LUKA KOPER
Port of Koper

Port of Koper

E-Container System Concept

CENTRAL EUROPE
COOPERATING FOR SUCCESS.

EUROPEAN UNION
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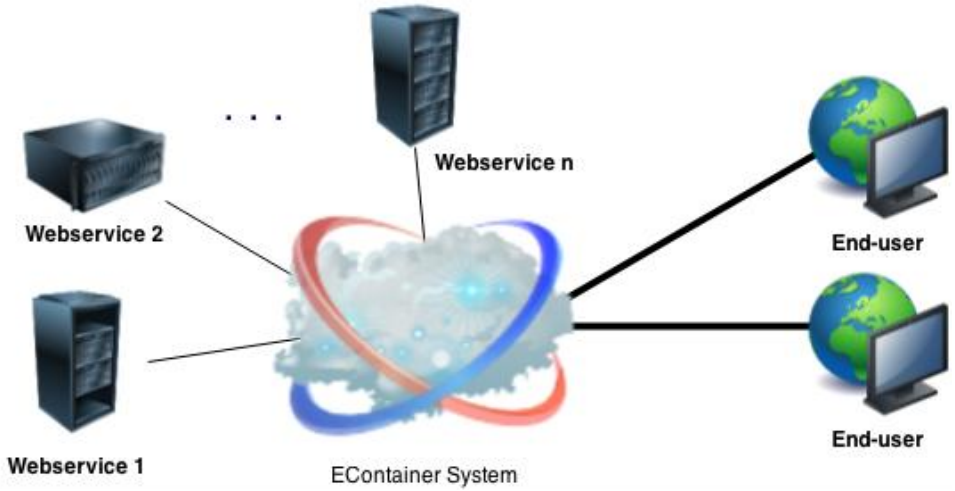
Introduction

Goal of the project

- A cloud-based system, accessible to everyone
- Granting reliable and working services from partners to end-users
- Service that collects information from other web services
- E-Container System



E-Container System Concept

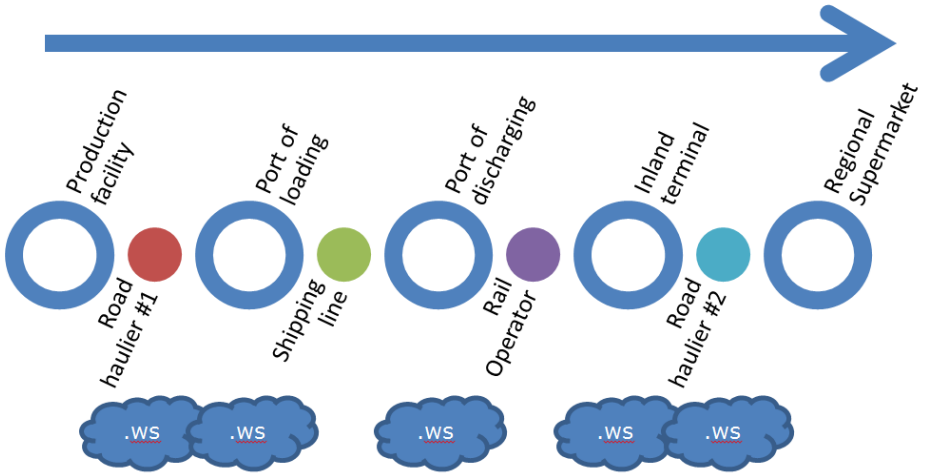
Definition

- A concept of the E-Container System has been developed
- Required attributes for the E-Container System Concept:
  - Status (Status „In Transit“ added in v1.1.)
  - Container ID
  - Title
  - Datetime or Timestamp
  - Location
  - Transport type
  - MRN and IMDG number
  - Destination

E-Container concept

Definition

- Definition of the services in this business case:
  - **Road haulier #1:** .ws for the status: pick up delivery Container
  - **Port of Loading:** .ws for statuses: gate in, yard, vessel out
  - **Port of Destination:** .ws for statues: vessel in, yard, rail out
  - **Inland terminal/Distribution Center**: .ws for statuses: rail in, yard, gate out
  - **Road haulier #2**: .ws for the status: delivery to the final destination



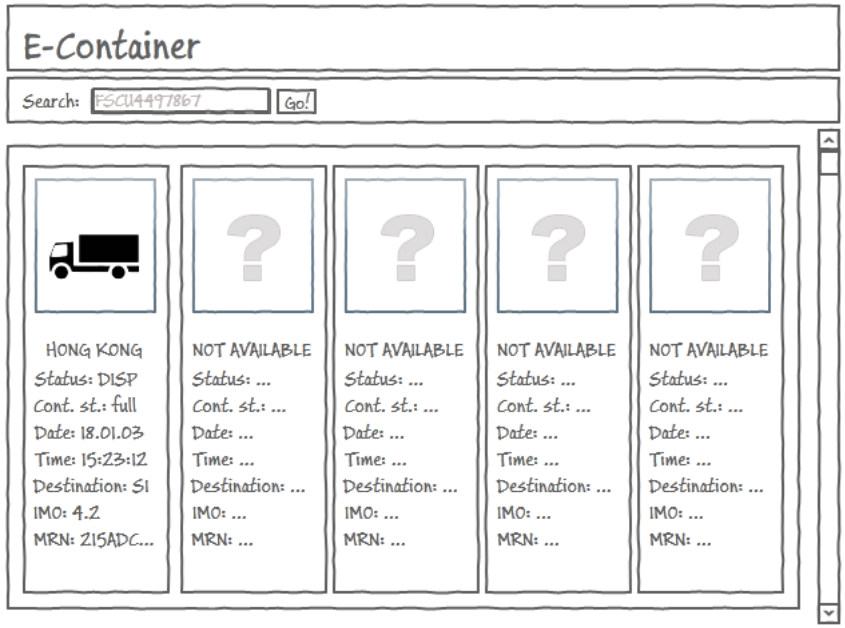
E-Container concept

Results

- E-Container System makes multiple requests to different tracking and tracing services (webservices)
- Results are presented as:
  - A string message
  - An encoded JSON format
  - An encoded XML format

Sketch of the end-user interface

- A search filed – container ID
- A result container box for data received from each service



Implementation of the LK webservice

Implementation

- A secure web service has been developed
  - Allowing external sites to make a data query (Port of Koper Mobile App)
  - Providing customers with real time access into the Koper TOS Mainsail database in order to receive the current status of the container

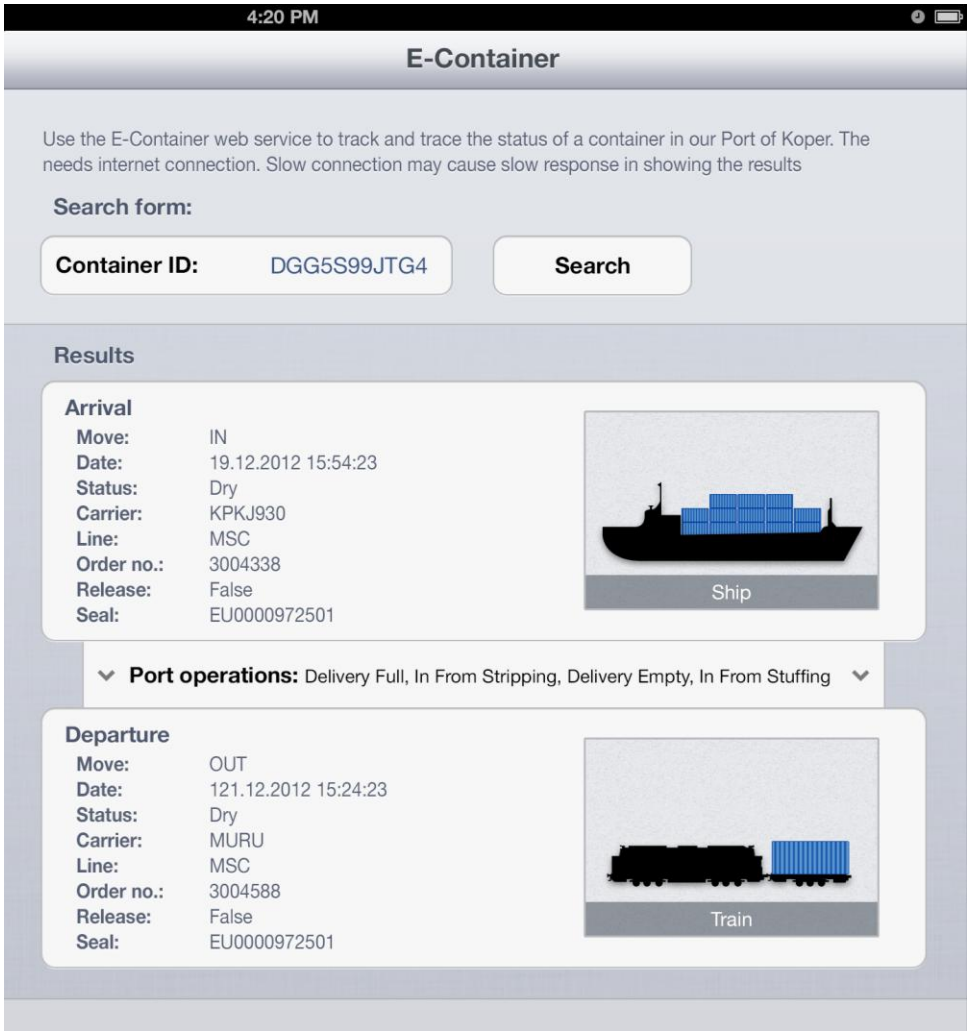
- The query result – an XML string:

```
<container id="FSCU4497867">
  <status>true</status>
  <move>out</move>
  <cont_status>full</cont_status>
  <title>PORT OF KOPER</title>
  <datetime>2012-05-25T04:27:12</datetime>
  <location>Koper</location>
  <destination>Munchen</destination>
  <transport_type>truck</transport_type>
  <imo>4.1</imo>
  <mrn>13HU71100023D87D18</mrn>
</container>
```

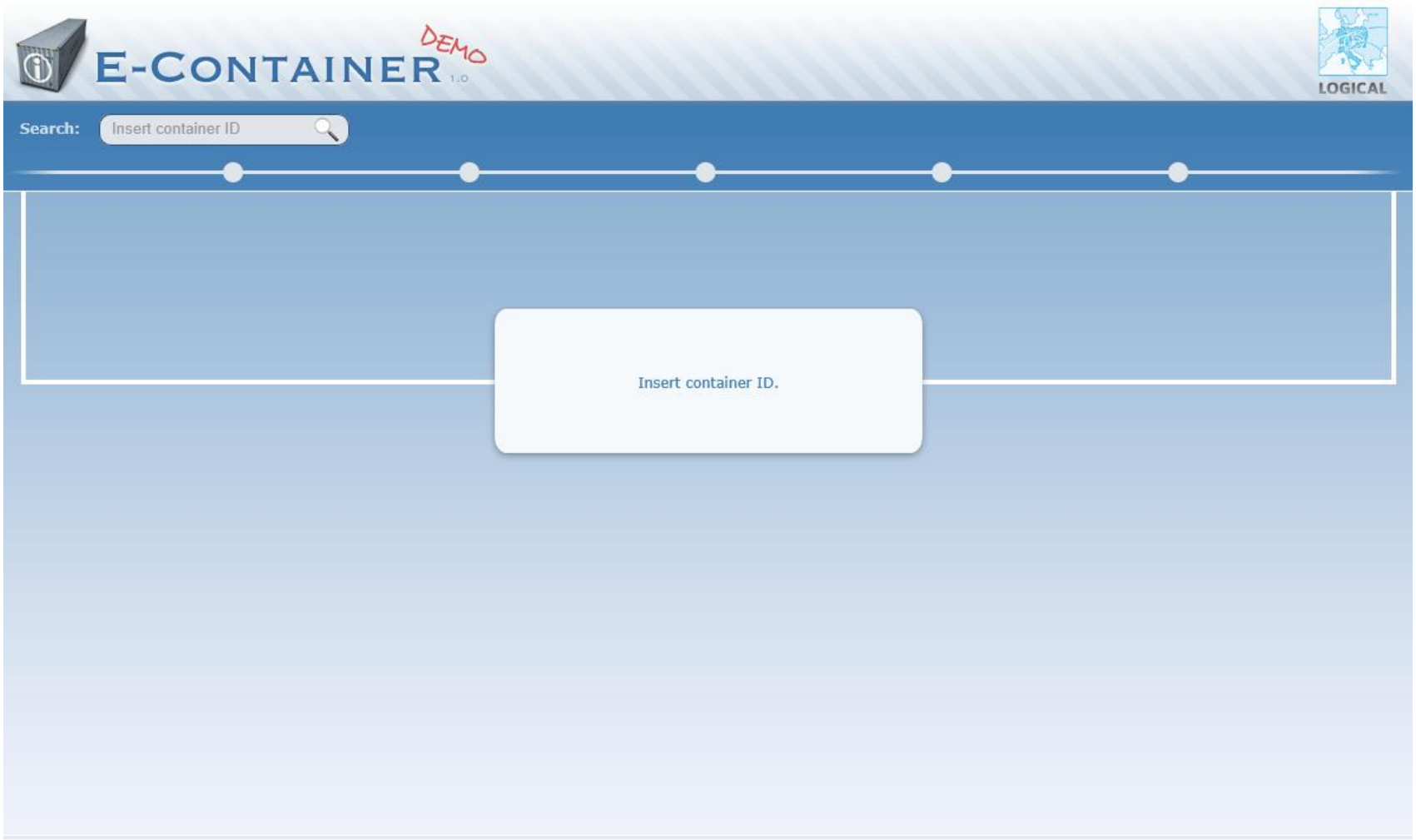
Port of Koper Mobile Application

- „Port of Koper“ app
- http://app.luka-kp.si

- Available for iOS, Android and Windows Phone



Test case 1 – Best case



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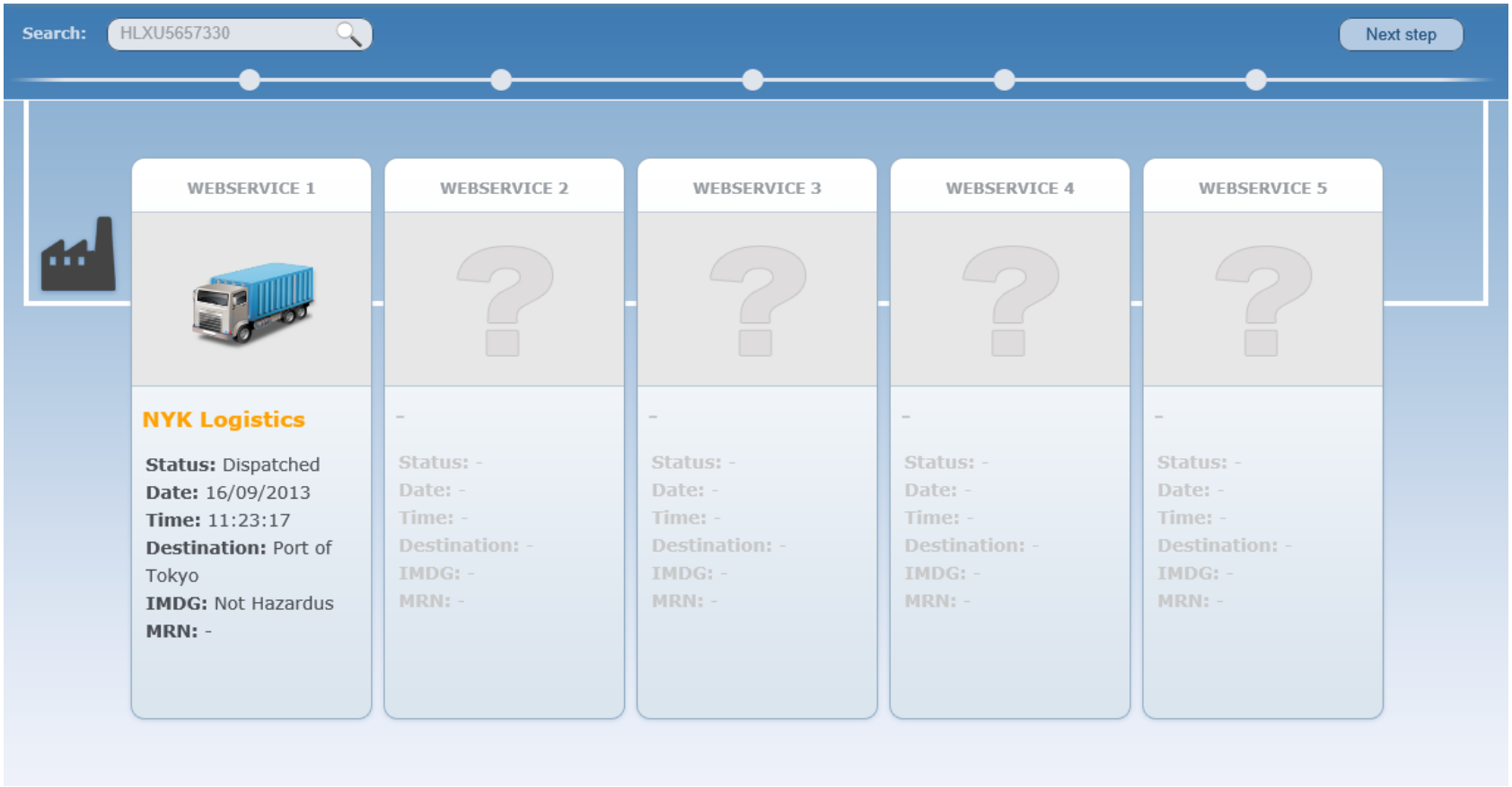
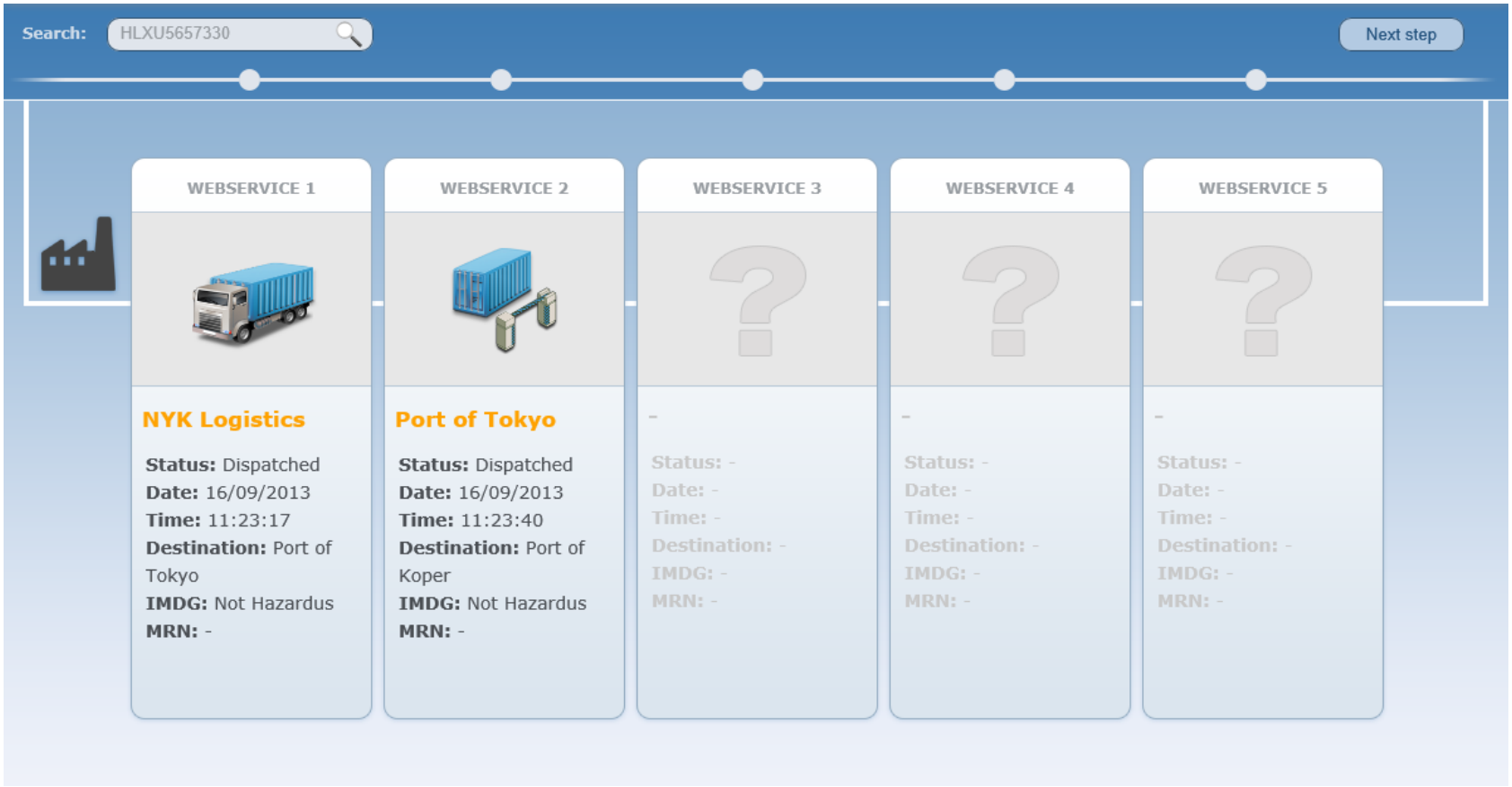


Test case, step 1

- Results from the first service – pick up Delivery Container

Test case 1 – Best case



Test case, step 2

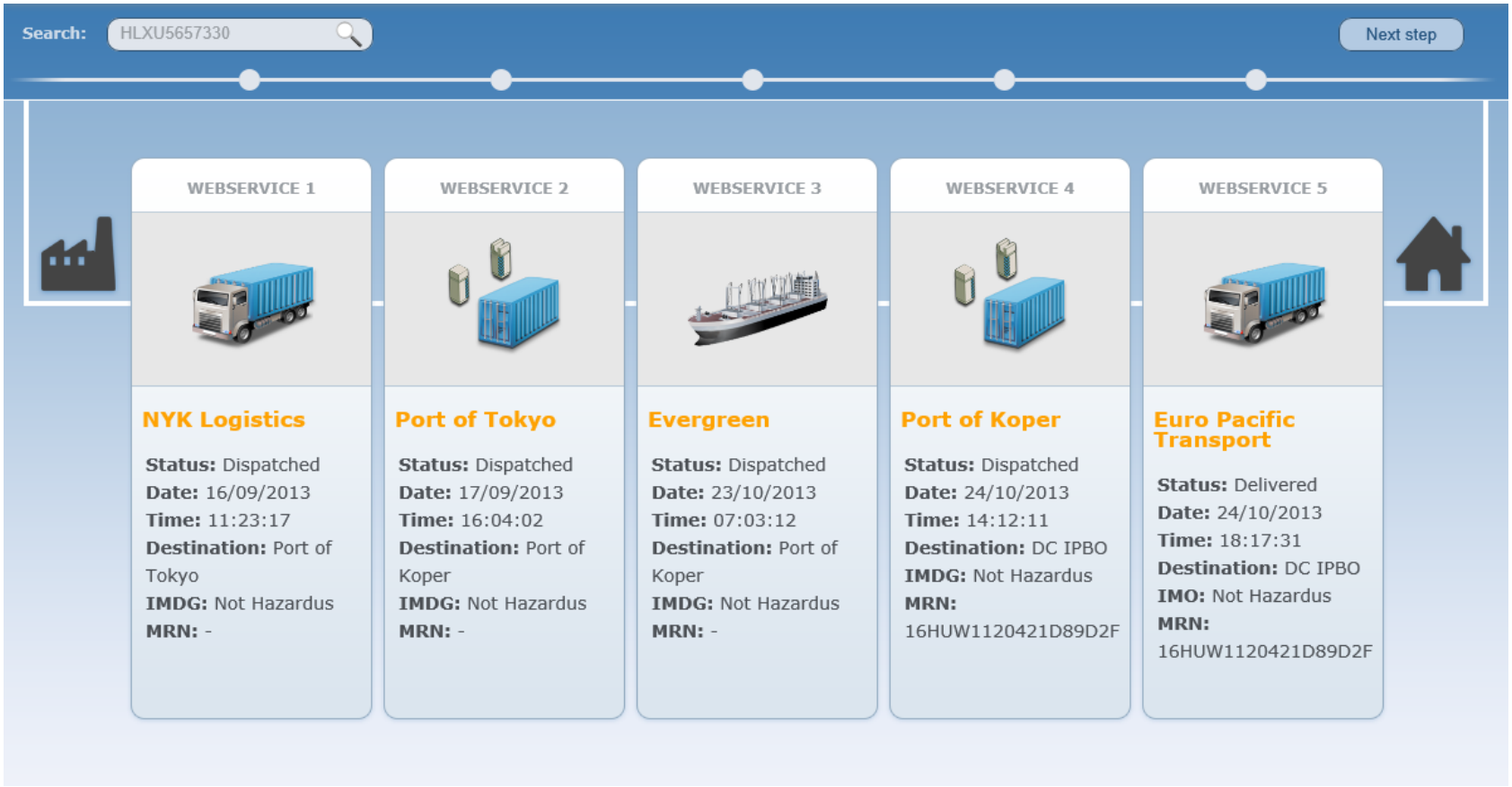
- Results from the second service – Gate In

Test case 1 – Best case

Test case, step 3

- Results from the second service – Yard

Test case 1 – Best case

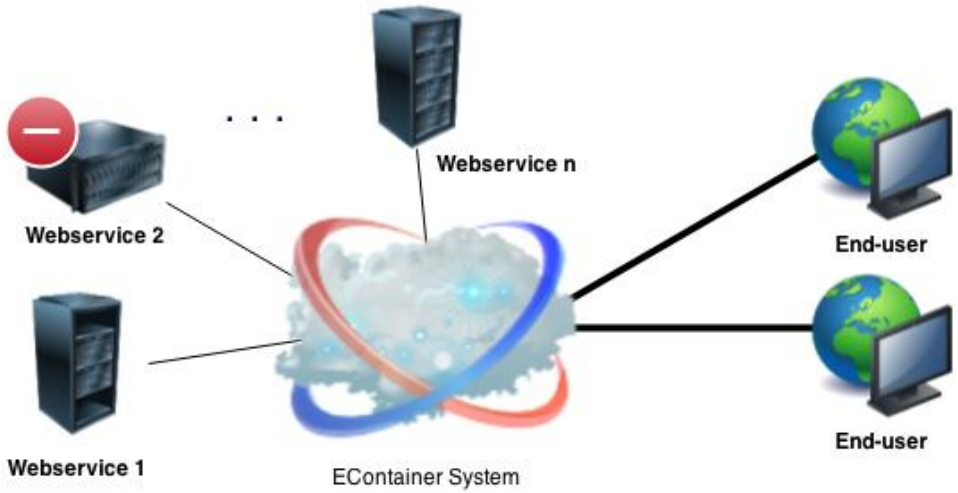


Test case, step 9

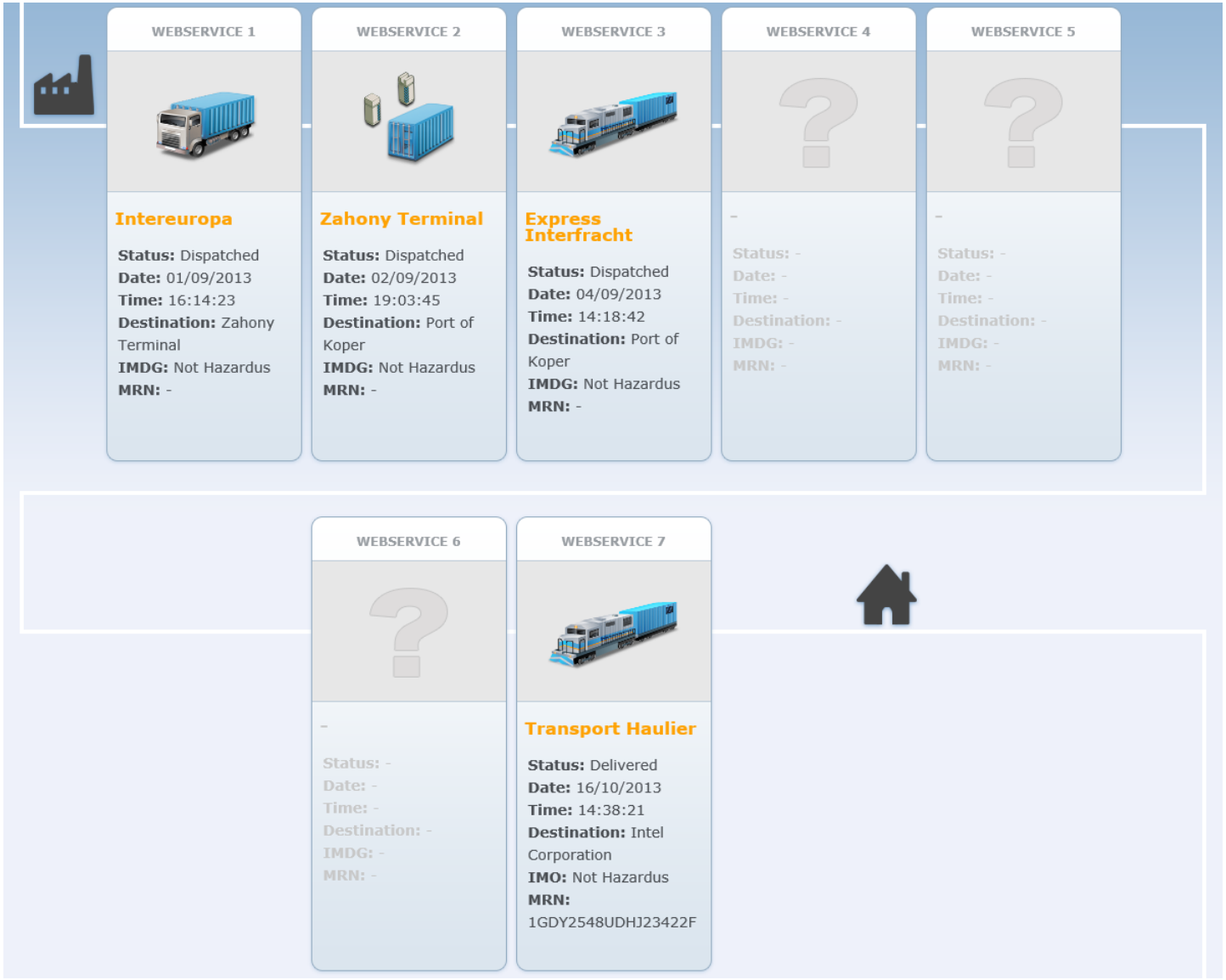
- Results from the last service – delivery to the final destination

Test case 2 – Bad case

- What happens when different webservices are offline or do not have the needed information?



Test case 2 – Bad case



Live Demonstration of the Concept

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- DEMO

Final words

- Benefits from the E-Container System
  - Fast access to data provided by different services
  - All data collected in one place
  - Easy to track container status and position

- Concerns about the E-Container System
  - Missing webservices (hauliers, shipping lines, operators, terminals, etc.)
  - Additional „Route descriptor“ is required to resolve time synchronization problems
  - This business case is very optimistic
  - Big transport hauliers already have their own tracking systems