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The Importance of backward compatibility

– SCA Next –

Updated, Jan 2014

- ❖ **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....

Launch a SCAv2.2.2 application on a SCA Next Core Framework?	No¹
Launch a SCAv2.2.2 node on a SCA Next Core Framework?	No
Reuse a SCAv2.2.2 Resource in a SCA Next Application?	No¹
Reuse a SCAv2.2.2 Device in a SCA Next node?	No¹
Get a SCAv2.2.2 DeviceManager to register with a SCA Next DomainManager?	No¹
Use SCAv2.2.2 tools to install, instantiate, start, stop, connect, or disconnect SCA Next applications on an SCA Next Core Framework?	No¹

❖ 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 2] – Mar 14 2014 – List of potential solutions
 - [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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