Irish Standard
I.S. EN 50600-1:2012

Information technology - Data centre facilities and infrastructures -- Part 1: General concepts

I.S. EN 50600-1:2012

Incorporating amendments/corrigenda issued since publication:

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This document replaces:	*This document is based on:* EN 50600-1:2012	*Published:* 30 November, 2012

This document was published
under the authority of the NSAI and comes into effect on:

6 December, 2012

ICS number:
35.020
35.160

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Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50600-1

November 2012

ICS 35.020; 35.160

English version

Information technology - Data centre facilities and infrastructures - Part 1: General concepts

Installation et infrastructures de centres de traitement de données - Partie 1: Concepts généraux

Informationstechnik - Einrichtungen und Infrastrukturen von Rechenzentren - Teil 1: Allgemeine Konzepte

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Ref. No. EN 50600-1:2012 E

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Foreword

This document (EN 50600-1:2012) 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)	2013-10-22
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2015-10-22

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This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

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

3) suppliers of equipment;

4) installers, maintainers.

At the time of publication of this European Standard, EN 50600 series will comprise 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 50600-2-6: *Information technology - Data centre facilities and infrastructures - Part 2-6: Management and operational information*

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

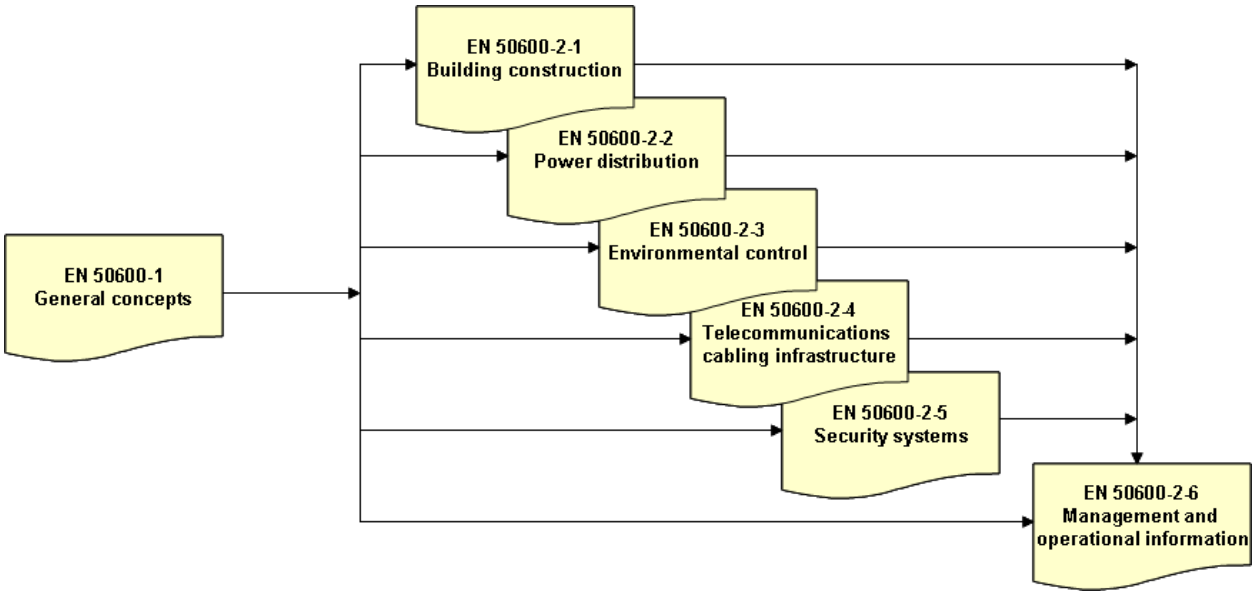

Figure 1 – Schematic relationship between EN 50600 series of standards

1 Scope and conformance

1.1 Scope

This European Standard:

a) details the issues to be addressed in a business risk and operating cost analysis enabling application of an appropriate classification of the data centre;

b) defines the common aspects of data centres including terminology, parameters and reference models (functional elements and their accommodation) addressing both the size and complexity of their intended purpose;

c) describes general aspects of the facilities and infrastructures required to support effective operation of telecommunications within data centres;

d) specifies a classification system, based upon the key criteria of “availability”, “security” and “energy-efficiency” over the planned lifetime of the data centre, for the provision of effective facilities and infrastructure;

e) describes the general design principles for data centres upon which the requirements of the EN 50600 series are based including symbols, labels, coding in drawings, quality assurance and education;

The following topics are outside of the scope of this series of European Standards:

1) the selection of information technology and network telecommunications equipment, software and associated configuration issues are outside the scope of this European Standard;

2) safety and electromagnetic compatibility (EMC) requirements (covered by other standards and regulations. However, information given in this European Standard may be of assistance in meeting these standards and regulations).

1.2 Conformance

For a data centre design to conform to this European Standard:

a) a business risk analysis according to Clause 4 shall be completed;

b) an appropriate Availability Class in 6.2 shall be selected using a business risk analysis in Clause 4;

c) an appropriate Protection Class in 6.3 shall be selected using a business risk analysis in Clause 4;

d) an appropriate energy efficiency enablement level in 6.4 shall be selected;

e) the general design principles in Annex A shall be applied.