



**International
Standard**

ISO/IEC 9594-12

**Information technology — Open
systems interconnection —**

Part 12:

**The Directory: Key management
and public-key infrastructure
establishment and maintenance**

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This document was prepared by ITU-T as ITU-T X.508 (10/2024) and drafted in accordance with its editorial rules, in collaboration with Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

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INTERNATIONAL STANDARD ISO/IEC 9594-12
RECOMMENDATION ITU-T X.508

**Information technology – Open Systems Interconnection – The Directory: Key management
and public-key infrastructure establishment and maintenance**

Summary

Recommendation ITU-T X.508 | ISO/IEC 9594-12 is intended to fill the gap between Recommendation ITU-T X.509 | ISO/IEC 9594-8 and Recommendation ITU-T X.510 | ISO/IEC 9594-11 by giving a description of selected cryptographic algorithms with references to more detailed specifications. To establish the theory behind the cryptographic algorithm, an informative annex gives an introduction to the supporting mathematics. Also, some considerations on migration to post quantum algorithm are included.

Section 3 provides a best practice guideline for establishing and maintaining a public-key infrastructure (PKI) with emphasis on environments outside the traditional PKI environments, such as guidance for establishing a PKI for networks of Internet of things (IoT) and smart grid.

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History *

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FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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