



Tebes Project

SmartResource

***Prototype Environment v.1.0:
Screen Shots of Demonstration***

Industrial Ontologies group

Agora Center, University of Jyväskylä

***February, 2005
Jyväskylä, Finland***



INDUSTRIAL ONTOLOGIES GROUP

Welcome - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Reload Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/index.jsp Go Links

“Service”

Labelling data

Querying data for learning

Diagnostic model

“Device”

Labelling data

History data

Learning sample and Querying diagnostic results

“Expert”

Labelling data

Watching and querying diagnostic data

Querying diagnostic results

[Start Presentation](#)
[Introduction slides](#)

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

1 Generate State
2 Transform
3 Store State

4 Diagnosis Request

5 Store Request
6 Transform Request

1 Device-to-Expert 2 Expert-to-Device 3 Device-to-Service (Learning) 4 Device-to-Service 5 Service-to-Device

Please change parameters from default values if needed

Ontology is not initialized. Please start Joseki server and provide correct URL.

URL to the Application Server:

URL to ontology in Joseki server:

Email address of an expert:

URL of Java Naming Provider:

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

1 Generate State
2 Transform
3 Store State

5 Store Request
6 Transform Request

4 Diagnosis Request

1 Device-to-Expert 2 Expert-to-Device 3 Device-to-Service (Learning) 4 Device-to-Service 5 Service-to-Device

Please change parameters from default values if needed

Ontology is initialized.

URL to the Application Server:

URL to ontology in Joseki server:

Email address of an expert:

URL of Java Naming Provider:

Done Internet



http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

1 Device-to-Expert 2 Expert-to-Device 3 Device-to-Service (Learning) 4 Device-to-Service 5 Service-to-Device

1 Generate State 2 Transform 3 Store State 4 Diagnosis Request 5 Store Request 6 Transform Request

```

<?xml version="1.0" encoding="UTF-8" ?>
<st:State xmlns:st="http://www.metso.com/Alarm" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.metso.com/Alarm
file:/C:/MYTEMP/Serg/SR/XML/work/StateMessage/StateMessage.xsd" Time="2005-02-09T18:18:43.208">
  <Measurement>
    <ParamType>Screw turning speed</ParamType>
    <Units>rpm</Units>
    <Value>21</Value>
    <Sensor sensorID="KS23-S">Rotation speed sensor</Sensor>
  </Measurement>
  <Measurement>
    <ParamType>Open-close stroke</ParamType>
    <Units>mm</Units>
    <Value>129</Value>
    <Sensor sensorID="II12-D7">Gap sensor</Sensor>
  </Measurement>
  <Measurement>
    <ParamType>Oil tank temperature</ParamType>
    <Units>celsius</Units>
    <Value>62</Value>
    <Sensor sensorID="KX2834-S">Temperature sensor</Sensor>
  </Measurement>
  <Measurement>
    <ParamType>Thermo liquid level</ParamType>
    <Units>mm</Units>
    <Value>68</Value>
    <Sensor sensorID="LIQ-23M1">Level sensor</Sensor>
  </Measurement>
  <Measurement>
    <ParamType>Working module pressure</ParamType>
    <Units>kg/cm2</Units>
    <Value>8.117965</Value>
    <Sensor sensorID="PIO1-1">Pressure sensor</Sensor>
  </Measurement>
</st:State>

```

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

1 Device-to-Expert 2 Expert-to-Device 3 Device-to-Service (Learning) 4 Device-to-Service 5 Service-to-Device

```

<?xml version="1.0" ?>
<!DOCTYPE rdf:RDF (View Source for full doctype...)>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:rscdfs="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#"
  xmlns:ontoMeasurement="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/measurementOntology#"
  xmlns:ontoEnumerativeValue="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/enumerativeValueOntology#"
  xmlns:ontoTempMark="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/tempTempMarkOntology#"
  xmlns:ontoDevice="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/deviceOntology#"
  xmlns:ontoContainer="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/containerOntology#"
  xmlns:ontoDiagnosis="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#"
  xmlns:ontoCondition="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/conditionOntology#" xmlns:device="http://ohcejohka.ad.jyu.fi:2020/SmartResource#"
  xmlns:expert="http://chitradurga.ad.jyu.fi:2020/SmartResource#" xmlns:service="http://pilot.ad.jyu.fi:2020/SmartResource#">
  <rscdfs:SR_Statement rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateStatement235">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/containerOntology#devicePhysicalState" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateContainer231" />
    <rscdfs:trueInContext rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateFilterContainer234" />
  </rscdfs:SR_Statement>
  <rscdfs:SR_Container rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateContainer231">
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement206" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement210" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement214" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement218" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement222" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement226" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement230" />
  </rscdfs:SR_Container>
  <rscdfs:SR_Statement rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement206">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/measurementOntology#KF330_param1" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#numValue203" />
    <rscdfs:trueInContext rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#container205temp" />
  </rscdfs:SR_Statement>

```

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

Diagram illustrating a distributed system architecture with three nodes: "Service", "Device", and "Expert". Each node contains a "Joseki Java RMI Server".

Communication flows are indicated by numbered arrows:

- 1 Generate State
- 2 Transform
- 3 Store State
- 4 Diagnosis Request
- 5 Store Request
- 6 Transform Request

Legend:

- 1 Device-to-Expert
- 2 Expert-to-Device
- 3 Device-to-Service (Learning)
- 4 Device-to-Service
- 5 Service-to-Device

Device state was successfully stored

Done Internet



http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

The diagram illustrates a diagnostic request flow between three components: "Service", "Device", and "Expert". Each component is represented by a computer monitor icon and a "Joseki Java RMI Server" icon. The flow is as follows:

- 1. Generate State
- 2. Transform
- 3. Store State
- 4. Diagnosis Request
- 5. Store Request
- 6. Transform (StoreRequest)

Below the diagram, a sequence of steps is listed:

- 1 Device-to-Expert
- 2 Expert-to-Device
- 3 Device-to-Service (Learning)
- 4 Device-to-Service
- 5 Service-to-Device

Request for diagnostics was successfully stored into Expert and Device History Storages.

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Reload Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

1 Generate State
2 Transform
3 Store State

4 Diagnosis Request

5 Store Request
6 Transform Request

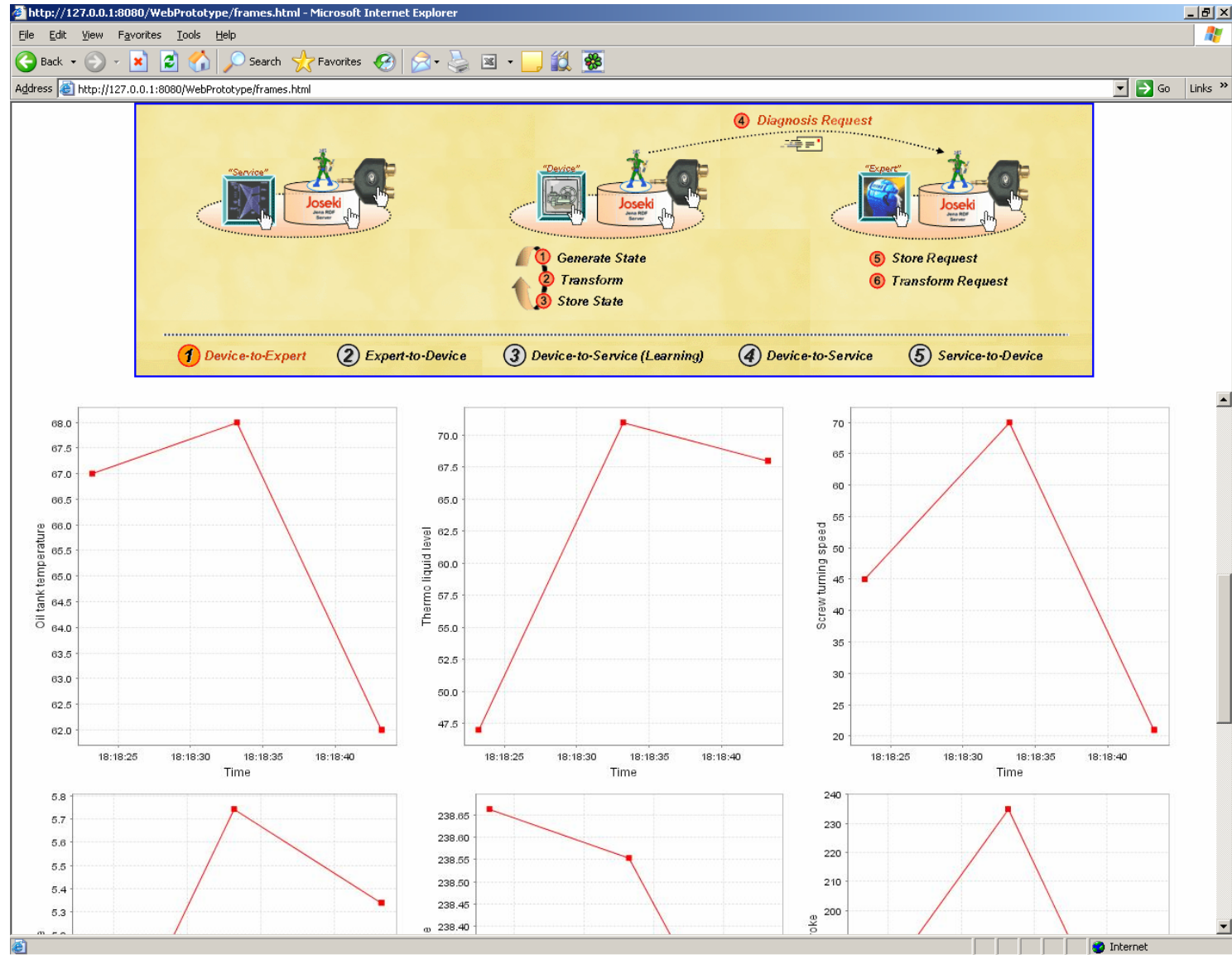
1 Device-to-Expert 2 Expert-to-Device 3 Device-to-Service (Learning) 4 Device-to-Service 5 Service-to-Device

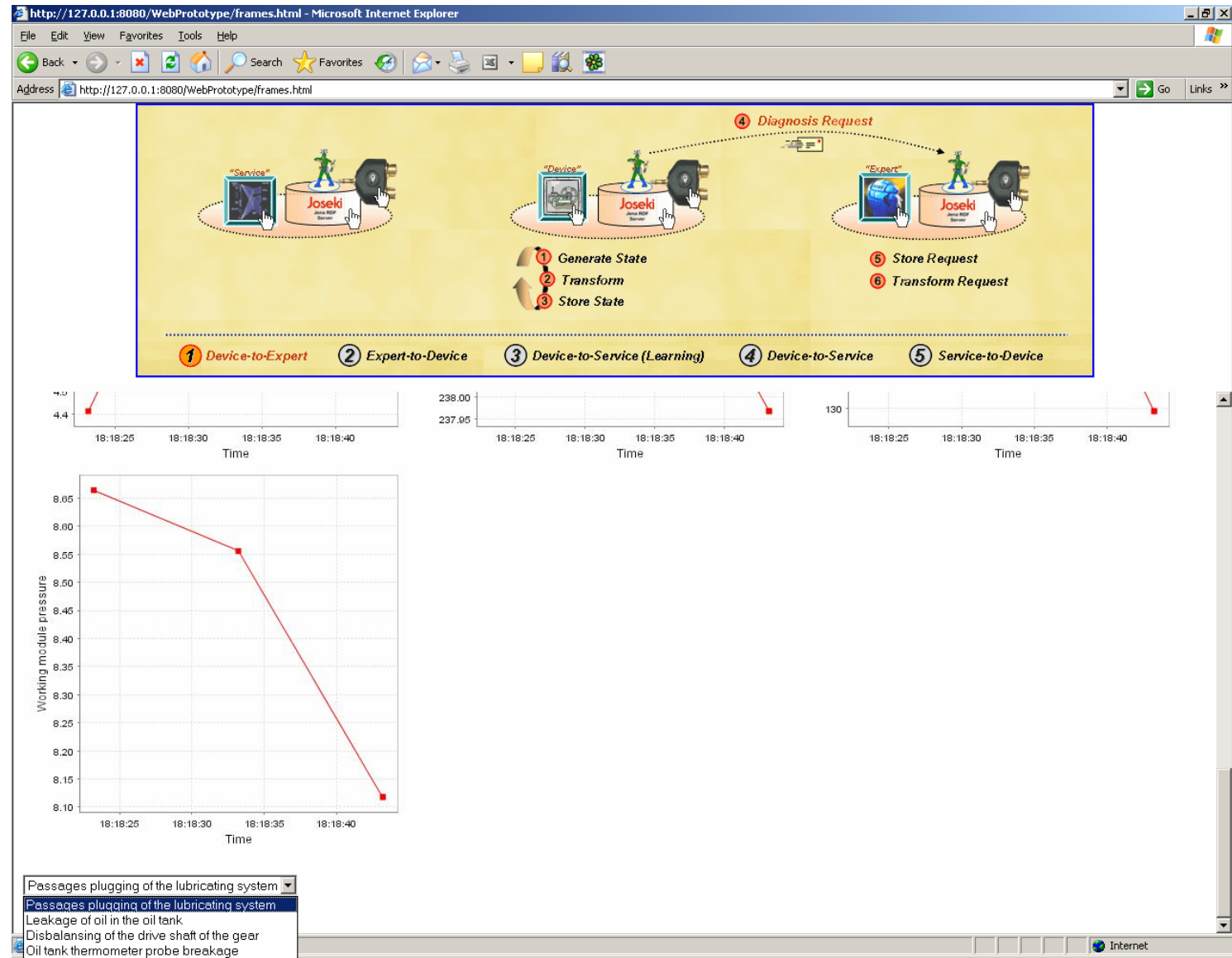
ANNOTATION

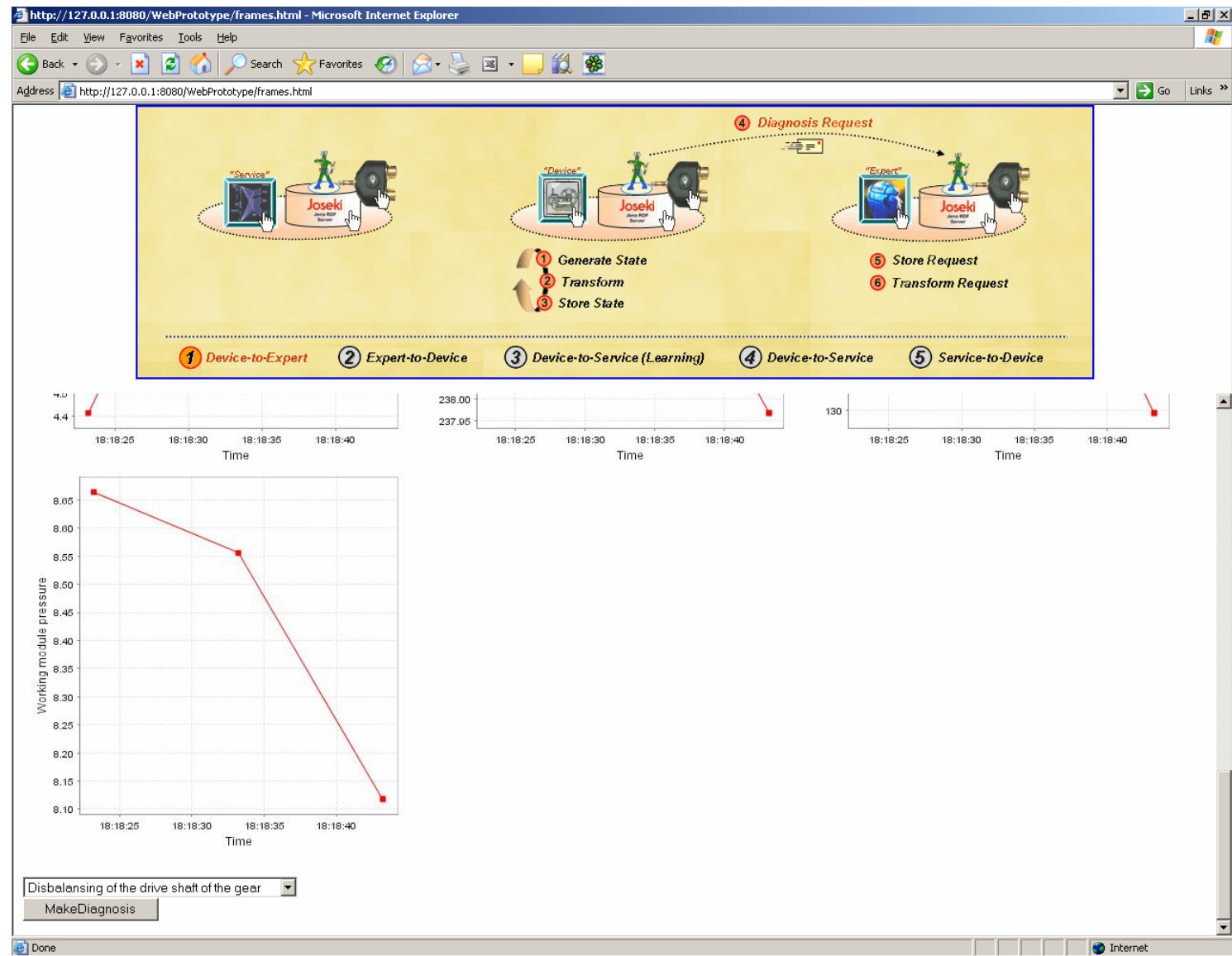
Diagnostics for 123456XZ24
The manufacture of machine is KUN FONG Machinery Co., LTD
Device KF-330 blow molding machine
The Contact person is Mr. Chan Tong

The manufacture's phone and fax 886-4-24610589, 886-4-24631205
Mail address of manufacture is 14, LANE 108, YU-MEN ROAD, TAICUNG CITY, TAIWAN

Done Internet







http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

Diagram illustrating a diagnostic system architecture and process flow:

The system consists of three main components, each represented by a computer icon and a **Joseki Java RMI Server**:

- Service** (Left)
- Device** (Middle)
- Expert** (Right)

The process flow is numbered 1 through 6:

- 1 Generate State**
- 2 Transform**
- 3 Store State**
- 4 Diagnosis Request**
- 5 Store Request**
- 6 Transform Request**

Legend for communication directions:

- 1 Device-to-Expert**
- 2 Expert-to-Device**
- 3 Device-to-Service (Learning)**
- 4 Device-to-Service**
- 5 Service-to-Device**

Diagnosis has unique identifier: http://www.cc.jyu.fi/~olklr/ie/rsdfs/0.3/ontologies/diagnosisOntology#DeviceDiagnosis_3

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

③ *Diagnosis Response*

④ *Store Response*

① *Transform Response*
② *Store Response*

① *Device-to-Expert* ② *Expert-to-Device* ③ *Device-to-Service (Learning)* ④ *Device-to-Service* ⑤ *Service-to-Device*

Diagnosis has unique identifier: http://www.cc.jyu.fi/~olklr/ie/rsdfs/0.3/ontologies/diagnosisOntology#DeviceDiagnosis_3

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

① Transform Response
② Store Response
③ Diagnosis Response
④ Store Response
⑤ Service-to-Device

① Device-to-Expert ② Expert-to-Device ③ Device-to-Service (Learning) ④ Device-to-Service ⑤ Service-to-Device

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE rdf:RDF (View Source for full doctype...)>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:rscdfs="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#"
  xmlns:ontoTempMark="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/tempTempMarkOntology#">
  <!-- Response -->
  <!-->
  <rscdfs:SR_Statement rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#257">
    <rdf:subject rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#expert1" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/messageContentOntology#devicePhysicalDiagnosticResponse" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:trueInContext rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#256" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#256">
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#Message_for_Diagnosis251" />
    <rscdfs:member rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#255" />
  </rscdfs:Context_SR_Container>
  <!-- Diagnosis Statement -->
  <!-->
  <rscdfs:SR_Statement rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#255">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/conditionOntology#devicePhysicalDiagnosis" />
    <rdf:object rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#DeviceDiagnosis_3" />
    <rscdfs:trueInContext rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#254" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#254">
    <rscdfs:member rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#253" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#subhistory251" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#rootalarmstatement251" />
    <rscdfs:member rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#expert2WorldStatement" />
  </rscdfs:Context_SR_Container>
  <!-- Time -->
  <!-->

```

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

The diagram illustrates a diagnostic response flow involving three components: "Service", "Device", and "Expert". Each component is represented by a computer monitor icon, a person icon, and a "Joseki Java RMI Server" icon, all enclosed in a dashed oval. The flow is as follows:

- ③ Diagnosis Response**: A dashed arrow points from the "Expert" component to the "Device" component.
- ④ Store Response**: A dashed arrow points from the "Device" component to the "Service" component.
- ① Transform Response**: A dashed arrow points from the "Service" component to the "Expert" component.
- ② Store Response**: A dashed arrow points from the "Expert" component to the "Service" component.

Below the diagram, a horizontal line separates it from a legend:

- ① Device-to-Expert
- ② Expert-to-Device
- ③ Device-to-Service (Learning)
- ④ Device-to-Service
- ⑤ Service-to-Device

Response with diagnostics was successfully stored into Expert History Storage.

Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

① Transform Response
② Store Response
③ Diagnosis Response
④ Store Response
⑤ Service-to-Device

① Device-to-Expert ② Expert-to-Device ③ Device-to-Service (Learning) ④ Device-to-Service ⑤ Service-to-Device

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE rdf:RDF (View Source for full doctype...)>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:rscdfs="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#"
  xmlns:ontoTempMark="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/tempTempMarkOntology#">
  <!-- Response -->
  <!-->
  <rscdfs:SR_Statement rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#257">
    <rdf:subject rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#expert1" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/messageContentOntology#devicePhysicalDiagnosticResponse" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:trueInContext rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#256" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#256">
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#Message_for_Diagnosis251" />
    <rscdfs:member rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#255" />
  </rscdfs:Context_SR_Container>
  <!-- Diagnosis Statement -->
  <!-->
  <rscdfs:SR_Statement rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#255">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/conditionOntology#devicePhysicalDiagnosis" />
    <rdf:object rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#DeviceDiagnosis_3" />
    <rscdfs:trueInContext rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#254" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://chitradurga.ad.jyu.fi:2020/SmartResource#254">
    <rscdfs:member rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#253" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#subhistory251" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#rootalarmstatement251" />
    <rscdfs:member rdf:resource="http://chitradurga.ad.jyu.fi:2020/SmartResource#expert2WorldStatement" />
  </rscdfs:Context_SR_Container>
  <!-- Time -->
  <!-->

```

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

The diagram illustrates a diagnostic response flow involving three components: "Service", "Device", and "Expert". Each component is represented by a "Joseki Java RMI Server" icon. The flow is as follows:

- ③ Diagnosis Response**: A dashed arrow points from the "Expert" component to the "Device" component.
- ④ Store Response**: A dashed arrow points from the "Device" component to the "Service" component.
- ① Transform Response**: A dashed arrow points from the "Service" component to the "Expert" component.
- ② Store Response**: A dashed arrow points from the "Expert" component to the "Service" component.

Below the diagram, a legend identifies the components:

- ① Device-to-Expert
- ② Expert-to-Device
- ③ Device-to-Service (Learning)
- ④ Device-to-Service
- ⑤ Service-to-Device

Response with diagnostics was successfully stored into Device History Storage.

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Reload Print Mail News RSS Feeds

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

① Learning Request

② Store Request
③ Transform

① Device-to-Expert ② Expert-to-Device ③ Device-to-Service (Learning) ④ Device-to-Service ⑤ Service-to-Device

Request for learning was successfully stored into Service and Device History Storage.

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Reload Print Mail Print Print Print Print

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links »

① Learning Request

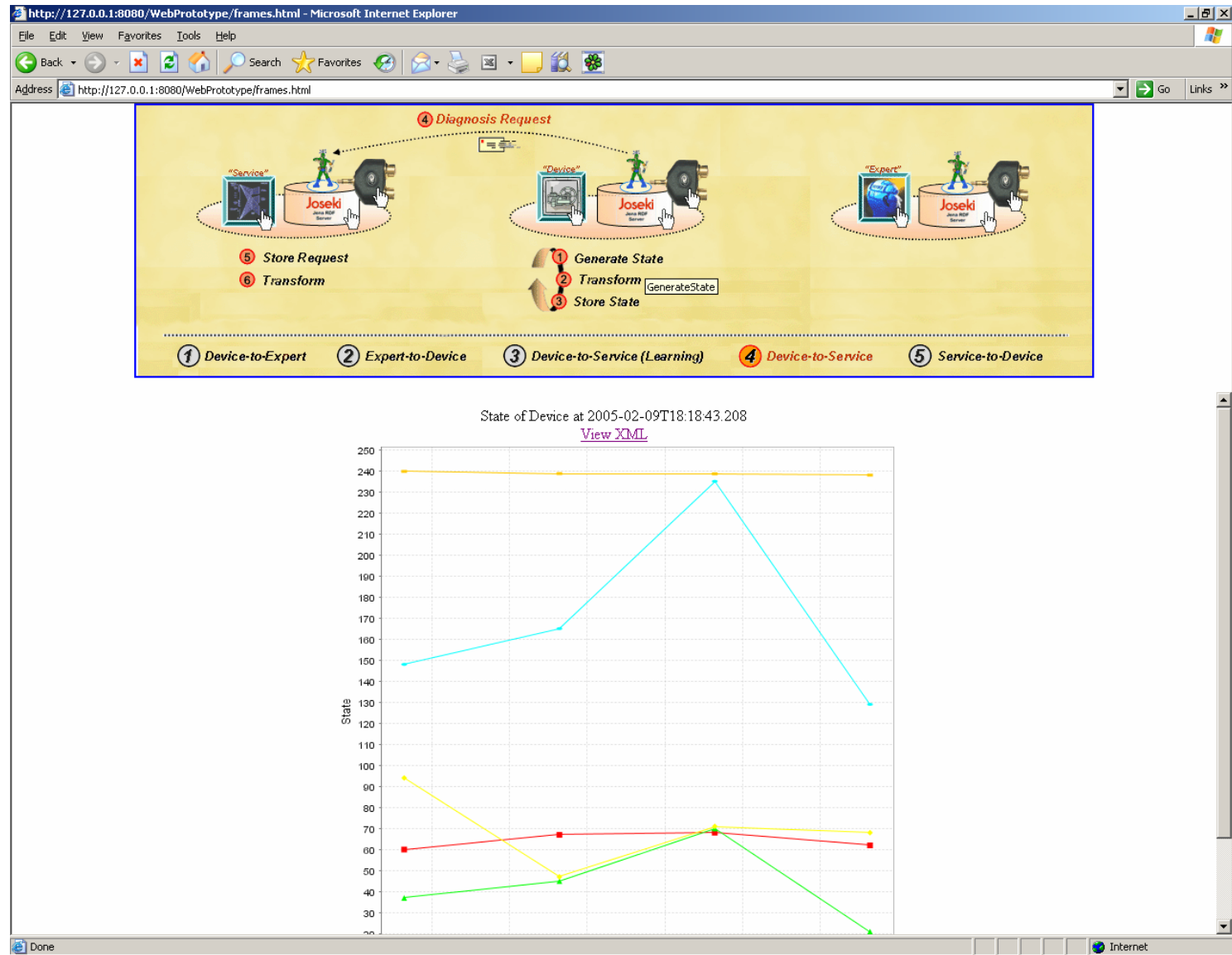
② Store Request
③ Transform

.....

① Device-to-Expert ② Expert-to-Device ③ Device-to-Service (Learning) ④ Device-to-Service ⑤ Service-to-Device

Learned

Internet



http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

4 Diagnosis Request

5 Store Request
6 Transform

1 Generate State
2 Transform
3 Store State

1 Device-to-Expert 2 Expert-to-Device 3 Device-to-Service (Learning) 4 Device-to-Service 5 Service-to-Service

```

<?xml version="1.0" ?>
<!DOCTYPE rdf:RDF (View Source for full doctype...)>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:rscdfs="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#"
  xmlns:ontoMeasurement="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/measurementOntology#"
  xmlns:ontoEnumerativeValue="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/enumerativeValueOntology#"
  xmlns:ontoTempMark="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/tempTempMarkOntology#"
  xmlns:ontoDevice="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/deviceOntology#"
  xmlns:ontoContainer="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/containerOntology#"
  xmlns:ontoDiagnosis="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#"
  xmlns:ontoCondition="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/conditionOntology#" xmlns:device="http://ohcejohka.ad.jyu.fi:2020/SmartResource#"
  xmlns:expert="http://chitradurga.ad.jyu.fi:2020/SmartResource#" xmlns:service="http://pilot.ad.jyu.fi:2020/SmartResource#">
  <rscdfs:SR_Statement rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateStatement338">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/containerOntology#devicePhysicalState" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateContainer334" />
    <rscdfs:trueInContext rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateFilterContainer337" />
  </rscdfs:SR_Statement>
  <rscdfs:SR_Container rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#StateContainer334">
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement309" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement313" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement317" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement321" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement325" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement329" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement333" />
  </rscdfs:SR_Container>
  <rscdfs:SR_Statement rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#statement309">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/measurementOntology#KF330_param1" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#numValue306" />
    <rscdfs:trueInContext rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#container308temp" />
  </rscdfs:SR_Statement>

```

Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

4 Diagnosis Request

5 Store Request
6 Transform

1 Generate State
2 Transform
3 Store State

1 Device-to-Expert **2 Expert-to-Device** **3 Device-to-Service (Learning)** **4 Device-to-Service** **5 Service-to-Device**

Device state was successfully stored

Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

④ Diagnosis Request

① Device-to-Expert ② Expert-to-Device ③ Device-to-Service (Learning) ④ Device-to-Service ⑤ Service-to-Device

```

<rdf:RDF
  xmlns:device="http://ohcejohka.ad.jyu.fi:2020/SmartResource#"
  xmlns:ontoTempMark="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/tempTempMarkOntology#"
  xmlns:expert="http://chitradurga.ad.jyu.fi:2020/SmartResource#"
  xmlns:service="http://pilot.ad.jyu.fi:2020/SmartResource#"
  xmlns:ontoMeasurement="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/measurementOntology#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:ontoCondition="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/conditionOntology#"
  xmlns:ontoContainer="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/containerOntology#"
  xmlns:ontoEnumerativeValue="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/enumerativeValueOntology#"
  xmlns:rscdfs="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:ontoDiagnosis="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#"
  xmlns:ontoDevice="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/deviceOntology#" >
  <rdf:Description rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#numValue314">
    <rscdfs:unit rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/measurementUnitOntology#Celsius"/>
    <rdf:type rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#NumericalValue"/>
    <rscdfs:value>65</rscdfs:value>
  </rdf:Description>
  <rdf:Description rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#contextStatement307sensorID">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#SensorKS23-Sinstance"/>
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#WorldEnvironment"/>
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/partOfOntology#devicePartOfWorld"/>
    <rdf:type rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#SR_Statement"/>
  </rdf:Description>
  <rdf:Description rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#stateFilterStatement336">
    <rdf:type rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#SR_Statement"/>
    <rscdfs:trueInContext rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#FilterStatementContextContainer335"/>
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456X224"/>
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#devicePhysicalMeasurement"/>
  </rdf:Description>
  <rdf:Description rdf:about="http://ohcejohka.ad.jyu.fi:2020/SmartResource#ContextContainer_alarm354">
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#contextStatement_AlarmSubHist355"/>
    <rdf:type rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#Context_SR_Container"/>
  </rdf:Description>

```

Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

4 Diagnosis Request

5 Store Request
6 Transform

1 Generate State
2 Transform
3 Store State

1 Device-to-Expert **2 Expert-to-Device** **3 Device-to-Service (Learning)** **4 Device-to-Service** **5 Service-to-Device**

Request for diagnostics was successfully stored into Service and Device History Storages.

Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

4 Diagnosis Request

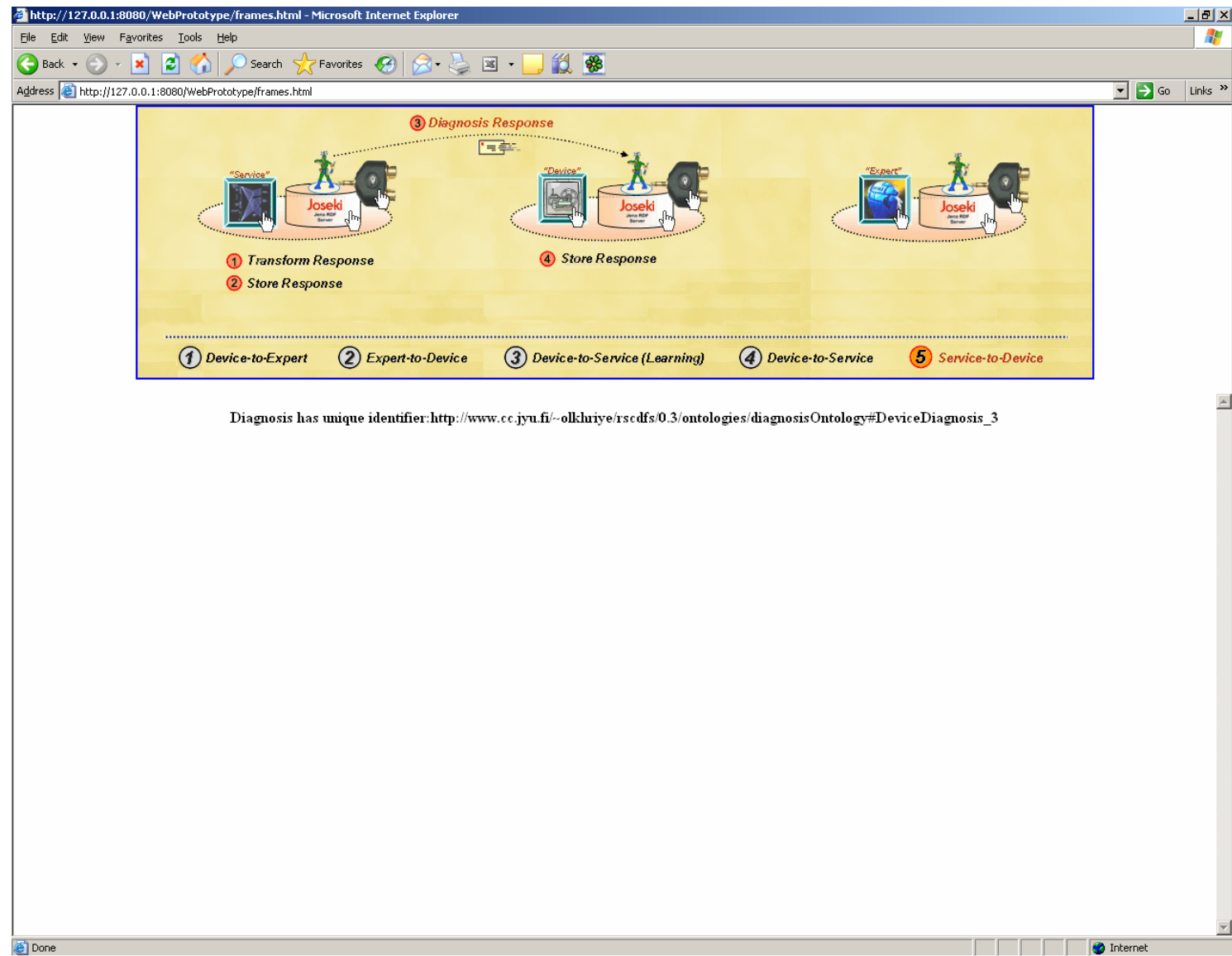
5 Store Request
6 Transform

1 Generate State
2 Transform
3 Store State

1 Device-to-Expert **2 Expert-to-Device** **3 Device-to-Service (Learning)** **4 Device-to-Service** **5 Service-to-Device**

Diagnosis has unique identifier:http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#DeviceDiagnosis_3

Internet



http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

③ Diagnosis Response

① Transform Response ② Store Response

④ Store Response

① Device-to-Expert ② Expert-to-Device ③ Device-to-Service (Learning) ④ Device-to-Service ⑤ Service-to-Device

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE rdf:RDF (View Source for full doctype...)>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:rscdfs="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#"
  xmlns:ontoTempMark="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/tempTempMarkOntology#">
  <!-- Response -->
  <!-->
  <rscdfs:SR_Statement rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#360">
    <rdf:subject rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#knnservice1" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/messageContentOntology#devicePhysicalDiagnosticResponse" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:trueInContext rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#359" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#359">
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#Message_for_Diagnosis354" />
    <rscdfs:member rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#358" />
  </rscdfs:Context_SR_Container>
  <!-- Diagnosis Statement -->
  <!-->
  <rscdfs:SR_Statement rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#358">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/conditionOntology#devicePhysicalDiagnosis" />
    <rdf:object rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#DeviceDiagnosis_3" />
    <rscdfs:trueInContext rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#357" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#357">
    <rscdfs:member rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#356" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#subhistory354" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#rootalarmstatement354" />
    <rscdfs:member rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#Service2WorldStatement" />
  </rscdfs:Context_SR_Container>
  <!-- Time -->
  <!-->

```

Done Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Reload Print Mail Print Print Preview

Address http://127.0.0.1:8080/WebPrototype/frames.html Go Links

The diagram illustrates a diagnostic response process involving three components: Service, Device, and Expert. Each component is represented by a computer monitor icon and a server icon labeled "Joseki Java RMI Server".

- Service:** Includes steps 1 (Transform Response) and 2 (Store Response).
- Device:** Includes step 4 (Store Response).
- Expert:** Includes step 3 (Diagnosis Response).

Arrows indicate the flow of the process: from Service to Device, from Device to Expert, and from Expert back to Service.

Below the diagram, a sequence of steps is listed:

- 1 Device-to-Expert
- 2 Expert-to-Device
- 3 Device-to-Service (Learning)
- 4 Device-to-Service
- 5 Service-to-Device

Response with diagnostics was successfully stored into Service History Storage.

Internet

http://127.0.0.1:8080/WebPrototype/frames.html - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Go Links

Address http://127.0.0.1:8080/WebPrototype/frames.html

③ Diagnosis Response

① Transform Response
② Store Response

④ Store Response

⑤ Service-to-Device

① Device-to-Expert ② Expert-to-Device ③ Device-to-Service (Learning) ④ Device-to-Service ⑤ Service-to-Device

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE rdf:RDF (View Source for full doctype...)>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:rscdfs="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/rscdfs#"
  xmlns:ontoTempMark="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/tempTempMarkOntology#">
  <!-- Response -->
  <-->
  <rscdfs:SR_Statement rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#360">
    <rdf:subject rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#knnservice1" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/messageContentOntology#devicePhysicalDiagnosticResponse" />
    <rdf:object rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:trueInContext rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#359" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#359">
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#Message_for_Diagnosis354" />
    <rscdfs:member rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#358" />
  </rscdfs:Context_SR_Container>
  <!-- Diagnosis Statement -->
  <-->
  <rscdfs:SR_Statement rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#358">
    <rdf:subject rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#123456XZ24" />
    <rscdfs:predicate rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/conditionOntology#devicePhysicalDiagnosis" />
    <rdf:object rdf:resource="http://www.cc.jyu.fi/~olkhriye/rscdfs/0.3/ontologies/diagnosisOntology#DeviceDiagnosis_3" />
    <rscdfs:trueInContext rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#357" />
  </rscdfs:SR_Statement>
  <rscdfs:Context_SR_Container rdf:about="http://pilot.ad.jyu.fi:2020/SmartResource#357">
    <rscdfs:member rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#356" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#subhistory354" />
    <rscdfs:member rdf:resource="http://ohcejohka.ad.jyu.fi:2020/SmartResource#rootalarmstatement354" />
    <rscdfs:member rdf:resource="http://pilot.ad.jyu.fi:2020/SmartResource#Service2WorldStatement" />
  </rscdfs:Context_SR_Container>
  <!-- Time -->
  <-->

```

Done Internet

