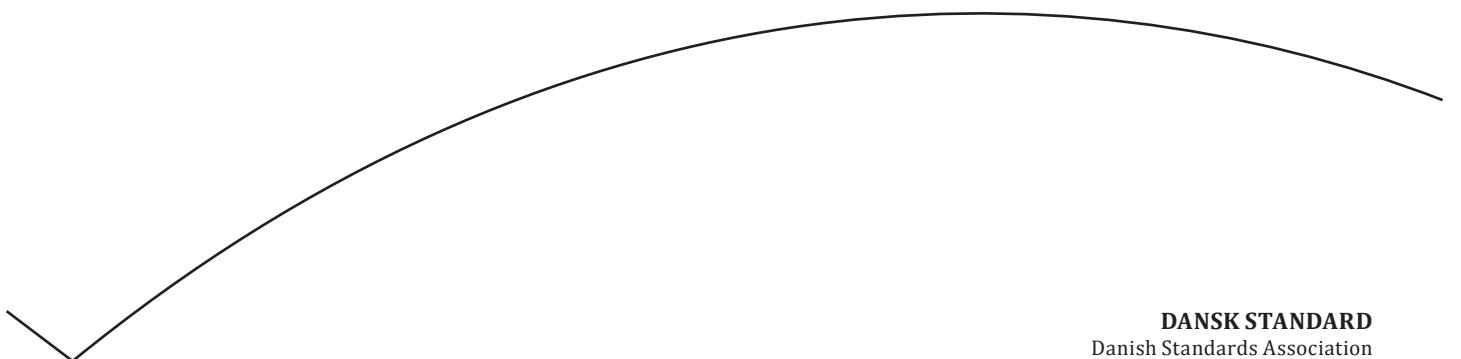


This is a preview of "DS/ISO/TR 23244:2020". Click here to purchase the full version from the ANSI store.

# **Blockchain og distribueret hovedbogs-teknologi (DLT) – Overvejelser vedrørende privatlivs- og persondatabeskyttelse**

Blockchain and distributed ledger technologies – Privacy and personally identifiable information protection considerations



**DANSK STANDARD**  
Danish Standards Association

Göteborg Plads 1  
DK-2150 Nordhavn  
Tel: +45 39 96 61 01  
dansk.standard@ds.dk  
www.ds.dk

This is a preview of "DS/ISO/TR 23244:2020". Click here to purchase the full version from the ANSI store.

DS projekt: M338780  
ICS: 35.030; 35.240.40; 35.240.99

Første del af denne publikations betegnelse er:

DS/ISO/TR, hvilket betyder, at det er en international teknisk rapport, der har status som DS-information.

Denne publikations overensstemmelse er:

IDT med: ISO/TR 23244:2020

DS-publikationen er på engelsk.

#### **DS-publikationstyper**

Dansk Standard udgiver forskellige publikationstyper.

Typen på denne publikation fremgår af forsiden.

Der kan være tale om:

##### **Dansk standard**

- standard, der er udarbejdet på nationalt niveau, eller som er baseret på et andet lands nationale standard, eller
- standard, der er udarbejdet på internationalt og/eller europæisk niveau, og som har fået status som dansk standard

##### **DS-information**

- publikation, der er udarbejdet på nationalt niveau, og som ikke har opnået status som standard, eller
- publikation, der er udarbejdet på internationalt og/eller europæisk niveau, og som ikke har fået status som standard, fx en teknisk rapport, eller
- europæisk præstandard

##### **DS-håndbog**

- samling af standarder, eventuelt suppleret med informativt materiale

##### **DS-hæfte**

- publikation med informativt materiale

Til disse publikationstyper kan endvidere udgives

- tillæg og rettelsesblade

#### **DS-publikationsform**

Publikationstyperne udgives i forskellig form som henholdsvis

- fuldtekstpublikation (publikationen er trykt i sin helhed)
- godkendelsesblad (publipukationen leveres i kopi med et trykt DS-omslag)
- elektronisk (publikationen leveres på et elektronisk medie)

#### **DS-betegnelse**

Alle DS-publikationers betegnelse begynder med DS efterfulgt af et eller flere præfikser og et nr., fx **DS 383, DS/EN 5414** osv. Hvis der efter nr. er angivet et **A** eller **Cor**, betyder det, enten at det er et **tillæg** eller et **rettelsesblad** til hovedstandarden, eller at det er indført i hovedstandarden.

DS-betegnelse angives på forsiden.

#### **Overensstemmelse med anden publikation:**

Overensstemmelse kan enten være IDT, EQV, NEQ eller MOD

- **IDT:** Når publikationen er identisk med en given publikation.
- **EQV:** Når publikationen teknisk er i overensstemmelse med en given publikation, men præsentationen er ændret.
- **NEQ:** Når publikationen teknisk eller præsentationsmæssigt ikke er i overensstemmelse med en given standard, men udarbejdet på baggrund af denne.
- **MOD:** Når publikationen er modifieret i forhold til en given publikation.

This is a preview of "DS/ISO/TR 23244:2020". Click here to purchase the full version from the ANSI store.

First edition  
2020-05-07

---

---

---

## **Blockchain and distributed ledger technologies — Privacy and personally identifiable information protection considerations**



Reference number  
ISO/TR 23244:2020(E)

This is a preview of "DS/ISO/TR 23244:2020". Click here to purchase the full version from the ANSI store.



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2020, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

This is a preview of "DS/ISO/TR 23244:2020". Click here to purchase the full version from the ANSI store.

## Contents

	Page
<b>Foreword</b>	<b>iv</b>
<b>Introduction</b>	<b>v</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Abbreviated terms</b>	<b>1</b>
<b>5 Privacy framework for blockchain/DLT systems</b>	<b>2</b>
5.1 Overview	2
5.1.1 General	2
5.1.2 Actors and roles	3
5.1.3 PII principals	3
5.1.4 PII controller	3
5.1.5 PII processor	3
5.2 Interactions	3
5.3 Recognizing PII	3
5.3.1 General	3
5.4 Privacy safeguarding requirements	3
5.4.1 General	3
5.4.2 Legal and regulatory factors	4
5.4.3 Storage of PII on blockchain and DLT systems	5
5.4.4 Contractual factors	5
5.4.5 Business Factors	6
5.5 Privacy policies	6
5.6 Privacy controls	7
5.6.1 General	7
5.6.2 On-chain and off-chain PII data storage and privacy considerations	8
5.6.3 Privacy enhancing technologies applicable to blockchain and DLT Systems	9
5.7 Privacy and identity management	12
<b>6 Privacy impact assessment</b>	<b>12</b>
6.1 General	12
6.2 Privacy impact assessment as part of the overall risk management program	12
6.3 Privacy threats	12
6.4 Privacy vulnerabilities	13
6.5 Privacy consequences	13
6.6 Privacy risk mitigation strategies	13
<b>7 Privacy management in blockchain and DLT</b>	<b>13</b>
7.1 General	13
7.2 Personal information management systems	14
7.3 Change management	14
7.4 Monitoring, review and continuous improvement	14
7.5 PII principal awareness	15
7.6 Privacy-related complaint handling	15
7.7 Decommissioning	15
7.8 Regulatory and compliance aspects	15
<b>Bibliography</b>	<b>17</b>

This is a preview of "DS/ISO/TR 23244:2020". Click here to purchase the full version from the ANSI store.

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 307, *Blockchain and distributed ledger technologies*, in collaboration with Joint Technical Committee ISO/IEC JTC 1, *Information security*, Subcommittee SC 27, *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](http://www.iso.org/members.html).

This is a preview of "DS/ISO/TR 23244:2020". Click [here](#) to purchase the full version from the ANSI store.

## Introduction

This document provides an overview of the issues and practical concerns related to privacy and personally identifiable information (PII) protection in the context of blockchain and distributed ledger technologies (DLT) and their applications.

Privacy and PII protection issues are widely considered as a major barrier for the adoption of DLT-based solutions. This document identifies and assesses known privacy-related risks and the way to mitigate them, as well as the privacy-enhancing potential of blockchain and distributed ledger technology.

This is a preview of "DS/ISO/TR 23244:2020". Click [here](#) to purchase the full version from the ANSI store.

This is a preview of "DS/ISO/TR 23244:2020". Click here to purchase the full version from the ANSI store.

# Blockchain and distributed ledger technologies — Privacy and personally identifiable information protection considerations

## 1 Scope

This document provides an overview of privacy and personally identifiable information (PII) protection as applied to blockchain and distributed ledger technologies (DLT) systems.

## 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 22739<sup>1\)</sup>](#), *Blockchain and distributed ledger technologies — Terminology*

[ISO/IEC 27000](#), *Information technology — Security techniques — Information security management systems — Overview and vocabulary*

[ISO/IEC 29100](#), *Information technology — Security technique — Privacy framework is referred to in the text in order to provide terms and definitions*

---

1) Under preparation. Stage at the time of publication: ISO/FDIS 22739:2020.