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**HEALTH INFORMATICS - ELECTRONIC
HEALTHCARE RECORD COMMUNICATION -
PART 1: EXTENDED ARCHITECTURE**

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Health informatics - Electronic healthcare record communication - Part 1: Extended architecture

This European Prestandard (ENV) was approved by CEN on 29 July 1999 as a prospective standard for provisional application.

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Contents

Foreword	3
Introduction	3
1 Scope	5
2 Normative References	6
3 Terms and definitions	7
4 Requirements	16
5 The EHCR Architecture (EHCRA) for Communication	17
6 Architectural Components	18
6.1 Introduction	18
6.2 Overview of Architectural Components	18
6.3 Original Information Context	20
6.4 Architectural Component (AC)	21
6.5 EHCR Root Architectural Component	26
6.6 Record Component (RC).....	29
6.7 Original Component Complex (OCC).....	32
6.8 Folder OCC	36
6.9 Composition OCC	40
6.10 Headed Section OCC.....	44
6.11 Cluster OCC	49
6.12 Selected Component Complex (SCC)	53
6.13 Data Item (DI)	57
6.14 Link Item	62
7 Architectural Sub-Components	67
7.1 Introduction	67
7.2 Attestation Information	67
7.3 Presentation Information	68
7.4 Revision Information	69
7.5 Selection Information	70
8 Attribute Data Types, Common Classes and Sub-Classes	71
8.1 Introduction	71
8.2 Simple Data Types	71
8.3 Compound Data Types	72
8.4 Attributes Represented by Complex Data Types.....	76
Annex A (Informative) Unified Modeling Language Notation used within this Document	92
Annex B (informative) The Context Model	97
Annex C (informative) Scenario	100
Annex D (Informative) Comparison of Extended Architecture with ENV12265	104

Foreword

This European Prestandard has been prepared by Technical Committee CEN/TC 251 "Health informatics", the secretariat of which is held by SIS.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this European Prestandard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This multipart standard consists of the following parts, under the general title *Electronic Healthcare Record Communication*:

- Part 1: Extended architecture
- Part 2: Domain term list
- Part 3: Distribution rules
- Part 4: Messages for the exchange of information

This standard builds on the foundations of the previous prENV 12265 Electronic Healthcare Record Architecture but extends it and modifies that standard which is withdrawn.

This standard was drafted using the conventions of the ISO/IEC directive part 3.

All Annexes are Informative.

Introduction

Healthcare records have become an established and intrinsic part of clinical practice. These records will contain information that is deemed to be important for the care of an individual. Such records are used in many different ways for diverse purposes, and are subject to government policies, as well as social, ethical and legal norms that vary from institution to institution, and from country to country.

The trend is towards representing these records in an electronic medium so that they are processable by computer systems. The Electronic Healthcare Record is then a technological means of documenting the care process for an individual person. A high standard of quality is necessary and as such the record requires appropriate representations of structure and content to both capture clinical information and to permit its communication.

The prime purpose of this multipart Prestandard is Electronic Healthcare Record communication; communication being defined as the act of imparting information. Each part of the Prestandard has a specific role to play and combined with the other parts, provides the principles, structures, terms, rules, and formats for open and safe communication of the electronic healthcare record (EHCR).

This part of the Prestandard, i.e. Part 1 the Extended Architecture, is a Reference Architecture. It describes a conceptual model of structure and content suitable for communicating the EHCR. It is a high level template which provides a set of design decisions which can be used by system vendors to develop specific implementations for their customers. To the healthcare organisation and the clinicians this architecture offers protection for their investment in clinical information against the vagaries of incompatible systems and from the changes arising from evolving business requirements, both in the computer industry and in the healthcare sector. To the individual person, insofar as their health and care depends upon the safe communication of clinical information, the architecture offers a more direct benefit. It does this by providing sound principles to ensure that the important original information context regarding the individual person is preserved and not lost nor degraded in the act of communication.

The Prestandard prENV12265 was the first version of an Electronic Healthcare Record Architecture (EHCR) intended to provide a foundation for the safe communication of part or whole of the record in diverse and

legitimate circumstances. The Extended Architecture is an 'updated version' of EHCRA. The new version clarifies the organisation of the architecture and the relationships between its components. The intention is that it 'will enable healthcare record information of any sort to be recognisable and understandable when displaced from its origin, through faithful preservation of its content and context'. In particular, the Extended Architecture emphasises the importance of 'context' as an architectural principle, as many of the other principles necessary for effective communication are reliant to some extent upon this one principle.

'context' has been defined as: 'a text preceding and following any particular passage, giving it a meaning fuller or more identifiable than if it were read in isolation'. With respect to the electronic communication of person based clinical information, the standards being developed are not so much concerned with enriching the context as primarily with safeguarding or preserving the context so that data is not lost or wrongfully interpreted, thereby causing unintentional harm to a person. Furthermore, in the EHCR Architecture, context is represented not just by 'text' but by architectural components that singularly or collectively surround, contain, link, constrain, and/or qualify the content so as to make the communication safe and unambiguous. The content may be multi-media as well as simple text strings.

The CEN Report of the Domain Model, which accompanies this multipart Prestandard, describes how the individual parts of the Prestandard interact and provides more detail on the role and importance of context for the Prestandard as a whole.

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