



# Unified Architecture Framework (UAF) Traceability (Informative)

## Appendix A

*Version 1.2 - change bar version*

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# 1. Introduction

The intent of this document is to provide the mapping tables between the:

- UAF view specifications to the viewpoints in the donor frameworks,
- UAF elements to the elements in the donor frameworks, and
- UAF elements to the SysML stereotypes and UML Metaclasses that they extend.

This is to help tool vendors and potential users understand the relationships that exist between the UAF and its donor frameworks.

The tables in this document also satisfy a number of requirements, as detailed in the original UPDM 3.0 RFP.

## 2. Framework Traceability

This section of the document details the mapping of the view specifications between UAF to the viewpoints in donor frameworks that contribute to the UAF. It should be noted that the mapping between the view specifications in the UAF to the viewpoints in the donor frameworks is not a direct one to one mapping. Where a UAF view specification maps to more than one viewpoint in a donor framework it means that the information defined in the UAF view specifications supports all the indicated viewpoints in the contributing framework. In some cases, a view specification from the UAF provides partial support to a viewpoint in a contributing framework.

An overview of the UAF view specifications can be seen in the grid in ~~figure~~Figure 7=1 of UAF DMM document (~~date/21-12-06~~formal/22-). It is advised that readers of this document refer to the UAF grid and the appropriate framework grid overlays whilst examining the mapping tables to understand the correspondence between them.

### 2.1 UAF 1.2 to DoDAF 2.02 Mapping

**Table 2:1 - UAF 1.2 to DoDAF 2.02 Mapping**

| UAF 1.2 | UAF View Specification               | DoDAF 2.02           | DoDAF 2.02 Long Name   |
|---------|--------------------------------------|----------------------|--|
| Am-Cn   | Architecture References              | -                    | -  |
| Am-Ct   | Architecture Constraints             | -                    | -  |
| Am-If   | Information: Dictionary              | AV-2                 | Integrated Dictionary  |
| Am-Mv   | Architecture Principles              | -                    | -  |
| Am-Pm   | Architecture Parameters              | -                    | -  |
| AM-Pr   | Architecture Development Method      | -                    | -  |
| Am-Rm   | Architecture Roadmap                 | -                    | -  |
| Am-Sr   | Architecture Views                   | -                    | -  |
| Am-St   | Architecture Status                  | -                    | -  |
| Am-Tr   | Architecture Traceability            | -                    | -  |
| Am-Tx   | Architecture Extensions              | -                    | -  |
| Ar-Cn   | Actual Resources Connectivity        | OV-4<br>SV-1<br>SV-2 | Organizational Relationships Chart,<br>Systems interface description,<br>Systems resource flow description |
| Ar-Sr   | Actual Resources Structure           | OV-4                 | Organizational Relationships Chart   |
| En-Pm   | Parameters: Environment              | -                    | -  |
| Me-Pm   | Parameters: Measurements             | SV-7<br>SvcV-7       | Systems Measures Matrix<br>Services Measures Matrix  |
| Op-Cn   | Operational Connectivity             | OV-2<br>OV-3         | Operational Resource Flow Description<br>Operational Resource Flow Matrix                                  |
| Op-Ct   | Operational Constraints              | OV-6a                | Operational Rules Model  |
| Op-If   | Information: Operational Information | DIV-2                | Logical Data Model   |
| Op-Pr   | Operational Processes                | OV-5a<br>OV-5b       | Operational Activity Decomposition Tree<br>Operational Activity Model                                      |
| Op-Sq   | Operational Sequences                | OV-6c                | Event-Trace Description  |
| Op-St   | Operational States                   | OV-6b                | State Transition Description   |
| Op-St   | Operational Structure                | OV-2                 | Operational Resource Flow Description  |

| UAF 1.2 | UAF View Specification             | DoDAF 2.02     | DoDAF 2.02 Long Name  |
|---------|------------------------------------|----------------|---|
| Op-Tr   | Operational Traceability           | CV-6           | Capability to Operational Activities Mapping  |
| Op-Tx   | Operational Taxonomy               | OV-1<br>OV-2   | High Level Operational Concept Graphic<br>Operational Resource Flow Description   |
| Pj-Cn   | Projects Connectivity              | PV-2           | Project Timelines   |
| Pj-Pr   | Projects Processes                 | -              | -   |
| Pj-Rm   | Projects Roadmap                   | PV-2           | Project Timelines   |
| Pj-Sr   | Projects Structure                 | PV-1           | Project Portfolio Relationships   |
| Pj-Tr   | Projects Traceability              | PV-3           | Project to Capability Mapping   |
| Pj-Tx   | Projects Taxonomy                  | PV-1           | Project Portfolio Relationships   |
| Ps-Cn   | Personnel Connectivity             | SV-3<br>SV-6   | Systems-Systems Matrix<br>Systems Resource Flow Matrix  |
| Ps-Ct   | Personnel Constraints: Competence  | OV-4           | Organizational Relationships Chart  |
| Ps-Ct   | Personnel Constraints: Drivers     | SV-10a         | Systems Rules Model   |
| Ps-Ct   | Personnel Constraints: Performance | SV-7           | Systems Measures Matrix   |
| Ps-Pr   | Personnel Processes                | SV-4           | Systems Functionality Description   |
| Ps-Rm-A | Personnel Roadmap: Availability    | -              | -   |
| Ps-Rm-E | Personnel Roadmap: Evolution       | SV-8           | Systems Evolution Description   |
| Ps-Rm-F | Personnel Roadmap: Forecast        | SV-9           | Systems Technology & Skills Forecast  |
| Ps-Sq   | Personnel Scenarios                | SV-10c         | Systems Event-Trace Description   |
| Ps-Sr   | Personnel Structure                | OV-4           | Organizational Relationships Chart  |
| Ps-St   | Personnel States                   | SV-10b         | Systems State Transition Description  |
| Ps-Tr   | Personnel Traceability             | SV-5a<br>SV-5b | Operational Activity to Systems Function<br>Traceability Matrix, Operational Activity to<br>Systems Traceability Matrix   |
| Ps-Tx   | Personnel Taxonomy                 | OV-4           | Organizational Relationships Chart  |
| Rk-Pm   | Parameters: Risks                  | -              | -   |
| Rq-Mv   | Motivation: Requirements           | -              | -   |
| Rs-Cn   | Resources Connectivity             | SV-3<br>SV-6   | Systems-Systems Matrix<br>Systems Resource Flow Matrix  |
| Rs-Ct   | Resources Constraints              | SV-10a         | Systems Rules Model   |
| Rs-If   | Information: Resources Information | DIV-3          | Physical Data Model   |
| Rs-Pr   | Resources Processes                | SV-4           | Systems Functionality Description   |
| Rs-Rm   | Resources Roadmap: Evolution       | SV-8           | Systems Evolution Description   |
| Rs-Rm   | Resources Roadmap: Forecast        | SV-9           | Systems Technology & Skills Forecast  |
| Rs-Sq   | Resources Sequences                | SV-10c         | Systems Event-Trace Description   |
| Rs-sr   | Resources Structure                | SV-1<br>SV-2   | Systems Interface Description<br>Systems Resource Flow Description  |
| Rs-St   | Resources States                   | SV-10b         | Systems State Transition Description  |
| Rs-Tr   | Resources Traceability             | SV-5a<br>SV-5b | Operational Activity to Systems Function<br>Traceability Matrix<br>Operational Activity to Systems Traceability<br>Matrix |
| Rs-Tx   | Resources Taxonomy                 | SV-1<br>SV-2   | Systems Interface Description<br>Systems Resource Flow Description  |
| Sc-Cn   | Security Connectivity              | -              | -   |

| UAF 1.2  | UAF View Specification             | DoDAF 2.02                   | DoDAF 2.02 Long Name   |
|----------|------------------------------------|------------------------------|--|
| Sc-Ct    | Security Constraints               | -                            | -  |
| Sc-Mv    | Security Controls                  | -                            | -  |
| Sc-Pr    | Security Processes                 | -                            | -  |
| Sc-Sr    | Security Structure                 | -                            | -  |
| Sc-Tr    | Security Traceability              | -                            | -  |
| Sc-Tx    | Security Taxonomy                  | -                            | -  |
| Sd-Rm    | Standards Roadmap                  | StdV-2                       | Standards Forecast   |
| Sd-Sr    | Standards Structure                | StdV-1                       | Standards Profile  |
| Sd-Tr    | Standards Traceability             | StdV-1                       | Standards Profile  |
| Sd-Tx    | Standards Taxonomy                 | StdV-1                       | Standards Profile  |
| Sm-Ov    | Summary & Overview                 | AV-1                         | Overview and Summary Information   |
| St-Cn    | Strategic Connectivity             | CV-4                         | Capability Dependencies  |
| St-Ct    | Strategic Constraints              | -                            | -  |
| St-If    | Information: Strategic Information | DIV-1                        | Conceptual Data Model  |
| St-Mv    | Strategic Motivation               | -                            | -  |
| St-Pr    | Strategic Processes                | CV-1                         | Vision   |
| St-Rm-Dm | Strategic Roadmap: Deployment      | CV-5                         | Capability to Organizational Development Mapping                                       |
| St-Rm-P  | Strategic Roadmap: Phasing         | CV-3                         | Capability Phasing   |
| St-Sr    | Strategic Structure                | CV-2                         | Capability Taxonomy  |
| St-St    | Strategic States                   | -                            |  |
| St-Tr    | Strategic Traceability             | -                            |  |
| St-Tx    | Strategic Taxonomy                 | CV-2                         | Capability Taxonomy  |
| Sv-Cn    | Services Connectivity              | SvcV-3a<br>SvcV-3b<br>SvcV-6 | Systems-Services Matrix<br>Services-Services Matrix<br>Services Resource Flow Matrix   |
| Sv-Ct    | Services Constraints               | SvcV-10a                     | Services Rules Model   |
| Sv-Pr    | Services Processes                 | SvcV-4                       | Services Functionality Description   |
| Sv-Rm    | Services Roadmap: Evolution        | SvcV-8<br>SvcV-9             | Services Evolution Description<br>Services Technology & Skills Forecast                |
| Sv-Sq    | Services Sequences                 | SvcV-10c                     | Services Event-Trace Description   |
| Sv-Sr    | Services Structure                 | SvcV-1<br>SvcV-2             | Services Context Description<br>Services Resource Flow Description                     |
| Sv-St    | Services States                    | SvcV-10b                     | Services State Transition Description  |
| Sv-Tr    | Services Traceability              | CV-7<br>SvcV-5               | Capability to Services Mapping<br>Operational Activity to Services Traceability Matrix |
| Sv-Tx    | Services Taxonomy                  | SvcV-1                       | Services Context Description   |

## 2.2 UAF 1.2 to MODAF 1.2 Mapping

Table 1:2 - UAF 1.2 to MODAF 1.2 Mapping

| UAF 1.2 | UAF View Specification               | MODAF 1.2              | MODAF 1.2 Long Name   |
|---------|--------------------------------------|------------------------|---|
| Am-Cn   | Architecture References              | -                      | -   |
| Am-Ct   | Architecture Constraints             | -                      | -   |
| Am-If   | Information: Dictionary              | AV-2                   | Integrated Dictionary   |
| Am-Mv   | Architecture Principles              | -                      | -   |
| Am-Pm   | Architecture Parameters              | -                      | -   |
| AM-Pr   | Architecture Development Method      | -                      | -   |
| Am-Rm   | Architecture Roadmap                 | -                      | -   |
| Am-Sr   | Architecture Views                   | -                      | -   |
| Am-St   | Architecture Status                  | -                      | -   |
| Am-Tr   | Architecture Traceability            | -                      | -   |
| Am-Tx   | Architecture Extensions              | -                      | -   |
| Ar-Cn   | Actual Resources Connectivity        | OV-4 Actual<br>SV-1    | Organisational Relationships Chart<br>Resource Interaction Specification  |
| Ar-Sr   | Actual Resources Structure           | OV-4 Actual            | Organisational Relationships Chart  |
| En-Pm   | Parameters: Environment              | -                      | -   |
| Me-Pm   | Parameters: Measurements             | OV-1c<br>SV-7          | Operational Performance Attributes<br>Resource Performance Parameters Matrix  |
| Op-Cn   | Operational Connectivity             | OV-2<br>OV-3           | Operational Node Relationships description<br>Operational Information Exchange Matrix                                   |
| Op-Ct   | Operational Constraints              | OV-6a                  | Operational Rules Model   |
| Op-If   | Information: Operational Information | OV-7                   | Information Model   |
| Op-Pr   | Operational Processes                | OV-5                   | Operational Activity Model  |
| Op-Sq   | Operational Sequences                | OV-6c                  | Operational Event-Trace Description   |
| Op-Sr   | Operational Structure                | OV-2                   | Operational Node Relationships description  |
| Op-St   | Operational States                   | OV-6b                  | Operational State Transition Description  |
| Op-Tr   | Operational Traceability             | StV-6                  | Operational Activity to Capability Mapping  |
| Op-Tx   | Operational Taxonomy                 | OV-1a<br>OV-1b<br>OV-2 | High-Level Operational Concept Graphic<br>Operational Concept Description<br>Operational Node Relationships description |
| Pj-Cn   | Projects Connectivity                | AcV-2                  | Programme Timelines   |
| Pj-Pr   | Projects Processes                   | -                      | -   |
| Pj-Rm   | Projects Roadmap                     | AcV-2                  | Programme Timelines   |
| Pj-Sr   | Projects Structure                   | AcV-1                  | Acquisition Clusters  |
| Pj-Tr   | Projects Traceability                | -                      | -   |
| Pj-Tx   | Projects Taxonomy                    | AcV-1                  | Acquisition Clusters  |
| Ps-Cn   | Personnel Connectivity               | OV-4 Typical<br>SV-6   | Organisational Relationships Chart<br>Systems Data Exchange Matrix  |
| Ps-Ct   | Personnel Constraints: Competence    | OV-4 Typical           | Organisational Relationships Chart  |
| Ps-Ct   | Personnel Constraints: Drivers       | SV-10a                 | Resource Constraints Specification  |
| Ps-Ct   | Personnel Constraints: Performance   | SV-7                   | Resource Performance Parameters Matrix  |
| Ps-Pr   | Personnel Processes                  | SV-4                   | Functionality Description   |
| Ps-Rm-A | Personnel Roadmap: Availability      | AcV-2                  | Programme Timelines   |
| Ps-Rm-E | Personnel Roadmap: Evolution         | SV-8                   | Capability Configuration Management   |
| Ps-Rm-F | Personnel Roadmap: Forecast          | SV-9                   | Technology & Skills Forecast  |
| Ps-Sq   | Personnel Sequences                  | SV-10c                 | Resource Event-Trace Description  |
| Ps-Sr   | Personnel Structure                  | OV-4 Typical           | Organisational Relationships Chart  |

| UAF 1.2 | UAF View Specification             | MODAF 1.2                     | MODAF 1.2 Long Name   |
|---------|------------------------------------|-------------------------------|---|
| Ps-St   | Personnel States                   | SV-10b                        | Resource State Transition Description   |
| Ps-Tr   | Personnel Traceability             | SV-5                          | Function to Operational Activity / Service Function Traceability Matrix   |
| Ps-Tx   | Personnel Taxonomy                 | OV-4 Typical                  | Organisational Relationships Chart  |
| Rk-Pm   | Parameters: Risks                  | -                             | -   |
| Rq-Mv   | Motivation: Requirements           | -                             | -   |
| Rs-Cn   | Resources Connectivity             | SV-1<br>SV-2b<br>SV-3<br>SV-6 | Resource Interaction Specification<br>System Port Connectivity Description<br>Resource Interaction Matrix<br>Systems Data Exchange Matrix |
| Rs-Ct   | Resources Constraints              | SV-10a                        | Resource Constraints Specification  |
| Rs-If   | Information: Resources Information | SV-11                         | Physical Schema   |
| Rs-Pr   | Resources Processes                | SV-4                          | Functionality Description   |
| Rs-Rm   | Resources Roadmap: Evolution       | SV-8                          | Capability Configuration Management   |
| Rs-Rm   | Resources Roadmap: Forecast        | SV-9                          | Technology & Skills Forecast  |
| Rs-Sq   | Resources Sequences                | SV-10c                        | Resource Event-Trace Description  |
| Rs-Sr   | Resources Structure                | SV-1<br>SV-2c                 | Resource Interaction Specification<br>System Port Specification<br>System Port Connectivity Description<br>System Connectivity Clusters   |
| Rs-St   | Resources States                   | SV-10b                        | Resource State Transition Description   |
| Rs-Tr   | Resources Traceability             | SV-5<br>SV-12                 | Function to Operational Activity / Service Function Traceability Matrix<br>Service Provision  |
| Rs-Tx   | Resources Taxonomy                 | SV-1<br>SV-2a                 | Resource Interaction Specification<br>System Port Specification   |
| Sc-Cn   | Security Connectivity              | -                             |   |
| Sc-Ct   | Security Constraints               | -                             |   |
| Sc-Mv   | Security Controls                  | -                             | -   |
| Sc-Pr   | Security Processes                 | -                             |   |
| Sc-Sr   | Security Structure                 | -                             |   |
| Sc-Tr   | Security Traceability              | -                             | -   |
| Sc-Tx   | Security Taxonomy                  | -                             |   |
| Sd-Rm   | Standards Roadmap                  | TV-2                          | Standards Forecast  |
| Sd-Sr   | Standards Structure                | TV-1                          | Standards Profile   |
| Sd-Tr   | Standards Traceability             | TV-1                          | Standards Profile   |
| Sd-Tx   | Standards Taxonomy                 | TV-1                          | Standards Profile   |
| Sm-Ov   | Summary & Overview                 | AV-1                          | Overview & Summary Information  |
| St-Cn   | Strategic Connectivity             | StV-4                         | Capability Dependencies   |
| St-Ct   | Strategic Constraints              | -                             |   |
| St-If   | Information: Strategic Information | -                             | -   |
| St-Mv   | Strategic Motivation               | -                             | -   |
| St-Pr   | Strategic Processes                | StV-1                         | Enterprise Vision   |
| St-Rm-D | Strategic Roadmap: Deployment      | StV-5                         | Capability to Organisation Deployment Mapping   |
| St-Rm-P | Strategic Roadmap: Phasing         | StV-3                         | Capability Phasing  |
| St-Sr   | Strategic Structure                | StV-2                         | Capability Taxonomy   |

| UAF 1.2        | UAF View Specification                       | MODAF 1.2  | MODAF 1.2 Long Name               |
|----------------|--|------------|-----------------------------------|
| St-St          | Strategic States                             | -          |                                   |
| St-Tr<br>St-Tx | Strategic Traceability<br>Strategic Taxonomy | -<br>StV-2 | Capability Taxonomy               |
| Sv-Cn          | Services Connectivity                        | SOV-2      | Service Interface Specification   |
| Sv-Ct          | Services Constraints                         | SOV-4a     | Service Constraints               |
| Sv-Pr          | Services Processes                           | SOV-5      | Service Functionality             |
| Sv-Rm          | Services Roadmap: Evolution                  | -          |                                   |
| Sv-Sq          | Services Sequences                           | SOV-4c     | Service Interaction Specification |
| Sv-Sr          | Services Structure                           | SOV-2      | Service Interface Specification   |
| Sv-St          | Services States                              | SOV-4b     | Service State Model               |
| Sv-Tr          | Services Traceability                        | SOV-3      | Capability to Service Mapping     |
| Sv-Tx          | Services Taxonomy                            | SOV-1      | Service Taxonomy                  |

## 2.3 UAF 1.2 to NAF 3.1 Mapping

**Table 2:2 - UAF 1.2 to NAF 3.1 Mapping**

| UAF 1.2 | UAF View Specification               | NAF 3.1               | NAF 3.1 Long Name   |
|---------|--------------------------------------|-----------------------|---|
| Am-Cn   | Architecture References              | -                     | -   |
| Am-Ct   | Architecture Constraints             | -                     | -   |
| Am-If   | Information: Dictionary              | NAV-2                 | Integrated Dictionary   |
| Am-Mv   | Architecture Principles              | -                     | -   |
| Am-Pm   | Architecture Parameters              | -                     | -   |
| AM-Pr   | Architecture Development Method      | -                     | -   |
| Am-Rm   | Architecture Roadmap                 | -                     | -   |
| Am-Sr   | Architecture Views                   | -                     | -   |
| Am-St   | Architecture Status                  | -                     | -   |
| Am-Tr   | Architecture Traceability            | -                     | -   |
| Am-Tx   | Architecture Extensions              | NAV-3a<br>NAV-3b      | Architecture Compliance Statement<br>Metadata Extensions                          |
| Ar-Cn   | Actual Resource Connectivity         | NOV-4 Actual<br>NSV-1 | Organisational Relationship Chart<br>System Interface Description                 |
| Ar-Sr   | Actual Resource Structure            | NOV-4 Actual          | Organisational Relationship Chart, (IBDs,<br>Parametrics)                         |
| En-Pm   | Parameters: Environment              | -                     | -   |
| Me-Pm   | Parameters: Measurements             | NSV-7                 | System Quality Requirements Description   |
| Op-Cn   | Operational Connectivity             | NOV-2<br>NOV-3        | Operational Node Connectivity Description<br>Operational Information Requirements |
| Op-Ct   | Operational Constraints              | NOV-6a                | Operational Rule Model  |
| Op-If   | Information: Operational Information | NSV-11a               | Logical Data Model  |
| Op-Pr   | Operational Processes                | NOV-5                 | Operational Activity Model  |
| Op-Sq   | Operational Sequences                | NOV-6c                | Operational Event-Trace Description   |
| Op-St   | Operational States                   | NOV-6b                | Operational State Transition Description  |
| Op-St   | Operational Structure                | NOV-2                 | Operational Node Connectivity Description   |
| Op-Tr   | Operational Traceability             | NCV-6                 | Capability to Operational Activities Mapping                                      |

| UAF 1.2 | UAF View Specification                | NAF 3.1                           | NAF 3.1 Long Name  |
|---------|---------------------------------------|-----------------------------------|--|
| Op-Tx   | Operational Taxonomy                  | NOV-1<br>NOV-2                    | High-Level Operational Concept Description<br>Operational Node Connectivity Description                                      |
| Pj-Cn   | Projects Connectivity                 | NPV-1                             | Programme Portfolio Relationships  |
| Pj-Pr   | Projects Processes                    | -                                 | -  |
| Pj-Rm   | Projects Roadmap                      | NPV-1                             | Programme to Capability Mapping  |
| Pj-Sr   | Projects Structure                    | NPV-1                             | Programme Portfolio Relationships  |
| Pj-Tr   | Projects Traceability                 | NPV-2                             | Programme to Capability Mapping  |
| Pj-Tx   | Projects Taxonomy                     | NPV-1                             | Programme Portfolio Relationships  |
| Ps-Cn   | Personnel Connectivity                | NOV-4 Typical<br>NSV-6            | Organisational Relationship Chart<br>Systems Data Exchange Matrix  |
| Ps-Ct   | Personnel Constraints: Competence     | NOV-4 Typical                     | Organisational Relationship Chart  |
| Ps-Ct   | Personnel Constraints: Drivers        | NSV-10a                           | Systems Rules Model  |
| Ps-Ct   | Personnel Constraints: Performance    | NSV-7                             | System Quality Requirements Description  |
| Ps-Pr   | Personnel Processes                   | NSV-4                             | System Functionality Description   |
| Ps-Rm-A | Personnel Roadmap: Availability       | -                                 | --   |
| Ps-Rm-E | Personnel Roadmap: Evolution          | NSV-8                             | Systems Evolution Description  |
| Ps-Rm-F | Personnel Roadmap: Forecast           | NSV-9                             | Technology Forecast  |
| Ps-Sq   | Personnel Scenarios                   | NSV-10c                           | Systems Event-Trace Description  |
| Ps-Sr   | Personnel Structure                   | NOV-4 Typical                     | Organisational Relationship Chart  |
| Ps-St   | Personnel States                      | NSV-10b                           | Systems State Transition Description   |
| Ps-Tr   | Personnel Taxonomy                    | NOV-4 Typical                     | Organisational Relationship Chart  |
| Ps-Tx   | Personnel Traceability                | NSV-5                             | Systems Function to Operational Activity<br>Traceability Matrix  |
| Rk-Pm   | Parameters: Risks                     | -                                 | -  |
| Rq-Mv   | Motivation: Requirements Requirements | -                                 | -  |
| Rs-Cn   | Resources Connectivity                | NSV-1<br>NSV-2b<br>NSV-3<br>NSV-6 | System Interface Description<br>System to System Port Connectivity<br>Systems-Systems Matrix<br>Systems Data Exchange Matrix |
| Rs-Ct   | Resources Constraints                 | NSV-10a                           | Systems Rules Model  |
| Rs-If   | Information: Resources Information    | NSV-11b                           | Physical Data Model  |
| Rs-Pr   | Resources Processes                   | NSV-4                             | System Functionality Description   |
| Rs-Rm   | Resources Roadmap: Evolution          | NSV-8                             | Systems Evolution Description  |
| Rs-Rm   | Resources Roadmap: Forecast           | NSV-9                             | Technology Forecast  |
| Rs-Sq   | Resources Sequences                   | NSV-10c                           | Systems Event-Trace Description  |
| Rs-Sr   | Resources Structure                   | NSV-1<br>NSV-2c                   | System interface Description<br>System Connectivity Clusters   |
| Rs-St   | Resources States                      | NSV-10b                           | Systems State Transition Description   |
| Rs-Tr   | Resources Traceability                | NSV-5                             | Systems Function to Operational Activity<br>Traceability Matrix  |
| Rs-Tx   | Resources Taxonomy                    | NSV-12<br>NSV-1<br>NSV-2a         | Service Provision<br>System Interface Description<br>System Port Specification   |
| Sc-Cn   | Security Connectivity                 | -                                 | -  |
| Sc-Ct   | Security Constraints                  | -                                 | -  |



| UAF 1.2 | UAF View Specification             | NAF 3.1         | NAF 3.1 Long Name  |
|---------|------------------------------------|-----------------|--|
| Sc-Mv   | Security Controls                  | -               | -  |
| Sc-Pr   | Security Processes                 | -               | -  |
| Sc-Sr   | Security Structure                 | -               | -  |
| Sc-Tr   | Security Traceability              | -               | -  |
| Sc-Tx   | Security Taxonomy                  | -               | -  |
| Sd-Rm   | Standards Roadmap                  | NTV-2           | Technical Standards Forecast   |
| Sd-Sr   | Standards Structure                | NTV-3           | Standard Configurations  |
| Sd-Tr   | Standards Traceability             | NTV-1           | Technical Standards Profile  |
| Sd-Tx   | Standards Taxonomy                 | NTV-1           | Technical Standards Profile  |
| Sm-Ov   | Summary & Overview                 | NAV-1           | Overview and Summary Information   |
| St-Cn   | Strategic Connectivity             | NCV-4           | Capability Dependencies.   |
| St-Ct   | Strategic Constraints              | -               | -  |
| St-If   | Information: Strategic Information | NOV-7           | Information Model  |
| St-Mv   | Strategic Motivation               | -               | -  |
| St-Pr   | Strategic Processes                | NCV-1           | Capability Vision  |
| St-Rm-D | Strategic Roadmap: Deployment      | NCV-5           | Capability to Organisational Deployment Mapping                              |
| St-Rm-P | Strategic Roadmap: Phasing         | NCV-3           | Capability Phasing   |
| St-Sr   | Strategic Structure                | NCV-2           | Capability Taxonomy  |
| St-St   | Strategic States                   | -               | -  |
| St-Tr   | Strategic Traceability             | -               | -  |
| St-Tx   | Strategic Taxonomy                 | NCV-2           | Capability Taxonomy  |
| Sv-Cn   | Services Connectivity              | NSOV-2          | Service Definition   |
| Sv-Ct   | Services Constraints               | NSOV-2          | Service Definition   |
| Sv-Pr   | Services Processes                 | NSOV-5          | Service Behaviour  |
| Sv-Rm   | Services Roadmap: Evolution        | -               | -  |
| Sv-Sq   | Services Sequences                 | NSOV-4          | Service Orchestration  |
| Sv-Sr   | Services Structure                 | -               | -  |
| Sv-St   | Services States                    | -               | -  |
| Sv-Tr   | Services Traceability              | NCV-7<br>NSOV-3 | Capability to Services Mapping<br>Services to Operational Activities Mapping |
| Sv-Tx   | Services Taxonomy                  | NSOV-1          | Service Taxonomy   |

## 2.4 UAF 1.2 to NAF 4.0 Mapping

**Table 2:3 - UAF 1.2 to NAF 4.0 Mapping**

| UAF 1.2 | UAF View Specification   | NAF 4.0 | NAF 4.0 Long Name       |
|---------|--------------------------|---------|-------------------------|
| Am-Cn   | Architecture References  | -       | -                       |
| Am-Ct   | Architecture Constraints | A7      | Architecture Compliance |
| Am-If   | Information: Dictionary  | A1      | Meta-Data Definitions   |
| Am-Mv   | Architecture Principles  | -       | -                       |
| Am-Pm   | Architecture Parameters  | -       | -                       |

[Appendix A - Unified Architecture Framework \(UAF\) Traceability](#) ~~Version 1, v1.2~~

| UAF 1.2 | UAF View Specification               | NAF 4.0     | NAF 4.0 Long Name                                |
|---------|--------------------------------------|-------------|--|
| AM-Pr   | Architecture Development Method      | A4          | Methodology Used                                 |
| Am-Rm   | Architecture Roadmap                 | Ar<br>A6    | Architecture Roadmap<br>Architecture Versions    |
| Am-Sr   | Architecture Views                   | A2          | Architecture Products                            |
| Am-St   | Architecture Status                  | A5          | Architecture Status                              |
| Am-Tr   | Architecture Traceability            | -           | -  |
| Am-Tx   | Architecture Extensions              | A1          | Meta-Data Definitions                            |
| Ar-Cn   | Actual Resources Connectivity        | -           | -  |
| Ar-Sr   | Actual Resources Structure           | P2          | Resource Types                                   |
| En-Pm   | Parameters: Environment              | -           |  |
| Me-Pm   | Parameters: Measurements             | C7<br>S7    | Performance Parameters<br>Service I/F Parameters |
| Op-Cn   | Operational Connectivity             | L3<br>L2-L3 | Node Interactions<br>Logical Concept             |
| Op-Ct   | Operational Constraints              | L8          | Logical Constraints                              |
| Op-If   | Information: Operational Information | L7          | Information Model                                |
| Op-Pr   | Operational Processes                | L4          | Logical Activities                               |
| Op-Sq   | Operational Sequences                | L6          | Logical Sequence                                 |
| Op-Sr   | Operational Structure                | L2<br>L2-L3 | Logical Scenario<br>Logical Concept              |
| Op-St   | Operational States                   | L5          | Logical States                                   |
| Op-Tr   | Operational Traceability             | -           |  |
| Op-Tx   | Operational Taxonomy                 | L1          | Node Types                                       |
| Pj-Cn   | Projects Connectivity                | -           |  |
| Pj-Pr   | Projects Processes                   | -           |  |
| Pj-Rm   | Projects Roadmap                     | Lr          | Lines of Development                             |
| Pj-Sr   | Projects Structure                   | -           |  |
| Pj-Tr   | Projects Traceability                | -           |  |
| Pj-Tx   | Projects Taxonomy                    | -           |  |
| Ps-Cn   | Personnel Connectivity               | P3          | Resource Connectivity                            |
| Ps-Ct   | Personnel Constraints: Competence    | -           |  |
| Ps-Ct   | Personnel Constraints: Drivers       | -           |  |
| Ps-Ct   | Personnel Constraints: Performance   | -           |  |
| Ps-Pr   | Personnel Processes                  | P4          | Resource Functions                               |
| Ps-Rm-A | Personnel Roadmap: Availability      | P8          | Resource Constraints                             |
| Ps-Rm-E | Personnel Roadmap: Evolution         | P8          | Resource Constraints                             |
| Ps-Rm-F | Personnel Roadmap: Forecast          | P8          | Resource Constraints                             |
| Ps-Sq   | Personnel Sequences                  | P6          | Resource Sequence                                |
| Ps-Sr   | Personnel States                     | P5          | Resource States                                  |
| Ps-St   | Personnel Structure                  | P2          | Resource Structure                               |
| Ps-Tr   | Personnel Taxonomy                   | P1          | Resource Types                                   |
| Ps-Tx   | Personnel Traceability               | L4-P4       | Activity to Function Mapping                     |
| Rk-Pm   | Parameters: Risks                    | -           | -  |
| Rq-Mv   | Motivation: Requirements             | -           | -  |

| UAF 1.2  | UAF View Specification                   | NAF 4.0 | NAF 4.0 Long Name             |
|----------|--|---------|-------------------------------|
| Rs-Cn    | Resources Connectivity                   | P3      | Resource Connectivity         |
| Rs-Ct    | Resources Constraints                    | P8      | Resource Constraints          |
| Rs-If    | Information: Resources Information       | P7      | Data Model                    |
| Rs-Pr    | Resources Processes                      | P4      | Resource Functions            |
| Rs-Rm    | Resources Roadmap: Evolution             | Pr      | Configuration Management      |
| Rs-Rm    | Resources Roadmap: Forecast              | Pr      | Configuration Management      |
| Rs-Sq    | Resources Sequences                      | P6      | Resource Sequence             |
| Rs-St    | Resources States                         | P5      | Resource States               |
| Rs-St    | Resources Structure                      | P2      | Resource Structure            |
| Rs-Tr    | Resources Traceability                   | L4-P4   | Activity to Function Mapping  |
| Rs-Tx    | Resources Taxonomy                       | P1      | Resource Types                |
| Sc-Cn    | Security Connectivity                    | -       |                               |
| Sc-Ct    | Security Constraints                     | -       |                               |
| Sc-Mv    | Security Controls                        | -       | -                             |
| Sc-Pr    | Security Processes                       | -       | -                             |
| Sc-Sr    | Security Structure                       | -       |                               |
| Sc-Tr    | Security Taxonomy                        | -       |                               |
| Sc-Tx    | Security Traceability                    | -       | -                             |
| Sd-Rm    | Standards Roadmap                        | A8      | Standards                     |
| Sd-Sr    | Standards Structure                      | -       | -                             |
| Sd-Tr    | Standards Traceability                   | A8      | Standards                     |
| Sd-Tx    | Standards Taxonomy                       | A8      | Standards                     |
| Sm-Ov    | Summary & Overview                       | -       | -                             |
| St-Cn    | Strategic Connectivity                   | C3      | Capability Dependencies       |
| St-Ct    | Strategic Constraints                    | C8      | Planning Assumptions          |
| St-If    | Information: Strategic Information       | -       | -                             |
| St-Mv    | Strategic Motivation                     | -       | -                             |
| St-Pr    | Strategic Processes                      | C2      | Enterprise Vision             |
| St-Rm-Dm | Strategic Roadmap: Deployment            | Cr      | Capability Roadmap            |
| St-Rm-P  | Strategic Roadmap: Phasing               | Cr      | Capability Roadmap            |
| St-Sr    | Strategic Structure                      | C1      | Capability Taxonomy           |
| St-St    | Strategic States                         | C5      | Effects                       |
| St-Tr    | Strategic Traceability                   | -       | -                             |
| St-Tx    | Strategic Taxonomy                       | C1      | Capability Taxonomy           |
| Sv-Cn    | Services Connectivity                    | S3      | Service Interfaces            |
| Sv-Ct    | Services Constraints                     | S8      | Service Policy                |
| Sv-Pr    | Services Processes                       | S4      | Service Functions             |
| Sv-Rm    | Services Roadmap: Evolution              | Sr      | Service Roadmap               |
| Sv-Sq    | Services Sequences Interaction Scenarios | S6      | Service Interactions          |
| Sv-Sr    | Services Structure                       | S2      | Service Structure             |
| Sv-St    | Services States                          | S5      | Service States                |
| Sv-Tr    | Services Traceability                    | C1-S1   | Capability to Service Mapping |
| Sv-Tx    | Services Taxonomy                        | S1      | Service Taxonomy              |

## 2.5 UAF 1.2 to DNDAF Security Views Mapping

**Table 2:5 - UAF 1.2 to DNDAF Security Views Mapping**

|       | UAF View Specification | DNDAF          | DNDAF Long Name  |
|-------|------------------------|----------------|--|
| Sc-Cn | Security Connectivity  | SecV-2, SecV-3 | Data Element Security Matrix<br>Aggregated Information Security Matrix |
| Sc-Ct | Security Constraints   | SecV-1         | Risk Assessment  |
| Sc-Mv | Security Controls      | -              | -  |
| Sc-Pr | Security Processes     | SecV-1         | Risk Assessment  |
| Sc-Sr | Security Structure     | -              | -  |
| Sc-Tr | Security Taxonomy      | -              | -  |
| Sc-Tx | Security Traceability  | -              | -  |



### 3. UAF Element Mapping to UPDM 2.1, MODEM and DoDAF 2.02

**Table 3:1 – UAF 1.2 Element Mapping to UAF 1.1, UPDM 2.1, MODEM and DoDAF 2.02**

| UAF 1.2 Element Name   | UAF 1.1. Name          | UPDM 2.1 Name   | MODEM Name   | DM2 Name              |
|------------------------|------------------------|---|--|-----------------------|
| Achieves               | AchievedEffect         | NA  | NA   | NA                    |
| ActualCondition        | ActualCondition        | NA but nearest is an ActualPropertySet                | NA. Comment: EnvironmentalFactor exists at the type level to deal with this, not at the individual level. An individual can easily be created however. | Condition             |
| ActualEffect           | NA                     | NA  | NA   | NA                    |
| ActualEnduringTask     | ActualEnduringTask     | NA but nearest is an instance of an EnduringTask      | EnduringTask   | NA                    |
| ActualEnterprisePhase  | ActualEnterprisePhase  | NA but nearest is an instance of an EnterprisePhase   | EnterprisePhase  | NA                    |
| ActualEnvironment      | ActualEnvironment      | NA but nearest is an instance of an ActualPropertySet | NA. Comment: EnvironmentalFactor exists at the type level to deal with this, not at the individual level. An individual can easily be created however. | NA                    |
| ActualLocation         | ActualLocation         | ActualLocation  | GeopoliticalLocation   | Location              |
| ActualMeasurement      | ActualMeasurement      | ActualMeasurement                                     | An instance of measure. The IDEAS Foundation element is Measure.   | Instance of a Measure |
| ActualMeasurementSet   | ActualMeasurementSet   | ActualPropertySet                                     | A collection of instances of measure.  | NA                    |
| ActualOrganization     | ActualOrganization     | ActualOrganization                                    | Organisation   | Organization          |
| ActualOrganizationRole | ActualOrganizationRole | ActualOrganizationRole                                | OrganisationalRole   | NA                    |
| ActualOutcome          | NA                     | NA  | NA   | NA                    |
| ActualPerson           | ActualPerson           | ActualPerson  | Person   | NA                    |
| ActualPost             | ActualPost             | ActualPost  | Post   | IndividualPersonRole  |
| ActualProject          | ActualProject          | ActualProject   | Project  | Project               |
| ActualProjectMilestone | ActualProjectMilestone | ActualProjectMilestone                                | ProjectMilestone   | NA                    |

| UAF 1.2 Element Name       | UAF 1.1. Name              | UPDM 2.1 Name                                     | MODEM Name                       | DM2 Name                    |
|----------------------------|----------------------------|---|----------------------------------|-----------------------------|
| ActualProjectMilestoneRole | ActualProjectMilestoneRole | ActualProjectMilestoneRole                        | An instance of ProjectMilestone. | NA                          |
| ActualProjectRole          | ActualProjectRole          | NA  | An instance of Project.          | NA                          |
| ActualPropertySet          | ActualPropertySet          | ActualPropertySet                                 | Instance of Attribute.           | NA                          |
| ActualResource             | ActualResource             | NA but it is instance of a SystemResource         | IndividualResource               | IndividualResource          |
| ActualResourceRelationship | ActualResourceRelationship | ActualOrganizationRelationship                    | IndividualResourceInteraction    | NA                          |
| ActualResourceRole         | ActualResourceRole         | RoleInd   | IndividualResourceElementRole    | NA                          |
| ActualResponsibility       | ActualResponsibility       | NA but nearest is an Instance of a Responsibility | AgentCapableOfResponsibility     | IndividualPersonRole        |
| ActualService              | ActualService              | NA but nearest is an Instance of a Service        | Instance of service              | NA                          |
| ActualRisk                 | ActualRisk                 | NA  | NA                               | NA                          |
| Affects                    | Affects                    | NA  | NA                               | NA                          |
| AffectsInContext           | AffectsInContext           | NA  | NA                               | NA                          |
| Alias                      | Alias                      | Alias   | MetaData                         | Representation              |
| ArbitraryConnector         | ArbitraryConnector         | ArbitraryConnector                                | NA                               | NA                          |
| ArchitecturalDescription   | ArchitecturalDescription   | ArchitecturalDescription                          | ArchitectureDescription          | ArchitecturalDescription    |
| ArchitecturalReference     | ArchitecturalReference     | ArchitecturalReference                            | ArchitectureReference            | NA                          |
| Architecture               | Architecture               | Architecture                                      | Architecture                     | NA                          |
| ArchitectureMetadata       | ArchitectureMetadata       | ArchitectureMetadata                              | architectureMetaData             | NA                          |
| Capability                 | Capability                 | Capability  | Capability                       | Capability                  |
| CapabilityConfiguration    | CapabilityConfiguration    | CapabilityConfiguration                           | CapabilityConfiguration          | System                      |
| Challenge                  | NA                         | NA  | NA                               | NA                          |
| CapabilityRole             | CapabilityRole             | CapabilityProperty                                | ApplicableMoE                    | Whole-part on Capability    |
| Command                    | Command                    | Command   | Commands                         | NA                          |
| ComparesTo                 | NA                         | NA  | NA                               | NA                          |
| Competence                 | Competence                 | Competence  | Competence                       | Skill                       |
| CompetenceForRole          | CompetenceForRole          | RequiresCompetence                                | competenceForRole                | MeasurableSkillofPersonRole |
| CompetenceToConduct        | CompetenceToConduct        | ProvidesCompetence                                | competenceToConduct              | NA                          |

| UAF 1.2 Element Name     | UAF 1.1. Name                  | UPDM 2.1 Name                            | MODEM Name                                      | DM2 Name  |
|--------------------------|--------------------------------|--|---|---|
| ConceptRole              | ConceptRole                    | ConceptRole                              | NA  | Instance of a Performer in an operational context |
| Concern                  | Concern                        | Tag on Viewpoint                         | Concern   | NA  |
| Condition                | Condition                      | EnvironmentProperty or ConditionProperty | Property  | Condition   |
| Control                  | Control                        | Control                                  | Controls  | NA  |
| Creates                  | NA                             | NA                                       | NA  | NA  |
| ResourceInformation      | DataElement                    | ExchangeElement between Resources        | DataElement                                     | Data  |
| InformationModel         | DataModel                      | LogicalDataModel or PhysicalDataModel    | DataModel                                       | NA  |
| ResourceInformation Role | DataRole                       | NA                                       | NA  | Whole-part on Data                                |
| Definition               | Definition                     | Definition                               | MetaData indicated by definition.               | describedBy Information                           |
| Desires                  | DesiredEffect                  | DesiredEffect                            | NA  | DesiredEffect                                     |
| Driver                   | NA                             | NA                                       | NA  | NA  |
| Effect                   | NA                             | NA                                       | NA  | NA  |
| Enables                  | NA                             | NA                                       | NA  | NA  |
| EnhancedSecurityControl  | EnhancedSecurityControl        | NA                                       | Function  | Activity  |
| Enhances                 | Enhances                       | NA                                       | realisationAsFieldedCapability                  | NA  |
| EnterpriseGoal           | EnterpriseGoal                 | EnterpriseGoal                           | StatementOfGoal indicated to by enterpriseGoal. | NA  |
| EnterpriseMission        | ActualEnterprisePhase          | Mission                                  | NA  | NA  |
| EnterpriseObjective      | NA                             | NA                                       | SubGoal   | NA  |
| StrategicPhase           | EnterprisePhase, Enduring Task | EnterprisePhase, Enduring Task           | EnterprisePhase, Enduring Task                  | NA  |
| EnterpriseVision         | EnterpriseVision               | EnterpriseVision                         | VisionStatement indicated by enterpriseVision.  | Vision  |
| Environment              | Environment                    | Environment                              | EnvironmentalFactor                             | NA  |



| UAF 1.2 Element Name        | UAF 1.1. Name               | UPDM 2.1 Name                              | MODEM Name   | DM2 Name   |  |
|-----------------------------|-----------------------------|--|--|--|--|
| EnvironmentProperty         | EnvironmentProperty         | EnvironmentProperty                        | environmentalContext   | NA   |  |
| Exhibits                    | Exhibits                    | Exhibits                                   | exhibitsCapability   | capabilityOfPerformer                                |  |
| EvokedBy                    | NA                          | NA   | NA   | NA   |  |
| FieldedCapability           | FieldedCapability           | FieldedCapability                          | FieldedCapabilityConfiguration   | IndividualResource                                   |  |
| FillsPost                   | FillsPost                   | FillsPost                                  | responsibleHumanResourceStateOccupiesPost                                | NA   |  |
| Forecast                    | Forecast                    | Forecast                                   | Forecast   | NA   |  |
| Function                    | Function                    | Function                                   | Function   | Activity   |  |
| FunctionAction              | FunctionAction              | FunctionAction                             | Function   | IndividualActivity                                   |  |
| FunctionControlFlow         | FunctionControlFlow         | FunctionEdge                               | ProducerFunction, ConsumerFunction                                       | overlap between Activities                           |  |
| FunctionObjectFlow          | FunctionObjectFlow          | NA   | ResourceExport, ResourceImport   | activityProducesResource<br>activityConsumesResource |  |
| GeoPoliticalExtentType      | GeoPoliticalExtentType      | GeoPoliticalExtentType                     | GeoPoliticalLocationType   | GeoPoliticalExtent                                   |  |
| GovernedBy                  | NA                          | NA   | NA   | NA   |  |
| HighLevelOperationalConcept | HighLevelOperationalConcept | HighLevelOperationalConcept                | NA   | NA   |  |
| ImpactedBy                  | NA                          | NA   | NA   | NA   |  |
| Implements                  | Implements                  | Implements                                 | activityFunctionMapping, nodeRealization, serviceFunctionFunctionMapping | NA   |  |
| Information                 | Information                 | NA   | Information  | describedBy Information                              |  |
| OperationalInformation      | InformationElement          | ExchangeElement between Nodes              | InformationElement   | Information  |  |
| OperationalInformationRole  | InformationRole             | NA   | NA   | Whole-part on Information                            |  |
| IsCapableToPerform          | IsCapableToPerform          | ActivityPartOfCapability, MapsToCapability | capableOf  | activityPerformedbyPerformer                         |  |
| ISO8601DateTime             | ISO8601DateTime             | ISO8601DateTime                            | ISO8601DateTime  | NA   |  |
| KnownResource               | KnownResource               | KnownResource                              | KnownResource  | NA   |  |
| Location                    | Location                    | Location                                   | GeoPoliticalLocation   | Location   |  |

| UAF 1.2 Element Name      | UAF 1.1. Name             | UPDM 2.1 Name  | MODEM Name                           | DM2 Name   |
|---------------------------|---------------------------|--|--------------------------------------|--|
| MapsToCapability          | MapsToCapability          | MapsToCapability   | capabilityForTask                    | activityMapsToCapability                             |
| MapsToGoal                | NA                        | NA   | NA                                   | NA   |
| Measurement               | Measurement               | Measurement  | Measurement                          | Measure  |
| MeasurementSet            | MeasurementSet            | MeasurementSet   | NA                                   | NA   |
| Metadata                  | Metadata                  | Metadata   | MetaData                             | describedBy Information                              |
| MilestoneDependency       | MilestoneDependency       | MilestoneSequence  | milestoneDependency                  | NA   |
| Mitigates                 | Mitigates                 | NA   | NA                                   | NA   |
| MotivatedBy               | NA                        | NA   | NA                                   | NA   |
| NaturalResource           | NaturalResource           | Materiel, Energy   | NaturalResourceType, NaturalResource | Materiel   |
| OperationalActivity       | OperationalActivity       | OperationalActivity  | OperationalActivity                  | Activity   |
| OperationalActivityAction | OperationalActivityAction | OperationalActivityAction  | OperationalActivity                  | IndividualActivity                                   |
| OperationalArchitecture   | OperationalArchitecture   | LogicalArchitecture  | LogicalArchitecture                  | Performer  |
| OperationalConnector      | OperationalConnector      | NeedLine   | LogicalFlow                          | NA   |
| OperationalConstraint     | OperationalConstraint     | OperationalConstraint  | Constraint                           | Rule   |
| OperationalControlFlow    | OperationalControlFlow    | OperationalActivityEdge  | ProducerActivity, ConsumerActivity   | overlap between Activities                           |
| OperationalExchange       | OperationalExchange       | OperationalExchange  | LogicalFlow                          | overlap between Performers                           |
| OperationalInterface      | OperationalInterface      | NA but the nearest it maps to are the OperationalExchanges being passed on the OperationalExchange | ToNode, FromNode                     | NA   |
| OperationalMessage        | OperationalMessage        | OperationalMessage   | LogicalEvent                         | NA   |
| OperationalMethod         | OperationalMethod         | NodeOperation  | Operation                            | NA   |
| OperationalMitigation     | OperationalMitigation     | NA   | LogicalArchitecture, ActivityGroup   | NA   |
| OperationalObjectFlow     | OperationalObjectFlow     | NA   | LogicalExport, LogicalImport         | activityProducesResource<br>activityConsumesResource |

| UAF 1.2 Element Name        | UAF 1.1. Name  | UPDM 2.1 Name                      | MODEM Name                                       | DM2 Name                  |  |
|-----------------------------|--|------------------------------------|--|---------------------------|--|
| OperationalParameter        | OperationalParameter   | OperationalParameter               | ResourceFlowRole, InformationRole                | NA                        |  |
| OperationalPerformer        | OperationalPerformer   | Node, Performer                    | Node   | Performer                 |  |
| OperationalPort             | OperationalPort  | NodePort                           | Interface  | Port                      |  |
| OperationalRole             | OperationalRole  | NodeRole                           | NodeUsage  | whole-part on Performer   |  |
| OperationalSignal           | OperationalSignal  | NA                                 | NA   | NA                        |  |
| OperationalSignalProperty   | OperationalSignalProperty  | NA                                 | NA   | NA                        |  |
| OperationalStateDescription | OperationalStateDescription  | OperationalStateDescription        | StateMachine                                     | NA                        |  |
| Opportunity                 | NA   | NA                                 | NA   | NA                        |  |
| Organization                | Organization   | Organization                       | OrganisationType                                 | Organization              |  |
| OrganizationInPhase         | OrganizationInEnterprise   | NA                                 | organisationInEnterprise                         | NA                        |  |
| OwnsProcess                 | OwnsProcess  | OwnsProcess                        | agentParticipation                               | NA                        |  |
| OwnsRisk                    | OwnsRisk   | NA                                 | NA   | NA                        |  |
| OwnsRiskInContext           | OwnsRiskInContext  | NA                                 | NA   | NA                        |  |
| OwnsValue                   | NA   | NA                                 | NA   | NA                        |  |
| PerformsInContext           | PerformsInContext  | Tag on a NodeRole or ResourceRole  | agentParticipation                               | NA                        |  |
| Person                      | Person   | Person                             | Person   | NA                        |  |
| Phases                      | CapabilityForTask, Exhibits (only in case of ActualEnterprisePhase linked to Capability) | NA but nearest is MapsToCapability | capabilityForTask                                | NA                        |  |
| Post                        | Post   | Post                               | Post, PostType                                   | PersonRoleType            |  |
| PresentedBy                 | NA   | NA                                 | NA   | NA                        |  |
| ProblemDomain               | ProblemDomain  | ProblemDomain                      | ProblemDomain                                    | NA                        |  |
| Project                     | Project  | Project                            | Project  | Project                   |  |
| ProjectActivity             | ProjectActivity  | NA                                 | NA   | ActivityPartOfProjectType |  |
| ProjectActivityAction       | ProjectActivityAction  | NA                                 | NA   | NA                        |  |
| ProjectMilestone            | ProjectMilestone   | ProjectMilestone                   | ProjectMilestone                                 | NA                        |  |
| ProjectMilestoneRole        | ProjectMilestoneRole   | ProjectMilestoneRole               | milestoneInProject indicating a ProjectMilestone | NA                        |  |

| UAF 1.2 Element Name   | UAF 1.1. Name          | UPDM 2.1 Name                              | MODEM Name   | DM2 Name                        |
|------------------------|------------------------|--|--|---------------------------------|
| ProjectRole            | ProjectRole            | ActualProject with whole part relationship | projectWholePart indicating another Project  | whole-part on Project           |
| ProjectSequence        | ProjectSequence        | ProjectSequence                            | projectSequence  | NA                              |
| ProjectStatus          | ProjectStatus          | ProjectStatus                              | statusAtMilestone indicating ThreadStatusAtMilestone                               | NA                              |
| ProjectTheme           | ProjectTheme           | ProjectTheme                               |  | NA                              |
| Protects               | Protects               | NA   | agentParticipation   | NA                              |
| ProtectsInContext      | ProtectsInContext      | NA   | agentParticipation   | NA                              |
| Protocol               | Protocol               | Protocol                                   | Protocol   | TechnicalStandard               |
| ProtocolImplementation | ProtocolImplementation | ProtocolImplementation                     | protocolStackSuperPort Subtype, protocolStackSuperResourcePortConnectorTypeSubType | NA                              |
| ProtocolLayer          | ProtocolLayer          | ProtocolLayer                              | A Protocol indicated by isALayerIn a ProtocolStack.                                | whole-part on TechnicalStandard |
| ProtocolStack          | ProtocolStack          | Topmost Protocol containing ProtocolLayers | ProtocolStack  | TechnicalStandard               |
| ProvidedServiceLevel   | ProvidedServiceLevel   | instance of a ServiceAttribute             | ServiceLevel   | IndividualResource              |
| ProvidesCompetence     | ProvidesCompetence     | ProvidesCompetence                         | specifiedCompetence  | skillOfPersonRoleType           |
| RequiredServiceLevel   | RequiredServiceLevel   | instance of a ServiceAttribute             | ServiceLevel and the elements that indicated it.                                   | IndividualResource              |
| RequiresCompetence     | RequiresCompetence     | RequiresCompetence                         | requiredCompetence   | skillOfPersonRoleType           |
| ResourceArchitecture   | ResourceArchitecture   | PhysicalArchitecture                       | PhysicalArchitecture   | System                          |
| ResourceArtifact       | ResourceArtifact       | ResourceArtifact                           | ArtefactType   | System                          |
| ResourceConnector      | ResourceConnector      | ResourceConnector                          | PortConnector  | NA                              |
| ResourceConstraint     | ResourceConstraint     | ResourceConstraint                         | Constraint   | Rule                            |
| ResourceExchange       | ResourceExchange       | ResourceInteraction                        | ResourceInteraction  | overlap between Systems         |

| UAF 1.2 Element Name     | UAF 1.1. Name            | UPDM 2.1 Name  | MODEM Name  | DM2 Name             |
|--------------------------|--------------------------|--|---|----------------------|
| ResourceInterface        | ResourceInterface        | NA but the nearest it maps to is the ResourceExchangeItem being passed on the ResourceExchange NOTE it is NOT the same as the ResourceInterface in UPDM 2 which is metaclass Connector | Interface   | NA                   |
| ResourceMessage          | ResourceMessage          | ResourceMessage  | PhysicalEvent   | NA                   |
| ResourceMethod           | ResourceMethod           | ResourceOperation  | Operation   | NA                   |
| ResourceMitigation       | ResourceMitigation       | NA   | PhysicalArchitecture  | NA                   |
| ResourceParameter        | ResourceParameter        | ResourceParameter  | OperationParameter  | NA                   |
| ResourcePort             | ResourcePort             | ResourcePort   | ResourceTypeExport, ResourceTypeImport  | Port                 |
| ResourceRole             | ResourceRole             | ResourceRole   | ResourceUsage   | whole-part on System |
| ResourceService          | NA                       | ServiceInterface   | NA  | NA                   |
| ResourceServiceInterface | NA                       | ServiceInterface   | NA  | NA                   |
| ResourceSignal           | ResourceSignal           | NA   | NA  | NA                   |
| ResourceSignalProperty   | ResourceSignalProperty   | NA   | NA  | NA                   |
| ResourceStateDescription | ResourceStateDescription | ResourceStateMachine   | StateMachine  | NA                   |
| Responsibility           | Responsibility           | NA   | NA  | NA                   |
| ResponsibleFor           | ResponsibleFor           | NA   | agentCapableOfResponsibilityWholePart, agentCapableOfResponsibilityWholeState, agentCapableOfResponsibilityWholeAndPart | NA                   |
| Risk                     | Risk                     | NA   | Constraint  | Rule                 |
| SameAs                   | SameAs                   | SameAs   |   | NA                   |
| SecurityConstraint       | SecurityConstraint       | NA   | Constraint  | Rule                 |
| SecurityControl          | SecurityControl          | NA   | NA  | NA                   |
| SecurityControlFamily    | SecurityControlFamily    | NA   | NA  | NA                   |
| SecurityEnclave          | SecurityEnclave          | NA but nearest is a Resource   | NA  | NA                   |
| SecurityProcess          | SecurityProcess          | NA   | OperationalActivity   | Activity             |
| SecurityProcessAction    | SecurityProcessAction    | NA   | OperationalActivityAction   | IndividualActivity   |

| UAF 1.2 Element Name    | UAF 1.1. Name            | UPDM 2.1 Name   | MODEM Name   | DM2 Name                   |
|-------------------------|--------------------------|---|--|----------------------------|
| SecurityRisk            | Risk                     | NA  | NA   | NA                         |
| Sequence                | NA                       | NA  | beforeAfter  | beforeAfter                |
| ServiceConnector        | ServiceConnector         | ServiceChannel  | PortConnector  | overlap between Services   |
| ServiceContract         | NA                       | NA  | NA   | NA                         |
| ServiceControlFlow      | NA                       | NA  | ProducerActivity, ConsumerActivity                           | overlap between Activities |
| ServiceExchange         | NA                       | NA  | ServiceFlow  | overlap between Services   |
| ServiceFunction         | ServiceFunction          | ServiceFunction   | ServiceFunction  | Activity                   |
| ServiceFunctionAction   | ServiceFunctionAction    | ServiceFunctionAction   | ServiceFunction  | IndividualActivity         |
| ServiceInterface        | ServiceInterface         | ServiceInterface  | Interface  | NA                         |
| ServiceMessage          | ServiceMessage           | ServiceMessage  | ServiceEvent   | NA                         |
| ServiceMethod           | ServiceMethod            | ServiceOperation  | Operation  | NA                         |
| ServiceObjectFlow       | NA                       | NA  | ProducerActivity, ConsumerActivity                           | overlap between Activities |
| ServiceParameter        | ServiceParameter         | ServiceParameter  | OperationParameter   | NA                         |
| ServicePolicy           | ServicePolicy            | ServicePolicy   | servicePolicy connecting a ServiceSpecification to a Measure | Rule                       |
| ServicePort             | ServicePort              | ServicePort is Abstract, concretized as Service or Request from SOAML | Interface  | ServicePort                |
| ServiceSignal           | NA                       | ServiceMessageHandler   | NA   | NA                         |
| ServiceSignalProperty   | NA                       | NA  | NA   | NA                         |
| Service                 | ServiceSpecification     | ServiceInterface  | ServiceSpecification   | Service                    |
| Service Architecture    | ServiceSpecification     | NA  | NA   | NA                         |
| ServiceRole             | ServiceSpecificationRole | whole-part on a ServiceInterface                                      | ServiceRole  | whole-part on Service      |
| ServiceStateDescription | ServiceStateDescription  | ServiceStateDescription   | StateMachine   | NA                         |
| Software                | Software                 | Software  | SoftwareType   | System                     |

| UAF 1.2 Element Name        | UAF 1.1. Name                                      | UPDM 2.1 Name   | MODEM Name  | DM2 Name   |
|-----------------------------|--|---|---|--|
| Standard                    | Standard   | Standard  | Standard  | Standard, Functional Standard, TechnicalStandard |
| StandardOperationalActivity | StandardOperationalActivity                        | StandardOperationalActivity   | StandardActivity  | Activity   |
| StatusIndicators            | StatusIndicators                                   | StatusIndicators  | StatusIndicator   | NA   |
| StrategicConstraint         | NA   | NA  | NA  | NA   |
| StrategicExchange           | NA   | NA  | NA  | NA   |
| StrategicInformation        | NA   | NA  | NA  | NA   |
| StructuralPart              | StructuralPart                                     | StructuralPart  | wholePart and its specialisations   | NA   |
| Supports                    | Consumes   | MapsToCapability, IsCapableOfPerforming   | ServiceConsumerNode Role, LogicalServiceConsumerRole, ConsumerRoleInService connects ServiceLevel to OperationalActivity. | activityPerformedbyPerformer                     |
| System                      | System   | System  | CapabilityConfiguration   | CapabilityConfiguration                          |
| Technology                  | Technology   | Resource  | Technology  | System   |
| TemporalPart                | TemporalPart                                       | TemporalPart  | temporalWholePart   | NA   |
| ValueItem                   | benefit attribute of EnterpriseGoal                | benefit attribute of EnterpriseGoal   | BenefitOfGoal   | NA   |
| ValueStream                 | NA   | NA  | NA  | NA   |
| VersionOfConfiguration      | VersionOfConfiguration                             | VersionOfConfiguration  | versionOf, versionOfServiceSpecification  | whole-part on System                             |
| VersionSuccession           | VersionSuccession                                  | NA But could be derived from VersionsOfConfiguration,ActualProjectMilestones and MilestoneSequences | VersionSuccession, ServiceSpecificationVersionSuccession  | temporal whole-part between Systems              |
| View                        | View   | View  | ViewPartOfDescription   | DescriptionScheme                                |
| Viewpoint                   | Viewpoint  | Viewpoint   | ViewpointPartOfFramework  | DescriptionScheme                                |
| VisionStatement             | VisionStatement                                    | Description or Comment on a Vision  | VisionStatement   | Vision described by Information                  |
| WholeLifeConfiguration      | WholeLifeConfiguration                             | WholeLifeConfiguration  | ResourceTypeMaster, ServiceSpecificationMaster  | System   |
| StrategicPhase              | WholeLifeEnterprise, EnterprisePhase, EnduringTask | WholeLifeEnterprise, EnterprisePhase, EnduringTask  | EnterprisePhase, EnduringTask   | NA   |

| UAF 1.2 Element Name | UAF 1.1. Name         | UPDM 2.1 Name         | MODEM Name          | DM2 Name |
|----------------------|-----------------------|-----------------------|---------------------|----------|
| WholeLifeEnterprise  | ActualEnterprisePhase | ActualEnterprisePhase | WholeLifeEnterprise | NA       |





## 4. UAFML Stereotype to SysML and UML Metaclass Mapping

Table 4:1 - UAFML Stereotype to SysML and UML Metaclass Mapping

| UAFML Stereotype           | SysML Stereotype | UML Metaclass                 |
|----------------------------|------------------|-------------------------------|
| Achieves                   | NA               | Dependency                    |
| ActualCondition            | NA               | InstanceSpecification         |
| ActualEffect               | NA               | InstanceSpecification         |
| ActualEnduringTask         | NA               | InstanceSpecification         |
| ActualEnterprisePhase      | NA               | InstanceSpecification         |
| ActualEnvironment          | NA               | InstanceSpecification         |
| ActualLocation             | NA               | InstanceSpecification         |
| ActualMeasurement          | NA               | Slot                          |
| ActualMeasurementSet       | NA               | InstanceSpecification         |
| ActualOrganization         | NA               | InstanceSpecification         |
| ActualOrganizationRole     | NA               | Slot                          |
| ActualOutcome              | NA               | InstanceSpecification         |
| ActualPerson               | NA               | InstanceSpecification         |
| ActualPost                 | NA               | InstanceSpecification         |
| ActualProject              | NA               | InstanceSpecification         |
| ActualProjectMilestone     | NA               | InstanceSpecification         |
| ActualProjectMilestoneRole | NA               | Slot<br>InstanceSpecification |
| ActualProjectRole          | NA               | Slot                          |
| ActualPropertySet          | NA               | InstanceSpecification         |
| ActualRisk                 | NA               | InstanceSpecification         |
| ActualResource             | NA               | InstanceSpecification         |
| ActualResourceRelationship | ItemFlow         | NA                            |
| ActualResourceRole         | NA               | Slot                          |
| ActualResponsibility       | NA               | InstanceSpecification         |
| ActualService              | NA               | InstanceSpecification         |
| Affects                    | NA               | Dependency                    |
| AffectsInContext           | NA               | Dependency                    |
| Alias                      | NA               | Comment                       |
| ArbitraryConnector         | NA               | Dependency                    |
| ArchitecturalDescription   | NA               | Package                       |
| ArchitecturalReference     | NA               | Dependency                    |
| ArchitectureMetadata       | NA               | Comment                       |
| Capability                 | Block            | Class                         |
| CapabilityConfiguration    | Block            | Class                         |
| CapabilityForTask          | Allocate         | Abstraction                   |
| CapabilityRole             | NA               | Property                      |
| Challenge                  | Block            | Class                         |

| UAFML Stereotype            | SysML Stereotype | UML Metaclass         |
|-----------------------------|------------------|-----------------------|
| Command                     | ItemFlow         | InformationFlow       |
| ComparesTo                  | Trace            | Abstraction           |
| Competence                  | Block            | Class                 |
| CompetenceForRole           | Allocate         | Abstraction           |
| CompetenceToConduct         | Allocate         | Abstraction           |
| ConceptRole                 | NA               | Property              |
| Concern                     | Block            | Class                 |
| Condition                   | ValueType        | DataType              |
| Supports                    | Allocate         | Abstraction           |
| Control                     | ItemFlow         | InformationFlow       |
| Creates                     | NA               | Dependency            |
| ResourceInformation         | Block            | Class                 |
| DataModel                   | NA               | Package               |
| ResourceInformationRole     | NA               | Property              |
| Definition                  | NA               | Comment               |
| Desires                     | NA               | Dependency            |
| Driver                      | Block            | Class                 |
| Effect                      | Block            | Class                 |
| Enables                     | NA               | Dependency            |
| EnduringTask                | Block            | Class                 |
| EnhancedSecurityControl     | Requirement      | Class                 |
| Enhances                    | DeriveReq        | Abstraction           |
| EnterpriseGoal              | Requirement      | Class                 |
| EnterpriseObjective         | Requirement      | Class                 |
| EnterpriseMission           | NA               | InstanceSpecification |
| StrategicPhase              | Block            | Class                 |
| EnterpriseVision            | Block            | Class                 |
| Environment                 | ValueType        | DataType              |
| EnvironmentProperty         | NA               | Property              |
| Exhibits                    | Allocate         | Abstraction           |
| EvokedBy                    | NA               | Dependency            |
| FieldedCapability           | NA               | InstanceSpecification |
| FillsPost                   | Allocate         | Abstraction           |
| Forecast                    | NA               | Dependency            |
| Function                    | NA               | Activity              |
| FunctionAction              | NA               | CallBehaviorAction    |
| FunctionControlFlow         | NA               | ControlFlow           |
| FunctionObjectFlow          | NA               | ObjectFlow            |
| GeoPoliticalExtentType      | ValueType        | DataType              |
| GovernedBy                  | Allocate         | Abstraction           |
| HighLevelOperationalConcept | Block            | Class                 |
| ImpactedBy                  | NA               | Abstraction           |
| Implements                  | Allocate         | Abstraction           |

| UAFML Stereotype            | SysML Stereotype | UML Metaclass      |
|-----------------------------|------------------|--------------------|
| Information                 | NA               | Comment            |
| OperationalInformation      | Block            | Class              |
| Opportunity                 | Block            | Class              |
| OperationalInformationRole  | NA               | Property           |
| IsCapableToPerform          | Allocate         | Abstraction        |
| ISO8601DateTime             | NA               | LiteralString      |
| KnownResource               | Block            | Class              |
| Location                    | ValueType        | DataType           |
| MapsToGoal                  | Refine           | Abstraction        |
| MapsToCapability            | Allocate         | Abstraction        |
| Measurement                 | NA               | Property           |
| MeasurementSet              | ValueType        | DataType           |
| Metadata                    | NA               | Comment            |
| MilestoneDependency         | NA               | Dependency         |
| Mitigates                   | NA               | Dependency         |
| MotivatedBy                 | NA               | Dependency         |
| NaturalResource             | Block            | Class              |
| OwnsRisk                    | Allocate         | Abstraction        |
| OperationalActivity         | NA               | Activity           |
| OperationalActivityAction   | NA               | CallBehaviorAction |
| OperationalArchitecture     | Block            | Class              |
| OperationalConnector        | NA               | Connector          |
| OperationalConstraint       | NA               | Constraint         |
| OperationalControlFlow      | NA               | ControlFlow        |
| OperationalExchange         | ItemFlow         | InformationFlow    |
| OperationalInterface        | InterfaceBlock   | Class              |
| OperationalMessage          | NA               | Message            |
| OperationalMethod           | NA               | Operation          |
| OperationalMitigation       | Block            | Class              |
| OperationalObjectFlow       | NA               | ObjectFlow         |
| OperationalParameter        | NA               | Parameter          |
| OperationalPerformer        | Block            | Class              |
| OperationalPort             | ProxyPort        | Port               |
| OperationalRole             | NA               | Property           |
| OperationalSignal           | NA               | Signal             |
| OperationalSignalProperty   | NA               | Property           |
| OperationalStateDescription | NA               | StateMachine       |
| Organization                | Block            | Class              |
| OrganizationInPhase         | Allocate         | Abstraction        |
| OwnsProcess                 | Allocate         | Abstraction        |
| OwnsRiskInContext           | Allocate         | Abstraction        |
| OwnsValue                   | Allocate         | Abstraction        |
| PerformsInContext           | Allocate         | Abstraction        |

| UAFML Stereotype         | SysML Stereotype | UML Metaclass         |
|--------------------------|------------------|-----------------------|
| Person                   | Block            | Class                 |
| Phases                   | NA               | Abstraction           |
| Post                     | Block            | Class                 |
| PresentedBy              | NA               | Dependency            |
| ProblemDomain            | NA               | Property              |
| Project                  | Block            | Class                 |
| ProjectActivity          | NA               | Activity              |
| ProjectActivityAction    | NA               | CallBehaviorAction    |
| ProjectMilestone         | Block            | Class                 |
| ProjectMilestoneRole     | NA               | Property              |
| ProjectRole              | NA               | Property              |
| ProjectSequence          | NA               | Dependency            |
| ProjectStatus            | NA               | Slot                  |
| ProjectTheme             | NA               | Property              |
| Protects                 | NA               | Dependency            |
| ProtectsInContext        | NA               | Dependency            |
| Protocol                 | Block            | Class                 |
| ProtocolLayer            | NA               | Property              |
| ProtocolStack            | Block            | Class                 |
| ProvidedServiceLevel     | NA               | InstanceSpecification |
| ProvidesCompetence       | NA               | Dependency            |
| RequiredServiceLevel     | NA               | InstanceSpecification |
| RequiresCompetence       | Allocate         | Abstraction           |
| ResourceArchitecture     | Block            | Class                 |
| ResourceArtifact         | Block            | Class                 |
| ResourceConnector        | NA               | Connector             |
| ResourceConstraint       | NA               | Constraint            |
| ResourceExchange         | ItemFlow         | InformationFlow       |
| ResourceInterface        | InterfaceBlock   | Class                 |
| ResourceMessage          | NA               | Message               |
| ResourceMethod           | NA               | Operation             |
| ResourceMitigation       | Block            | Class                 |
| ResourceParameter        | NA               | Parameter             |
| ResourcePort             | ProxyPort        | Port                  |
| ResourceRole             | NA               | Property              |
| ResourceService          | Block            | Class                 |
| ResourceServiceInterface | InterfaceBlock   | Class                 |
| ResourceSignal           | NA               | Signal                |
| ResourceSignalProperty   | NA               | Property              |
| ResourceStateDescription | NA               | StateMachine          |
| Responsibility           | Block            | Class                 |
| ResponsibleFor           | Allocate         | Abstraction           |
| Risk                     | NA               | Constraint            |

| UAFML Stereotype            | SysML Stereotype | UML Metaclass         |
|-----------------------------|------------------|-----------------------|
| SameAs                      | NA               | Dependency            |
| SecurityConstraint          | NA               | Constraint            |
| SecurityControl             | Requirement      | Class                 |
| SecurityControlFamily       | Requirement      | Class                 |
| SecurityEnclave             | Block            | Class                 |
| SecurityProcess             | NA               | Activity              |
| SecurityProcessAction       | NA               | CallBehaviorAction    |
| SecurityRisk                | NA               | Constraint            |
| ServiceArchitecture         | Block            | Class                 |
| ServiceConnector            | NA               | Connector             |
| ServiceContract             | NA               | Constraint            |
| ServiceControlFlow          | NA               | ControlFlow           |
| ServiceExchange             | ItemFlow         | InformationFlow       |
| ServiceFunction             | NA               | Activity              |
| ServiceFunctionAction       | NA               | CallBehaviorAction    |
| ServiceInterface            | InterfaceBlock   | Class                 |
| ServiceMessage              | NA               | Message               |
| ServiceMethod               | NA               | Operation             |
| ServiceObjectFlow           | NA               | ObjectFlow            |
| ServiceParameter            | NA               | Parameter             |
| ServicePolicy               | NA               | Constraint            |
| ServicePort                 | ProxyPort        | Port                  |
| Service                     | Block            | Class                 |
| ServiceRole                 | NA               | Property              |
| ServiceSignal               | NA               | Signal                |
| ServiceSignalProperty       | NA               | Property              |
| ServiceStateDescription     | NA               | StateMachine          |
| Sequence                    | NA               | Dependency            |
| Software                    | Block            | Class                 |
| Standard                    | Block            | Class                 |
| StandardOperationalActivity | NA               | Activity              |
| StatusIndicators            | ValueType        | Enumeration           |
| StrategicConstraint         | NA               | Constraint            |
| StrategicExchange           | ItemFlow         | InformationFlow       |
| StrategicInformation        | Block            | Class                 |
| StructuralPart              | NA               | Property              |
| System                      | Block            | Class                 |
| Technology                  | Block            | Class                 |
| TemporalPart                | NA               | Property              |
| ValueItem                   | ValueType        | DataType              |
| ValueStream                 | NA               | InstanceSpecification |
| VersionOfConfiguration      | NA               | Property              |
| VersionSuccession           | NA               | Dependency            |

| UAFML Stereotype       | SysML Stereotype | UML Metaclass         |
|------------------------|------------------|-----------------------|
| View                   | View             | Class                 |
| Viewpoint              | Viewpoint        | Class                 |
| VisionStatement        | NA               | Comment               |
| WholeLifeConfiguration | Block            | Class                 |
| WholeLifeEnterprise    | NA               | InstanceSpecification |

## 5. UAF Element to BPMN Mapping

Table 5:1 - UAF Element to BPMN Mapping

| UAF Element               | BPMN Element  |
|---------------------------|---|
| CapabilityConfiguration   | Resource<br>BPMNMessage   |
| OperationalInformation    | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| KnownResource             | Resource<br>BPMNMessage   |
| NaturalResource           | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| OperationalPerformer      | Resource  |
| OperationalRole           | ResourceRole  |
| OperationalActivity       | BPMNProcess   |
| OperationalActivityAction | CallActivity  |
| OperationalControlFlow    | SequenceFlow  |
| OperationalExchange       | MessageFlow   |
| OperationalObjectFlow     | DataInputAssociation<br>DataOutputAssociation                             |
| Organization              | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| Person                    | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| Post                      | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| ProblemDomain             | ResourceRole  |
| ResourceArchitecture      | Resource<br>BPMNMessage   |
| ResourceArtifact          | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| ResourceMitigation        | Resource<br>BPMNMessage   |
| Responsibility            | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| SecurityEnclave           | Resource<br>BPMNMessage   |
| Software                  | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |
| Technology                | Resource<br>ItemDefinition where ItemDefinition.kind=physical BPMNMessage |



# Annex Appendix A - A1

The grid was developed as way of showing how the various view specifications correspond to the domains (horizontal rows) and the model kinds. The grids in this annex are intended to capture the information that is present in the donor frameworks that contribute to the UAF.

| UAF                        | Motivation Mv                 | Taxonomy Tx                   | Structure Sr                     | Connectivity Cn                     | Processes Pr                          | States St                 | Sequences Sq                | Information If                | Parameters Pm  | Constraints Ct                 | Roadmap Rm                      | Traceability Tr                 |
|----------------------------|-------------------------------|-------------------------------|----------------------------------|-------------------------------------|---------------------------------------|---------------------------|-----------------------------|-------------------------------|--|--------------------------------|---------------------------------|---------------------------------|
| Architecture Management Am | Architecture Principles Am-Mv | Architecture Extensions Am-Tx | Architecture Views Am-Sr         | Architecture References Am-Cn       | Architecture Development Method Am-Pr | Architecture Status Am-St |                             | Dictionary Am-If              | Architecture Parameters Am-Pm                                  | Architecture Constraints Am-Ct | Architecture Roadmap Am-Rm      | Architecture Traceability Am-Tr |
| Summary & Overview Sm-Ov   |                               |                               |                                  |                                     |                                       |                           |                             |                               |  |                                |                                 |                                 |
| Strategic St               | Strategic Motivation St-Mv    | Strategic Taxonomy St-Tx      | Strategic Structure St-Sr        | Strategic Connectivity St-Cn        | Strategic Processes St-Pr             | Strategic States St-St    |                             | Strategic Information St-If   | Environment En-Pm-E and Measurements Me-Pm-M and Risks Rk-Pm-A | Strategic Constraints St-Ct    | Strategic Phasing St-Rm-P       | Strategic Traceability St-Tr    |
| Operational Op             | Requirements Rq-Mv            | Operational Taxonomy Op-Tx    | Operational Structure Op-Sr      | Operational Connectivity Op-Cn      | Operational Processes Op-Pr           | Operational States Op-St  | Operational Sequences Op-Sq | Operational Information Op-If |  | Operational Constraints Op-Ct  |                                 | Operational Traceability Op-Tr  |
| Services Sv                |                               | Services Taxonomy Sv-Tx       | Services Structure Sv-Sr         | Services Connectivity Sv-Cn         | Services Processes Sv-Pr              | Services States Sv-St     | Services Sequences Sv-Sq    |                               |  | Services Constraints Sv-Ct     | Services Roadmap Sv-Rm          | Services Traceability Sv-Tr     |
| Personnel Ps               |                               | Personnel Taxonomy Ps-Tx      | Personnel Structure Ps-Sr        | Personnel Connectivity Ps-Cn        | Personnel Processes Ps-Pr             | Personnel States Ps-St    | Personnel Sequences Ps-Sq   |                               |  | Resources Information Rs-If    | Personnel Availability Ps-Rm-A  | Personnel Evolution Ps-Rm-E     |
| Resources Rs               | Resources Taxonomy Rs-Tx      | Resources Structure Rs-Sr     | Resources Connectivity Rs-Cn     | Resources Processes Rs-Pr           | Resources States Rs-St                | Resources Sequences Rs-Sq | Resources Constraints Rs-Ct | Resources evolution Rs-Rm-E   |  |                                | Resources forecast Rs-Rm-F      | Resources Traceability Rs-Tr    |
| Security Sc                | Security Controls Sc-Mv       | Security Taxonomy Sc-Tx       | Security Structure Sc-Sr         | Security Connectivity Sc-Cn         | Security Processes Sc-Pr              |                           |                             | Security Constraints Sc-Ct    |  |                                |                                 | Security Traceability Sc-Tr     |
| Projects Pj                |                               | Projects Taxonomy Pj-Tx       | Projects Structure Pj-Sr         | Projects Connectivity Pj-Cn         | Projects Processes Pj-Pr              |                           |                             |                               |  |                                | Projects Roadmap Pj-Rm          | Projects Traceability Pj-Tr     |
| Standards Sd               |                               | Standards Taxonomy Sd-Tx      | Standards Structure Sd-Sr        |                                     |                                       |                           |                             |                               |  |                                | Standards Roadmap Sd-Rm         | Standards Traceability Sd-Tr    |
| Actual Resources Ar        |                               |                               | Actual Resources Structure Ar-Sr | Actual Resources Connectivity Ar-Cn |                                       | Simulation                |                             |                               |  |                                | Parametric Execution/Evaluation |                                 |

Figure A:1 - UAF Grid Overview

| UAF<br>UNIFIED ARCHITECTURE FRAMEWORK | Motivation<br>Mv | Taxonomy<br>Tx | Structure<br>Sr  | Connectivity<br>Cn           | Processes<br>Pr | States<br>St | Sequences<br>Sq | Information<br>If | Parameters<br>Pm | Constraints<br>Ct      | Roadmap<br>Rm    | Traceability<br>Tr |                |
|---------------------------------------|------------------|----------------|------------------|------------------------------|-----------------|--------------|-----------------|-------------------|------------------|------------------------|------------------|--------------------|----------------|
| Architecture Management Am            | -                | -              | -                | -                            | -               | -            |                 | AV-2              | -                | -                      | -                | -                  |                |
| Summary & Overview AV-1               |                  |                |                  |                              |                 |              |                 |                   |                  |                        |                  |                    |                |
| Strategic St                          | -                | CV-2           |                  | CV-4                         | CV-1            | -            |                 | DIV-1             | SvcV -7          | -                      | CV-3<br>CV-5     | -                  |                |
| Operational Op                        |                  | OV-1           |                  | OV-3                         | OV-5a<br>OV-5b  | OV-6b        | OV-6c           | DIV-2             |                  | OV-6a                  |                  | CV-6               |                |
|                                       |                  | OV-2           |                  |                              |                 |              |                 |                   |                  |                        |                  |                    |                |
| Services Sv                           |                  | SvcV-1         | SvcV-1<br>SvcV-2 | SvcV-3a<br>SvcV-3b<br>SvcV-6 | SvcV-4          | SvcV-10b     | SvcV-10c        |                   |                  | SvcV-10a               | SvcV-8<br>SvcV-9 | SvcV-5<br>CV-7     |                |
| Personnel Ps                          |                  | OV-4           |                  | SV-3<br>SV-6                 | SV-4            | SV-10b       | SV-10c          | DIV-3             |                  | OV-4<br>SV-10a<br>SV-7 | SV-8<br>SV-9     | SV-5a<br>SV-5b     |                |
| Resources Rs                          |                  | SV-1<br>SV-2   |                  | SV-3<br>SV-6                 | SV-4            | SV-10b       | SV-10c          |                   |                  |                        | SV-10a           | SV-8<br>SV-9       | SV-5a<br>SV-5b |
| Security Sc                           | -                | -              | -                | -                            | -               |              |                 |                   |                  |                        | -                |                    | -              |
| Projects Pj                           |                  | PV-1           |                  | PV-2                         | -               |              |                 |                   |                  |                        |                  | PV-2               | PV-3           |
| Standards Sd                          |                  | StdV-1         |                  |                              |                 |              |                 |                   |                  |                        |                  | StdV-2             | StdV-1         |
| Actual Resources Ar                   |                  |                | OV-4             | OV-4<br>SV-1<br>SV-2         |                 | -            |                 |                   |                  |                        | -                |                    |                |

Figure A:2 - Overlay of DoDAF Views onto the UAF Grid

| UAF<br>UNIFIED ARCHITECTURE FRAMEWORK | Motivation<br>Mv | Taxonomy<br>Tx | Structure<br>Sr               | Connectivity<br>Cn  | Processes<br>Pr | States<br>St | Sequences<br>Sq | Information<br>If              | Parameters<br>Pm | Constraints<br>Ct | Roadmap<br>Rm  | Traceability<br>Tr |
|---------------------------------------|------------------|----------------|-------------------------------|---------------------|-----------------|--------------|-----------------|--------------------------------|------------------|-------------------|----------------|--------------------|
| Architecture Management Am            | -                | -              | -                             | -                   | -               | -            |                 | AV-2                           | -                | -                 | -              | -                  |
| Summary & Overview AV-1               |                  |                |                               |                     |                 |              |                 |                                |                  |                   |                |                    |
| Strategic St                          | -                | StV-2          |                               | StV-4               | StV-1           | -            |                 | -                              | OV-1c            | -                 | StV-3<br>StV-5 | -                  |
| Operational Op                        | OV-1a, OV-1b     |                | OV-3                          |                     | OV-5            | OV-6b        | OV-6c           | OV-7                           |                  | OV-6a             |                | StV-6              |
|                                       | OV-2             |                |                               |                     |                 |              |                 |                                |                  |                   |                |                    |
| Services Sv                           | SOV-1            | SOV-2          |                               | SOV-5               | SOV-4b          | SOV-4c       |                 |                                |                  | SOV-4a            | -              | SOV-3              |
| Personnel Ps                          | OV-4 Typical     |                | OV-4 Typical<br>SV-6          | SV-4                | SV-10b          | SV-10c       | SV-11           | OV-4 Typical<br>SV-10a<br>SV-7 |                  | SV-8<br>SV-9      | SV-5a          |                    |
| Resources Rs                          | SV-1             |                | SV-1<br>SV-2b<br>SV-3<br>SV-6 | SV-4                | SV-10b          | SV-10c       |                 | SV-7                           |                  | SV-10a            | SV-8<br>SV-9   | SV-5<br>SV-12      |
|                                       | SV-2a            | SV-2c          |                               |                     |                 |              |                 |                                |                  |                   |                |                    |
| Security Sc                           | -                | -              | -                             | -                   | -               |              |                 | -                              |                  |                   | -              |                    |
| Projects Pj                           | AcV-1            |                | AcV-2                         | -                   |                 |              |                 |                                |                  | AcV-2             | AcV-1          |                    |
| Standards Sd                          | TV-1             |                |                               |                     |                 |              |                 |                                |                  | StdV-2            | StdV-1         |                    |
| Actual Resources Ar                   |                  |                | OV-4 Actual                   | OV-4 Actual<br>SV-1 |                 |              |                 |                                |                  |                   |                |                    |

Figure A:3 - Overlay of MODAF views onto UAF Grid


|  UAF<br>UNIFIED ARCHITECTURE FRAMEWORK | Motivation<br>Mv | Taxonomy<br>Tx | Structure<br>Sr | Connectivity<br>Cn       | Processes<br>Pr | States<br>St | Sequences<br>Sq | Information<br>If | Parameters<br>Pm | Constraints<br>Ct                 | Roadmap<br>Rm  | Traceability<br>Tr |                 |
|---|------------------|----------------|-----------------|--------------------------|-----------------|--------------|-----------------|-------------------|------------------|-----------------------------------|----------------|--------------------|-----------------|
| Architecture Management Am  | -                | NAV-3          | -               | -                        | -               | -            |                 | NAV-2             | -                | -                                 | -              | -                  |                 |
| Summary & Overview NAV-1  |                  |                |                 |                          |                 |              |                 |                   |                  |                                   |                |                    |                 |
| Strategic St  | -                | NCV-2          |                 | NCV-4                    | NCV-1           | -            |                 | -                 | NSV-2d<br>NSV-7  | -                                 | NCV-3<br>NCV-5 | -                  |                 |
| Operational Op  |                  | NOV-1          |                 | NOV-3                    | NOV-5           | NOV-6b       | NOV-6c          | NOV-7             |                  | NOV-6a                            |                | NCV-6              |                 |
|   |                  | NOV-2          |                 |                          |                 |              |                 |                   |                  |                                   |                |                    |                 |
| Services Sv   |                  | NSOV-1         | -               | NSOV-2                   | NSOV-5          | -            | NSOV-4          |                   |                  | NSOV-2                            | -              | NCV-7<br>NSOV-3    |                 |
| Personnel Ps  |                  | NOV-4 Typical  |                 | NOV-4 Typical<br>NSV-6   | NSV-4           | NSV-10b      | NSV-10c         |                   |                  | NOV-4 Typical<br>NSV-10a<br>NSV-7 | NSV-8<br>NSV-9 | NSV-5              |                 |
| Resources Rs  |                  | NSV-1          |                 | NSV-2b<br>NSV-3<br>NSV-6 | NSV-4           | NSV-10b      | NSV-10c         |                   |                  | NSV-11a<br>NSV-11b                | NSV-10a        | NSV-8<br>NSV-9     | NSV-5<br>NSV-12 |
|   |                  | NSV-2a         | NSV-2c          |                          |                 |              |                 |                   |                  |                                   |                |                    |                 |
| Security Sc   | -                | -              | -               | -                        | -               |              |                 |                   |                  |                                   | -              |                    | -               |
| Projects Pj   |                  | NPV-1          |                 |                          | -               |              |                 |                   |                  |                                   | NPV-1          | NPV-2              |                 |
| Standards Sd  |                  | NTV-1          | NTV-3           |                          |                 |              |                 |                   |                  |                                   | NTV-2          | NTV-1              |                 |
| Actual Resources Ar   |                  |                | NOV-4 Actual    | NOV-4 Actual<br>NSV-1    |                 | -            |                 |                   |                  | -                                 |                |                    |                 |

Figure A:4 - Overlay of NAF 3.1 views onto UAF Grid


|  UAF<br>UNIFIED ARCHITECTURE FRAMEWORK | Motivation<br>Mv | Taxonomy<br>Tx              | Structure<br>Sr               | Connectivity<br>Cn            | Processes<br>Pr          | States<br>St              | Sequences<br>Sq            | Information<br>If           | Parameters<br>Pm             | Constraints<br>Ct             | Roadmap<br>Rm                  | Traceability<br>Tr             |
|---|------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------|---------------------------|----------------------------|-----------------------------|------------------------------|-------------------------------|--------------------------------|--------------------------------|
| Architecture Management<br>Am   | -                | Meta-Data Definitions<br>A1 | Architecture Products<br>A2   | -                             | Methodology Used<br>A4   | Architecture Status<br>A5 |                            | Meta-Data Definitions<br>A1 | -                            | Architecture Compliance<br>A7 | Architecture Roadmap<br>Ar, A6 | -                              |
| Strategic<br>St   | -                | Capability Taxonomy<br>C1   |                               | Capability Dependencies<br>C3 | Enterprise Vision<br>C2  | Effects<br>C5             |                            | -                           | Performance Parameters<br>C7 | Planning Assumptions<br>C8    | Capability Roadmap<br>Cr       | -                              |
| Operational<br>Op   | -                | Node Types<br>L1            | Logical Scenario<br>L2, L2-L3 | Node Interactions<br>L3       | Logical Activities<br>L4 | Logical States<br>L5      | Logical Sequence<br>L6     | Information Model<br>L7     |                              | Logical Constraints<br>L8     |                                | -                              |
| Services<br>Sv  |                  | Service Taxonomy<br>S1      | Service Structure<br>S2       | Service Interfaces<br>S3      | Service Functions<br>S4  | Service States<br>S5      | Service Interactions<br>S6 |                             |                              | Service Policy<br>S8          | Service Roadmap<br>Sr          | Service Traceability<br>C1-S1  |
| Personnel<br>Ps   |                  | Resource Types<br>P1        | Resource Structure<br>P2      | Resource Connectivity<br>P3   | Resource Functions<br>P4 | Resource States<br>P5     | Resource Sequence<br>P6    | Data Model<br>P7            |                              | Resource Constraints<br>P8    | Configuration Management<br>Pr | Resource Traceability<br>L4-P4 |
| Resources<br>Rs   |                  |                             |                               |                               |                          |                           |                            |                             |                              |                               |                                |                                |
| Security<br>Sc  |                  | -                           | -                             | -                             | -                        | -                         |                            |                             |                              | -                             |                                | -                              |
| Projects<br>Pj  |                  |                             | -                             | -                             | -                        | -                         |                            |                             |                              |                               | Lines of Development<br>Lr     | -                              |
| Standards<br>Sd   |                  |                             | Standards<br>A8               | -                             |                          |                           |                            |                             |                              |                               |                                | Standards<br>A8                |
| Actual Resources<br>Ar  |                  |                             |                               | Resource Structure<br>P2      | -                        |                           |                            |                             |                              |                               |                                |                                |

Figure A:5 - Overlay of NAF 4.0 views onto UAF Grid