Cost Benefit Analysis of the eTIR system
Summary, limitations and recommendations

Agenda item 7.b.i

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Working Party on Customs Questions affecting Transport
135th session
1 - 4 October 2013
Outline

Informal document GE.1 No.2 (2013)

- Summary of the CBA
- Assessment
- Recommendations
Outline

- Summary of the CBA
  - Technical options
  - Scenarios
  - Costs
  - Benefits
  - Results
- Assessment
- Recommendations
Technological options

- At premises
- UNOG
- UNICC
- IaaS (Infrastructure as a Service)
- PaaS (Platform as a Service)
- SaaS (Software as a Service)
### Scenarios

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</tbody>
</table>

**Scenario 1**

**Scenario 2**
Costs

- Development costs
- Initial costs
- Operational and hosting costs
- Helpdesk costs
- Costs to adapt national applications
Development costs

- kernel (ensuring the electronic exchange of eTIR messages),
- the web base user interface, which would serve as backup to the kernel, and
- the administration console.

924 800 – 1 127 000 USD
## Initial Costs

<table>
<thead>
<tr>
<th>Service</th>
<th>Min</th>
<th>Max</th>
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<tbody>
<tr>
<td>At premises</td>
<td>1,255,000</td>
<td>1,450,000</td>
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<tr>
<td>UNOG</td>
<td>681,500</td>
<td>792,500</td>
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<tr>
<td>UNICC</td>
<td>632,000</td>
<td>743,000</td>
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<tr>
<td>IaaS</td>
<td>632,000</td>
<td>743,000</td>
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<tr>
<td>PaaS</td>
<td>142,000</td>
<td>183,000</td>
</tr>
<tr>
<td>SaaS</td>
<td>10,000</td>
<td>15,000</td>
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</table>
## Operational and hosting costs

<table>
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<tr>
<th>Service</th>
<th>Min</th>
<th>Max</th>
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<tr>
<td>At premises</td>
<td>340,419</td>
<td>526,059</td>
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<td>UNOG</td>
<td>194,739</td>
<td>243,259</td>
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<tr>
<td>UNICC</td>
<td>167,719</td>
<td>257,059</td>
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<tr>
<td>IaaS</td>
<td>113,402</td>
<td>153,126</td>
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<td>159,116</td>
<td>180,816</td>
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<tr>
<td>SaaS</td>
<td>1,500,000</td>
<td>3,000,000</td>
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</table>
Helpdesk costs

- Minimal helpdesk: 2 IT specialists working 40 hours a week.
- Initial costs: 24,500 – 44,000 USD
- Operating and personnel costs: 126,180 - 216,600 USD/year
Costs to adapt national applications

Update national IT system

120,000 – 150,000 USD/Country

developing web services

integrating eTIR web services in the national applications
Benefits

- For Customs: **1.44 USD** / Transport
- For the guarantee chain: **2 USD** / Transport
- For holders: **5.5 USD** / Transport
Results of the CBA

**Scenario 1**

- Premises
- UNOG
- UNICC
- PAAS
- IAAS
- SAAS

**Scenario 2**

- Net present value (right)
- Overall ROI (left)
Outline

- Summary of the CBA
- Assessment
  - General and scope
  - Methodological aspects
- Recommendations
General and scope assessment

- Good assumptions (eTIR RM), tech. options
- Simple scenarios
- Missing indirect benefits
- Missing costs for holders and guarantee chain
- Missing “of the shelf” technological option
- Labour costs too low for Geneva
Methodological aspects

↑ Function point analysis
↑ Detailed cost analysis (incl. risk factors)
↑ ROI and NPV (5% disc. rate)

↓ CBA based on unit costs
Outline

- Summary of the CBA
- Assessment
- Recommendations
Recommendations

- Considering that the eTIR project seems to be highly profitable, it is recommended that the eTIR system should be implemented as soon as possible, including at national level, right after the required legal provisions, the technical specifications and the project roadmap are finalized and agreed on.

- Considering the commercial sensibility of the data that will be handled by the eTIR international system and in view of the relatively small costs differences with the cloud solution recommended in the CBA, it is recommended that the eTIR international system be hosted at UNICC or UNOG data centres;

- Considering the availability on the market of message broker software, including open source solutions, it is recommended to consider the use of “off the shelf” solutions for the development of the eTIR international system.

- Considering the large benefits for TIR Carnet holders, a potential avenue to explore for the financing of the eTIR international system seems to be through a contributory system per TIR transport, similar to the one used for TIRExB.
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