**3GPP Conference Call on 3GPP Spec Modernization #1 6GSM-2500ZZ**

**Electronic, 6 August 2025, 13:00-15:00 UTC**

**Source: Samsung**

**Title: pCR 21.802 – 4.3.2 – Requirements Related to Identified Shortcomings (4.2)**

**Document for: Discussion, Endorsement**

**Agenda Item: 5.3**

**Work Item / Release: Study on Modernization of Specification Format and Procedures for 6G (FS\_6Gspecs) / Release 20**

***Abstract of the contribution:***

*This pCR* *lists requirements for a solution. There is extensive reference to the new Annex proposed in 6GSM-2500ZZ summarizing the result of the 3GPP stakeholder survey on CR Tools in 2022.*

**Discussion**

To address CR quality improvement and CR implementation automation, a number of requirements have been identified. Also, requirements that ***any tool used for CR development*** needs to support.

**Proposal**

It is proposed to make the changes proposed to TR 21.802, v0.0.0.

BEGIN CHANGES

## 4.3 Requirements Identification

Editor's note: corresponds to Objective 1c

### 4.3.2 Requirements related to specific identified shortcomings/pain-points in clause 4.1

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| --- | --- | --- | --- | --- |
| # | Requirement | Description | Applicable to objective 2 | Applicable to objective 3 |
| x | << Example: Fast file opening >> | << Example: Any new format shall open significantly more quickly than docx for a given amount of content >> | <<Example: Y>> | <<Example:: N>> |
| a | Support CR implementation4.2.1-1 (b, c, h, k, v) | 1. A delegate or MCC/rapporteur should be able to use the tool to implement the CR against the source specification to obtain the resulting target specification.NOTE 1: Currently, implementation of CRs is largely a manual process2. A delegate or MCC/rapporteur should be able to use the tool to check a set of CRs to determine if they have clashes (i.e. they propose changes to text in the same clauses.)NOTE 2: It is possible that checks for clashes could be at a finer granularity than 'changes to the same clause.' For example, a check could be done to determine if the same text is modified. Further, checks for 'side effects' could be done: if a definition is changed for a term that is used in other CRs, this could be a clash. | yes - the new format and tools should support automatic implementation and clash detection. | yes - the new tools must support these functions both on and off line, as part of work during meetings, as part of work to determine whether to and verify result of implementation, etc. |
| b | Support CR checking4.2.1-1 (a, d, e, f, g, i, j, m, t, v) | A delegate or MCC/rapporteur of a CR should be able to use the tool to check whether the CR Header and CR content violates a number of criteria. NOTE 3: There are many rules stated in TR 21.801 that currently must be checked manually. This is a source of many uncaught errors, takes significant time to handle at meetings and requires effort to correct at subsquent meetings after a CR is approved and implmented. Editor's Note: The list of checks that a CR should be subjected to is FFS. A start to this list could be the list of high and medium priority checks in Annex A. | yes - the new format and tools should enable checking of many error conditions and problems. | yes - the new tools will support work on and off line, during meetings, during evaluation prior to implementation, to check implementations, at meetings, plenaries, etc. |
| c | Support for code in CRsTable 4.2.1-1(p, q, r) | 1. If code is in the same document as the CR, there should be a means to extract the code portions from the technical specification so that the code can be used as input to machine processing (e.g. an interpreter, compiler, etc.)2. Code that is part of a CR should be able to be checked for syntax errors, and compile time errors.3. Code that is part of a CR should be able to be checked *in combination with* other code provided in the specification, to determine if there are redundancies, mismatches, etc.NOTE 4: The requirements above are not requirements in TR 21.801, though it was expressed as a medium prioirty requirement in the 3GPP survey (see Annex A.) | yes - the format and tools should enable extraction, checking both for quality and for compatiblity with other code, etc. documented in other specifications, CRs, etc. | yes - the tools will support code as part of processes, for work on and off line, for determination whether to commit changes to the FORGE, etc. |
| d | Support review of figuresTable 4.2.1-1(b) | Every change to a figure shall result in a 'change marking' visible, indicating what changed and who made the change.NOTE 5: The granularity of the change marking is at least 'the figure has changed.' Greater granularity than that, e.g. highlighting changes in text in a figure, is considered Very Nice To Have. | yes - the format and tools should enable checking of changes  | yes - the checking of changes to figures will be possible on and off line, at meetings, etc. |
| e | Support consistent common configurationTable 4.2.1-1(n, o) | Use of tools to create, edit or copy and paste content shall retain simple and consistent configuration for users, so that errors arising due to inconsistencies is rare or impossible. NOTE 6: This addresses the problem with current use of MS Word where the configuration of the tool is frequently inconsistent and hard to control, leading to poorer CR and specification quality. | yes - the tools and format must work with common configuration so as to ensure that work performed by users with consistent high quality. | yes - the tools and format will enable operations performed on and off line (including merging CRs, implementing CRs, etc.) to be done with consistent high quality. |
| f | Support for consistent and common approach to collect all editable and non-editable content for CR and specification.Table 4.2.1-1 (l, s, t) | 1. Use of tools to create, edit or remove non-text content (e.g. large tables, figures, equations, procedure diagrams, etc.) shall retain simple and consistent order (i.e. as separate documents stored in a mandatory way for the associated CR or specification.)NOTE 7: Separate 'source files', and other documents that comprise a CR or specification will be organized in common way, easy to understand and find, for all who need to modify CR or specification content.2. Changes to CR documents (including headers and content) shall be automatically captured in CR databases to ensure the correct correspondence between an approved and implemented CR and the CR database. | yes - the tools and format must enable and support consistent aggregation of content that exists in disparate resources (e.g. files) | yes - the tools will enable on and off line work with disparate resources that comprise a CR or specification, in meetings and after meetings. Results of work (e.g. meetings, preparation of a new version of specifications will be stored consistently so that anyone can access the results. |
| g | Support for gathering input on a CR or its content for highly active topics involving many participants, without divergence in the process (where the order or comments of some participants are lost or become difficult and time consuming to reconstruct.)Table 4.2.1-1 (u) | Use of tools to collect comments and feedback shall enable orderly capture of responses, so that the order, source and input from each reviewer is captured without ambiguity or loss. This facility shall scale up to 100s of active reviewers posting 1000s of comments a day.NOTE 8: The comments and related information that are gathered can be removed or are not intrinsically part of the CR or specification. | yes - the tools and format must enable for support for gathering CR-specific comments.  | yes - the tools will enable on and off line work by large number of reviewers, who can consider previous comments and add their own. Some on-line support is provided to share new comments with others. The tool provides a means to associate comments with a CR or specification, while keeping it distinct from the CR and specification in the same way that MS Word comments are not included in CRs in their approved form and published specification versions do not include MS Word comments. |
| h | Support for editing content (any) according to drafting rules in a simpler manner than having to apply the current drafting rules in 21.801. Tools supported will be easier to configure than today's tools.Table 4.2.1-1 (m, o, s) | Use of tools to create or edit content in CRs shall provide highly usable and simple means to express formatting information.NOTE 9: Formatting information is currently captured in CRs using MS Word styles. This requirement addresses the pain point seeking better usability and simplicity than use of MS Word Styles (m). |  |  |

END OF CHANGES