**3GPP Conference Call on 3GPP Spec Modernization #1 6GSM-250042 v000**

**Electronic, 6 August 2025, 13:00-15:00 UTC *merges documents: 14, 18, 25, 27, 37***

**Source: Samsung, Nokia, ZTE**

**Title: pCR 21.802 – 4.1 – Advantages of Current Tools**

**Document for: Discussion, Endorsement**

**Agenda Item: 5.1**

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

***Abstract of the contribution:***

*This pCR proposes text for clause 4.1, the advantages of the current tools.*

**Discussion**

Some reference to the 3GPP survey helps to clarify the degree to which user needs are well fulfilled by the current tools. Though people may have responded to the survey based on ‘what they know’ rather than ‘what they most intrinsically need’, it is still relevant that the responders felt comfortable with a broad set of functions in Microsoft Word.

Notes on preparation of 6GSM-250042 v000

- I changed the section name to **Benefits** from Advantages, responding to a comment from Nokia.

- Where there were *limits* on certain benefits expressed in CC#1, I added NOTEs to the benefit to capture this. Hopefully, we can capture *benefits that are also in some ways pain points* with these benefit disclaimers without being inconsistent.

The following items were ***not merged*** based on comments during the meeting.

1. WYSIWYG - benefits listed for text coloring, strike through were not included. These formats are not allowed in the drafting rules in TR 21.801. Some details (including 'requirements' mixed with the benefits) were also not included. [6GSM-250014]

2. Embedded objects per se are not a benefit (they are not portable to other platforms, may not be readable after the format of the embedded data is a very old version, etc.) The point is captured under Benefit #2 'integration' I hope. [6GSM-250014, 6GSM-250037]

3. Accurate control of headers and footers (point 3 in [6GSM-250037]) is not a benefit: this is fixed by use of templates and according to normal practice and TR 21.801 should not be modified by anyone. I add clarification that headers and footers are covered by templates in Benefit #10 below.

The following were added to the text in 0027.

1. Session notes, meeting reports, discussion papers can use the same content, allowing copy and paste (new benefit #17). I used fewer words to capture the essential point. [6GSM-250014]

2. Highlighting is beneficial, added to benefit 6. [6GSM-250014]

3. Benefit #18 added - on use of git / ETSI Forge.

4. Benefit #19 added - on use of Excel.

5. Some change marks considerations from [6GSM-250018] that were lacking in 0027.

6. The limitation of change marking *when applied to the task of implementing CRs in specifications* was added to a NOTE to Benefit #5. [6GSM-250025]

7. Emphasis of the utility of WYSIWYG editing for tables, equations and flow charts added to 3 and 16. [6GSM-250037]

8. I add that the same format is used by specifications as CRs to the new benefit #17. [6GSM-250037]

9. I add 4c from [6GSM-250037], editable authors for different purposes.

10. Add Benefit #20 - macros for batch processing. I also add a NOTE to explain that the benefit is scriptability not MS Visual Basic. [6GSM-250037]

**Related contribution**

*6GSM-250031 proposes a new Annex A.*

**Proposal**

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

BEGIN CHANGES

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[x] 3GPP TR 21.801: "Specification Drafting rules".

BEGIN CHANGES

## 4.1 Benefits of current tools

1. Familiarity

The current set of tools are well known to delegates. 3GPP TR 21.801 [x] captures all requirements and recommendations, accumulated since 1999. Further, there is institutional expertise in checking that this is done properly (each secretary, MCC, other delegates, etc.) There are company internal and external tutorials for new delegates to assist coming up to speed.

There is a complete ‘way of working’ built around the tools that is well known and stable, including interactions between delegates and group leadership, submission, retrieval during and after meetings, databases to track actions, etc.

2. Integration

(Nearly) all content for CRs and specifications are integrated into a single file that can be edited, viewed, sent to others, without any concern for capturing all of the content of the document (e.g. each figure.) This makes it extremely easy to work collaboratively to incrementally collect feedback and share proposed changes on a document under discussion and revision.

Content can also be directly pasted into the document from external applications. For some formats, the metadata required to edit the figure is also included, e.g., MSC-Generator block diagrams and call flows include the image representation and the source representation when pasted into a document.

To the extent that there are other files needed, e.g. source code attachment in the form of YAML, JSON, YAML, XML, etc., these are collected in the same zip file that is used to store & retrieve, share and review, etc.

NOTE: There is a limitation to this benefit as the integration doesn’t work well on all platforms. In particular, MSC-Generator diagrams embedded with OLE are not editable on any platform other than MS Windows.

3. WYSIWYG Editing and Ease of Use

The content of the document appears as it will in the final product. This view is exact when it change marks are not shown.

When change marks are shown, the document is shown with close to final results, though the removed material is also displayed. Changes on changes, if shown at all, are used only for draft documents, removed in the submitted CR, but this is used in on-line work in some groups (see 16 below.)

3GPP delegates, leaders and secretaries are familiar with this view and can work with it rapidly to identify what has changed and whether it is acceptable (especially, whether it addresses past comments.) See Change Marking below.

Another aspect of WYSIWYG editing is ease of use. There is only one tool to learn, (except for figure and equation editing, which can require external tools such as visio.)

Also, WYSIWYG editing in the current tools allows editing *directly in the document* of content that has been embedded, such as equations, figures, diagrams, tables, etc. which is especially useful. This edited content appears at all times as it will in the final resulting version.

NOTE: There is a limitation to this benefit as MS Word is in fact a very complex software and even experienced delegates sometimes struggle with some of its features. Furthermore, when something goes wrong (in a large document with complex styles), it is extremely hard to figure out the source of the problem.

4. Proofing Tools

For many delegates English is not their primary language. For them, the spelling and grammar checks are quite helpful, as well as the automatic proposals for replacement of words and phrases.

5. Change Marking

Change marks show added, removed and moved text. They capture more than one change in a way that makes it immediately visible that changes are distinct. It is possible to view the metadata associated with the change (who did it, when, what the text of the change was, etc.)

It is possible to adjust the 'source' of the change marks, as this could be the name of the delegate, company, work item code, CR number, etc. in different ways of working scenarios, employed in 3GPP groups.

Additionally, draft specifications show change marks and a comment indicating from which CR submitted to plenary a change originated.

NOTE: There is a limitation to the benefit of change marking when applied to the task of implementing a CR in a specification. It was not designed for this purpose.

6. Extensive Formatting

It is possible to format tables, figures, text and other content easily, with integrated help facilities to assist. Some of these operations are complex in principle (e.g. merging or splitting cells, greying parts of cells, etc.) though these are straightforward in terms of usability with the current tools.

NOTE: Highlight formatting is not strictly allowed by the drafting rules TR 21.801, but used extensively and found to be highly useful to emphasise certain changes, etc.

NOTE: There is a limitation to this benefit as overly complex text formatting, which a document can end up with (sometimes invertedly), significantly contributes to the slowness of editing and even viewing it.

7. Consistent Output

The current tools and formats have allowed 3GPP specifications to have a consistent appearance across thousands of publications, new and old.

8. Integrated means for collaboration

It is possible to embed comments (also known as 'comment bubbles') and replies to comments directly in documents. This is often used by participants in 3GPP to share their views during the revision and off-line discussion of documents. Though this is not used in any formal 3GPP document process, it remains a useful tool for organizations to share individual comments and questions both internally and externally.

Additionally, online collaboration is possible internally to a company during the drafting phase depending on the docx editing tool and file sharing system in place.

NOTE: There are limits to this benefit, as it does not scale up well to allow large numbers of comments or commenters. Nor does it work well when the documents are only shareable through FTP and e-mail. This benefit only reaches its full potential if a content management system allowing concurrent editing is used. We do not have such a system,

9. Ability to control the page orientation

For tables that are very wide, it is very useful to reorient specific pages to panorama. This requires insertion of ‘sections’ in Microsoft Word.

10. Ability to capture significant common information in templates

Templates capture common styles, defaults, page width and height, headers, footers, etc. This makes it possible to achieve Consistent Output (see 7 above.)

NOTE: There is some limit to this benefit, since it is possible to ignore the template either through improper configuration of MS Word (e.g. the wrong language setting), or unintentionally, through pasting content into a document from a document with different properties and settings, that does not use the template, etc.

11. Product support and licensing

The current tools have professional support, are licensed and sold at reasonable prices globally and are sufficiently stable to work with. There are even (open source tool) options that are available that are compatible without professional support and licensing fees, even if these are less stable.NOTE: There is a limit to this benefit, as some versions of tools used to read and write DOCX work slightly differently. In particular, embedded object editing support and Visio is only available on computers running Windows.

12. Ease of conversion of format

 It is easy to convert a MS Word document to PDF, among other formats.

NOTE: There is a limit to this benefit, as conversion to PDF sometimes fails (for reasons unknown).

13. Offline editing

 The docx file format is supported by several tools available for offline use, so TDocs and CRs can be downloaded in advance and read and edited locally.

14. Document navigation

 Docx supports hierarchical headings which can be used by many docx editors to show an interactive table of contents for quick document navigation.

NOTE: There is a limit to this benefit, as large DOCX documents often need to be split into multiple files, which hampers havigation.

15. Simple access to documents

 Specifications and TDocs, including CRs, are easily accessible through a web portal and through an FTP client. Specifications are also available in a structured way, e.g., by series, which also lists all the version numbers per specification.

NOTE: For TDocs and CRs, this benefit is limited to the access, and the benefit falls short when searching for a specific document. That is, searching for the TDoc explaining the reason a change was made remains difficult. There is some disagreement about whether ftp use is 'simple' (it may be difficult to find a tdoc on the ftp file tree for past meetings, etc.)

16. Ease of consensus building during meetings

During the meetings, both during online and offline sessions a lot of editing of the CRs happens whilst the changes are displayed directly on the screen. This is done by the chairs, rapporteurs and offline moderators to capture comments made on the floor and to display the corresponding changes at the same time on the screen, including figures, equations and tables. This is an important benefit of the current tools that improves meeting efficiency and is enabled by the WYSIWYG nature of the current tools.

17. Copy and paste content from CRs to other documents is possible. Chair notes, session notes, discussion papers and other documents include content from CRs. It is beneficial to be able to reproduce the content of CRs with the same appearance in other documents easily. It is also beneficial (somehow essential) that the same format is used for CRs as specifications.

NOTE: There is a limit to this benefit, as cut-and-paste sometimes messes up styles and causes unexpected formatting issues.

18. The use of git brings benefits: testing of cross referencing across YAML files (text only) before publication. Cross referencing has proven beneficial also for the development of OpenAPIs. Use of 3GPP Forge hosting allows content (including OpenAPIs) to be stored without use of zip files.

NOTE: There is a limit to this benefit, as it is only used by a few WGs and not with DOCX.

19. The use of Excel has proven useful for storage of large tables, which have proven problematic when included in DOCX files. It is also possible to include computation across multiple cells in the table, e.g. for test tolerances, measurement uncertainties and link budget calculations.

20. Macros for batch processing are beneficial, e.g. to identify style errors, editorial errors, in ASN.1 review for comment collection.

NOTE: This benefit is present in MS Word, but the actual benefit is not the use of visual basic (which has disadvantages as a scripting language.) Rather, the benefit is that there is a means to use scripts to process CRs. Furthermore, as far as VBA macros go, they are hard to code, inconvenient to debug, prone to errors and not cross platform (many Word VBA features are not available on platforms other than MS Windows).

END OF CHANGES