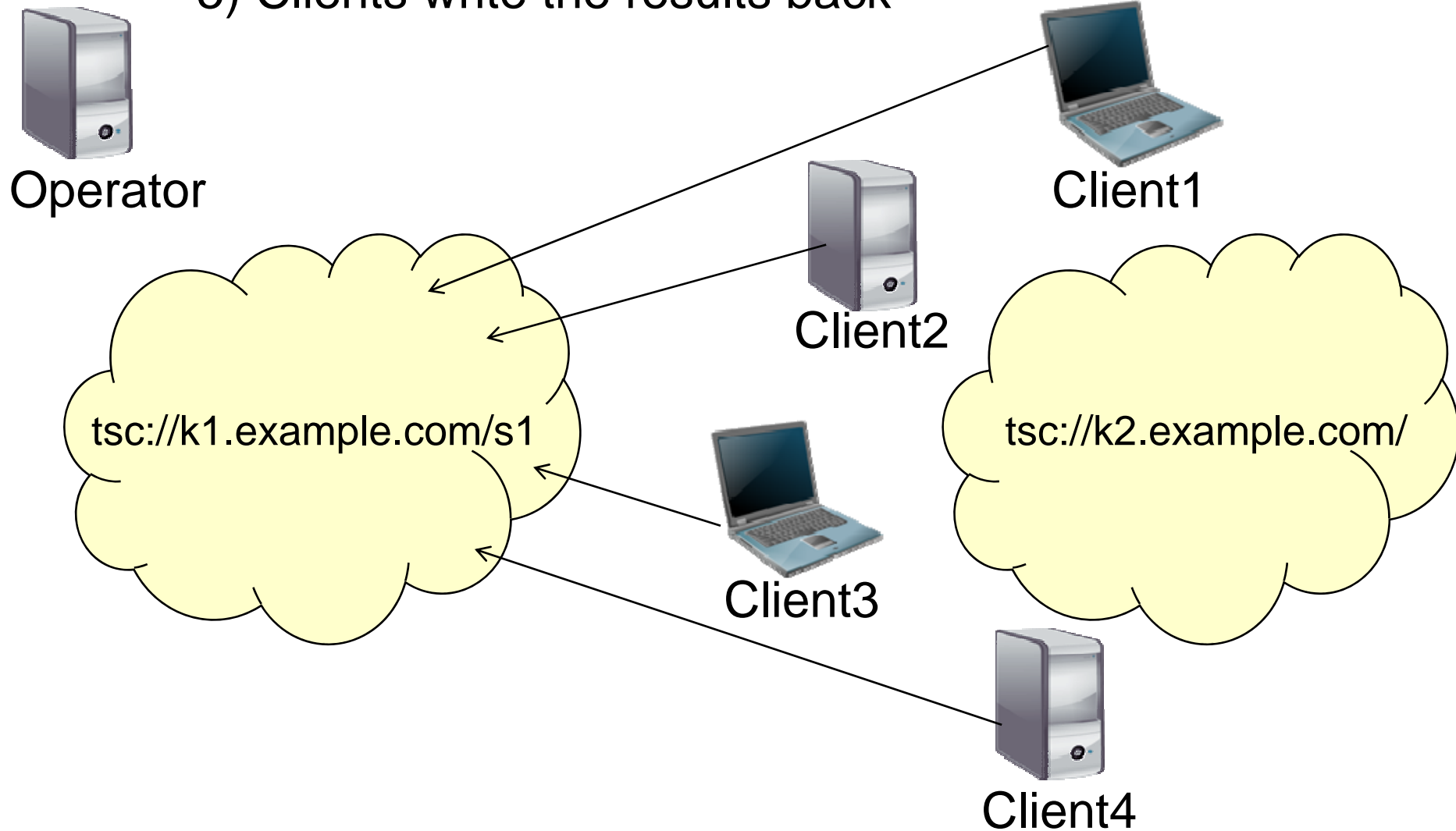
Operator



Scalability Client



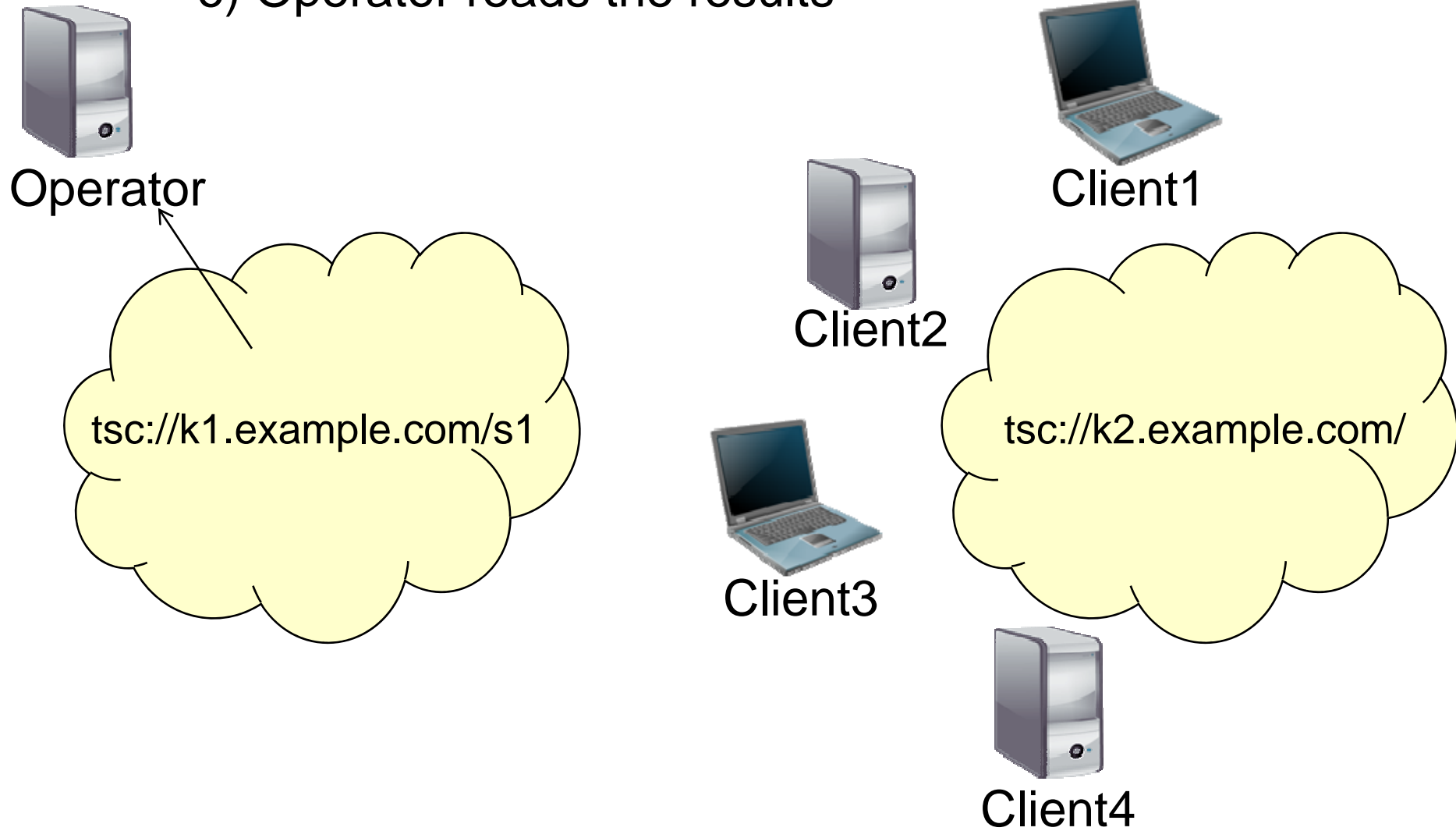
5) Clients write the results back



Scalability Client



6) Operator reads the results



Client Configuration (Out)



```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:scal="http://www.tripcom.org/scalability/">
  <rdf:Description rdf:about=
    "http://www.tripcom.org/scalability/clients/Client2">
    <scal:endingTime>1221128117880</scal:endingTime>
    <scal:usesTriple>
      <!-- triples in RDF XML -->
    </scal:usesTriple>
    <scal:rootTestSpace
      rdf:resource="http://localhost:8080/test2" />
    <scal:startingTime>1221128057880</scal:startingTime>
    <scal:requestType>OUT</scal:requestType>
  </rdf:Description>
</rdf:RDF>
```

Client Configuration (RD)



```
<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:scal="http://www.tripcom.org/scalability/">
  <rdf:Description rdf:about=
    "http://www.tripcom.org/scalability/clients/Client1">
    <scal:query>SELECT * WHERE { ?s ?p ?o .}</scal:query>
    <scal:rootTestSpace
      rdf:resource="http://localhost:8080/test" />
    <scal:repetitions>5</scal:repetitions>
    <scal:requestType>RD</scal:requestType>
    <scal:startingTime>1221128007582</scal:startingTime>
  </rdf:Description>
</rdf:RDF>
```

- Testclient implementation started
 - Need to be ported to TSCClient (uses Interfaces)
- Results are currently printed to stdout
 - Should be written to a space
- CPU usage and memory consumption can be monitored using JMX (printed to stdout)
 - Should also be written to a space
- Clients can be configured to measure rd and out runtime
 - Other operations should be supported