Lifecycle Construction

Overview

The creation of a development lifecycle like the **AVCDL** is an involved process. This page contains information to assist in the creation of similar lifecycles.

Blog Posts

The following blog posts provide high-level motivation for the creation of lifecycles like the **AVCDL**.

- **Certifiably Secure: Does it Matter?** [PDF]
- **Policy - Process - Procedure** [PDF]
- **Aligning the Organization with the AVPDL** [PDF]
- **Traceability: Making the Case for Security** [PDF]
- **The AVCDL: Autonomous Vehicle Cybersecurity Development Lifecycle** [PDF]

Videos

The following videos cover important concepts within the **AVCDL** and applicable to other development lifecycles.

- **AVCDL overview** [37m52s] [video]
- **AVCDL incremental adoption** [13m01s] [video]
- **AVCDL threat prioritization** [30m22s] [video]
- **AVCDL requirements taxonomy** [33m01s] [video]
- **AVCDL security requirements** [47m49s] [video]

Elaboration Documents

The following documents provide elaboration of important concepts within the **AVCDL** and are applicable to other development lifecycles.

- AVCDL Documentation Management [PDF]
- Creating a Development Lifecycle [PDF]
- Incremental AVCDL Adoption [PDF]
- Software Bill of Materials Lifecycle [PDF]
- Understanding the AVPDL [PDF]
- Understanding Cybersecurity Risk Freshness in an AVCDL Context [PDF]
- Understanding Open Source in an AVCDL Context [PDF]
- Understanding Supply Chain Interaction in an AVCDL Context [PDF]
- Understanding the Phase Product Dependencies Graph [PDF]
- Understanding Verification and Validation in an AVCDL Context [PDF]
- Understanding Workflow Graphs [PDF]

Secondary Documents

The following documents cover specific phase requirements within the **AVCDL** and should be instructive in the creation of other development lifecycles.

General

- System to Track Training [PDF]
- Training Catalog [PDF]

Foundational

- Code Protection Plan [PDF]
- Deployment Plan [PDF]
- Incident Response Plan [PDF]
- Release Integrity Plan [PDF]
- Threat Prioritization Plan [PDF]

Gates

- Design Phase Gate [PDF]
- Implementation Phase Gate [PDF]
- Release Phase Gate [PDF]
- Requirements Phase Gate [PDF]
- Verification Phase Gate [PDF]

Goals and Requirements

- Global Security Goals [PDF]
- Global Security Requirements [PDF]
- Product-level Security Goals [PDF]
- Product-level Security Requirements [PDF]
- Security Requirements Taxonomy [PDF]

Development

- Archive Manifest [PDF]
- Build Process [PDF]
- Component - Version - Product - Version Cross-reference Document [PDF]
- List of Approved Tools and Components [PDF]
- List of Tools and Components Used [PDF]

Issue Management

- Ranked - Risked Threat Report [PDF]
- Threat Report [PDF]

Certification Documents

The following documents provide an understanding of how the **AVCDL** can be used to satisfy various technical and regulatory standards.

- AVCDL Phase Requirement Product ISO 21434 Work Product Fulfillment Summary [PDF]
- AVCDL Phase Requirement Product ISO 24089 Work Product Fulfillment Summary [PDF]
- AVCDL Phase Requirement Product ISO 26262 Work Product Fulfillment Summary [PDF]
- AVCDL Phase Requirement Product UNECE WP.29 R155 Work Product Fulfillment [PDF]
- R155 Items Failure Conditions [PDF]

Templates and Working Materials

The following templates and working materials are provided to assist in the creation of development lifecycles.

- AVCDL mappings [docx]
- AVCDL roles and responsibilities [xlsx]
- lifecycle template [docx]

Element Relationships

The following diagram illustrates the relationship between the various sources for and elements of the **AVCDL**.

AVPDL Phase Nomenclature

Standards and Best Practices to AVPDL Phase Mapping

Lifecycle Phase Assignments

certification standards

general standards and best practices

process-specific standards and best practices

Certification Standard to Lifecycle Mapping

Lifecycle Primary Document

Lifecycle RACI

Certification Tailoring Document

Lifecycle Reverse Dependencies Graph

Lifecycle Secondary Documents

Lifecycle Training Path

Lifecycle Elaboration Documents

Lifecycle Tertiary Documents