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The Importance of backward compatibility

– SCA Next –

Updated, Jan 2014
Agenda

- What does Backward Compatibility Mean?
- Is SCA Next Backward Compatible?
- How Important is Backward Compatibility for SCA Next?
- What are the Options for Moving Forward?
- Conclusion
What does Backward Compatibility Mean?

Definition of Backward Compatibility

- Wikipedia:
  - “If products designed for the new standard can receive, read, view or play older standards or formats, then the product is said to be backward-compatible”
  - “In other contexts, a product or a technology is said to be backward compatible when it is able to fully take the place of an older product, by inter-operating with products that were designed for the older product”
  - “Backward compatibility is a relationship between two components, rather than being an attribute of just one of them. More generally, a new component is said to be backward compatible if it provides all of the functionality of the old component.”
Is SCA Next Backward Compatible?

Let’s see what we can do….

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch a SCAv2.2.2 application on a SCA Next Core Framework?</td>
<td>No^1</td>
</tr>
<tr>
<td>Launch a SCAv2.2.2 node on a SCA Next Core Framework?</td>
<td>No</td>
</tr>
<tr>
<td>Reuse a SCAv2.2.2 Resource in a SCA Next Application?</td>
<td>No^1</td>
</tr>
<tr>
<td>Reuse a SCAv2.2.2 Device in a SCA Next node?</td>
<td>No^1</td>
</tr>
<tr>
<td>Get a SCAv2.2.2 DeviceManager to register with a SCA Next DomainManager?</td>
<td>No^1</td>
</tr>
<tr>
<td>Use SCAv2.2.2 tools to install, instantiate, start, stop, connect, or disconnect SCA Next applications on an SCA Next Core Framework?</td>
<td>No^1</td>
</tr>
</tbody>
</table>

Therefore, how is SCA Next backward compatible?

– There is no interoperability possible between SCAv2.2.2 components and SCA Next components

^1 Even with full inheritance SCA Next IDL interfaces
How Important is Backward Compatibility for SCA Next?

- How important is it for the SCARI customers to reuse the millions of lines of source code implemented over the last 7 years?
  - The promise of the SCA is to maximize the reuse of software components
  - Savings mostly come at the second or third generation SCA Radio

- How important is it for the US to be able to reuse DoD repository?

- How important is it for ESSOR players to be able to reuse their SCAv2.2.2 investment?

- How important is it for SVFuA players to be able to reuse their SCAv2.2.2 investment?
What are the Options for Moving Forward?

- **[Option 1] Accept that SCA Next is not going to be backward compatible**
  - Must highlight clear advantages to justify SCA Next adoption
  - Must clearly state that porting will be necessary for any SCAv2.2.2 artefacts

- **[Option 2] Work on making SCA Next backward compatible**
  - Form a work group to investigate backward compatibility

- **[Option 3] Ignore SCA Next**
What are the Options for Moving Forward?

- In December 2013, [option 2] was selected by WinnF. A new Task Group was formed and chartered to investigate backwards compatibility issues for SCAv4.

- The SCA4.1 Backwards Compatibility Task Group
  - Goal: Investigate how SCAv4 breaks backwards compatibility with SCA 2.2.2, define potential solutions to address specific issues, gather consensus and submit change proposals to the JTNC.

- Schedule:
  - [Milestone 1] – Jan 14 2014 – Prioritized list of issues, relative levels of disruptiveness, associated requirements
  - [Milestone 3] – Apr 14 2014 – Final report containing selected solutions
  - Balloting dates: April group ballot, May committee ballot, June Plenary ballot
Conclusion

- SCAv4 is not backward compatible at all
- We need to avoid [Option 3]
  - Remember SCAv3.0?
  - It led us to SCAv2.2.2 and some extensions
- [Option 2] is worth a try
  - Join the Task Group!
— The End —

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