[DTE8] Reference Architecture Description

Go to Annex B: References

Reference

Doyle, Richard, and Matthew Wilezynski. *Reference Architecture Description*. Office of the Assistant Secretary of Defense for Networks and Information Integration, United States Department of Defense, 2010.

Bibliographic Information

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Reference Identifier	[DTE8]
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Scope

The *Reference Architecture Description* provides United States Department of Defense guidance for developing and applying Reference Architectures.

The publication defines the general purpose of a Reference Architecture and describes how a Reference Architecture guides and constrains multiple architectures and solutions within a subject area.

The publication also describes the structure, content, characteristics, uses, and evaluation of Department of Defense-wide Reference Architectures.

DIDO-TE uses this reference as a general architectural source. More specific DIDO-TE references apply and specialize its Reference Architecture concepts within the DIDO Test Environment.

Architectural Content

The reference addresses architectural subject areas associated with:

- Strategic purpose
- Architectural principles
- Technical positions
- Architectural patterns
- Common vocabulary
- Recurring classes of problems
- Common architectural understanding
- Stakeholder communication
- Guidance and constraints
- Multiple levels of abstraction
- Multiple architectural viewpoints
- Solution-architecture development
- Consistency among implementations
- Comparison and alignment
- Validation against a Reference Architecture
- Alignment with standards, specifications, and patterns
- Reference Architecture evaluation

The publication treats a Reference Architecture as an authoritative source of information concerning a specific subject area. The Reference Architecture guides and constrains the instantiation of multiple architectures and solutions.

Relevance to DIDO-TE

This reference provides the general architectural basis for treating DIDO-TE as a Reference Architecture.

DIDO-TE uses [DTE8] to:

- Establish a common architectural vocabulary
- Identify the DIDO-TE subject area and architectural scope
- Describe recurring classes of test-environment problems
- Establish architectural guidance and constraints
- Promote consistency among independently developed implementations
- Support comparison and evaluation of systems
- Support validation against architectural expectations
- Align architectural content with applicable standards, specifications, and patterns
- Separate architectural expectations from implementation-specific designs
- Relate the DIDO-TE Reference Architecture to conforming architectures and solutions
- Organize architectural content around strategic purpose, principles, technical positions, patterns, and vocabulary

DIDO-TE specializes these general concepts through DIDO-TE-specific requirements, architectural

models, terminology, conformance criteria, and verification methods.

Citation Use

DIDO-TE pages cite this reference using:

[DTE8]

A citation identifies the applicable section, paragraph, figure, table, definition, architectural element, or other precise source location.

For example:

```
[[dido:03-dido-te:99-annexes:annex-b-references:dte-008|[DTE8]]], Section 2, "Reference Architecture Definition."
```

When DIDO-TE derives an architectural requirement or principle from this reference, the citation identifies the source passage supporting the derivation.

When DIDO-TE specializes a general Reference Architecture concept, the citation identifies the original concept and records the resulting DIDO-TE specialization.

Source Treatment

DIDO-TE preserves the meaning of architectural concepts derived from [DTE8].

The derivation process:

- Identifies the precise source location
- Preserves the original architectural meaning
- Identifies the applicable DIDO-TE context
- Records any terminology normalization
- Records each DIDO-TE specialization
- Provides a rationale for each substantive adaptation
- Maintains Traceability between the source concept and the resulting DIDO-TE content
- Distinguishes general architectural guidance from DIDO-TE requirements
- Distinguishes architectural constraints from implementation decisions
- Identifies more specific sources that establish detailed DIDO-TE obligations

A DIDO-TE specialization narrows or contextualizes a general Reference Architecture concept for the DIDO Test Environment. It does not alter the historical source.

Reference Architecture Elements

The publication identifies five elements associated with a Department of Defense-wide Reference Architecture:

- **Strategic Purpose:** The context, scope, goals, purpose, intended uses, authoritative sources, intended audience, and stakeholder concerns of the Reference Architecture
- **Principles:** High-level foundational statements that govern architectural decisions
- **Technical Positions:** Technical guidance and standards derived from the architectural principles
- **Patterns:** Generalized architectural representations that describe relationships among architectural elements
- **Vocabulary:** Terms, definitions, and acronyms that establish common understanding

DIDO-TE applies these elements according to its scope, purpose, stakeholders, architectural content, and relationship to more specific source architectures.

The five elements provide an organizational framework. They do not replace the DIDO-TE requirements, models, conformance criteria, verification methods, or traceability records.

Relationship to Other References

[DTE8] supplies general Reference Architecture guidance that complements the DIDO-TE-specific and domain-specific architectural sources recorded in other references.

See:

- [DTE6] Structured Information Processing Reference Architecture (SIP-RA)
- [DTE7] Federated Data Interpretation Systems Reference Architecture (FDIS-RA)

[DTE8] establishes general Reference Architecture concepts. [DTE6] applies those concepts to structured information processing. [DTE7] applies them to governed interpretation across federated information-processing systems.

DIDO-TE draws on these sources to establish a specialized Reference Architecture for distributed Test Environments.

Cite the reference that directly supports the applicable statement, architectural concept, or requirement derivation.

Limitations

[DTE8] provides general Reference Architecture guidance.

It does not define:

- DIDO-TE-specific components
- DIDO-TE Nodes
- Test Environment structures
- Test Definitions
- Test Procedures
- Test Executions

- Test Evidence
- DIDO-TE implementation technologies
- DIDO-TE Deployment Models
- DIDO-TE conformance criteria
- DIDO-TE verification methods

More specific DIDO-TE references, requirements, architecture sections, and glossary entries define these subjects.

Status

[DTE8] records published architectural guidance from the United States Department of Defense.

DIDO-TE uses the publication as an architectural source rather than as a DIDO-TE specification.

A later revision or replacement publication does not automatically supersede the source cited by existing DIDO-TE requirements, architecture content, Evidence, or published documents.

Record the relationship between revisions before changing the authoritative source used by DIDO-TE.

Notes for Editors

Preserve `[DTE8]` and this page namespace as stable citation identifiers.

Preserve the authoritative source file as the canonical source artifact.

Verify the authoritative author names, version, publication date, and organizational attribution against the source document.

Identify the precise section, paragraph, figure, table, definition, architectural element, or other source location when deriving DIDO-TE content from [DTE8].

Do not cite [DTE8] without a precise source location when a more precise citation is available.

Preserve the original source meaning in the provenance record. Record DIDO-TE terminology and specializations separately.

Do not classify a change to architectural meaning, scope, responsibility, relationship, principle, technical position, pattern, or constraint as an editorial correction.

Document each DIDO-TE specialization with its source, resulting expression, and rationale.

Do not derive DIDO-TE-specific components, Test Procedures, implementation technologies, Deployment Models, or conformance criteria from general Reference Architecture guidance without additional source support.

Use [DTE6] or [DTE7] when those references provide more specific architectural support for the applicable statement or requirement.

Preserve the distinction between a Reference Architecture and a specific implementation or solution architecture.

Record the revision, provenance, and supersession relationship before replacing [DTE8] with another publication.

Preserve [DTE8] when existing requirements, architecture content, Evidence, reports, or externally published documents cite it.
