

**Title:** Handling of Technically Motivated Work Items

**Agenda:** 9 – Project Management

**Source:** Nortel Networks

**For:** Discussion and Decision

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## Introduction

At several recent meetings a discussion has been triggered where work items proposing new 3GPP features have been introduced by technical working groups such as SA2 or SA4 rather than the requirements working group SA1. In order to clarify good working practice in 3GPP this paper discusses when it is appropriate to introduce a work item from a working group other than SA1 and how SA1 should become involved in such work items.

## Motivations for 3GPP Features

The different motivations for 3GPP features can be introduced by first considering how innovation takes place outside 3GPP. Some innovations are triggered by an analysis of market requirements and the development of products to fit with the requirements that have been identified. "New Coke"<sup>1</sup> is an example of an innovation that was driven by market analysis. Other innovations are triggered by scientists or engineers recognising that a new development is possible without first referring to a specific requirement. The laser is an example of a technically motivated innovation and was famously described as a "solution in search of a problem" during its early history.

Similarly we can see inside 3GPP that some features are motivated by a new requirement (eg a requirement to support video calls) and other features are motivated by the identification of a technical opportunity (eg a RAN optimisation). Some features, particularly in the systems area, may straddle both approaches and have both a technical and a requirements benefit.

## Feature Planning and Feature Development

The separate processes of feature planning and feature development are often confused in discussions on SA work items that do not originate in SA1. The feature planning process involves the creation of a feature-level work item and an agreement in principle that 3GPP will work on a particular topic. The feature development process involves the activity in 3GPP working groups to actually develop standards for a feature once its work items have been approved.

For a technically motivated feature it often makes sense for the relevant 3GPP working group to initiate and lead the process of **feature planning** culminating in the approval of a feature level work item. The technical experts within the working groups are the most appropriate people to judge the merit of a proposal that derives most of its benefits from a technical synergy with an existing architecture or standard.

Where new features have a requirements aspect the feature plan should include work on the requirements for the feature. However it is probably not necessary to have all features reviewed by SA1 prior to approval. The lack of a mandatory SA1 review can be justified on two grounds:

1. It is virtually unknown for a requirements or marketing team to refuse a new capability if the engineers offer it to them.

2. For many technically motivated work items the benefits can only be fully appreciated by reference to the technical solution employed and SA1 is not well equipped to make this evaluation.

For example, we don't expect RAN optimisation work items to be reviewed in SA1 prior to approval. A new feature should be reviewed by SA1 prior to approval if it a strong component of its motivations are requirements based or there is a significant challenge to its relevance from a requirements perspective.

Once a feature has been approved then it is clearly important that the requirements aspects are properly handled during the **feature development**. For many features this will mean that the requirements should be developed (at least in outline) prior to the work in a technical solution being initiated. This corresponds to the traditional "waterfall" method of feature development. However where the primary motivation for a feature is specifically the benefits obtained from using a particular technical or architectural approach it is appropriate for the requirements and the technical work to proceed in parallel.

### **Role of the "Work Item Leadership" Committee**

Section 12 of the WID form identifies a committee with the role of "work item leadership". This heading has caused problems in interpretation because "leadership" can imply two different meanings:

- the group that works on the feature *first*, or
- the group that has most contribution in progressing the feature development.

It is the authors understanding that the second meaning is the one that should be interpreted in this case. Identifying a working group as the leader for a work item does not necessarily imply that they are also going to be the first group working during the feature development. In the recently proposed revision to the WID template this section is replaced by two headed "Primary Responsibility" and "Secondary Responsibility". If implemented this clarification could avoid this problem in future.

Another point of confusion over the mapping of work items to committees is whether it is necessary to create a separate work item for each committee that handles a particular feature. It is proposed that any working group referenced in a particular work item can contribute to that work item's development without having to create a new work item in each committee. However, a committee may create a new work item if it is helpful in managing their work programme.

## Conclusions and Proposal

For some technically motivated features it is not always appropriate or necessary for SA1 to be the group responsible for initiating the work item for the feature. SA1 should always be referred to for requirements related to the 3GPP system.

TSG SA are therefore invited to approve the following points for future clarification:

1. New feature level work items may be proposed by any 3GPP working group and may have that working group identified as the “work item leader”.
2. The term “Work Item Leadership” on the WID template should be replaced with something more precise such as “Primary Responsibility”
3. New feature level work items should be reviewed by SA1 prior to approval if there is a significant requirements component or if there is doubt about the relevance of the work from a requirements point of view. However it is not mandatory for all new feature level work items to be reviewed by SA1 prior to approval.
4. All feature level work items with a requirements aspect shall identify a role for SA1 in the work plan.
5. During feature development SA1 is responsible for identifying requirements for the 3GPP system. Normally development of requirements should take place before the initiation of technical work. However where the primary motivation for a feature is specifically the benefits obtained from using a particular technical or architectural approach it is appropriate for the requirements and the technical work to proceed in parallel.
6. Any working group referenced in a particular work item can contribute to that work item’s development without having to create a new work item in each committee. However, a committee may create a new work item if it is helpful in managing their work programme.

If SA agrees to these points then some revisions to 21.900 may be required.

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<sup>1</sup> In the early 1980s Coca Cola recognised that they were losing market share to Pepsi and also that Pepsi cola beat Coke in blind taste tests (a fact heavily exploited by Pepsi in their marketing). To recover their market share Coke identified a need to change the taste of their product to improve its performance against Pepsi. Coke successfully developed a new taste which reliably beat Pepsi in blind taste tests. The reformulated Coke was released in the US as “New Coke” in April 1985 replacing the original drink. Despite New Coke’s better performance in blind taste tests the change triggered a public and media outcry. Finally Coke were forced to reintroduce the original drink in July 1985. New Coke was never introduced outside the US.