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Part 9: The Directory: Replication

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Foreword

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This document was prepared by ITU-T as ITU-T X.525 (10/2019) 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*.

This eighth edition cancels and replaces the seventh edition (ISO/IEC 9594-9:2017), which has been technically revised.

A list of all parts in the ISO/IEC 9594 series can be found on the ISO website.

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CONTENTS

Page

1 Scope 1
2 Normative references 1
2.1 Identical Recommendations | International Standards 1
3 Definitions 1
3.1 Basic Directory definitions 1
3.2 Directory model definitions 2
3.3 Abstract service definitions 2
3.4 Distributed operation definitions 2
3.5 Protocol definitions 2
3.6 Replication definitions 2
4 Abbreviations 3
5 Conventions 3
6 Replication in the Directory 4
6.1 Caching 4
6.2 Shadowing 4
6.3 Shadowing functional model 5
7 Shadowing in the Directory 6
7.1 Shadowing agreement 6
7.2 Shadowed information 7
7.3 Shadow operations 10
7.4 DSA Shadow Bind and DSA Shadow Unbind operation 11
8 Shadow operational binding 11
8.1 Shadow operational binding type characteristics 11
8.2 DSA procedures for operational binding management 12
8.3 Operational binding 13
9 Shadowing agreement 14
9.1 Shadowing agreement specification 14
9.2 Unit of replication 15
9.3 Update mode 20
10 Directory information shadow service 21
10.1 Shadow supplier initiated service 21
10.2 Shadow consumer initiated service 22
11 Shadow operations 22
11.1 Coordinate Shadow Update operation 22
11.2 Request Shadow Update operation 24
11.3 Update Shadow operation 26
12 Shadow error 30
12.1 Shadow error problems 30
12.2 Last update 31
12.3 Update window 31
12.4 Common results 31
Annex A – Directory shadow abstract service in ASN.1 32
Annex B – Amendments and corrigenda 38

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Introduction

This Recommendation | International Standard, together with other Recommendations | International Standards, has been produced to facilitate the interconnection of information processing systems to provide Directory services. A set of such systems, together with the Directory information that they hold, can be viewed as an integrated whole, called the *Directory*. The information held by the Directory, collectively known as the Directory Information Base (DIB) is typically used to facilitate communication between, with or about objects such as application-entities, people, terminals and distribution lists.

The Directory plays a significant role in Open Systems Interconnection, whose aim is to allow, with a minimum of technical agreement outside of the interconnection standards themselves, the interconnection of information processing systems:

- from different manufacturers;
- under different managements;
- of different levels of complexity; and
- of different ages.

This Recommendation | International Standard defines the replication capabilities provided by Directory system agents (DSAs) to improve the level of service to Directory users.

This Recommendation | International Standard provides the foundation frameworks upon which industry profiles can be defined by other standards groups and industry forums. Many of the features defined as optional in these frameworks may be mandated for use in certain environments through profiles. This ninth edition technically revises and enhances the eighth edition of this Recommendation | International Standard.

Annex A, which is an integral part of this Recommendation | International Standard, provides the ASN.1 module for the Directory shadow abstract service.

Annex B, which is not an integral part of this Recommendation | International Standard, lists the amendments and defect reports that have been incorporated to form this edition of this Recommendation | International Standard.

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INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Open Systems Interconnection – The Directory: Replication

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1 Scope

This Recommendation | International Standard specifies a shadow service which Directory system agents (DSAs) may use to replicate Directory information. The service allows Directory information to be replicated among DSAs to improve service to Directory users. The shadowed information is updated, using the defined protocol, thereby improving the service provided to users of the Directory.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

- Recommendation ITU-T X.500 (2019) | ISO/IEC 9594-1:2020, *Information technology – Open Systems Interconnection – The Directory: Overview of concepts, models and services*.
- Recommendation ITU-T X.501 (2019) | ISO/IEC 9594-2:2020, *Information technology – Open Systems Interconnection – The Directory: Models*.
- Recommendation ITU-T X.509 (2019) | ISO/IEC 9594-8:2020, *Information technology – Open Systems Interconnection – The Directory: Public-key and attribute certificate frameworks*.
- Recommendation ITU-T X.511 (2019) | ISO/IEC 9594-3:2020, *Information technology – Open Systems Interconnection – The Directory: Abstract service definition*.
- Recommendation ITU-T X.518 (2019) | ISO/IEC 9594-4:2020, *Information technology – Open Systems Interconnection – The Directory: Procedures for distributed operation*.
- Recommendation ITU-T X.519 (2019) | ISO/IEC 9594-5:2020, *Information technology – Open Systems Interconnection – The Directory: Protocol specifications*.
- Recommendation ITU-T X.520 (2019) | ISO/IEC 9594-6:2020, *Information technology – Open Systems Interconnection – The Directory: Selected attribute types*.
- Recommendation ITU-T X.521 (2019) | ISO/IEC 9594-7:2020, *Information technology – Open Systems Interconnection – The Directory: Selected object classes*.
- Recommendation ITU-T X.680 (2015) | ISO/IEC 8824-1:2015, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation*.

3 Definitions

For the purposes of this Recommendation | International Standard, the following definitions apply.

3.1 Basic Directory definitions

The following term is defined in Rec. ITU-T X.500 | ISO/IEC 9594-1:

- *(the) Directory*.

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