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Secretariat: ANSI

Health informatics — Device interoperability —
Part 20601: Personal health device communication — Application profile —
Optimized exchange protocol

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Health informatics—Personal health device communication

Part 20601: Application profile— Optimized Exchange Protocol

Developed by the

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of the
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Approved 5 September 2019

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Abstract: Within the context of the ISO/IEEE 11073 family of standards for device communication, a common framework for making an abstract model of personal health data available in transport-independent transfer syntax required to establish logical connections between systems and to provide presentation capabilities and services needed to perform communication tasks is described in this standard. The protocol is optimized to personal health usage requirements and leverages commonly used methods and tools wherever possible.

Keywords: IEEE 11073-20601™, medical device communication, personal health devices

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Introduction

This introduction is not part of IEEE Std 11073-20601-2019, Health informatics—Personal health device communication—Part 20601: Application profile—Optimized Exchange Protocol.

ISO and IEEE 11073 standards enable communication between medical devices and external computer systems. This standard and corresponding IEEE 11073-104zz standards address a need for a simplified and optimized communication approach for personal health devices, which may or may not be regulated devices. These standards align with, and draw upon, the existing clinically focused standards to provide easy management of data from either a clinical or personal health device.

This document addresses a need for an openly defined, independent standard for converting the collected information into an interoperable transmission format so the information can be exchanged between agents and managers.

Other closely related standards include the following:

- IEEE Std 11073-00103™ [B6]¹ provides an overview of the personal health space and defines the underlying use cases and usage models.
- ISO/IEEE 11073-10201:2004 [B17] documents the extensive domain information model (DIM) leveraged by this standard.
- ISO/IEEE 11073-104zz standards define specific device specializations. For example, ISO/IEEE 11073-10404 [B18] defines how interoperable pulse oximeters work.
- ISO/IEEE 11073-20101:2004 [B21] defines the medical device encoding rules (MDER) used in this standard.

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[ISO/IEEE FDIS 11073-20601](https://standards.iteh.ai/catalog/standards/sist/c71bd455-6f55-4e67-8bd0-48e9d09c0fe2/iso-ieee-fdis-11073-20601)

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Health informatics—Personal health device communication

Part 20601: Application profile— Optimized Exchange Protocol

1. Overview

1.1 Scope

Within the context of the ISO/IEEE 11073 personal health device standard family, this standard defines an optimized exchange protocol and modeling techniques to be used by implementers of personal health devices to create interoperability between device types and vendors. This standard establishes a common framework for an abstract model of personal health data available in transport-independent transfer syntax required to establish logical connections between systems and to provide presentation capabilities and services needed to perform communication tasks. The protocol is optimized to personal health usage requirements and leverages commonly used methods and tools wherever possible.

1.2 Purpose

This standard addresses a need for an openly defined, independent standard for controlling information exchange to and from personal health devices and managers (e.g., cell phones, personal computers, personal health appliances, and set top boxes). Interoperability is key to growing the potential market for these devices and enabling people to be better-informed participants in the management of their health.

1.3 Context

Figure 1 shows categories and typical devices supporting the personal health space. Agents (e.g., blood pressure monitors, weighing scales, and pedometers) collect information about a person (or persons) and transfer the information to a manager (e.g., cell phone, health appliance, or personal computer) for collection, display, and possible later transmission. The manager may also forward the data to remote support services for further analysis. The information is available from a range of domains including disease management, health and fitness, or aging independently applications.