1 - Introduction - Use Case Formalization and ECCF Positioning

This paper describes an approach that was developed for the formalization of activities related to use cases in the context of Requirements Elicitation efforts of the NCI Vocabularies and Common Data Elements (VCDE) Workspace.

The aim of this approach is to augment current requirements elicitation and use case analysis with concepts from the Open Distributed Processing – Reference Model (RM-ODP) [2], [3], contextualized with UML semantics and notation. The approach leverages the use of modelling tools such as Sparx Enterprise Architect with an RM-ODP plug-in.

A further aim is to consider recent SAIF developments and to strengthen the use of RM-ODP standards in the software development lifecycle, thus holistically promoting interoperability approaches as per SAIF objectives.

The paper is structured as follows.

Section 2 - Requirements Elicitation Initiative outlines key activities and outcomes of the requirements elicitation project delivered before April 2010, describes the rationale for a use case formalization approach and identifies the methodologies and techniques used in the subsequent stage of the Requirements Elicitation initiative.

Section 3 - Use Case Formalization describes a leveling approach for structuring use cases as well as the use of UML notation to support delivery of artifacts for downstream software development activities. This is illustrated through examples based on use cases developed to address the ISO 21090 datatype support requirement.

Section 4 - The Use of ODP Enterprise Language introduces the concept of community from the ODP Enterprise Language as a way of augmenting use case formalization, and describes the usage of the community concept in use case analysis as well as its position in the ECCF matrix.

Several lessons were learned in this project and this is described in section 5 - Lessons Learned.

The paper concludes with 6 - Possible Next Steps, a list of possible new activities to be undertaken to further develop and strengthen the outcomes of the requirements elicitation efforts.

Refer to 7 - References for the numbered references shown in square brackets throughout.