ICT Project Guidance

Glossary of ICT Specific Terms:   
Infrastructure

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## Description

A Glossary of common ICT Terms related to infrastructure, 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 infrastructure.

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## Introduction

## Objective

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

# Terms & Acronyms

## System Infrastructure Acronyms

#### IP

: *Internet Protocol*

#### LAN

: acronym for Local Address Network

#### TSA

See *Technical Security Assessment*.

#### UI

: see *User Interface*.

#### UX

: see *User Experience*.

## System Infrastructure Terms

#### Component

: a single (logical or physical) nestable element within a system, deployed to a *Device* within an Environment.

#### Device

: a physical or virtual device within an *environment* on which an execution environment is running, within which *components* can be nested and run.

#### Database Schemas as Code

: current best practice approach to developing database requirements, by describing what storage needs you need (tables, etc.) and letting automation built it to your specifications – rather than developing databases manually, which is time consuming, costly error prone, and practically impossible to maintain in a working state over a services full lifespan.

#### Environment

: a named, isolated virtual or physical space where a system -- composed of nested components -- is deployed to for secure access by end users.  The common list includes:

* Development Test (DT) Environment
* System Test (ST) Environment
* User Test (UT) Environment
* PreProd (PP) Environment
* Training (TR) Environment
* Compliance Test (CT) Environment
* Production (PROD or PR) Environment

Note that in mature organisations, all environments except for PROD are deployed to NON-PROD Data networks, and PROD is deployed to a PROD Data network.

#### Headless

: industry term for web services which have no user interfaces but do have APIs that to be invoked by separate Service Clients which do have user interfaces.

#### Infrastructure as Code

: a modern approach to developing system environments, by describing what you want as a set of instructions then letting automation built it to your specifications – rather than developing environments manually, which is time consuming, costly error prone, and practically impossible to maintain in a working state over a services full lifespan.

#### IPSec

: a superset of IP adding authorisation and encryption to enable setting up secure connections between devices over the internet. Usually router to router connecting networks.

#### IPsec VPNs

: require a VPN client to be installed to access a VPN.

#### Local Address Network

: contrast with *WAN*.

#### Machine Account

: a system *User* that is another system.   
Note that it is poor design for the service account to represent anything but the authorised remote service client system (it should not represent a single *User* on the remote system, and if the call makes reference to the current User, it should be passed as a operation argument). See *OAuth*.

#### NON-PROD DATA Environment

: a network environment containing one or more system environments (DT, ST, UT, TR, CT, etc.) that do not manage production data, whether in cleartext or obfuscated, full or truncated. Contrast with *PROD DATA Environment*.

#### Permission

: the right for a User to perform an *Operation* within a *Request* to a *System*. Given to or restricted from *Users* as part of a *System* *Role*.

#### PROD DATA Environment

: a network environment containing one or more system environments (PROD).   
See *NON-PROD Environment.*

#### [System] Role

: a logical collection of *Permissions* to facilitate the assignment/revocation of Permissions to a System *User*.

#### Redis[[1]](#footnote-2)

: an acronym for Remote Dictionary server. It is an open source in-memory distributed in-memory key-value (noSQL) store for strings, hashes, lists, sets, sorted sets. It does not support any structured query language, only atomic operations, and one can expect sub-millisecond responses handling millions of requests per second. It handles asynchronous replication and clustering for scale. It’s primary use-case is distributed cache, but is also used as a Message Broker (pub/sub, similar to Kafka and RabbitMQ). It can be run in 3 modes: no-persistence, RDB where a snapshot is taken at regular intervals, and AOF where every write operation is logged and can later be used to reconstruct the data (noting that this impacts performance).

#### Router

: device used to route traffic between *networks* and *subnets*. Contrast to Switch.

#### Subnet

: a network within a network that provide two notable benefits: making for more efficiency traffic between devices by not requiring routers, and permit traffic to devices be limited to known source devices outside the network.   
  
*Note: when designing the infrastructure requirements of information services, it remains best practice is to use a subnet for data storage devices, and limiting traffic to it from only another subnet, containing the logic of an information service.*

#### Service

: the consumable service that a system delivers. Services can range from technical services (web services, caching services, data storage services, identity services) consumable by Systems, to business services (accounting services, HR services, etc.) consumable by end users.

#### Stakeholder Groups

: all *Person*s directly or indirectly affected in some way (RASCI) by the development and delivery of the Service.

#### System

: a collection of *Components* deployed to a set of *Devices* within a single *Environment*, configured, and programmed with Logic, to be Fit for the Purpose of delivering Quality Functionality that meets Users Expectations.

#### Switch

: a device to route traffic within a network (contrast with Router).

#### Technical Security Assessment (TSA)

: depending on the solution type, where its hosted, and its interfaces/exposure to the outside world, a TSA may be required to identify any technical vulnerabilities in the implementation.

A TSA may include some or all the following: design review, System Pen Test, configuration review, network scanning, & vulnerability assessments.   TSAs are mostly performed by 3rd party Security vendors.

#### User

: a [System] *User* is linked for authentication to an external *Person*’s Digital *Identity* managed by a *Digital Identity [Token] Provider (IDP)*.   
A User may be physical *Person*, or virtual (e.g., another system’s *machine account* authorised to use the system’s APIs).

#### User interface (UI)

: the service client views used to make data accessible and usable by users.

#### User Experience

: the combination of service client views and dynamic client-side behaviour that make system data accessible, easily understandable, and easy to use by users.

#### Users

: a subset of *Stakeholders* who directly engage with the *Service*.

Virtual Private Networks

: used to secure individual web *sessions* as opposed to securing entire network traffic.

#### Service Request

A request to the organisation’s service desk for infrastructure changes done by internal resources and/or delegation to contracted services.

Appendices

Appendix A - Document Information

### Versions

* 1. Initial Draft
  2. Minor updates
  3. Minor changes

### 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:

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| Identity | Notes |
| Sandy Britain, Enterprise Architect |  |
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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.

1. [Redis as a Database. I’ve been using Redis a lot in the past… | by Tzafrir Ben Ami | Wix Engineering | Medium](https://medium.com/wix-engineering/redis-as-a-database-f9df579b09c0) [↑](#footnote-ref-2)