Interface Analysis

The *Interfaces Analysis* pattern describes how two Components, representing logical parts of a system, communicate via Ports and Interfaces. The Information Flow allows the payload to be modeled and specified as one or more information items that flows across the connector.

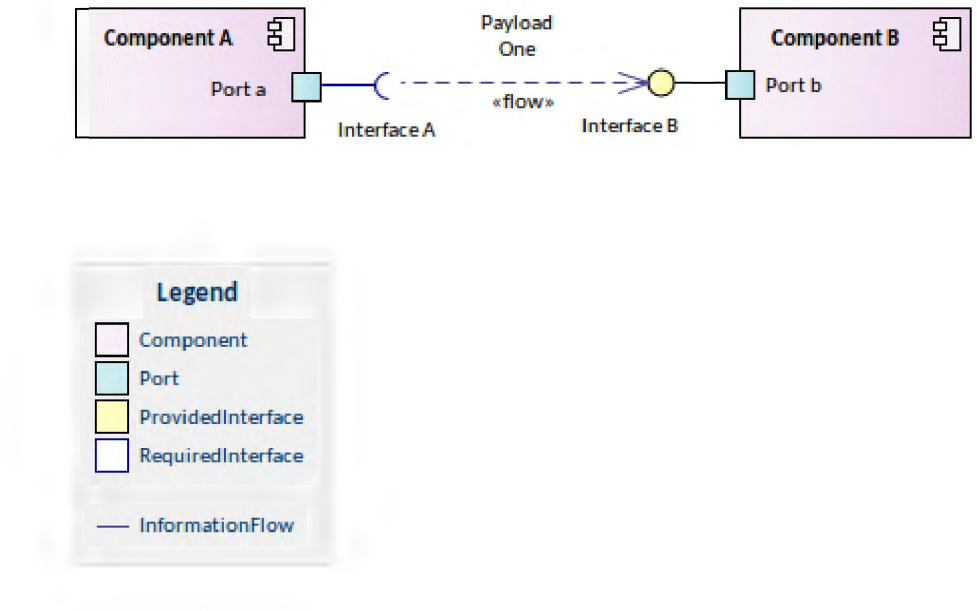

Figure 1. Shows two Components communicating via Ports and Interfaces. The XML payload is defined as an information flow, allowing a user to drill-down to the modeled payload elements.

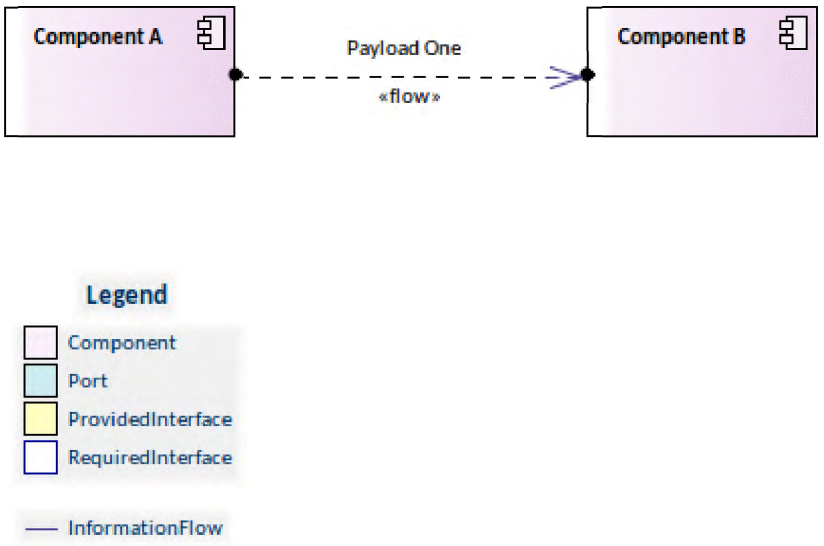

Figure 2. Shows two Components communicating with Ports and Interfaces collapsed in the diagram to hide the detail from non-technical audiences.

Discussion

The purpose of the pattern is to identify the information that is exchanged between logical parts o a solution represented by Components. The details of the interfaces can be articulated showing the type of information carried as the payload of the interface. The interfaces allow a formal description of the services provided and consumed at the interfaces and ports allow the messages to be distributed to internal parts of a Component.

It is typically used when an analyst or technologist needs to analyze the way that parts of a system communicate. It is particularly helpful when the communicating Components are governed or managed by different parties and there is a need to understand the type of information, its format, size, frequency of transmission and other details.

The following is a list of some things you may want to do when working with this pattern.

- Rename the diagram to suit the initiative

- Rename the Components and add details such as Responsibilities (Internal Requirements) and Notes to describe the Component.
- Rename the Ports and Interfaces to suit the initiative.
- Add Operations to the Interface Element that describe the services available at the Provided interface and that are consumed at the Required Interface.
- Change the name and type of the elements listed as Information Items Conveyed by the Information Flow.

The following is a list of some of the next steps available when applying the pattern.

- Add other Information items such as XML Schema elements to the Information Flow.
- Define Trace relationships showing how the Components relate to up-process elements such as Requirements, Business Rules, Capabilities,User Stories and Use Cases and down-process elements such as Artifacts, Database tables, Nodes and Devices.
- Create high quality documentation generated automatically from the model.
- Create Discussions and Reviews and engage in Chat to collaborate with team members, Requirement owners, Product Managers and other stakeholders.

Reference

The following help topics will assist you learn about how to work with this pattern.

Interface Analysis

Component Diagram

Wireframe Diagram

Deployment Diagram

Business Analysis Body of Knowledge (BABOK)

Traceability Tools

Documentation

The following are some of the tools that will be helpful when working with this pattern.

Hand Drawn and Whiteboard Diagrams

The Hand Drawn and Whiteboard Mode are display options available for any diagram

that changes a system-drawn diagram to appear as though it was drawn by hand and, optionally, hand drawn on a whiteboard. It is a powerful device to engage an audience by presenting the diagram in a rough and more immediate style giving the impression that it is just a sketch that can be changed. For more details see the Hand Drawn and Whiteboard Mode help topic.

Alternate and Images for Diagram Elements

Most standard elements allow an alternate image to be defined for an element that will be used in place of the graphical notation for the element either on a selected diagram or as a default on all diagrams. For more details see the Using the Image Manager help topic.

Diagram Layout

The Diagram Layout tool allows you to layout an entire diagram, selected elements or sections of a diagram to make it more visually appealing or meaningful to a particular audience. There are a wide range of layout types to choose from and some types have filters that can be applied. For more details see the Diagram Layout help topic.

Pan and Zoom

The Pan and Zoom facility is one of the tools that can be used to navigate around a large diagram. Often the resolution of a diagram must be reduced to ensure it is wholly visible but by using the Pan and Zoom window you can leave the diagram at a readable resolution and pan around to areas of interest zooming in when necessary. For more details see the Pan and Zoom help topic.

Diagram Legends

The Diagram Legend facility is useful for manually or automatically changing the appearance of elements and connectors on a diagram. A legend can be added from the Common Toolbox and configured to codify the fill and line color and line thickness. This is a powerful way to add meaning and expression to a diagram and is particularly expressive when applied automatically based on element or connector properties. It can be used with a number of specialized diagrams such as roadmaps to create a powerful visualization. For more details see the Diagram Legends help topic.

Document Generator

The Document Generator is a powerful facility in Enterprise Architect that allows a Database Engineer or other stakeholder to create high quality corporate or technical documentation directly from the model, suitable for internal or external audiences. For

more details see the Documentation help topic or the more general topic on Model Publishing.

Element Discussions

The Element Discussion facility is a fully featured collaboration tool allowing modelers and model viewers and reviewers to communicate with each other directly inside the repository. Modelers using the full client or occasional viewers using WebEA can both post and reply to discussions and communicate and engage in chat. For more details see the Element Discussions help topic.

Specification View

The Specification View can be used as a way of working with any element type in a spreadsheet or word process view. It is particularly useful when there are a large number of elements as is typically the case when describing a system of any appreciable size. For more details see the Specification View help topic.

Relationship Matrix

The Relationship Matrix provides a spreadsheet like view of two groups of elements and the relationships that exist between them. It can be a used as a powerful analysis mechanism to visually indicate how elements are related to each other and to discover which elements are missing relationships. For more details see the Relationship Matrix help topic.

Traceability Window

The Traceability Window automatically displays the relationships that exist between Use Cases and other model elements including up-process and down-process elements. The traceability tree view can be conveniently expanded to see deeper relationships and elements displayed in the window can be located in all diagrams in which they appear. For more details see the Traceability Window help topic.