

PRINCIPLES for Writing Conformance Requirements

General principles for creating conformance requirements:

1. **Do** restrict each conformance requirement to one atomic, simple statement.
 - Address one feature at a time.
 - Keep each requirement as simple as possible. Multiple one-feature requirements will be easier to test (and trace back should a test fail) than one multi-part requirement.
 - Order features in a natural progression, beginning with easiest. This makes your document easier to read and later testing and trace-back more sensible (see next item). If an implementation can't support an 'easy' requirement, then it is unlikely to support a more complex one.
 - Ensure traceability of requirements back to a specific part of the specification. Each requirement must be directly traceable to wording in the specification. Try to get as granular as possible, e.g., a specific statement rather than a section.
2. **Do** make requirements technology neutral.
3. **Do Not** change functionality of the specification.
4. **Do Not** mix important terminologies.
 - Use a Glossary agreed upon by all.
 - Keep the balance of your text self-contained, with as few footnotes and external references as practical.
 - Choose either "shall" or "must" to signify requirement, use "should" for recommendation (but not requirement) and "may" for neutral choice. Don't mix sets of terms that assign different interpretations to the same words.
5. **Do** constrain optionality and cardinality.
 - Describe what features, values, attributes, etc. are to be measured and what the range indications are for success or failure.
Example: ...occurs zero or more times
 ...required when <Person> used
6. **Do** indicate explicit dependencies and constraints.
7. **Do Not** state how to test.
8. **Do Not** rely upon formatting or context to convey intentions such as mandatory or optional. For example, instead of employing italic or bold face, use the English imperative "shall" or "must", whichever is chosen as standard terminology.
Example: Not "*..this feature is required,*" but rather, "*..shall require feature A31.*"