ICT Project Guidance

Glossary of ICT Specific Terms:   
Interoperability & Integration

Author:

Sky Sigal, Solution Architect

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0.2

## Description

A Glossary of common ICT Terms related to interoperability & component integration, to establish a common understanding, while reducing duplication of effort in downstream documents.

## Synopsis

Included are the meanings of acronyms and industry terms used to describe aspects of interoperability & component integration.

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## Introduction

## Objective

To develop a common understanding of terms used to deliver services with an ICT component.

# Terms & Acronyms

## System Integration Acronyms

#### API

: *Application Programming Interface*.

#### ETL

: acronym for *Extract Transform Load*. Prefer to extract and load by API rather than direct storage access. This enables validation logic being applied. Logic should be in a logic layer, above and protecting the data storage layer/tier.

#### ELT

: acronym for *Extract Load Transform*. A variation to ETL.

## System Integration Terms

#### Application Programming Interface (API)

: an interface for an authorised component or system to interact with the service.

#### Tier

: a physically separate *Layer* of a system.

## System Interoperability Terms & Acronyms

#### Application Programming Interface

: a system’s means of providing to 3rd party systems an authenticated, audited and authorised appropriate access to some of its managed data via a messaging interface -- bypassing the need & use of a User Interface.  
*Note that the term Programming is possibly an unfortunate choice of word, as It implies a highly capable programming interface, a legacy concept, whereas current REST based interfaces is about messages and not operations.*

#### Discoverability

: the ability for a service endpoint to be discovered, by being published or self-publishing itself in a directory elsewhere.

#### Self-Describe

: the ability of an API to self-catalogue its endpoints, their arguments, and their request and response messages, greatly diminishing errors in documentation and implementation.

#### WADL

: a REST equivalent of WSDL as a technical option for a service to [self-]describe its available endpoints. See *ODATA*’s metadata, which is CSDL.

#### CSDL

: Conceptual Schema Definition Language. A machine-readable description of a *schema*. Used by ODATA to describe its endpoints, their messages, and relationships.

#### GraphQL

: a well-known, non-standards based, non-REST based query language for REST APIs. See *ODATA*.

#### OAuth

: open standard for access delegation, used to permit other services (not physical Persons) access to a service. OIDC, used to grant Persons, is built on top of it.

#### ODATA

: an industry OASIS based standard for providing *Queryability* to REST based APIs. See *GraphML*.

#### OIDC

: an authentication layer built on top of *OAuth* to authenticate end users to systems.

#### REST

: an acronym for *Representational State Transfer*, a modern approach to developing a system’s APIs for consumption by other systems (not human users). Prefer to using *SOAP* based integration. See *Queryability*.

#### Queryability

: the capability of APIs (generally REST based APIs) to be extended by service clients to filter, sub-select, order & page results. See ODATA.   
 *Note that enabling APIs to be Queryable improves usability while reducing development and testing efforts but does require more care in not introducing the ability for permit* Denial of Service (DoS) *attacks.*

#### SAML

: an open standard for authentication, based on XML, capable of being used across multiple channels, including the web.   
*Note: Prefer OAuth & OIDC on the web.*

#### SOAP

: acronym for *Simple Object Access Protocol*, an older messaging protocol specification for exchanging structured information in the implementation of web services in computer networks.  
*Note: prefer using REST.*

#### JSON

: an acronym for *JavaScript Object Notation*, is an open standard file format for data interchange on the web. Has overtaken XML for general use cases due to its comparative simplicity.

#### XML

* : a markup language for defining any data. Used for many purposes, including the interchange of data between systems across multiple channels. See *JSON*.

Appendices

Appendix A - Document Information

### Versions

* 1. Initial Draft
  2. Minor Updates

### Images

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### Tables

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### References

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

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| Dijana Sneath, Business Analyst |  |
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### Audience

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

### 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.