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Shared Internet Of Things Infrastructure Platform: ADD Application Software Architecture (H09B5a and H07Z9a) – Part 2a

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1. Introduction

An introduction is not required, but if you include it, it should not be empty.

2. Attribute-driven design documentation

2.1 Decomposition 1: ModuleA (X1, Y3, UCa, UCb, UCc)

2.1.1 Module to decompose

In this run we decompose `ModuleA`.

2.1.2 Selected architectural drivers

The non-functional drivers for this decomposition are:

- *X1*: name
- *Y3*: name

The related functional drivers are:

- *UCa*: name
- *UCb*: name
- *UCc*: name

Rationale A short discussion of why these drivers were selected for this decomposition.

2.1.3 Architectural design

Topic Discussion of the solution selected for (a part of) one of the architectural drivers.

Alternatives considered

Alternatives for solution A discussion of the alternative solutions and why that were not selected.

2.1.4 Instantiation and allocation of functionality

Decomposition Main aspects of the resulting decomposition.

ModuleB Per introduced component a paragraph describing its responsibilities.

ModuleC Per introduced component a paragraph describing its responsibilities.

Behaviour If needed an explanation of the behaviour of certain aspects of the design so far.

Deployment Rationale of the allocation of components to physical nodes.

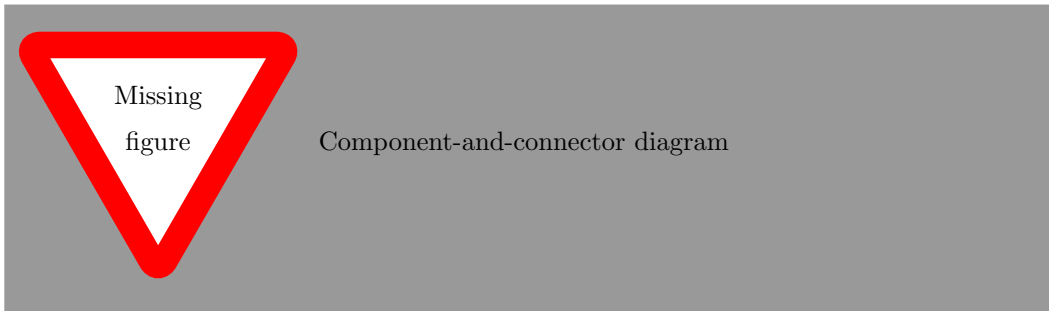


Figure 2.1: Component-and-connector diagram of this decomposition.

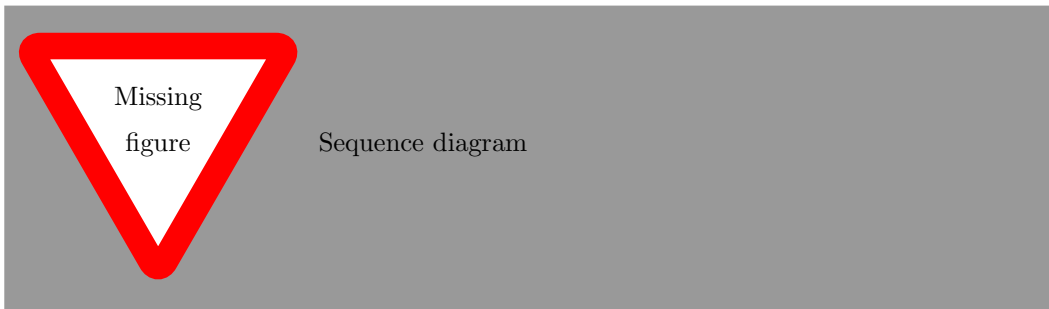


Figure 2.2: Sequence diagram illustrating a key behavioural aspect.

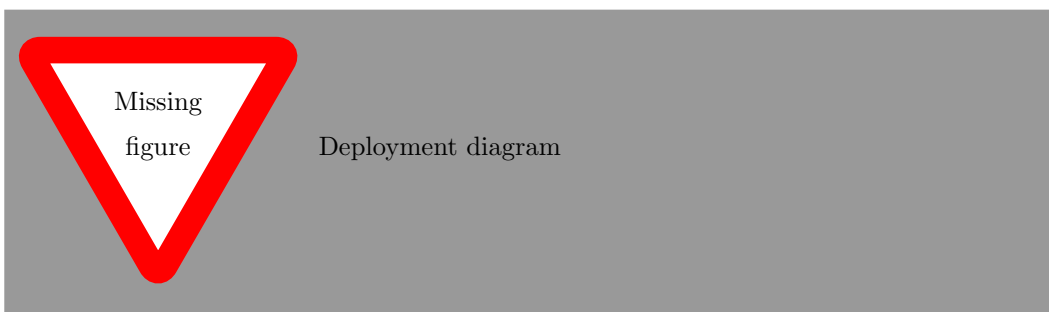


Figure 2.3: Deployment diagram of this decomposition.

2.1.5 Interfaces for child modules

ModuleB

- InterfaceA
 - `returnType operation1(ParamType param1)` throws `TypeOfException`
 - * Effect: Describe the effect of calling this operation.
 - * Exceptions:
 - `TypeOfException`: Describe when this exception is thrown.
 - `returnType operation2()`
 - * Effect: Describe the effect of calling this operation.
 - * Exceptions: None

2.1.6 Data type definitions

Describe per complex data type used in the interfaces what it represents.

returnType This data element represents X.

ParamType This data element represents Y.

2.1.7 Verify and refine

This section describes per component which (parts of) the remaining requirements it is responsible for.

ModuleB

- *Z1*: name
- *UCd*: name

ModuleC

- *UCba*: name
Description which part of the original use case is the responsibility of this component.

2.2 Decomposition 2: Module (drivers)

2.2.1 Module to decompose

2.2.2 Selected architectural drivers

2.2.3 Architectural design

2.2.4 Instantiation and allocation of functionality

2.2.5 Interfaces for child modules

2.2.6 Data type definitions

2.2.7 Verify and refine

3. Resulting partial architecture

This section provides an over of the architecture constructed through ADD.

3.1 Context diagram

This subsection discusses the context diagram.

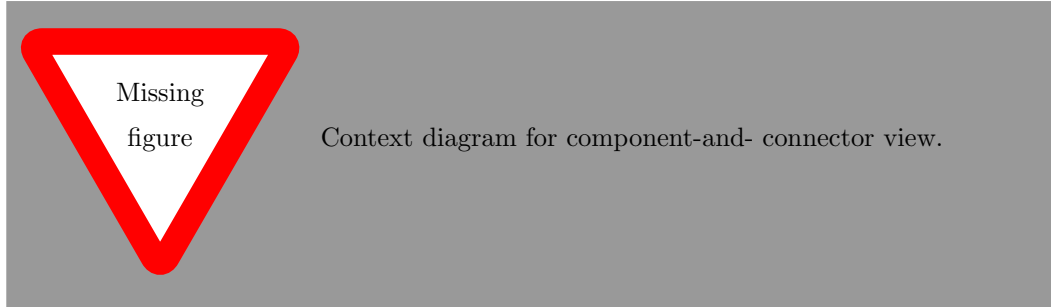


Figure 3.1: Context diagram for the component-and-connector view.

3.2 Component-and-connector view

A short discussion of the component-and-connector view with the key decompositions if any.

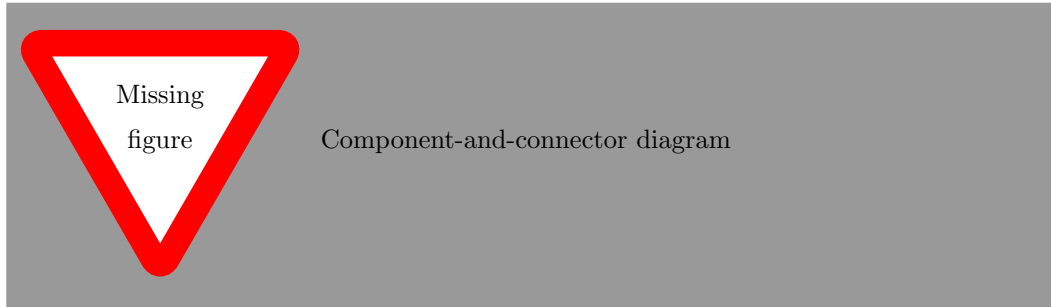


Figure 3.2: Primary diagram for the component-and-connector view.

3.3 Deployment view

A short discussion of the allocation of components to physical nodes based on a context diagram and a deployment diagram.



Figure 3.3: Decomposition of a component shown in Figure 3.2

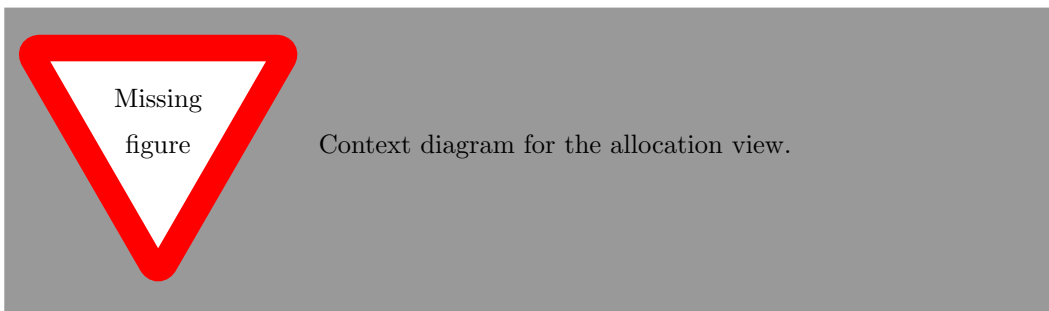


Figure 3.4: Context diagram for the allocation view.

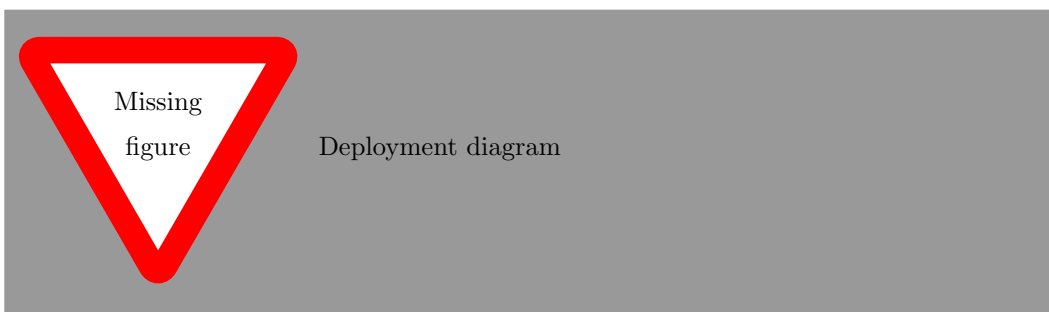


Figure 3.5: Primary diagram for the allocation view.