**SM model-based messaging standards development**

Chairs: Dr. Nenad Ivezic, NIST ([nivezic@nist.gov](mailto:nivezic@nist.gov)) and Dr. Serm Kulvatunyou, NIST ([serm@nist.gov](mailto:serm@nist.gov))

Abstract

Manufacturing enterprises and their supply chains seek increased agility in the light of increasing market pressures, sudden requirements changes, and supply chain disruptions. Such increased agility requires efficient discovery and integration of services from both within and across enterprises. This, in turn, requires efficient integrations across both cloud-enabled and on-premise services.

More automation is needed to increase integration efficiency. High quality messaging standards and their development and usage methods are essential to the automation. This, however, requires a shared reference models for specification of service requirements and capabilities. Such a shared basis will allow efficient registration, discovery, and composition of these services.

The aim of this session is to revolutionize the way messaging standards are developed and used. New model-based architecture and systems engineering approaches to standards development and use will be explored. These approaches are expected to create reference models, and analysis and synthesis tools, as a basis of requirements and capability specification for manufacturing services. Such reference models and associated tools would allow syntax-independent and business-process-first standards development and usage to become a reality. The new models and tools are expected to reduce manufacturing applications integration risk and costs to software providers and users, promote standards adoption, and lead to more efficient and automated integrations.

In this meeting, the current progress within the OAGi Semantic Refinement Method and Tool Working Group and OAGi Smart Manufacturing WG will be presented. Recent use case scenario across the two efforts will be reviewed. The meeting objective is to arrive at a focused set of requirements for the two working groups to address within the next six months to one year.

The following topics will be discussed during the session:

* Services composition: Interplay between messaging content standard and business processes
* Business Process Cataloging and Classification System (BPCCS): Status, Capability Review, and Future Development
* Semantic Refinement Tool: Status, Capability Review, and Future Development
* Semantic Refinement Tool and Business Process Cataloging and Classification System: Integration requirements and next steps

**Agenda: SM model-based messaging standards development**

**Monday April 10**

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| **1:00-2:00** | ***Overview and Discussion: Roadmap material from last year workshop report***  Presented by Nenad Ivezic and Serm Kulvatunyou |
| **2:00- 3:15** | ***Overview and Discussion: Semantic Refinement Tool (SRT) and Business Process Cataloging and Classification System (BPCCS) – Part 1***  Presented by Serm Kulvatunyou, Nenad Ivezic, Hakju Oh, Miroslav Ljubicic, Marija Jankovic |
| **3:30- 5:00** | ***Overview and Discussion: Use Case discussions – Agro-Business business processes, Product Fulfillment, Business Process Search and Reuse, and others***  Presented by Serm Kulvatunyou, Nenad Ivezic, Hakju Oh, Miroslav Ljubicic, Marija Jankovic |
| **5:00-5:30** | ***Recap of Day 1- Discussion of Day 2 expectations*** |

**Tuesday April 11**

**8:30-11:30**

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|  | **Review and continuation of the Day 1 discussions and update of Roadmap material**  Presented by Serm Kulvatunyou, Nenad Ivezic |

**1:00-3:30**

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|  | **Next steps and plans for NIST-OAGi working group activities, preparing to report at the concluding plenary**  Presented by Serm Kulvatunyou, Nenad Ivezic |
| 3:30 | **Conclusion of the Session** |