DRAFT - IT Project Guidance

Documentation:  
How to Develop an  
Integration Design Document (IDD)

Version:

0.1

## Description

This document describes a number of aspects that may be included in an IDD to better describe the purpose, constraints and expected outcomes of developing an integration between two disparate systems.

## Synopsis

IDDs describe the purpose, context, triggers, cadence, volume, scope and shape of the data that is transmitted between two systems and how they are secured.

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## Introduction

Integration Design Documents permit stakeholders managing two different systems to agree on architecturally significant aspects of an integration being established between the two.

The aspects that require covering are the purpose, scope and volume of information to be transmitted between the two, using what protocols, over what channels. Also covered are prerequisites if any.

# Aspects

An IDD should be a short 2 or 3 paged document that covers a small number of aspects, listed below.

## Background

An IDD should start with an introduction that provides the background of the service, its purpose.

## Context

Before going deeper it’s important to describe to non-technical stakeholders the context of the integration, describing what system/devices are involved, potentially describing which organisational unit they belong to.

To be understandable by the target audience, it is recommended that the diagrams are basic boxes and lines.

## Information

Before describing anything technical, it is important to describe in a high-level manner for non-technical stakeholders the *logical* information elements to be transmitted across the wire.

To be understandable by the target audience, it is recommended that the diagrams are basic boxes and lines. Or if the audience is slightly technical – consider developing an Entity Relational Diagrams (ERD).

## Cadence and Trigger

Describe what signal triggers an integration. It may be due to a scheduling service raising signals at a regular configurable cadence, a user action, or another signal source.

Aspects to consider describing are:

* It may be intentionally scheduled to run after business hours, when there is less use of the system, therefore presumably releasing CPU resources.
* If run after hours, there are no available maintenance specialists to alert to investigate the issue,
* Therefore, logging the integration’s outcomes is an important tool for maintenance specialists to investigate in the morning.

Quantity, Volume.

Describe the expended number of information elements that are expected to be transferred.

A sentence or two is sufficient.

## Validation

While it is the remote system’s responsibility to validate the requests, it is important this system validates whatever is returned.

## Error Handling

Integrations may fail. It will be a design decision whether to allow the integration to continue, recording only which records failed, or to cancel the integration when even a single record fails to pass validation.

## Sequence

Produce a single sequence diagram that captures:

* Authentication via an IdP,
* The expected flow,
* An unexpected flow.

## Security

Describe how the channel and information are secured (consider using API calls over HTTP/S backed by short lived certificates).

## Technical

After the above aspects have been written in plain language for non-technical stakeholders one may finish up the IDD by describing the technical aspects of the integration.

Aspects to consider including:

* The channel being used (secure HTTP/S)
* The protocols being used (SOAP or REST, ODATA or GraphQL, JSON versus XML, etc.)

Appendices

Appendix A - Document Information

### Authors & Collaborators

Sky Sigal, Solution Architect

### Versions

0.1 Initial Draft

### Images

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### Tables

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### References

**There are no sources in the current document.**

### Review Distribution

The document was distributed for review as below:

|  |  |
| --- | --- |
| Identity | Notes |
| Sky Sigal, Solution Architect |  |
| Sandy Britain, Enterprise Architect |  |
| Amy Orr, Data Domain Architect |  |

### Audience

The document is technical in nature, but parts are expected to be read and/or validated by a non-technical audience.

### Structure

Where possible, the document structure is guided by either ISO-\* standards or best practice.

### Diagrams

Diagrams are developed for a wide audience. Unless specifically for a technical audience, where the use of industry standard diagram types (ArchiMate, UML, C4), is appropriate, diagrams are developed as simple “box & line” monochrome diagrams.

### Terms

Refer to the project’s Glossary.

##### ERD

: acronym for Entity Relation Diagram.

##### IT

: acronym for Information, using Technology to automate and facilitate its management.

##### ICT

: acronym for Information & Communication Technology, the domain of defining Information elements and using technology to automate their communication between entities. IT is a subset of ICT.

##### SSO

: acronym for Single Sign On.