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## Health informatics — Directory services for healthcare providers, subjects of care and other entities

*Informatique de santé — Services d'annuaires pour les fournisseurs  
de soins de santé, les sujets de soins et autres entités*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21091 was prepared by Technical Committee ISO/TC 215, *Health informatics*.

This first edition cancels and replaces ISO/TS 21091:2005, which has been technically revised.

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## Introduction

Health informatics directory services for healthcare providers, subjects of care and other entities are intended to support the communication and security requirements of healthcare professionals in the conduct of clinical and administrative functions. Healthcare requires extensive encipherment and access control requirements for the disclosure and transport of all confidential health information. In support of the healthcare public key infrastructure, healthcare will make available a registry of certificates including business and professional information necessary to conduct healthcare transactions. This information necessarily includes identification of individual roles within the healthcare system as can only be identified by the respective healthcare organizations. As such, the registration and management functions are to be extensible, and potentially distributed throughout the healthcare community. Support for these additional healthcare requirements for security is also to be offered through the directory service.

The directory is becoming an increasingly popular method of providing a means for single sign-on capabilities to support authentication. This goal has resulted in the inclusion of authentication and identity attributes to authenticate the identity of a healthcare person or entity.

The directory also supports the communication of additional attributes that can be used to support authorization decisions. This goal has driven directory schema extensions to include organization employee management information, healthcare-specific contact information, and healthcare identifiers. This International Standard addresses the healthcare-specific requirements of the directory, and defines, as appropriate, standard specifications for inclusion of this information in the healthcare directory.

Besides technical security measures that are discussed in other ISO standards, communication of healthcare data requires a reliable accountable "chain of trust." In order to maintain this chain of trust within a public key infrastructure, users (relying parties) need to be able to obtain current correct certificates and certificate status information through secure directory management.

The healthcare directory will support standard lightweight directory access protocol (LDAP) client searches, interface engines for message transformation, and service oriented architecture (SOA) implementations to enable the service in any environment. Specific implementation guidance, search criteria and support are outside the scope of this International Standard.

While specific security measures and access control specifications are out of scope of this International Standard, due to the sensitive nature of health related and privacy information that may be supported through the directory services, significant controls need to be enabled at branch, object classes, and attribute levels. Processes and procedures should be in place to ensure information integrity represented within the health directory, and responsibility for the content of the directory should be clearly allocated through policy and process. It is anticipated that appropriate access controls managing who can read, write or modify all items in the healthcare directory will be applied. This may be accomplished by assigning individuals within the directory to the HCOrganizationalRole and assigning appropriate privileges (e.g. read, modify, delete) to that role in directory management configuration.