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Working Group on Sensor Networks

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1[1]	2	3	4	5	6	7
MB[2]	Clause No./ Subclause No./ Annex[3]	Paragraph/ Figure/ Table/ Note[4]	Type of comment[5]	Comment by the MB[6]	Proposed change by the MB	Secretariat observations[7]
LU 1	Clause 3 "Terms and Definitions"		te	The definition of "application" in subclause 3.1 may be extended to consider also adaptive applications	Propose the following definition: "**3.10** **adaptive application** an *application* designed as a ubiquitous "service platform" exploiting environmental conditions and aiming at the effective and transparent support to the activity of their end-users through the use of ICT[8], like for example Ambient Intelligence systems and Self-Serve applications. Given the diversity of end-users and the dynamic nature of human activities, adaptive applications come with built-in capabilities to change their behaviour at runtime to adapt to changing end-user activities and requirements.	

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[1] Columns 1, 2, 4, 5 are compulsory

[2] MB = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **

[3] e.g. 3.1

[4] e.g. Table 1

[5] ge = general te = technical ed = editorial

[6] justification for change

[7] on each comment submitted

[8] G. Riva. "The Psychology of Ambient Intelligence: Activity, Situation and Presence, in Ambient Intelligence," G. Riva, F. Vatalaro, F. Davide, M. Alcañiz (eds.), IOS Press, 2005. URL: http://www.vepsy.com/communication/book5/02_AMI_Riva.pdf
R. Razavi, K. Mechitov, G. Agha, J.-F. Perrot. "Ambiance: A Mobile Agent Platform for End-User Programmable Ambient Systems," J.C. Augusto and D. Shapiro (eds.), Advances in Ambient Intelligence, Frontiers in Artificial Intelligence and Applications (FAIA), vol. 164, pp. 81-106, IOS Press, November 2007. URL: http://osl.cs.uiuc.edu/docs/ios07/Razavi%20et%20al.pdf

					Both "low-level" sensor network components and "higher-level" business components of the application may be concerned by dynamic adaptation. In other terms, may be subject to dynamic adaptation the rules that govern not only the measurement, processing and presentation of environmental conditions, but also the generation and processing of business events deducted from the measured data. So, the incorporated sensor network in adaptive applications serves as a platform for runtime definition and on-the-fly execution of user-specific sensory services (by dynamic macroprogramming and tasking of the sensor network).	
LU 2	Clause 3 "Terms and Definitions"			te	The definition of "end-user" in subclause 3.7 may be extended to consider also end.user programmers	Propose the following definition: "**3.11** **end-user programmer** an *end-user* trained to change at runtime the rules that govern the behavior of an adaptive application, for example by end-user macroprogramming the incorporated sensor network in order to adapt the rules that apply to field data capturing (what data to capture, when, via which sensors, how frequently, etc.).	
LU 3	Clause 3 "Terms and Definitions"			te	Definitions may be extended with terms specific to adaptive applications	Propose the following definition: "**3.12** **"operational-level" component** application components that execute the rules that govern its behavior, specifically field data capturing, processing and communication.	
LU 4	Clause 3 "Terms and Definitions"			te	Definitions may be extended with terms specific to adaptive applications	Propose the following definition: "**3.13** **"knowledge-level" component** adaptive application components that allow defining at runtime the rules executed by different operational-level components. Knowledge-level components are optional. In standard (non	

					adaptive) applications, rules are "hard-coded" by programmers during the implementation, and may not be adapted at runtime.	
LU 5	Clause 5 "General sensor network system", subclause 5.1 "Conceptual diagram of general sensor network system"	First paragraph		te	Ambiguous use of the term "end-user", both as rule definer and rule evaluation result recipient.	Propose replacing the term "end-user" by "end-user programmer" is the following sentence: "The sensor output might be fused with measurements of other sensors and then sent to a database or a processor which evaluates the information using rules which have to be defined by an end-user **programmer**."	
LU 6	Clause 5 "General sensor network system", subclause 5.1 "Conceptual diagram of general sensor network system"	Second paragraph		te	The conceptual and functional differences of the "rule generation" component with other application components may be emphasized.	Propose adding the following precision just after the sentence "The last two are not shown in the picture.": "The Rule Generation Subsystem is conceptually situated at the "knowledge-level" of the system architecture (See Subsection 5.2.4)."	
LU 7	Clause 5 "General sensor network system", subclause 5.1 "Conceptual diagram of general sensor network	Figure 1		te	The conceptual and functional differences of the "rule generation" component with other application components may be	Propose modifying Figure 1 to visually distinguish: 1) Operational-level vs. knowledge-level components, and 2) Operational-level vs. knowledge-level databases (distinguish data and meta-data repositories).	

	system"				emphasized.	
LU 8	Clause 5 "General sensor network system", subclause 5.2 "Conceptual components of a general sensor network system"	Paragraph 5.2.4 "Rule Generation Subsystem"	te	Paragraph 5.2.4 is not yet defined.	Propose the following: "The Rule Generation Subsystem serves the dynamic adaptation of the application behavior, for example to define at runtime the sensor information processing rules. This subsystem may enable manual and/or automated dynamic adaptation. Manual adaptation is performed by end-user programmers, typically when the back-end network is related to a dynamic sensor network end-user macro-programming environment. Automated adaptation is performed by meta-programs, typically when the patterns that govern the application changes are well-known at development time. The Rule Generation Subsystem is optional. In standard (non adaptive) applications, the behavior rules are "hard-coded" by programmers at development time. It is further situated conceptually at the "knowledge-level" of the application architecture."	
LU 9	Clause 6 "Relationship between the sensor network system and the application"		te	Clause 6 is not yet defined.	Propose the following subclause concerning the relationship between knowledge-level application components and the incorporated sensor network: "**6.1 Relationship between knowledge-level application components and the sensor network** In adaptive applications, knowledge-level application components may serve as a platform for runtime definition and (on-the-fly) execution of end-user-specific services by dynamic (macro)programming of the incorporated sensor network. All or only part of the nodes (sensor and gateway nodes) in the sensor network may be concerned by runtime code modifications. "	