
**Information technology — Big data
reference architecture —**

**Part 4:
Security and privacy**

*Technologies de l'information — Architecture de référence des
mégadonnées —*

Partie 4: Sécurité et confidentialité





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Published in Switzerland

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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*.

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A list of all parts in the ISO/IEC 20547 series can be found on the ISO website.

Introduction

Big data refers to the massive amount of digital information collected in various forms from different sources of digital and physical environments. This data is not only generated by traditional means of information exchange, but also from sensors embedded in physical environments, such as city surroundings, transportation vehicles, critical infrastructures, etc. The collection and processing of big data provides additional challenges not inherent in the traditional digital information exchange setting.

This document was developed in response to the worldwide demand for a common baseline of security and privacy aspects for big data architectures to facilitate interoperability in big data systems without compromising privacy, confidentiality, or integrity.

The big data paradigm blurs the security boundaries between data collection, storage and access — areas traditionally addressed independently — that now needs to be confronted holistically with a comprehensive security and privacy foundation, tightly coupled to all architecture components.

Effective standardization of security and privacy is paramount to the development of mutual trust and cooperation amongst big data stakeholders.

Information technology — Big data reference architecture —

Part 4: Security and privacy

1 Scope

This document specifies the security and privacy aspects applicable to the big data reference architecture (BDRA) including the big data roles, activities and functional components and also provides guidance on security and privacy operations for big data.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes the 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 20546, *Information technology — Big data — Overview and vocabulary*

ISO/IEC 20547-3, *Information technology — Big data reference architecture — Part 3: Reference architecture*

ISO/IEC/IEEE 15288, *Systems and software engineering — System life cycle processes*