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1. Opening of the meeting

The fourth Future Evolution meeting took place immediately before TSG SA#20 meeting in Hämeenlinna, Finland, on the morning of Monday, June 9th 2003. It was chaired by Mr Iain Sharp, Nortel, and was supported by Mr Alain Sultan, MCC, author of these minutes.

EV-030058, *Meeting Agenda*, from Convenor

The agenda was presented in EV-030058. These minutes reproduce the structure of the meeting: the chapters of these minutes correspond to the agenda items.

Conclusion: Approved.

EV-030061, *Tdoc allocation*, from Convenor

The tdocs received for the meeting were allocated to the agenda items identified in EV-030058.

Conclusion: Approved.

2. Approval of the output from previous meeting

EV-030042, *21.902 v022*, from Rapporteur

This document contains the version 0.2.2 of the TR 29.902 on Evolution of 3GPP System.

Conclusion: The meeting agreed to use it as a basis for future work. It was later approved to present it in version 1.0.0 to SA#20.

3. Conclusion of email discussions

The documents handled by e-mail and their status are:

Tdoc Number	Source	Title	Co
EV-030020	MCC	Minutes of Evolution Meeting at TSG#19	App
EV-030021	Nokia	Proposed changes to TR 21.902 - Chapter 4.1.4	App
EV-030022	Nokia	Proposed changes to TR 21.902 - Phasing of evolution in Chapter 5	App
EV-030023	Nokia	Proposed changes to TR 21.902 - Manufacturer Expectations in Chapter 6	Not
EV-030024	Nokia	Proposed changes to TR 21.902 - Terminology in Chapter 6	App
EV-030025	Nokia	Proposed changes to TR 21.902 - Focus Area Names in Chapter 6	Not
EV-030026	Nokia	Proposed changes to TR 21.902 - Terminology in Chapter 7	App
EV-030027	Nokia	Proposed changes to TR 21.902 - Harmonised CN in Chapter 7.2.1	App
EV-030028	Lucent Technologies	Timescales for Short/Long Term Evolution	Not
EV-030029	Nokia	Proposed changes to TR 21.902 - Ad hoc networks in Chapters 7.1.2, 7.2.2, and 8.2	Not
EV-030030	Nokia	Proposed changes to TR 21.902 - Regulatory issues in Chapter 8.1	Not
EV-030031	Nokia	Proposed changes to TR 21.902 - Radio evolution in Chapter 7.1	Not
EV-030032	Nokia	Proposed changes to TR 21.902 - Performance focus area in Chapter 6	Not
EV-030033	Nokia	Proposed changes to TR 21.902 - Stakeholders in Chapter 6	Not
EV-030034	Vodafone	Proposed changes to TR 21.902, Focus Areas and Stakeholders in Chapter 6	App
EV-030035	Vodafone	Proposed changes to TR 21.902, Technology Roadmap in Chapter 7	Not
EV-030036	Nokia	Proposed changes to TR 21.902 - Ad hoc networks in Chapters 7.1.2, 7.2.2, and 8.2	Not
EV-030037	Nokia	Proposed changes to TR 21.902 - Assumptions and Recommendations in Chapter 6	Not

The results of the documents approved by e-mail were included in the version 0.2.2 of the TR in EV-030042.

Tdocs EV-030033 and EV-030037 are submitted again at this meeting.

4. New specific proposals to the TR

4.1 Ad-hoc networking

EV-030039, *Improvement of text on ad-hoc networks*, from Nortel

The contribution proposes a definition of "Ad-Hoc Network" (it consists of "a set of wireless hosts that form a network without any preexisting infrastructure or planning of the connection mesh.") and states that 3GPP needs to consider how ad-hoc networking techniques could be applied to 3GPP's requirements.

Conclusion: see conclusion of EV-030052.

EV-030044, *Proposed changes to TR 21.902 - Ad hoc networks in Chapters 7.1.2, 7.2.2, and 8.2*, from Nokia

Nokia stress that "Ad-hoc network" is a quite fuzzy concept so far, and propose to delete all the text related to this concept in the TR.

Conclusion: see conclusion of EV-030052.

EV-030052 (ad-hoc networking part), *Proposed Changes to Chapter 7.2*, from AWS

Here, a compromise solution between what Nortel and Nokia propose is presented. It proposes to state that:

- Ad hoc networking research and development is currently quite active though there is not now a clear consensus on definition, scope, or architecture principles
- As a means of increasing overall flexibility of their network, 3GPP operators may want their 3GPP networks to interwork with ad hoc networks
- Depending on the progress and deployment of ad hoc networks, the 3GPP organization should pursue interworking between 3GPP networks and ad hoc networks using the approach taken to develop interworking between 3GPP networks and WLANs (i.e. consideration needs to be taken for management of identification, authentication, security, charging, network resources (e.g. QoS), regulatory aspects, etc.)

Discussion: Vodafone stress that it should be clearer in these proposals who's spectrum is used (network operator's or other parties). They also mention that the aim of this "ad-hoc network" has first to be clarified: at presented, it can be either to extend the operator's coverage or as an enabler for a so-called "added flexibility" which has to be clarified.

The two last sections of 7.1.2 are proposed to be deleted in both EV-030039 and EV-030044, so they will also be deleted in the "compromise" document.

Conclusion: Revised to EV-030063. EV-030063 was revised on-line, so the **final version is in EV-030073, approved.**

4.2 Other topics

EV-030043, *Timescales for Short/Long Term Evolution (rev EV-030028)*, from Lucent

This document proposes that the borderline between short/medium term and long-term evolution is in 5 years time (around 2007-2008).

Discussion: AWS wondered if the 5 years start from when the document is completed, or from when the change is introduced. Lucent said that the rough idea is 2007-2008. A wording based on a date rather than on a time interval is proposed, as it is less ambiguous. NTT DoCoMo object of having a date, or wish to re-introduce their proposal from previous meeting. Lucent explain that the border is sometimes understood as 2 years and sometimes understood at 10 years, so not writing anything would be the worse solution.

Conclusion: Revised to EV-030064 to take into account NTT DoCoMo proposal at previous meeting. **EV-030064 is approved.**

EV-030037, *Proposed changes to TR 21.902, Assumptions and Recommendations in Chapter 5*, from Nokia

Nokia propose to structure the system definition: they remind that there are two different ways of grouping which both should be considered, but not mixed up: horizontal layers and logical subsystems. Three horizontal layers are proposed: access/connectivity layer, service enablers layer, and applications/services layer. As far as logical subsystems are concerned, the 3GPP architecture divides user, control and management related information flows to own planes.

Conclusion: see EV-030040

EV-030040, *Improvement of chapter 5*, from Nortel

Nortel propose to refine the text from Nokia and to re-introduce some text proposed to be deleted by Nokia.

Discussion: the following point is not widely supported in the meeting: "3GPP standardisation work is focused on the access technology and supporting infrastructure below the services layer. Service enablers and applications and services related aspects are applied or adopted from other [than 3GPP] standards development organisations (eg OMA, W3C).".

The text in EV-030037 is more generic.

Conclusion: EV-030037 is revised to EV-030065 to delete the last bullet, and EV-030065 is approved. EV-030040 is not approved.

EV-030041, *Performance as an expectation*, from Nortel

Nortel propose to refine the Nokia's suggestion to add a new "Performance" row to the table in section 6 of the TR.

Discussion: "11 Reduce options" is a cut and paste problem and should be deleted.

Conclusion: Revised to EV-030066 which is approved.

EV-030046, *Proposed changes to TR 21.902 - Manufacturer Expectations in Chapter 6*, from Nokia

Nokia proposes to add "control regulatory, conformance test and type approval related terminal aspects even" in Tables 1 and 2 in Chapter 6 as a Manufacturer/Application Developer Requirement.

Discussion: the word "control" is misleading and should be changed. Some other wording improvements can be performed.

Conclusion: Revised to EV-030067.

EV-030067, *Proposed changes to TR 21.902 - Manufacturer Expectations in Chapter 6*, from Nokia

Discussion: the term "control" is still there. "Management" would be preferable. New concerns were raised by Vodafone.

Conclusion: Not approved.

EV-030033, *Proposed changes to TR 21.902: Stakeholders in Chapter 6*, from Nokia

Nokia propose to split the "Manufacturer/Application Developer" expectations in the tables 1 and 2 in chapter 6 into "Terminal Manufacturer", "Network Manufacturer", and "Application Developer".

Discussion: Introducing a "Terminal Manufacturer" column raises the question to know whether the terminal can be further subdivided, i.e. whether the introduction of physical interfaces on the UE side is appropriate. Vodafone stressed that starting to distinguish between the different entities' manufacturer might lead to introduce e.g. UICC Manufacturer, etc.

Conclusion: Not approved.

EV-030045, *Proposed changes to TR 21.902 - Regulatory issues in Chapter 8.1*, from Nokia

This contribution aims at clarifying the relationship between the regulatory requirements and the 3GPP specifications .

Discussion: there's no problem with the basic principle, which is that the relationship should be similar to what it is today, but the wording can further be improved.

Conclusion: Revised to EV-030068.

EV-030050, Proposed Changes to Chapter 6, from AWS

Four different new requirements are proposed for addition: the End User needs inter-operability of services as in MMS on different technologies, "Open interfaces" have to be introduced in the user equipment, a clarification is added that for operators, it is the total cost of ownership including operations costs that need to be optimised, and finally a set of standardized OAM&P tools have to be introduced.

Discussion: The first proposal ("Inter-Operability of services between diverse systems independent of access technology ") is agreed.

The second one ("Need to reduce cost of network ownership and operations.") is agreed.

The third one ("Need a standardized set of OAM&P (Operations, Administration, Management & Provisioning) tools"), "tools" has to be replaced by "interfaces", as 3GPP defines interfaces and not tools.

The fourth one ("[introduce open interfaces], including user equipment") is not agreeable by Nokia as terminal manufacturer, this has at least to be moved to the " Network Operators" column. This point was already discussed in previous contributions, and cannot be added without further explanations. So it should finally not be added until clear reasons are provided.

Conclusion: Revised to EV-030069 to change "tool" to "interface" and to delete the point on "open interface in the user equipment". **EV-030069 is approved.**

EV-030056, Proposed changes to TR 21.902, from Samsung

Samsung propose to repeat the statement that the UICC should be used as a cornerstone for all kind of trusted relationships in the "Network Operator requirements" column. The other proposal is on "Smartcards", and it consists in adding "Support of e.g. powerful cryptoprocessors, facilitating the establishment of the UICC as the basis for all kind of trusted relationships".

Conclusion: The first proposal is not agreeable by the network operators. On the proposal on Smartcards, the statement of Siemens in EV-030047 was judged clearer by several delegates, so the corresponding proposal in EV-030056 is not approved neither.

EV-030047, Proposed changes to TR 21.902, from Siemens

Siemens want to restructure the security-related text in the TR. More concretely, they have concern about mandating non-3GPP networks to use 3GPP security mechanisms. They also want to have a clearer statement that the UICC is not the only element related to security: there are dedicated functions and entities in the network.

Conclusion of EV-030056 and EV-030047: They are not approved. They should be revised and merged together along what was discussed here. Revised to EV-030070, for e-mail approval/next meeting.

EV-030049, Proposed changes to TR 21.902 - Radio evolution in Chapter 7.1, from Nokia

Nokia propose to restructure the complete section on "Radio Technology" as to make clearer the targets for the evolution.

Discussion: "dynamic spectrum sharing" is not very clear, but Nokia answer that they are not the original contributors of the text and they don't have problem to delete it, so it is approved to delete it. The complete paragraph where this statement appeared is deleted, as it deals with Spectrum issue and not with Radio evolution.

Concerning the statement "Important techniques to be considered are e.g. multiantenna both in Node B and UE (multistreaming and diversity)", it is decided to keep it (after some discussions on whether this was feasible or not).

Conclusion: revised to EV-030071 to delete the last paragraph. **EV-030071 is approved.**

EV-030051, *Proposed Changes to Chapter 7.1*, from AWS
Withdrawn, as it is superseded by EV-030049.

EV-030052 (parts not related to "ad-hoc network"), *Proposed Changes to Chapter 7.2*, from AWS

Four different proposals are made:

- In 7.2.1, "Harmonized CN" is replaced by "Harmonized IMS".
- In 7.2.1, the phrase "Heterogeneous core network is strongly needed by" is replaced by "Harmonized IMS is strongly desirable for".
- A number of enhancements have been moved from 7.2.2 (Long Term Evolution) to 7.2.1 (Short to Medium Term Evolution).
- The fourth one is on 7.2.2 and concerns Ad Hoc Networks and was already discussed under the relevant agenda item.

Discussion: The two first proposals are approved.

Concerning the third one, there is no disagreement, but Nokia propose to delete "User platform support". This is not agreed as such: it has to be covered by another contribution.

Conclusion: revised to EV-030072 to delete the ad-hoc network related part, covered by EV-030063. The indentation has to be corrected. **EV-030072 is approved.**

EV-030053, *Proposed Changes to Chapter 7.3*, from AWS

Again, different independent proposals are made:

In 7.3, the following features are moved to section 7.3.1 on "short to medium term evolution": Flexible billing capabilities, Access to a very large market through a high similarity of application programming interfaces, Fast, open service creation, validation and provisioning and Enhanced QoS and security management.

In 7.3.1, the feature: "Monitor and Measure Service Level Agreements on End to End Basis" is added.

In 7.3.1, the item "High capacity for data stream/ Improvement for PS domain (e.g., traffic increase)" is removed because unclear.

Discussion: Approved.

EV-030054, *Proposed Changes to Chapters 7.4 and 7.5*, from AWS

Three proposals are made for the chapter 7.4 and 7.5 on Operations Support Systems and User Equipment:

- in 7.4, the term O&M are changed to OAM&P for Operations, Administration, Maintenance, & Provisioning.
- in 7.4, the importance of standardized OAM&P tools for operators is added.
- in 7.5, enhancements for user equipment are added.

Discussion: the acronym "OAM&P" might not be defined. If not, it should be added to the vocabulary document.

"tools" has to be replaced by "interfaces" according to earlier discussions.

Conclusion: Revised to EV-030074 to replace "tools" by "interfaces". **EV-030074 is approved.**

EV-030057, *Proposed restructure of TR 21.902 section 7*, from Lucent

This document proposes to re-structure section 7 into two main sections: Short/Medium term evolution and Long Term Evolution. It also proposes that section 5 is moved into an introduction to the technology roadmap.

Discussion: the document is not proposing some new text but structuring it into appropriate sections.

Conclusion: approved.

EV-030048, *Network Architecture Intrinsic Resilience*, from Siemens

Siemens propose to add a new section on Architecture Evolution stating that intrinsic resilience shall be a guiding principle. In other terms, the evolution goals shall be:

- Achieve a lower cost of ownership by providing “Carrier Grade Reliability” without requiring the use of high reliability platforms
- Provide a fault tolerant network by means of the 3GPP defined architecture
- Provide enhanced scalability of network nodes by means of the 3GPP defined architecture

Conclusion: Agreed in principle, but the wording will be improved in EV-030075. **EV-030075 is for e-mail submission and approval.**

EV-030055, *Proposed Changes to Chapter 8*, from AWS

Three improvements are proposed on section 8 on Regulatory Issues and Spectrum:

- The need to satisfy any region’s regulatory requirements without impacting other regions’ implementations is added to section 8.1.
- The fact that spectrum is essentially an ITU-R/WRC issue is emphasized in section 8.2.
- 3GPP requirements should not require new spectrum, and flexible use of existing spectrum is an important goal are also emphasized in the same section.

Discussion: "The regulatory requirements in all regions must be considered" shall be changed into "... shall be accommodated".

There are overlaps with the previously approved document EV-030068.

Conclusion: The change in section 8.1 can be approved with the above change. Further work is invited on this issue. Revised on-line to EV-030076. **EV-030076 is approved.**

5. "Conclusion" section in the TR

There is no conclusion section at present in the TR.

Several delegates expressed the view that no conclusion is needed.

6. Relations to other bodies

None.

7. ITU activities

None.

8. AoB

None.

9. Follow-up activities

EV-030060, *Draft timetable for email discussions*, from Convenor

Conclusion: Revised on-line to EV-030077. **EV-030077 is approved.**

The TR in EV-030042 will be presented for information to SA plenary this week.

10. Closing of the meeting

The chairman closed the meeting and thanked the delegates for their participation and MCC for the support.

Annex: Tdoc list and tdocs status

Tdoc Number	Source	Title	Revision of	Conclusion
EV-030020	MCC	Minutes of Evolution Meeting at TSG#19		Approved.
EV-030021	Nokia	Proposed changes to TR 21.902 - Chapter 4.1.4		Approved.
EV-030022	Nokia	Proposed changes to TR 21.902 - Phasing of evolution in Chapter 5		Approved.
EV-030023	Nokia	Proposed changes to TR 21.902 - Manufacturer Expectations in Chapter 6		Not approved.
EV-030024	Nokia	Proposed changes to TR 21.902 - Terminology in Chapter 6		Approved.
EV-030025	Nokia	Proposed changes to TR 21.902 - Focus Area Names in Chapter 6		Not approved.
EV-030026	Nokia	Proposed changes to TR 21.902 - Terminology in Chapter 7		Approved.
EV-030027	Nokia	Proposed changes to TR 21.902 - Harmonised CN in Chapter 7.2.1		Approved.
EV-030028	Lucent Technologies	Timescales for Short/Long Term Evolution		Not approved.
EV-030029	Nokia	Proposed changes to TR 21.902 - Ad hoc networks in Chapters 7.1.2, 7.2.2, and 8.2		Not approved.
EV-030030	Nokia	Proposed changes to TR 21.902 - Regulatory issues in Chapter 8.1		Not approved.
EV-030031	Nokia	Proposed changes to TR 21.902 - Radio evolution in Chapter 7.1		Not approved.
EV-030032	Nokia	Proposed changes to TR 21.902 - Performance focus area in Chapter 6		Not approved.
EV-030033	Nokia	Proposed changes to TR 21.902 - Stakeholders in Chapter 6		Not approved.
EV-030034	Vodafone	Proposed changes to TR 21.902, Focus Areas and Stakeholders in Chapter 6		Approved.
EV-030035	Vodafone	Proposed changes to TR 21.902, Technology Roadmap in Chapter 7		Not approved.
EV-030036	Nokia	Proposed changes to TR 21.902 - Ad hoc networks in Chapters 7.1.2, 7.2.2, and 8.2		Not approved.
EV-030037	Nokia	Proposed changes to TR 21.902 - Assumptions and Recommendations in Chapter 6		Revised to EV-030065
EV-030038	Samsung Electronics	Smartcards Expectations		Not approved.
EV-030039	Nortel Networks	Improvement of text on ad-hoc networks		Not approved.
EV-030040	Nortel Networks	Improvement of chapter 5		Not approved.
EV-030041	Nortel Networks	Performance as an expectation		Revised to EV-030066.
EV-030042	Rapporteur	TR 21.902 v0.2.2		Approved
EV-030043	Lucent Technologies	Timescales for Short/Long Term Evolution (rev EV-030028)		Revised to EV-030064
EV-030044	Nokia	Proposed changes to TR 21.902 - Ad hoc networks in Chapters 7.1.2, 7.2.2, and 8.2		Not approved.
EV-030045	Nokia	Proposed changes to TR 21.902 - Regulatory issues in Chapter 8.1		Revised to EV-030068
EV-030046	Nokia	Proposed changes to TR 21.902 - Manufacturer Expectations in Chapter 6		Revised to EV-030067

EV-030047	Siemens AG	Proposed changes to TR 21.902		Revised to EV-030070
EV-030048	Siemens AG	Network Architecture Intrinsic Resilience		Revised to EV-030075
EV-030049	Nokia	Proposed changes to TR 21.902 - Radio evolution in Chapter 7.1		Revised to EV-030071
EV-030050	AT&T Wireless Services	Proposed Changes to Chapter 6		Revised to EV-030069
EV-030051	AT&T Wireless Services	Proposed Changes to Chapter 7.1		Withdrawn
EV-030052	AT&T Wireless Services	Proposed Changes to Chapter 7.2		Revised to EV-030063 and 72
EV-030053	AT&T Wireless Services	Proposed Changes to Chapter 7.3		Approved
EV-030054	AT&T Wireless Services	Proposed Changes to Chapters 7.4 and 7.5		Revised to EV-030074
EV-030055	AT&T Wireless Services	Proposed Changes to Chapter 8		Revised to EV-030076
EV-030056	Samsung Electronics	Proposed changes to TR 21.902		Revised to EV-030070
EV-030057	Lucent Technologies	Proposed restructure of TR 21.902 section 7		Approved.
EV-030058	WG Chairman	Agenda		Approved.
EV-030059	WG Chairman	Document Allocation (Friday 6th)		Revised to EV-030061
EV-030060	WG Chairman	Draft Timetable for email discussions		Noted
EV-030061	WG Chairman	Document Allocation		Noted
EV-030062	WG Chairman	Document Allocation		Not available
EV-030063	AT&T Wireless Services	Proposed Changes to Chapter 7.2	Revision of one part of EV-030052	Revised to EV-030073
EV-030064	Lucent Technologies	Timescales for Short/Long Term Evolution (rev EV-030028)	Revision of EV-030043	Approved.zxcvb
EV-030065	Nortel Networks	Improvement of chapter 5	Revision of EV-030040	Approved.
EV-030066	Nortel Networks	Performance as an expectation	Revision of EV-030041	Approved.
EV-030067	Nokia	Proposed changes to TR 21.902 - Manufacturer Expectations in Chapter 6	Revision of EV-030046	Not approved.
EV-030068	Nokia	Proposed changes to TR 21.902 - Regulatory issues in Chapter 8.1	Revision of EV-030045	For e-mail approval.
EV-030069	AT&T Wireless Services	Proposed Changes to Chapter 6	Revision of EV-030050	Approved.
EV-030070	Siemens AG	Proposed changes to TR 21.902	Revision of EV-030047	For e-mail approval.
EV-030071	Nokia	Proposed changes to TR 21.902 - Radio evolution in Chapter 7.1	Revision of EV-030049	Approved.
EV-030072	AT&T Wireless Services	Proposed Changes to Chapter 7.2	Revision of the other part of EV-030052	Approved.
EV-030073	AT&T	Proposed Changes to Chapter 7.2	Revision of EV-	Approved.

	Wireless Services		030063	
EV-030074	AT&T Wireless Services	Proposed Changes to Chapters 7.4 and 7.5	Revision of EV-030054	Approved.
EV-030075	Siemens AG	Network Architecture Intrinsic Resilience	Revision of EV-030048	For e-mail approval.