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Cybersecurity — IoT security and privacy — Device baseline requirements

Cybersécurité — Sécurité et protection de la vie privée pour l'IdO — Exigences de base relatives aux dispositifs

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *Information security, cybersecurity and privacy protection*.

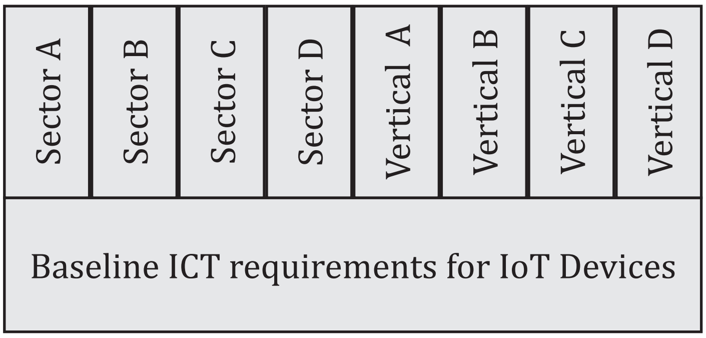
Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

With the increasing number of Internet of Things (IoT) devices and increasing reliance on such devices, the security and privacy risks relating to those "things" are expected to grow. Their widespread deployment in networks and systems make them easy and prime targets for cyber attacks.

This document provides a baseline set of information and communication technologies (ICT) requirements so that IoT devices are able to support security and privacy controls. A risk assessment is critical to develop a risk treatment plan that identifies the necessary IoT device features and countermeasures. The management of systems which use IoT devices depends upon the capabilities of those devices (among other factors).

Broadly speaking, this document addresses ICT requirements for IoT devices that are made available to the market. The requirements in this document are intended as a baseline, upon which vertical markets (such as health, financial services, industrial, consumer electronics and transportation) can build additional requirements for the expected use and risks of IoT devices in their applications, as depicted in Figure 1. In addition to this document, various sectors (e.g. private/industrial, public, defence, national security) and vertical markets have sector- or vertical-specific requirements, for example those found in ETSI EN 303 645[11] for consumer devices and the IEC 62443 series for industrial devices and systems. While this document can provide requirements for a conformity assessment scheme, it is expected that stakeholders for specific sectors and vertical markets will develop consensus around requirements specific to their contexts, building "on top" of this document. Subsequently, conformity assessment programmes can be developed around those specific sectors and vertical markets. This document would be effectively integrated into such programmes while providing a common set of baseline requirements.



NOTE Additional requirements can be developed or required by specific sectors and vertical markets.

Figure 1 — Relationship between baseline requirements in this document and potential additional requirements

As the complex technical landscape of IoT devices evolves, this document can support a scalable globally harmonized approach to the baseline security and privacy requirements and inform technical policy and regulatory initiatives.

Cybersecurity — IoT security and privacy — Device baseline requirements

1 Scope

This document provides baseline ICT requirements for IoT devices to support security and privacy controls.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 27000, *Information technology — Security techniques — Information security management systems — Overview and vocabulary*

ISO/IEC 27400:2022, *Cybersecurity — IoT security and privacy — Guidelines*

ISO 31000:2018, *Risk management — Guidelines*