

Component Relationships and Interactions

Patterns for representing the relationships and interactions between components.

- [Relationships: Overview](#)

Relationships: Overview

In information systems, components interact with each other. Simple and complex component relationships can be represented accurately using OSCAL.

Relationship Types

Relationship representations include:

- third-party validations
- connectivity
- data flows
- components offered by other components
- components relying on other components

Complex Relationships

In its most basic form, each relationship represented with OSCAL stands alone. A collection of relationships may paint a more complete picture.

Example 1: Cryptographic Modules

A linux operating system includes a cryptographic module that has been successfully FIPS 140-3 validated by NIST Labs.

There are three components and two relationships.

Components:

- Operating System (type: software)
- Cryptographic Module (type: software)
- Validation (type: validation)

Relationships:

- Operating System --- provided-by ---> Cryptographic Module
 - Cryptographic Module --- validated ---> Validation Module
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Example 2: Network Connectivity

A web server and a database are on the same network. The web server performs queries on the database server via a TLS 1.3 connection.

There are ___ components and ___ relationships

Components:

- Web Server (type: software)
- Database Server (type: software)
- Network (type: connection)

Relationships:

- Operating System --- provided-by ---> Cryptographic Module
- Cryptographic Module --- validated ---> Validation Module