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Information technology - Data centre facilities and infrastructures - Part 3-1: Management and operational information

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Information technology - Data centre facilities and infrastructures - Part 3-1: Management and operational information

Technologie de l'information - Installation et infrastructures de centres de traitement de données - Partie 3-1: Informations de gestion et de fonctionnement

Informationstechnik - Einrichtungen und Infrastrukturen von Rechenzentren - Teil 3-1: Informationen für das Management und den Betrieb

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European foreword

This document (EN 50600-3-1:2016) has been prepared by CLC/TC 215 “Electrotechnical aspects of telecommunication equipment”.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017–01–26
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2019–01–26

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Introduction

The unrestricted access to internet-based information demanded by the information society has led to an exponential growth of both internet traffic and the volume of stored/retrieved data. Data centres are housing and supporting the information technology and network telecommunications equipment for data processing, data storage and data transport. They are required both by network operators (delivering those services to customer premises) and by enterprises within those customer premises.

Data centres need to provide modular, scalable and flexible facilities and infrastructures to easily accommodate the rapidly changing requirements of the market. In addition, energy consumption of data centres has become critical both from an environmental point of view (reduction of carbon footprint) and with respect to economic considerations (cost of energy) for the data centre operator.

The implementation of data centres varies in terms of:

a) purpose (enterprise, co-location, co-hosting, or network operator facilities);

b) security level;

c) physical size;

d) accommodation (mobile, temporary and permanent constructions).

The needs of data centres also vary in terms of availability of service, the provision of security and the objectives for energy efficiency. These needs and objectives influence the design of data centres in terms of building construction, power distribution, environmental control and physical security. Effective management and operational information is required to monitor achievement of the defined needs and objectives.

This series of European Standards specifies requirements and recommendations to support the various parties involved in the design, planning, procurement, integration, installation, operation and maintenance of facilities and infrastructures within data centres. These parties include:

1) owners, facility managers, ICT managers, project managers, main contractors;

2) architects, consultants, building designers and builders, system and installation designers;

3) facility and infrastructure integrators, suppliers of equipment;

4) installers, maintainers.

At the time of publication of this European Standard, the EN 50600 series currently comprises the following standards:

— EN 50600-1, *Information technology — Data centre facilities and infrastructures — Part 1: General concepts*;

— EN 50600-2-1, *Information technology — Data centre facilities and infrastructures — Part 2-1: Building construction*;

— EN 50600-2-2, *Information technology — Data centre facilities and infrastructures — Part 2-2: Power distribution*;

— EN 50600-2-3, *Information technology — Data centre facilities and infrastructures — Part 2-3: Environmental control*;

— EN 50600-2-4, *Information technology — Data centre facilities and infrastructures — Part 2-4: Telecommunications cabling infrastructure*;

— EN 50600-2-5, *Information technology — Data centre facilities and infrastructures — Part 2-5: Security systems*;

— EN 50600-3-1, *Information technology — Data centre facilities and infrastructures — Part 3-1: Management and operational information*;

— FprEN 50600-4-1, *Information technology — Data centre facilities and infrastructures — Part 4-1: Overview of and general requirements for key performance indicators*;

— FprEN 50600-4-2, *Information technology — Data centre facilities and infrastructures — Part 4-2: Power Usage Effectiveness*;

— FprEN 50600-4-3, *Information technology — Data centre facilities and infrastructures — Part 4-3: Renewable Energy Factor*;

— CLC/TR 50600-99-1, *Information technology — Data centre facilities and infrastructures — Part 99-1: Recommended practices for energy management*.

The inter-relationship of the standards within the EN 50600 series is shown in Figure 1.

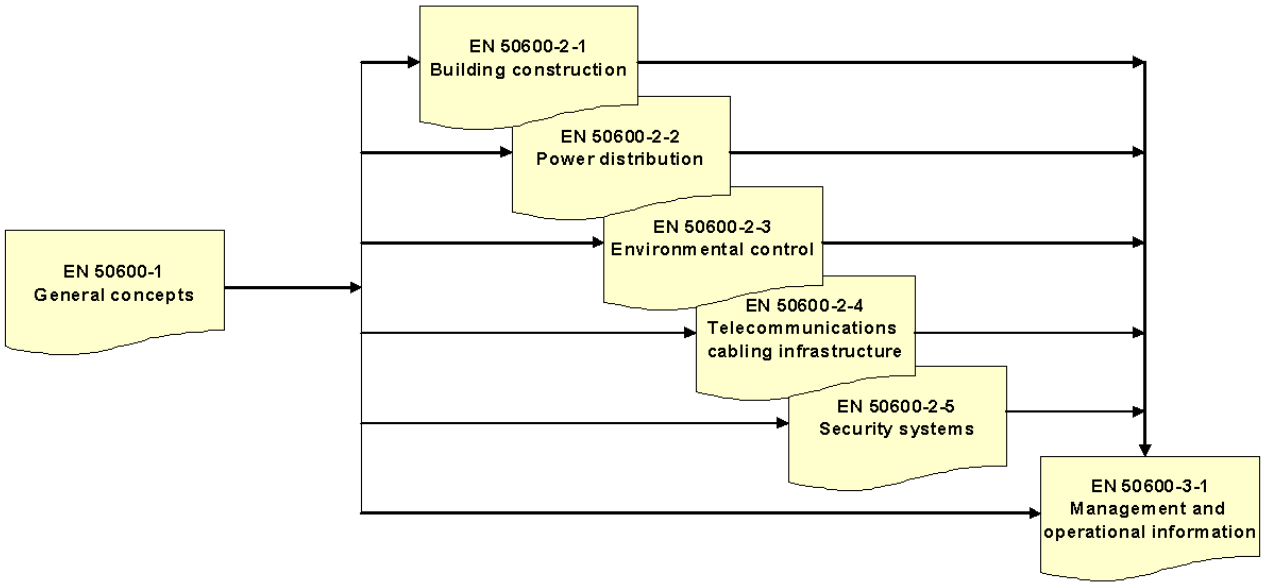

Figure 1 — Schematic relationship between the EN 50600 standards

EN 50600-2-X standards specify requirements and recommendations for particular facilities and infrastructures to support the relevant classification for “availability”, “physical security” and “energy efficiency enablement” selected from EN 50600-1.

EN 50600-3-X documents specify requirements and recommendations for data centre operations, processes and management.

This European Standard addresses the operational and management information (in accordance with the requirements of EN 50600-1). A data centre’s primary function typically is to house large quantities of computer and telecommunications hardware which affects the construction, operation, and physical security. Most of the data centres may impose special security requirements. Therefore, the planning of a data centre by the designer and the various engineering disciplines that will assist in the planning and implementation of the design of the data centre i.e. electrical, mechanical, security, etc. shall be carried out in cooperation with

the IT and telecommunications personnel, network professionals, the facilities manager, the IT end users, and any other personnel involved.

This European Standard is intended for use by and collaboration between facility managers, ICT managers, and main contractors.

This series of European Standards does not address the selection of information technology and network telecommunications equipment, software and associated configuration issues.

1 Scope

This European Standard specifies processes for the management and operation of data centres. The primary focus of this standard is the operational processes necessary to deliver the expected level of resilience, availability, risk management, risk mitigation, capacity planning, security and energy efficiency.

The secondary focus is on management processes to align the actual and future demands of users. Figure 2 shows an overview of related processes.

The transition from planning and building to operation of a data centre is considered as part of the acceptance test process in Clause 6.

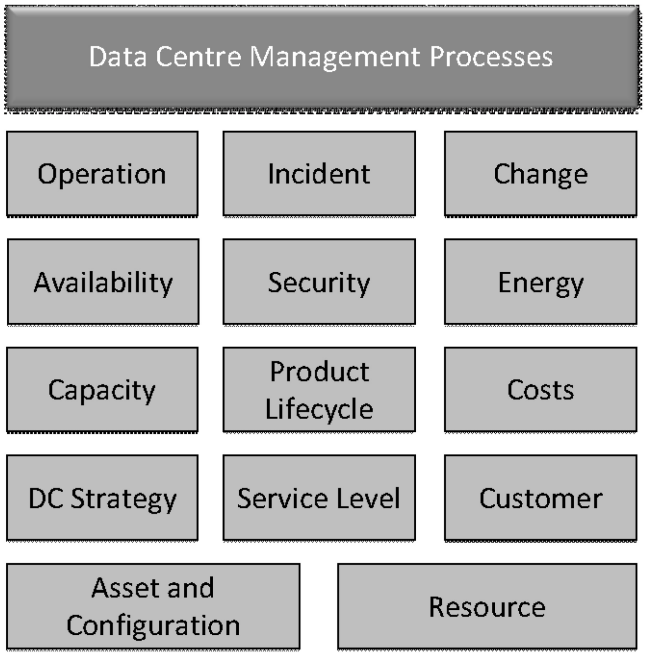

Figure 2 — Data centre management processes overview

NOTE 1 Only processes specific for data centres are in the scope of this document. Business processes like people management, financial management, etc. are out of scope.

NOTE 2 Specific skill sets are required of those working in and operating a data centre.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50600-1:2012, *Information technology — Data centre facilities and infrastructures — Part 1: General concepts*

EN 50600-2 (all parts), *Information technology — Data centre facilities and infrastructures*