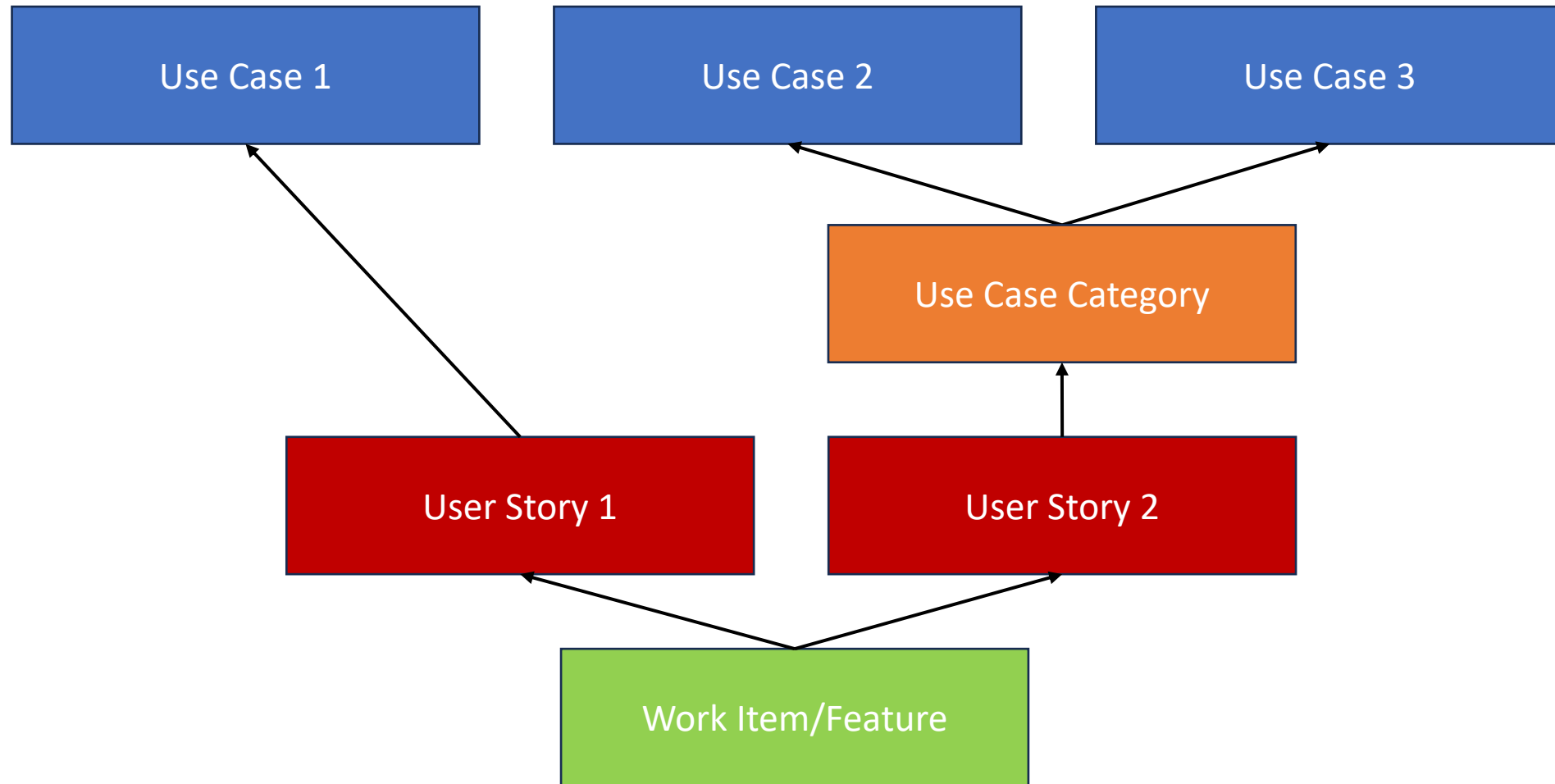# Use Case and Requirements: Process Review

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UC → {Category →} US → (WI | Feature)

Process

- *(TF Develops User Stories internally; see process suggestions below)*
- TF submits User Stories using UC TF's [User Story issue template](#)
  - A *User Story* Links *Use Cases* to *Work Items/Features*
  - TF also creates new [Use Cases](#) or [Use Case Categories](#) if necessary
- UC TF Creates PR based on content in Issue(s)
  - Converts to HTML form to update the UC&R document
  - HTML form and rendering reviewed by original submitters
- Once both original submitters and UC TF approve, PR is merged
- UC&R Editor's draft effectively immediately
- UC&R publishes updated Note periodically

Details: https://github.com/w3c/wot-usecases and suggested TF process: https://github.com/w3c/wot-usecases/blob/main/tf-issue-process.md

User Story (Requirement): Template

- **Who: Stakeholder (As a…)**
  - User or Org (e.g. SDO) – see list
  - *Entity that needs stated capability*
  - Optional: Other impacted stakeholders, e.g. implementors

- **What: Capability (I need…)**
  - Technical requirement
  - May also be a Condition that needs to be satisfied (e.g. "minimize size of TDs")
  - *Link to at least one work item/issue/PR (for WIP) or assertion/spec section (for completed spec work)*
  - *Optional Details*

- **Why: Purpose (so I can…)**
  - Functional requirement
  - Solve a Problem
  - Meet an Objective
  - *Link to at least one Use Case or Use Case Category (e.g. "ease of use")*
  - *Optional details*

Requirements Test Case

See https://w3c.github.io/wot-usecases/#sec-user-stories

5.1.2 Reusable Defaults per TD

- **Who (As a...):**
  - Designer/Developer of TDs

- **What (I need...):**
  - Reusable Connection descriptions in a TD

- **Why (so that I can...):**
  - Simplify TDs in cases without usage of default terms or to avoid redundancy
  - **Motivating Use Case Category:** TD Creation Simplification.
  - **Details:** There are at least three sub-problems that motivate this feature:
    1. If the media type is common across forms but is not application/json, it otherwise needs to be repeated in each form.
    2. If there are common protocol stack configurations such as different default verbs, baud rates, and endianness, they otherwise need to be repeated in each form.
    3. Multiple bases are not otherwise possible, so each form repeats multiple bases. This is relevant (for example) when a TD has both local and public IP addresses.

Categories

See https://w3c.github.io/wot-usecases/#sec-use-case-categories

- Intermediate, *optional* step but allows for generalization
  - Avoids having to constantly update "requirement" to "use case" mapping
  - ***JUST A CONVENIENCE*** when many use cases share common requirements

Some possible categories:

- Private (handles personal or confidential information)

- Flexible Protocol Usage (use multiple protocols)

- Cloud Integration (shares data with remote servers)

- Local Access (needs to operate without a global connection)

- Mobile (location is subject to change)

- Resiliency (needs to be robust to failures and attacks of various kinds)

Workflow Considerations

- For User Stories
  - User stories are intentionally concise and high-level.
  - Evolution of feature specifications: Issues → {MD files →} PRs → Feature
    - Completed "capability" should be a feature
    - For WIP a user story can link to intermediate design docs, but...
    - Eventually should link to a "feature": a single assertion or a section in a spec doc
  - *Detailed* requirements can be in specification documents themselves (e.g. technical requirements) in introductory material.

- For Use Cases
  - If one does not exist to support a User Story, it should be created
  - Doesn't need a ton of implementation details
  - Reuse existing Use Cases if possible

- For Use Case Categories
  - A set of Use Cases sharing a common property
    - e.g. "Needs role-based access controls"
  - Create one if needed if many use cases motivate some User Story

Discussion

W3C Web of Things (WoT) WG/IG