

Technical Specification Group Services and System Aspects
Meeting #26, Vouliagmeni (Athens), Greece, December 2004

Source: MCC Team Leader ([John M Meredith](#))
Title: Report of Support Team activities
Document for: Information
Agenda Item: 10

1 Introduction

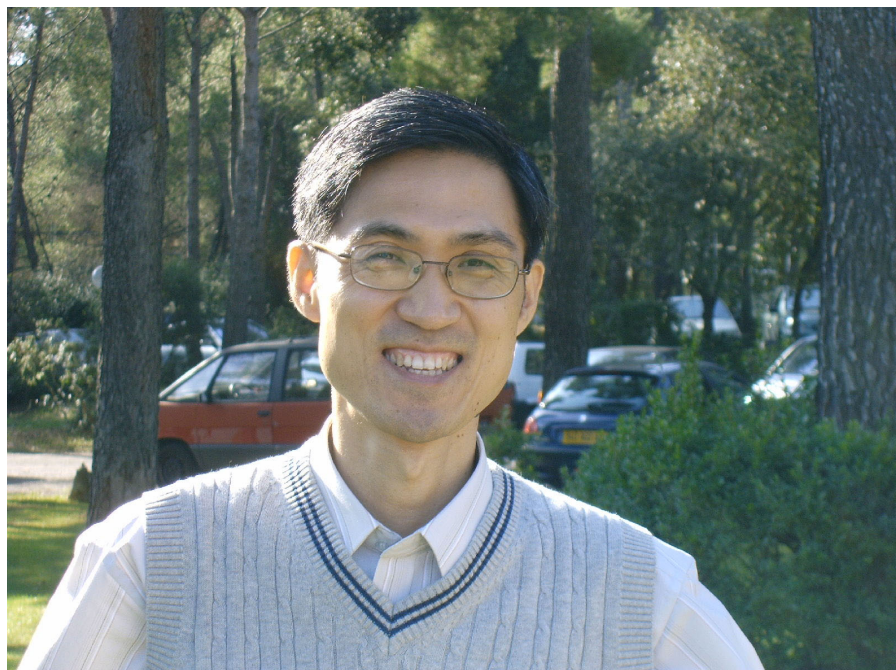
The overall message: business as usual. But carry on reading for the details Ö

2 The Support Team

2.1 Departures and arrivals

Replacing Sang-Ui Yoon after the September plenaries, we have been pleased to welcome **Seung-Don Han** from KTF. Seung-Don is sponsored by TTA and supports CN3.

We now have a photograph of Seung-Don rather than a pot of Samsung GSM Grease, which was all I had to hand for the last report.



Seung-Dong Han

As I hinted last time, and can now confirm, **Friedhelm Rodermund** will leave MCC after the present round of plenaries. It is difficult to imagine MCC in a post-Rodermundian state, since he has been with us, man and boy, almost ab ovo. In fact, he started in the pre-MCC days supporting SMG4 and SMG8. Within 3GPP he has supported T2 and at sometime GERAN3; also for some years TSG T, and latterly T3 too. He even found time to step in and fill the gap for absent colleagues from time to time. He returns to the day job at Vodafone in Germany (which was Mannesman D2 when he left it, over six years ago), and we wish him the best of luck. His colleagues in MCC will certainly miss him. However he and his wife Ban (also ex MCC) will remain at least part time in the south of France, so I suspect we may bump into him from time to time.

In replacing Friedhelm ñ no easy task ñ we are taking the opportunity to recruit an expert with specific skills in the testing area. The new recruit will take over GERAN3new and T1, thus fulfilling a long-held objective of having a single project manager for both these important groups. With 3G terminals, most of which also have 2G capability, now coming on to the market in ever larger numbers, the timely availability of test specifications will become increasingly important. You will have seen the call for this position on many exploder lists, and I have high hopes that we will find a suitable candidate who can take up his duties with us early in the New Year.

In a further shock revelation, I must tell you that **David Boswarthick** will be changing roles in the ETSI secretariat, having been chosen to help support TISPAN as it tackles its next generation fixed network standards, reusing the IMS developed in 3GPP. Thus, though we will still see him around the ETSI premises, he will disappear from the 3GPP arena and leave MCC to join ETSI's Fixed Competence Centre (FCC). David will take with him his knowledge of IMS, and be able to put it to good use in TISPAN. However, David's move will be phased over three months, which should allow a graceful handover to his successor ñ whoever that may be. David will be available to support the next, and final, TSG CN meeting. He has supported CN since the very beginning of 3GPP, and he, too, will be very difficult to replace.

And since this is a week for shock revelations, the third ñ and hopefully final ñ departure is that of **Karen Hughes**, who most of you will have met supporting TSG meetings. Karen is also responsible for the day to day maintenance of the 3GPP web site, and is the face behind the 3GPPContact e-mail address. She performs innumerable back office tasks in MCC, and she too will be sorely missed. Karen, also, remains within the ETSI secretariat, and is transferring to Forapolis, our forum support service. The search for her replacement begins without delay, and Karen's departure will be phased over a couple of months, so we hope 3GPP members will notice no break in service. Do not adjust your set, normal service will be resumed as soon as possible.

2.2 Organization of the Support Team

Since a new MCC project manager will take over GERAN3new and T1, you will be asking yourselves what will Alain Sultan and Michael Clayton be doing with all that spare time now they are no longer troubled by these groups. The answer is that Alain will reduce his time supporting 3GPP to roughly half time, and spend the other half of his time on a separate contract supporting ETSI's NGN activity which is being conducted by TC TISPAN. Following the joint TISPAN-3GPP workshop which took place last May, where TISPAN decided that the IMS developed by 3GPP could be used with only minor variations for the provision of the next generation fixed network, they were impressed by the 3GPP methodology and in particular with the work plan management which Alain coordinates for 3GPP, and asked for a virtually identical service. Relieving Alain of T1 enables ETSI to provide this, and I am sure you will wish him success. Of course, he will continue to manage the 3GPP work plan, and you will see him as usual at TSG plenaries.

David was one of several candidates for the TISPAN job, and it is only in the last few days that his selection has been confirmed. Thus it is too early for the search for a replacement to have made much progress, but I will address this at the earliest opportunity. It may not be appropriate to give a new entrant to MCC the group currently supported by David, nor the new TSG CT. Thus the New Year will probably witness a substantial reshuffle of support personnel.

Since last June, the support offered to T3 and ETSI Project SCP (Smart Card Platform) has been split between two project managers. Formerly, Andrijana had managed both of them *and* CN2. This was really an excessive workload, but when CN2 closed and Andrijana took over CN1 after the departure of Per Jorgensen, the overload would have been unbearable. So T3 went to Friedhelm and SCP went to Kimmo, with Andrijana retaining just CN2. To split the project management of T3 and SCP was known to be most undesirable, but in the short term it was unavoidable. With the reshuffle of MCC personnel which will take place after the present TSG meeting, it will again be possible to reunite these two extremely important groups under a single individual.

Maurice Pope has kindly agreed to act as secretary for the final meeting of TSG T, in March 2005. Apart from that, I must leave you guessing as to exactly who will support which groups. We will minimize the disruption to the TSGs and WGs as far as possible.

Hence, the organigram below shows the current allocation of resources to each entity within 3GPP. Make the most of it as it will very soon be out of date.

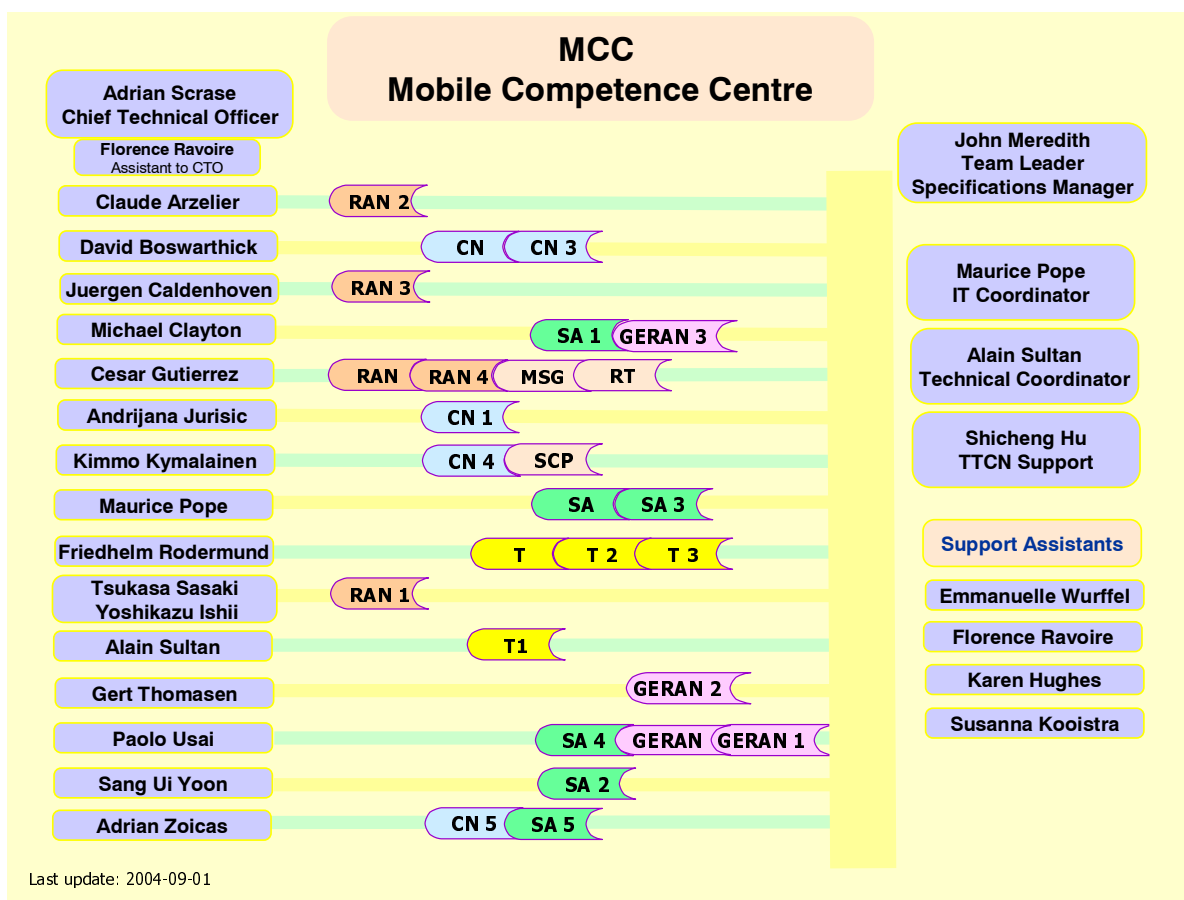


Figure 1: MCC Organizational Chart

3 Statistics and targets

3.1 Interesting statistics (yes, really)

The distribution of active specs amongst the various Releases was, prior to the start of the current TSG meetings, as follows:

Table 1: Specs by Release

CLASSIFICATION	NUMBER OF ACTIVE SPECS
GSM Phase 1	122
GSM Phase 2	182
GSM Phase 2+ Release 96	201
GSM Phase 2+ Release 97	220
GSM Phase 2+ Release 98	282
GERAN / UTRAN Release 99	452
GERAN / UTRAN Release 4	519
GERAN / UTRAN Release 5	578
GERAN / UTRAN Release 6	558
GERAN / UTRAN Release 7	29
TOTAL SPECIFICATIONS	3143

from query 2002-04-12_live-specs-per-Rel

It is expected that 292 new versions of specifications will result from CRs TSGs#26.

from query 2001-09-18_specs-which-may-change

A further **35** specs have been brought under change control at this meeting.

from query 2004-12-12_newly-approved

In addition, over **200** Release 5 specs will be upgraded without technical change to Release 6 versions.

The table and chart below shows the number of approved change requests for these specifications across the different 3GPP Releases in each year of the 3GPP's life so far (not including the present meeting).

Table 2: CRs by year and Release

Release / Year	1999	2000	2001	2002	2003	2004 to date (excluding present round of meetings)	TOTAL
R99	1408	4398	2266	1003	581	420	10076
Rel-4	0	376	2828	1900	690	228	6022
Rel-5	0	27	644	3281	2840	1774	8566
Rel-6	0	0	0	171	1088	1677	2936
Rel-7	0	0	0	0	1	13	14
TOTAL	3407	6801	7739	8357	7203	4112	27614

from query 2004-04-14_approved-CRs-per-release-per-year_Crosstab

At the present meeting, the CRs approved against each Release and in each Category are shown in the table below. The surprising number of Cat B CRs in R99 are to test specs in T1; it is debatable whether these might not better be category F, since they reflect tests for functionality already included in the base specs.

Table 3: Approved CRs at the present meeting, by Release

Phase	A	B	C	D	F	Total CRs
R99		61			31	90
Rel-4	3				27	28
Rel-5	20	7		4	356	385
Rel-6	96	139	67	47	415	762
Rel-7	1	1	1		1	4
Total	120	147	68	51	822	1269

from query 2004-12-14_newly-approved-CRs_by_Rel-and-Cat_step2

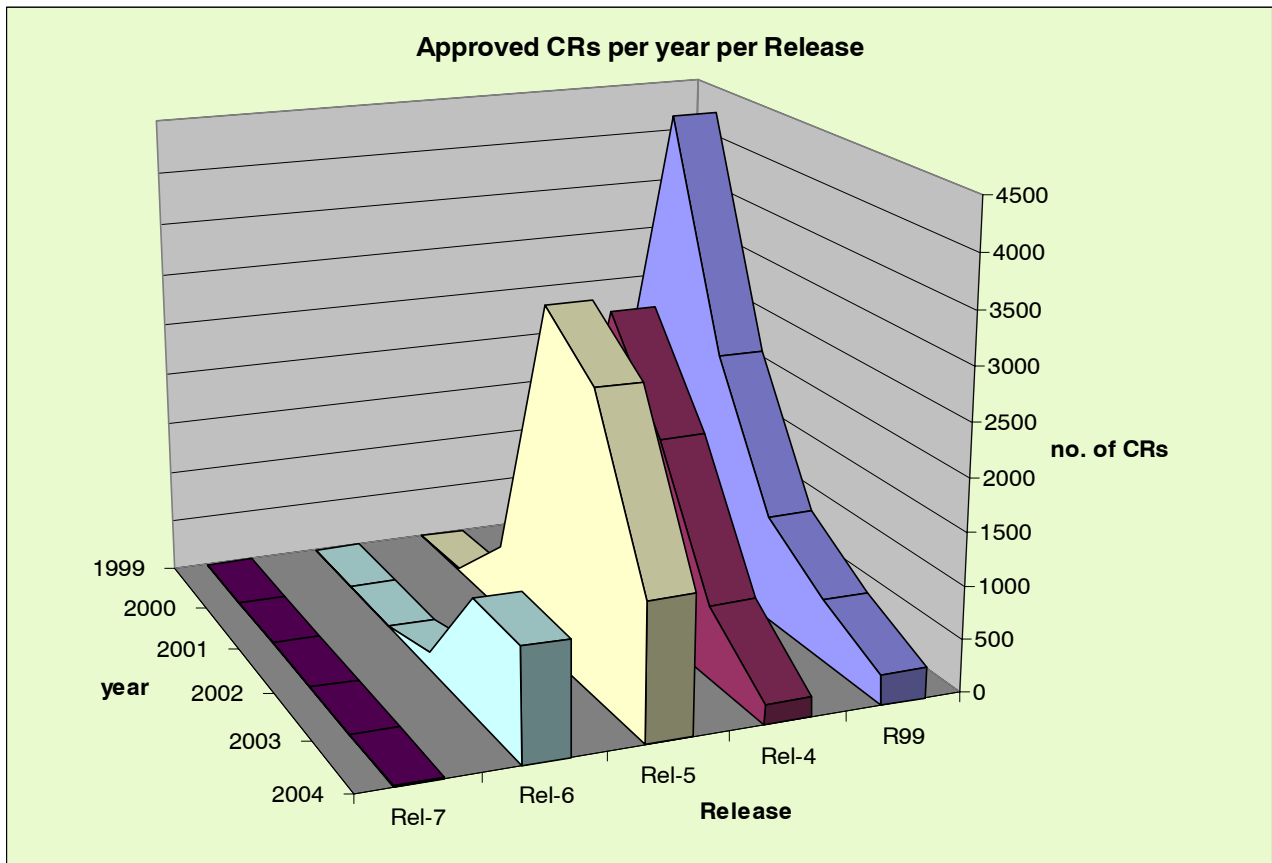


Figure 2: 3GPP CR evolution from 1999 to 2003

3.2 MCC performance

The chart below shows the speed of implementation of CRs. Performance is generally within the limits agreed with the TSGs (90% of revised specs available within two working weeks of the end of the SA meeting, the remaining 10% within a further week, allowing for resolution of implementation queries not identified earlier). For the most case, the very small number of specs which are later than this final deadline have, for the last few meetings, been as a result of forces outside the Support Team's control (e.g. delivery of TTCN packages from member organizations). In fact, by appropriate prioritization, all specs have been made available in plenty of time for the next meeting of the responsible working group, so as not to delay their work, regardless of these formal deadlines.

SA#25 discussed whether these deadlines were still meaningful and whether it might not be sufficient simply to ensure that new and revised specs were available on the server in due time for the next meeting of the responsible Working Group. However, it was concluded that there was indeed merit in retaining them, if only as a check on spec availability rather than a measure of MCC personnel performance. Thus I am happy to continue to provide these figures in each MCC status report.

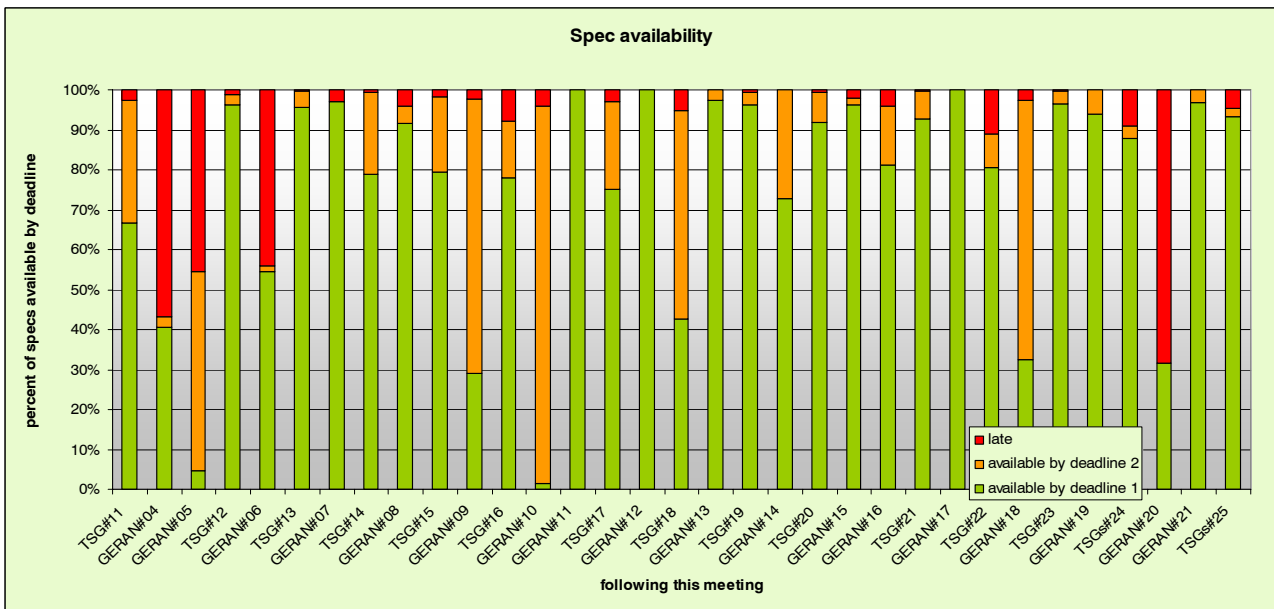
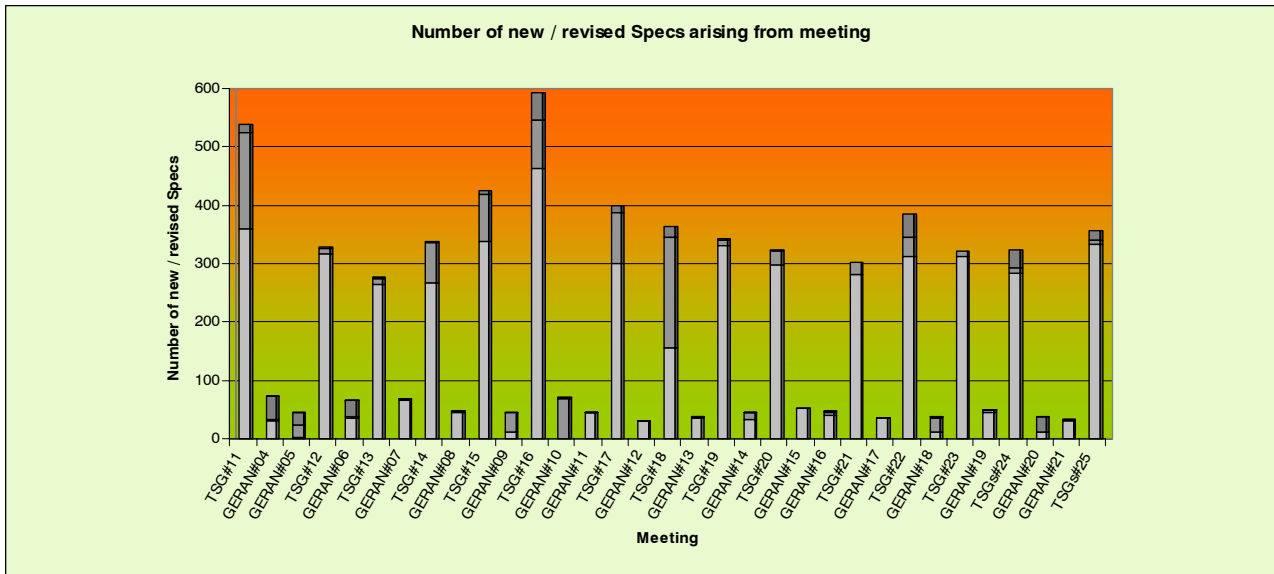


Figure 3: MCC spec production performance

The chart below shows the cumulative error rate for the implementation of CRs. It can be seen that the error rate remains stable at approximately 3,5 errors in 1000 implementations (0,35%). Whilst every error is inconvenient for somebody somewhere, we believe that the present figure is acceptable. Doubtless the TSG and WG chairmen and delegates will tell us if they consider it not to be so!

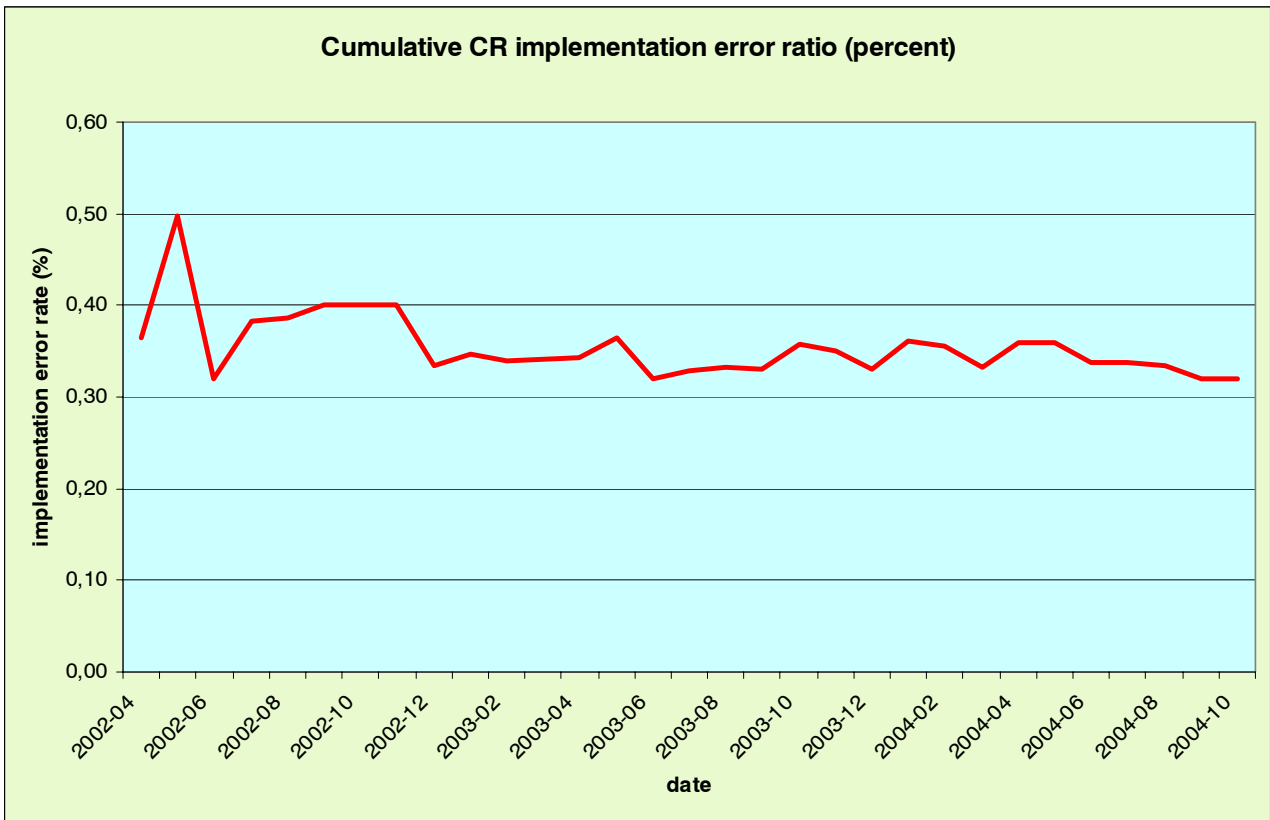


Figure 4: CR implementation error rate

4 Release Stability

4.1 Change Requests

The charts below show the rolling average of the number of Change Requests per Release but excludes Category A (mirror) CRs. The charts show the continued reduction in the number of CRs for Release 99, Release 4 and Release 5 which implies an increased level of stability. Indeed, the R99 curve would have declined even more sharply were it not for the considerable progress on the corresponding test specifications developed within T1 and MCC Project 160.

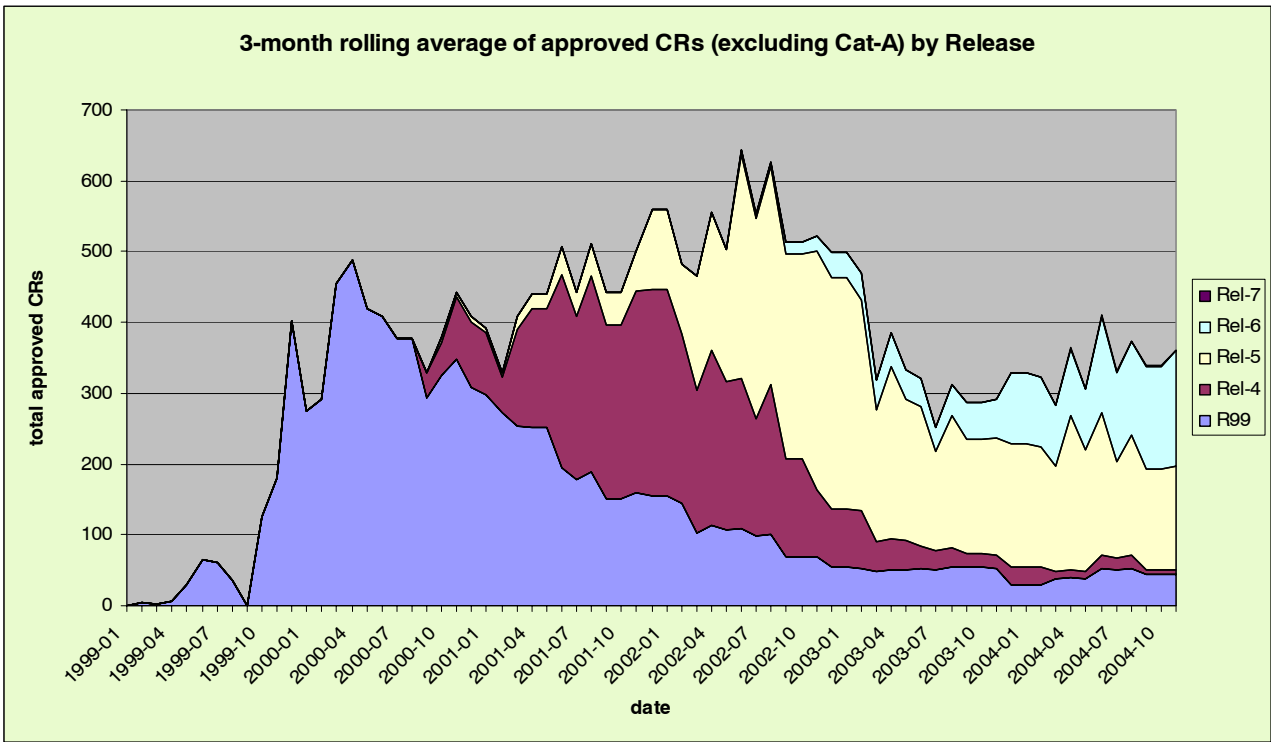


Figure 5: CR statistics (cumulative)

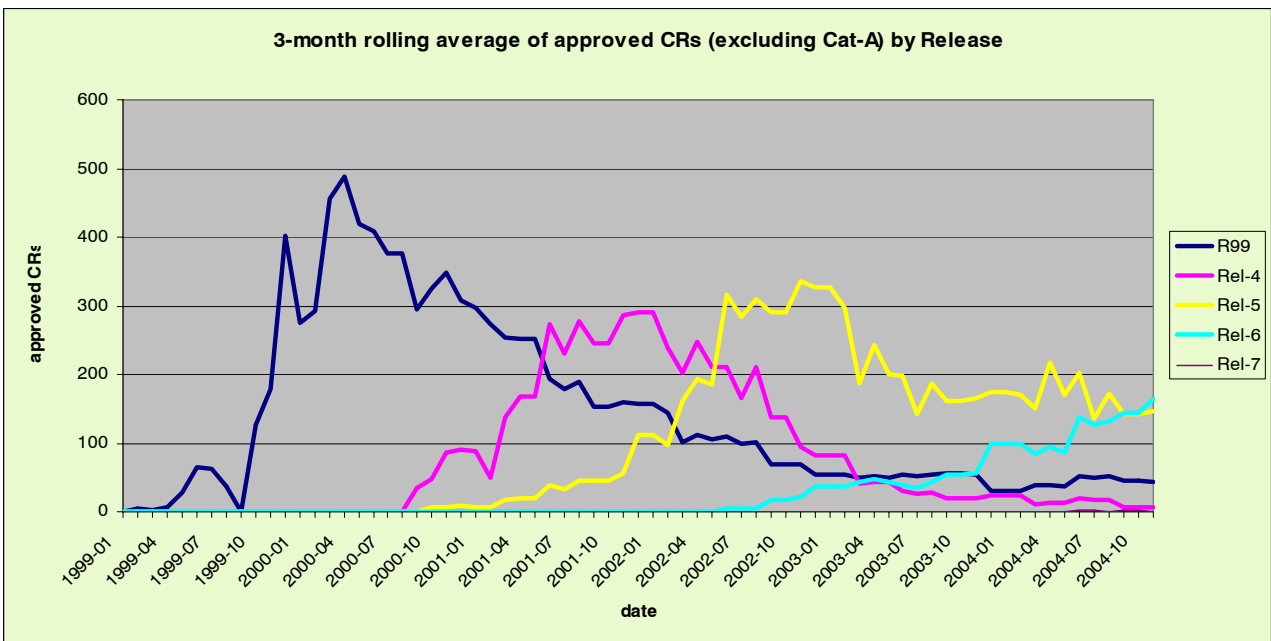


Figure 6: CR statistics

The figure below shows the overall workload on the Support Team related to CR implementation.

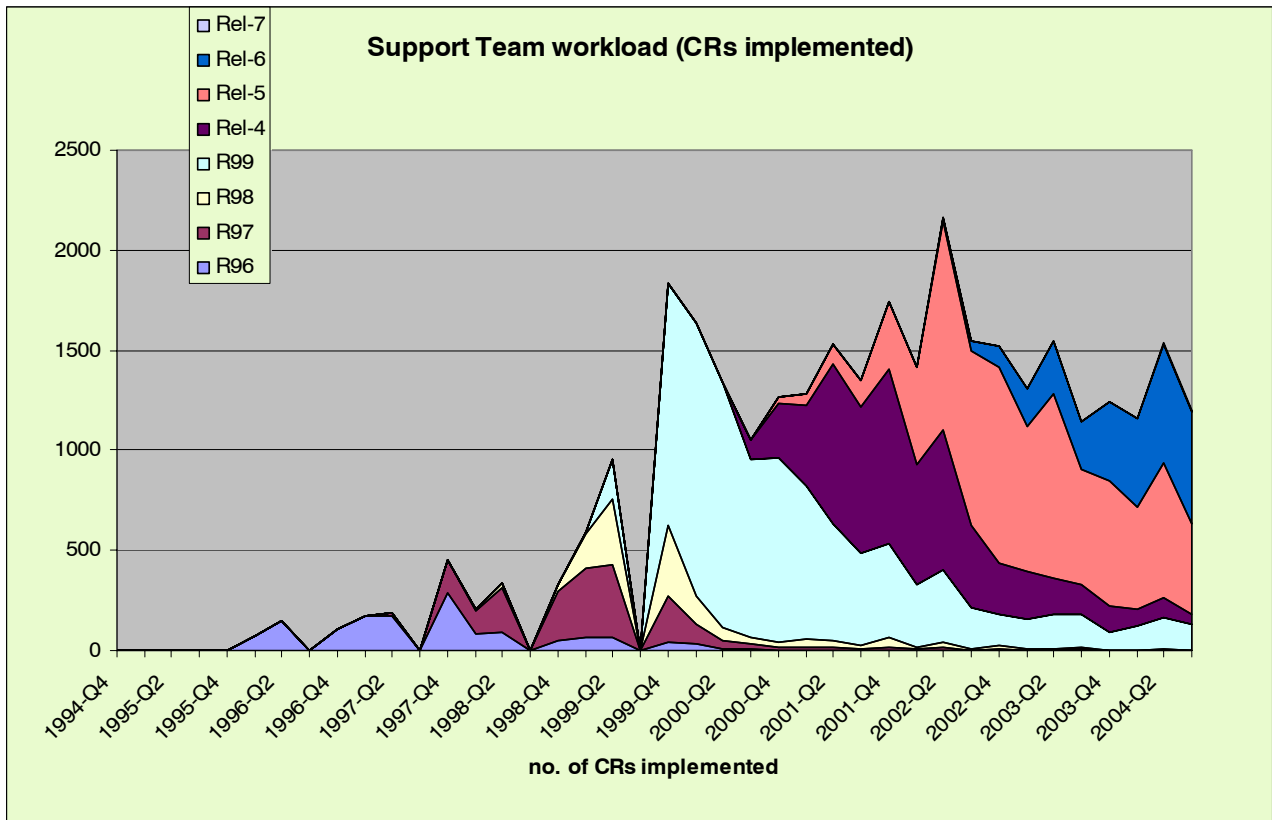


Figure : CR implementation workload

5 Budget 2005

The MCC budget for 2005 has been agreed by the Organizational Partners (and is recorded in the [minutes of OP#12](#)). The agreed budget provides for a level of MCC support to the TSGs and their WGs on the same basis as in 2004.

6 Some interesting information on 3GPP's testing activity

This is the spot where I give you some fascinating inside information not just to pad this document out to look like something worth reading, but to give you a greater insight into the well-oiled machinery of the Support Team and its well-oiled members.

Most of the information here is unashamedly taken from a presentation to ETSI staff given by my colleague Shicheng Hu, leader of MCC tasks 160 and 272.

Project 160 has been running for some time, and has the brief to create formal test specifications using TTCN for user equipment. As is often the case, test specs lag the base requirement specifications by some considerable time. Thus the concentration is still on R99 test specs, for the most part.

Only rigorous testing can ensure that UEs are truly mobile, and will work on all networks on which they are intended to. But I can skip the usual sales pitch, I am preaching to the converted.

Firstly, for those of you too timid to open, say, the 12-megabyte (zipped) behemoth of TS 34.123-3, let me say that it takes a special sort of engineer to contemplate the production and maintenance of such a document. Although much of the spec is machine-produced from the test cases, such a specification requires dogged and systematic rigour. The level of detail is a function of the thoroughness of the tests, and only really thorough tests can assure equipment suppliers and network operators that a UE really is compatible with the network.

Equipment is, ideally, tested against the tried and tested tests (!) before commercial release. Certification is, at least in Europe, voluntary, but equipment suppliers must declare conformity to appropriate standards and specifications.

The slide below shows some of the areas which need to be tested:

Standards for Business

Scope of Conformance Test

- **USIM functional test (TS 31.121)**
 - Identification, PIN, account charging, network priority, phonebook
- **UICC test (SIM electrical test) (TS 102.230)**
 - power on/off, 1.8v/3v detection, presence detection
 - bit/character transmitting duration, command processing and error handling, ...
- **Acoustic test (TS 26.132)**
 - Loudness rating, idle noise, echo ...
- **Radio Frequency & Radio Resource Management test (TS 34.121)**
 - Many characteristics tests of transmitter & receiver
 - Many difficult performance tests
- **Protocol and signalling test (TS 34.123)**
 - **Heart of conformance**
 - **Most difficult part**
 - **Unambiguous & less tolerant (leading to verdict Pass or Fail)**
 - **Time consumed at specification**

9

T1 and task 160 are responsible for 3G RF signalling, and 2G / 3G handover testing. GERAN3new and task 272 are responsible for 2G RF signalling, and 3G / 2G handover. The fine detail of testing is very expensive to accomplish to the necessary detail. Our calculations show that each test case costs 10- to 15 000 Euros. There are several hundred test cases at present, and T1 has scaled Mount Everest in their efforts to provide them on time. Despite this, the tests are simply simulations of real-life signalling events. To perform complete state transition testing would be many orders of magnitude more complex.

We are lucky to have funding from a number of sources, including the Organizational Partners of 3GPP, the GSMA, GCF, and from manpower provided for free by interested manufacturers. Of these, the Global Certification Forum is of particular interest, since it is this body which, to our surprise, surprise, - actually does the certification of tested equipment.

Task 160 was started in year 2000, and has had the services of 13 engineers in total, so far. There is a Release and Configuration Manager or organize the planned production and issue of tests, and the project as a whole is managed in ETSI premises by the PTCC, a team of leading experts formal methods for testing and specification. Task 272 was created quite recently specifically to handle the 2G / 3G handover functionality.

The slide below shows a snapshot of the current experts.



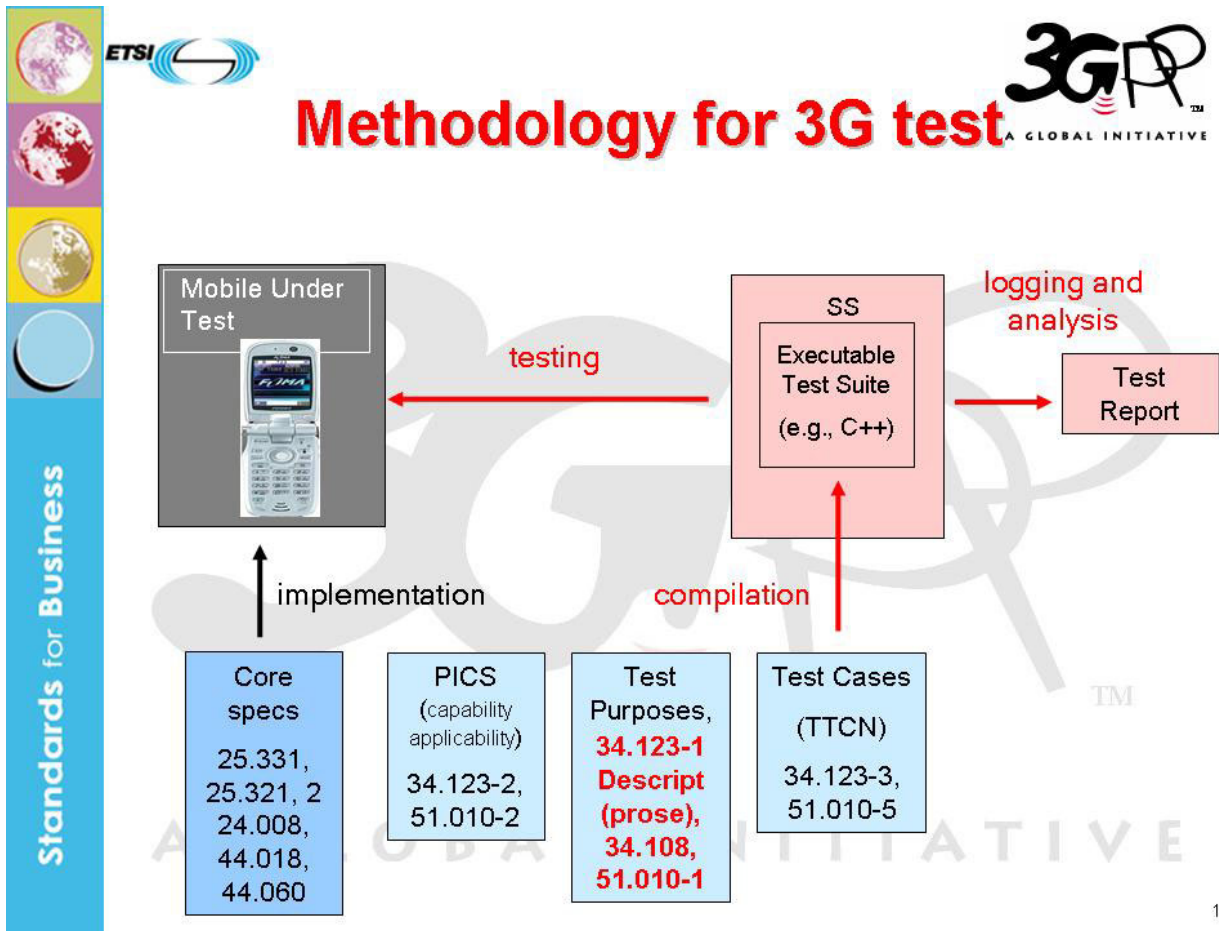


MCC Task 160 /272 Experts

	Name	Company	Country	3GPP OP
• FDD team	Erich Weber	R&S	Germany	ETSI
	Hans Zischler	IICS	Germany	ETSI
	Hellen Griffiths	Anite	UK	ETSI
	Jitendra Sahu	Motorola	India	ATIS
	Mohamed A. Rasheed	Motorola	India	ATIS
	Neng Wang	ECNU	China	CCSA
	Olaf Bergengruen	Agere	Germany	ETSI
	Olivier Genoud	Nokia	UK	ETSI
	Thomas Wacker	R&S	Germany	ETSI
	Virginie Bardaux	Aeroflex / Racal	UK	ETSI
• TDD team	Al Jingxuan	ST Microelectronics	China	CCSA
	CHEN Xiaozhong	DaTang mobile	China	CCSA
	ZHAO Hongsheng	Hisense Communications	China	CCSA

The latest standard, TTCN3, largely developed within ETSI itself, was unfortunately not available when Task 160 started its work, so the preceding version TTCN2+ was chosen instead. To be certain that the abstract test suites produced are tool-independent, several commercial editors, compilers and syntax checkers are used (itex editor, Danet compiler, Leonardo editor and Delta tool, Ö), and a strict rule is followed: each test case must run on at least one system simulator and against at least two different UEs.

The following slide shows the logical arrangement of testing and the place of the various 3GPP TSs in the scheme.



And the result of all this? 3GPP will have a functional set of tests so that GCF can start certification of 3G mobiles from early 2005. Just in time for the mass market. But there's plenty more to do. Like the Releases after 99 Ö

And who owns this vast investment? Well the Organizational Partners of 3GPP jointly own the IPR of the abstract test suites embodied in their published transpositions of the 3GPP test specs. A valuable investment indeed for the members of the SDOs.

7 Concluding remarks

In short: a brief disturbance, rapidly followed by business as usual.

See you in Japan in March.