

Proposed Requirements Specification for Coalition Information Sharing

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Requirement Specification

- Uses mathematical notation to specify what properties a system must have.
 - Notation allows for strict, clear representation of what is required.
 - Notation can not easily be used to state implementation specifics.
 - Notation can be checked for conflicting requirements.
- Avoiding the use of English provides a concise, focused, and bounded requirements document.

Specification in Coalition Systems

- ❑ CIGs, OIGs, contracts, roles, organizations, etc. must be formally defined along with the relationships between them.
- ❑ The Coalition System application modules must be explicitly split into separate areas (i.e., GUI, Agent Bus, Transport Layer, etc.).
- ❑ Operations that must be provided by each application module must be stated simply and precisely.
- ❑ This will prevent misinterpretation and team interoperability problems.

Intent Aware Requirement Engineering

- ❑ A methodology for creating requirements that capture the design intent.
- ❑ An Intent Aware Requirement (IAR) is a statement of what must be done prefaced with why it must be done.
- ❑ Each IAR statement should have an explicitly defined scope that bounds which pieces the requirement applies to.
- ❑ If a *why* does not exist then the statement is not a requirement and should be not be included.

Intent Aware Requirements

- ❑ Will provide additional clarity to complex statements.
- ❑ Will prevent implementation specific details.
- ❑ Will help developers understand how best to implement the requirement (fully matching the intent instead of minimally matching the goal).

Suggestions

- A combination of IARs, formal notation and natural language should be used.
- A *why* statement should precede each requirement statement.
- Requirements should be represented using two methods:
 - Plain English, distilled down to simplest form (verb should be the simplest possible, adjectives should be avoided, complex sentence structure should not be used).
 - Formal methods using a logical syntax such as Z Notation and diagrams (e.g., flow chart).