

Introduction

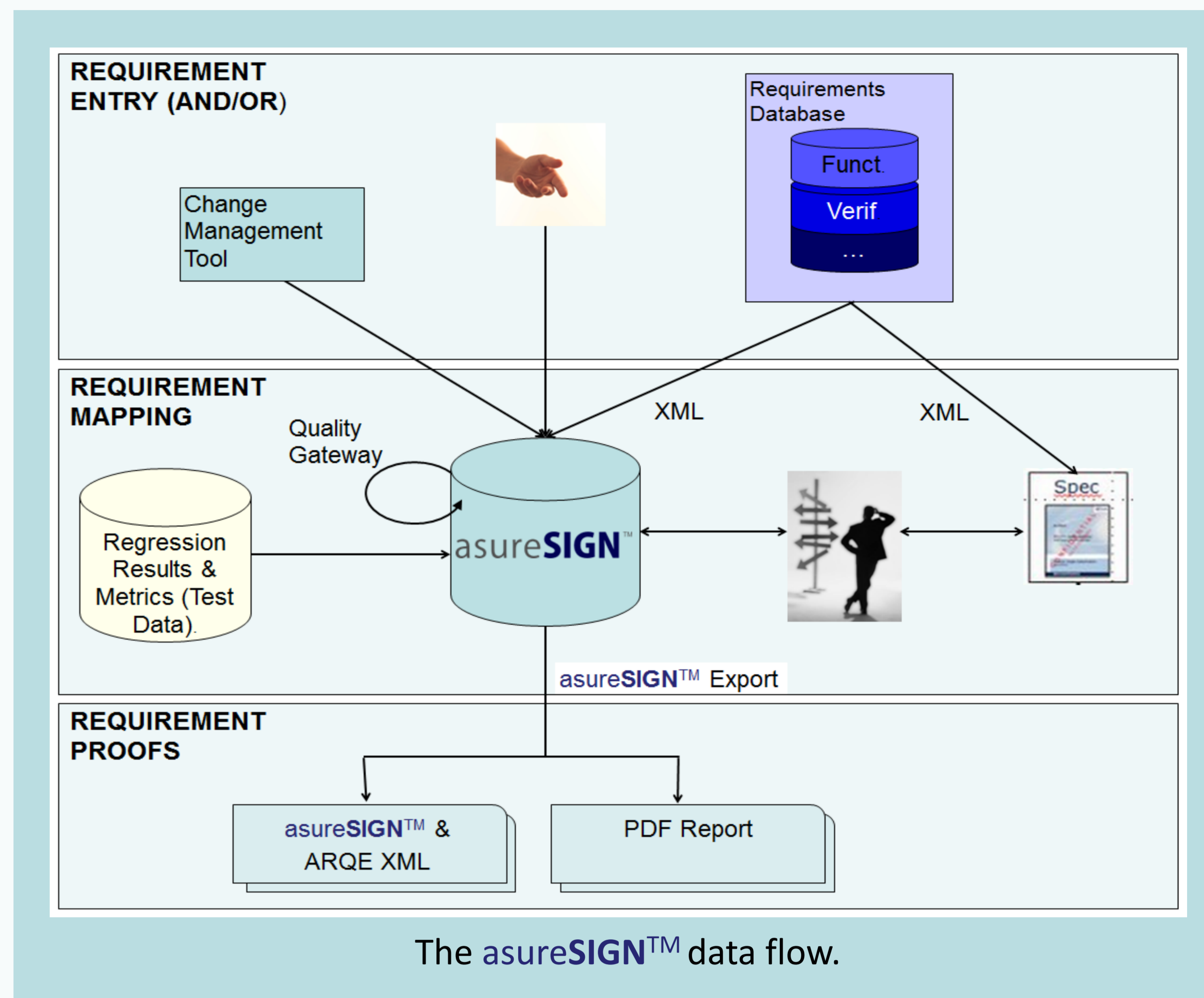
Requirements engineering is essential to ensure companies produce a correct product in a timely manner. Ensuring completeness of the requirements traceability through the complete data tree cause many issues:

- Requirement interpretation may change through the data flow
- Manual mapping of documents with identifiers is time-consuming and subject to error
- Translation or moving of data may cause corruption or error
- Link to proofs of implementation/results is currently manual
- Visibility of Requirements through the entire tree is complex
- Communication across domains (pre-silicon/post-silicon/units/system) is complex

asureSIGN™ aims to resolve these issues by providing an interface for storing Requirement Mappings and more in an efficient, easy to use program, that complies with the industry standards such as ISO26262

Terminology

- **Requirements:** Objectives and expectations of a product.
- **Features:** Functions needed to satisfy the Requirements- proven via sub features or goals to achieve their specified metrics.
- **Goals:** The atomic unit of a feature or sub feature to which metrics (coverage/tests) are mapped(associated).
- **Metrics:** A test or coverage item used to validate a goal.



Features

asureSIGN™ incorporates the following features:

Dashboard: contains an overview of the project’s progress over time which presents:

A table of Regressions which have been imported into the project database (asureSIGN™ interfaces to any regression runner being used)

The number of Requirements in the project, including information on those that are Mapped/UnMapped to Tests (metrics) and which Milestones have been achieved. This data is also available in a graph for quick review.

When a Regression is imported into asureSIGN™ there is a Configuration Management window that identifies any source code that has changed between the regressions to assist quick analysis of any fails etc.

Plan Editor: a window that supports Change Management of Features/Goals and for mapping of Goals to Metrics. The user can adapt the Features/Goals position within the project hierarchy, as well as update their metadata in asureSIGN™, or they can use the Partial Import function to assist with reuse and variant management. Importing and Exporting of project data is also available in the Editor:

- asureSIGN™ XML Format – **export** can be used for bulk editing or copying to new asureSIGN™ project to aid with reuse. The **import** allows you to import requirements from external tools – it also provides an Excel format and translator in which you can collate the requirements.
- PDF – **export** for review and audit purposes, this includes regressions results to present the status and configuration data relating to the data analysed. Goals can be marked as complete by mapping in asureSIGN™ to Metrics, or they can be Signed-Off Manually- by inspection e.g. Waveform.

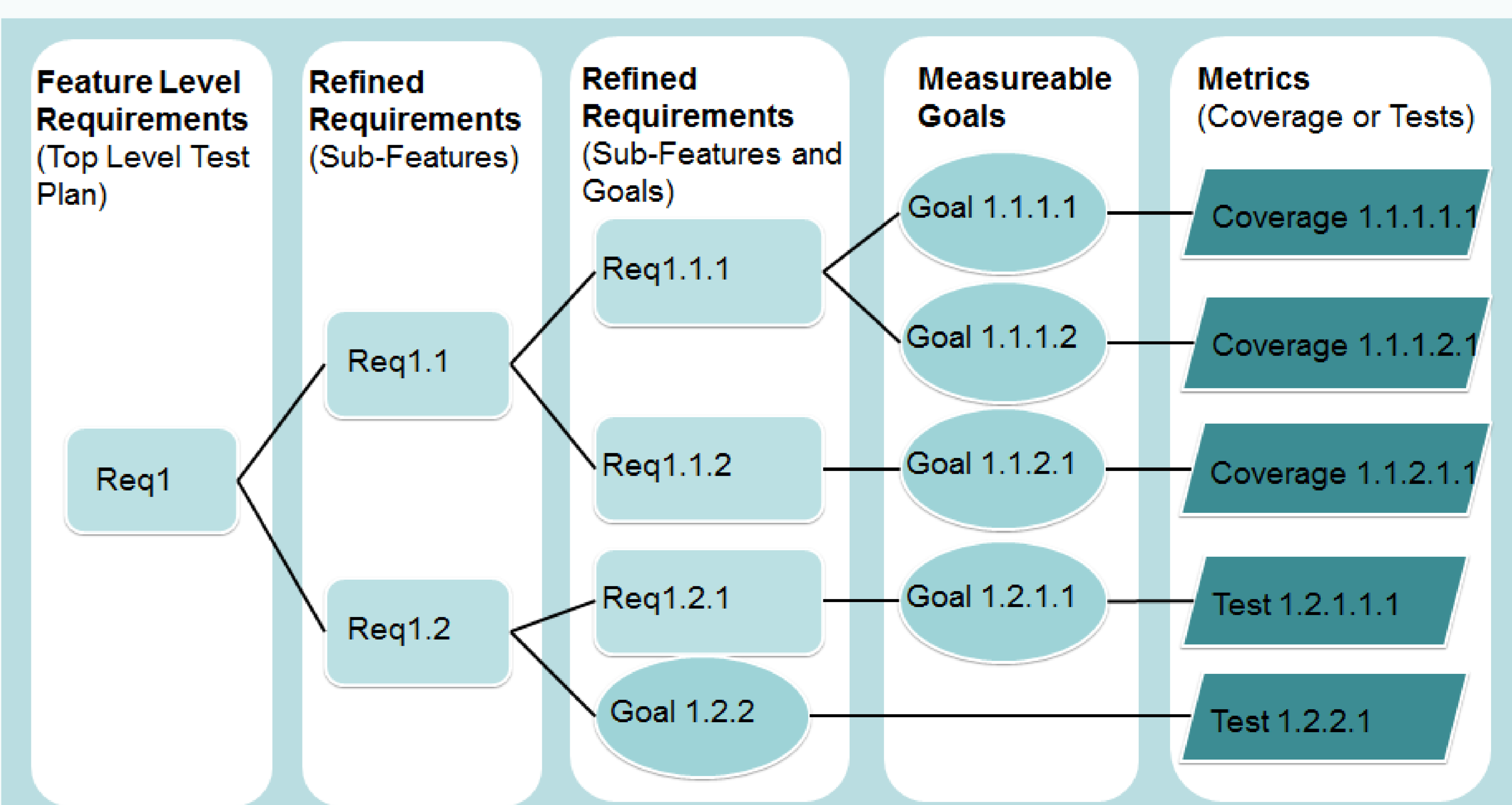
Analyser: a window used to review the project in detail. It contains the project hierarchy so that the user can review a particular Feature or Goal, or the entire project with regards to:

| | |
|--------------------------|--|
| Mapped | All the metrics a selected Goal is mapped to |
| Unmapped | All Goals |
| Mapped Unexecuted | All Goals |
| All Executed | All Goals |
| Goal Grading | Details of all Goals in the Project |
| Feature Grading | Details of all Features in the Project |

Command Line Instructions: Regression Results are imported into asureSIGN™ from external testing tools such as UCDB/UCIS or log files via command line instructions.

Interoperability

- Supporting a common xml schema asureSIGN™ is able to transfer data safely between itself and other tools in the flow
 - Requirements can be imported from an external tool (or entered manually) This is essentially a **Top-Level Test Plan**
 - The requirements are then refined into a **Bottom-Level Test Plan** which are then mapped to goals (Tests/coverage points etc)
- Test Mapping is implemented in asureSIGN™ in many ways this includes **automatic mapping** to test results within the tool; for this the requirements are mapped to a test, assigned a type and the details on how to recognise a passing result are configurable within the tool to allow for automation.
- Supports Accelera’s Unified Coverage Interoperability Standard **UCIS** (and its forerunner UCDB)
- Mapping within the tool reduces risk due to minimising the tooling interfaces
- PDF Export for Review: For audit processes all information on the user configuration, goals, goal pass criteria, passing result, manual sign off info and any URL links to visual sign off criteria are all available within asureSIGN™. A PDF document can be exported and put into a configuration management tool for audits and review.



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