DATA ITEM DESCRIPTION
Title: Dynamic Object Oriented Requirements System (DOORS®) Package

Number: DI-EDRS-82290	**Approval Date: 20190822**
AMSC Number: 10082	**Limitation:**
DTIC Applicable: No	**GIDEP Applicable: No**
Preparing Activity: MDA	**Project Number: EDRS-2019-001**
Applicable Forms: None	

Use/Relationship: This Data Item Description shall be used in preparing all ongoing, interim, or final Dynamic Object Oriented Requirements System (DOORS®) Database modules. The purpose of these modules is to present compliance of requirements management and bidirectional traceability, to include management of all subcontractor-developed requirement documents.

This DID contains the format, content, and intended use information for the DOORS® package. It is intended that all requirements contained herein shall apply to all applicable DoD acquisition programs through all program phases.

Requirements:

1. _Reference documents_. The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as cited in ASSIST at the time of the solicitation; or, for non-ASSIST documents, as stated herein.

    1.1. _References_.

        1.1.1. MDA Directive 5000.15, "Ballistic Missile Defense System requirements Traceability Process," [current version via Missile Defense Agency (MDA) Portal or Secretary General Staff Action Control Office (MDA_SACO@MDA.MIL)] as government furnished information (GFI). This Ballistic Missile Defense System (BMDS) Requirements Traceability Handbook provides detailed process for implementing and administering processes for BMDS requirements traceability within routine systems engineering and program technical reviews.

        1.1.2. "MDA System Verification Plan," [current version via MDA Portal or MDA Secretary General Staff Action Control Office (MDA_SACO@MDA.MIL)] as GFI. The MDA System Verification Plan describes the trace process and verification sequence by rollup requirements.

        1.1.3. MDA Policy Memorandum No. 63, "BMDS Technical Baseline," [current version via MDA Portal or MDA Secretary General Staff Action Control Office (MDA_SACO@MDA.MIL)] as GFI. The memorandum provides an organizational chart of the requirements/specification hierarchy.

        1.1.4. MIL-STD-961, "Department of Defense Standard Practice – Defense and Program-Unique Specifications Format and Content," available at https://assist.dla.mil. The MIL-STD-961 provides requirements for the preparation of defense specifications and

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program-unique specifications prepared either by DoD activities or by contractors for the DoD.

2. *Format.*

  2.1. Format 1 defines the DOORS® Database

    2.1.1.   The DOORS® Database shall be provided in the following formats:
      2.1.1.1 *.DMA file type archived from DOORS®,
      2.1.1.2 *.DLP file type archived from DOORS®,
      2.1.1.3 *.PDF file type from Adobe®, and
      2.1.1.4 *.XLSX file type from Microsoft Excel.

    2.1.2.   The respective DOORS® Package Contract Data Requirements List (CDRL) shall specify versions as an additional requirement.

  2.2. Format 2 defines the Trace Certification Memorandum (TCM)

    2.2.1.   *.PDF file type from Adobe®.

  2.3. Format 3 defines the Prime Item Description Specification (PIDS)

    2.3.1.   *.PDF file from Adobe® and IAW MIL-STD-961.

  2.4. Format 4 defines the Requirements Traceability Verification Metrix (RTVM)

    2.4.1.   *.XLSX file from Microsoft Excel®.

  2.5. Format 5 defines the Specification Tree

    2.5.1.   In contractor format and machine-readable by the Government.

3. *Content.*

  3.1. <u>DOORS® Database</u> shall consist of the following:

	Attribute	Default Value	Explanation/Enumerations
1	Actual Closure Date		Required by DE Memo 26 May 2011
2	Build Effectivity		BMDS Builds for which requirement is applicable
3	Category		Disconnect; Autonomous; MDA-Directed; MDA-Directed/Contractual; MDA-Directed/Commonality; MDA-Directed/Mission Requirement
4	Caveats		Required by DE Memo 26 May 2011
5	Closure Documentation		Required by DE Memo 26 May 2011
6	Closure Doc Date		Required by DE Memo 26 May 2011

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		Default Value	Explanation/Enumerations
7	Closure Doc ID		Required by DE Memo 26 May 2011
8	Closure Justification		Required by DE Memo 26 May 2011
The DOORS® Database (cont.)			
	Attribute	**Default Value**	**Explanation/Enumerations**
9	Comments		As necessary
10	Configuration		Hardware or Software version(s)
11	ES ID		Element Specification ID for which requirement traces to (e.g., parent requirement)
12	ID		PIDS ID
13	Is Req?	No	Yes=Object is a "Shall"; No=Object is not a "Shall"
14	Is Will?	No	Yes=Object is a "Will"; No=Object is not a "Will"
15	Link to ES		Traceability to parent requirement
16	M&S Tool		Name of M&S Tool used to verify requirement
17	M&S Tool Accreditation Date		Date M&S Tool was accredited
18	M&S Tool Accredited?	No	Was M&S Tool accredited at time of verifications? (Yes, No, N/A)
19	Non-Trace Justification	N/A	N/A; Component Level/Derived Requirement; Traces Internally; Unjustified Orphan; Satisfies a non-BMDS Mission; Provides Future Build Capability
20	Object Text		Requirement Text
21	Orphan Comments		Rational for orphan requirement (e.g., future alignment expected)
22	Planned Closure Date		Required by DE Memo 26 May 2011
23	Software Build		Version of software for which requirement is associated
24	Standard	N/A	Core Standard referenced in requirement
25	Test Case ID		Test Case for which requirement was verified under
26	Verification Date		Date of Verification
27	Verification Location		Location of Verification
28	Verification Method		Test, Analysis, Demonstration, Inspection
29	Verification Status	Open	Open/Closed
30	Verification Type		Flight Test (FT), HWIL, Exercise, M&S, Inspection, War Game (WG)
31	VIS Number		Verification Information Sheet Reference (as applicable)

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3.2. <u>TCM</u>: is a certification of Element Requirements Trace as defined in DOORS® Partition and shall contain:

Item	Document Name (Element ES) – Increment(s)	Inc X	Inc Y
A	Total System Requirements Allocated to BMDS Subsystem		
B	Total System Spec Requirements Met		
C	Total System Spec Requirements Not Met ("Widows")		
D	Total ES Requirements for the BMDS Subsystem		
E	Total ES Requirements Traced to System Spec Requirements		
F	Total ES Requirements Not Traced, but in an approved Non-Trace category ("Justified Orphans")		
G	Total ES Requirements Not Traced, and not in an approved Non-Trace category ("Unjustified Orphans")		
H	Total Element Citations for Subsystem Traced to System Spec Requirements		

3.3. <u>PIDS</u> shall contain:

3.3.1.   PIDS: Format and content of performance specification shall be IAW MIL-STD-961, paragraphs 4.1 through 5.14

3.3.2.   PIDS Sheet: Format and content of performance specification sheets shall be IAW MIL-STD-961, paragraphs 5.16 through 5.16.4

3.3.3.   PIDS Revision: Format and content of performance specification revisions shall be IAW MIL-STD-961, paragraphs 5.17 through 5.17.2

3.3.4.   PIDS Supplement: Format and content of performance specification supplements shall be IAW MIL-STD-961, paragraphs 5.15 through 5.15.9

3.3.5.   PIDS Amendment: Format and content of performance specification amendments shall be IAW MIL-STD-961, paragraphs 5.18 through 5.18.7

3.3.6.   PIDS Inactive for New Design Notice: Format and content of inactive for new design notices shall be IAW MIL-STD-961, paragraph 5.19.2

3.3.7.   PIDS Cancellation Notice: Format and content of cancellation notices shall be IAW MIL-STD-961, paragraph 5.19.3

3.3.8.   PIDS Reinstatement Notice: Format and content of reinstatement notices shall be IAW MIL-STD-961, paragraph 5.19.4

3.3.9.   PIDS Reactivation Notice: Format and content of reactivation notices shall be IAW MIL-STD-961, paragraph 5.19.5

3.3.10. PIDS Administrative Notice: Format and content of administrative notices shall be IAW MIL-STD-961, paragraph 5.19.6

3.4. <u>RTVM</u> shall contain:

 3.4.1.   Cover Page and Documentation: The RTVM software database files shall contain the following:

 3.4.1.1   Cover Page: Enter the Title, Data of Issue, Revision Date Contract Number, Contractor's name and address, Distribution Statement (as delineated in the contract), Export Control Warning Label (as delineated in the contract and if applicable), and Security classification.

 3.4.1.2   Record of Change Page: Enter a record of all changes made to the RTVM.

 3.4.1.3   Database Architecture Description Pages: Enter a detailed description of the database, show relationships and define all the terms, acronyms used in the database fields.

 3.4.2.   Data Description: Describes the data to be contained in the RTVM relational database.

 3.4.2.1   Unique Identification Number (UID): Enter the UID for every requirement in the system configuration baseline (functional and physical).

 3.4.2.2   Source document: For each specification and source document, enter the document number and title for the source of each requirement statement.

 3.4.2.3   Specification or Source Document Paragraph Number: Enter the specification or source document paragraph number for each requirement.

 3.4.2.4   Requirement Text: Enter the specification or source document requirement text.

 3.4.2.5   Requirement Traceability: For each requirement, identify and show the traces between all other requirements for within specification tree layers and the system configuration items.

 3.4.2.6   Requirement Type: The RTVM database shall identify if the requirement is derived or decomposed from a parent requirement.

 3.4.2.7   Requirement Attribute: For each requirement define whether the requirement is a measure of performance, design parameter, software functional requirement, interface requirement, physical parameter, core standard, environmental and cybersecurity (This data field can encompass other data attributes if needed.)

 3.4.2.8   Requirement Status: Identify the Requirement status for each requirement, as approved, under review. The status shall identify the latest revision number.

3.4.2.9   Non-Conforming Requirements: For non-conforming requirements, enter the System Trouble Report (STR) and/or Deficiency Report (DR) number and title.

    3.4.2.9.1.   Hyperlink: Provide hyper-link to the STR and DR databases.

3.4.2.10   Design Reference: Enter the specific piece of design information (i.e., design document section, drawing, etc.) associated with each requirement.

3.4.2.11   Requirement Allocation: Enter the specific system, subsystem, hardware item, component, Computer Software Configuration Item, Computer Software Component and Computer Software Unit that each requirement has been allocated. System level (e.g., Element Specification) requirements shall be allocated to all Configuration Items defined for the system.

3.4.2.12   Form of End Product: Enter the form and maturity level of the end product used for verification. For example the form can be the system, subsystem, unit level, software configuration Item and the maturity level can be the first article, production representative, prototype or final configuration item.

3.4.2.13   Verification Method: For each requirement, enter the verification method as follows IAW MIL-STD-961, Section 4-Verification (5.9):

    3.4.2.13.1.   "Analysis" – An element of verification that uses established technical or mathematical models or simulations, algorithms, charts, graphs, circuit diagrams, or other scientific principles and procedures to provide objective evidence that states requirements are met.

    3.4.2.13.2.   "Demonstration" – An element of verification that involves the actual operation of an item to provide objective evidence that the required functions were accomplished under specific scenarios. The items shall be instrumented and performance monitored.

    3.4.2.13.3.   "Examination" – An element of verification that is generally nondestructive and typically includes the use of sight, hearing, smell, touch, and taste; simple physical manipulation; and mechanical and electrical gauging and measurement.

    3.4.2.13.4.   "Test" – An element of verification in which scientific principles and procedures are applied to determine the properties or functional capabilities of items.

3.4.2.14   Verification Document: Enter the document number, title, and date of the verification document that contains the verification method.

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3.4.2.15   Verification Document Paragraph: Enter the verification document paragraph number that provides the verification method.

3.4.2.16   Verification Procedure: Enter the verification procedure section, and verification procedure step(s) that provides the verification method for each requirement.

3.4.2.17   Other Tests: Enter the names of other tests conducted, prior to verification of the requirements, where the requirements are tested.

3.4.2.18   Verification Results: Enter the results of the verification for each requirement. Did system under test conform to the requirement? (Yes, No).

3.4.2.19   Corrective Actions: Enter all corrective actions taken and the results of the corrective actions.

3.4.2.20   Comments: Enter explanatory notes as required.

3.5. Specification Tree shall illustrate the documentation of decomposition flowing from the Government source requirements down to the PIDS and Component Specifications.

3.5.1.   Top Level – Government Source (System Specification (SS), Element Specification (ES), Interface Control Document(s) (i.e., System Interface Control Document (SICD), Interface Control Document (ICD), etc.), Facilities Requirements Document (FRD), etc) traced to PIDS and/or Element Specification.

3.5.2.   Second Level – Critical Components (i.e., SRS, SDD, HRS, HDD, etc.) traced from Top Level and PIDS.

3.5.3.   Lowest Level – Component Specification (if applicable, for each major component and can be separate tree from higher levels) traced from previous level(s).
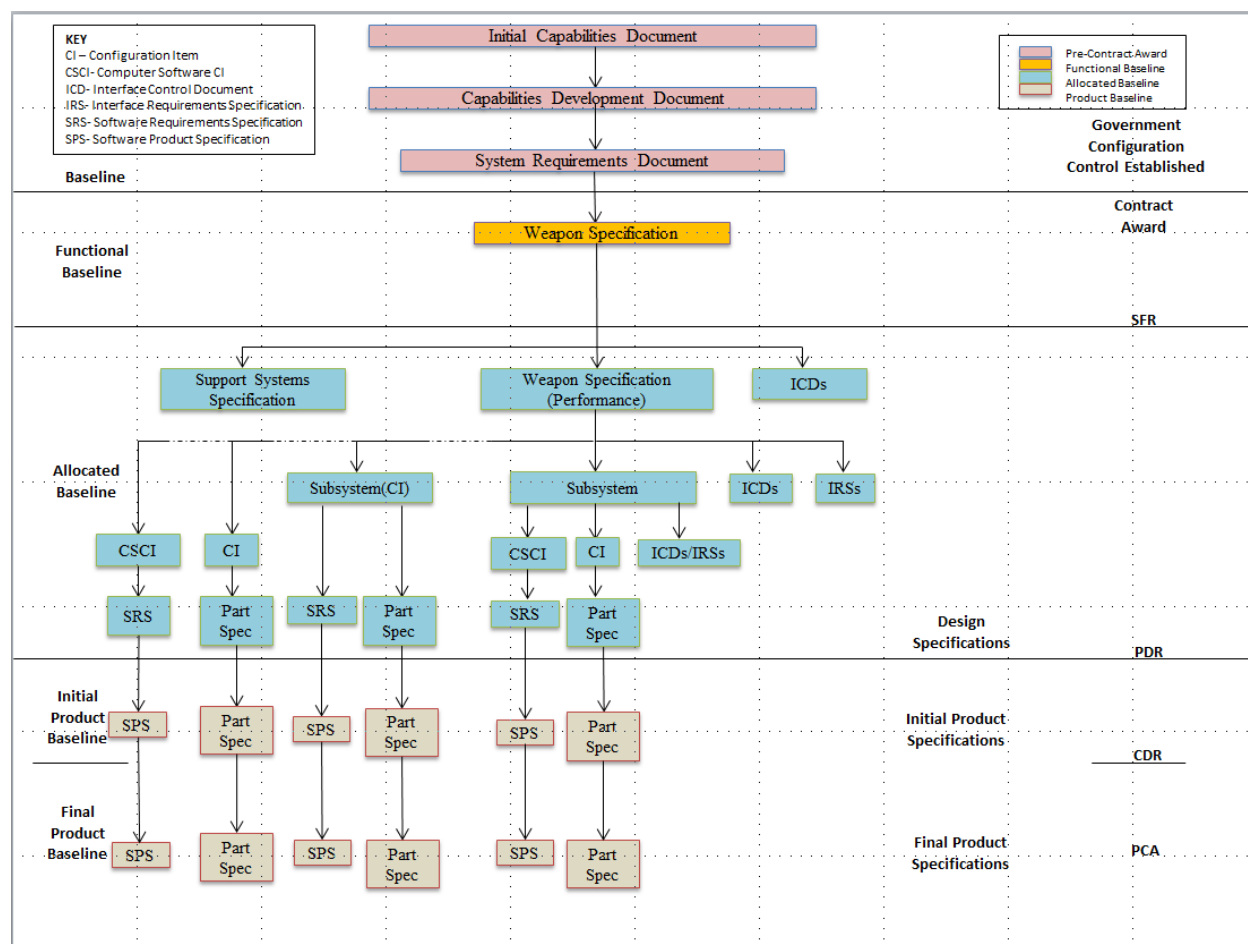
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Figure 5.1 – Specification Tree Example

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