

# TECHNICAL REPORT



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**Information technology – Implementation and operation of customer premises cabling –  
Part 2-1: Planning and installation – Identifiers within administration systems**

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# INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

## Part 2-1: Planning and installation – Identifiers within administration systems

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IEC 14763-2-1, which is a technical report, has been prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of the ISO/IEC 14763 series, under the general title *Information technology – Implementation and operation of customer premises cabling*, can be found on the IEC web site.

This Technical Report has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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# INFORMATION TECHNOLOGY – IMPLEMENTATION AND OPERATION OF CUSTOMER PREMISES CABLING –

## Part 2-1: Planning and installation – Identifiers within administration systems

### 1 Scope

This part of ISO/IEC 14763 contains requirements and recommendations for identification of cabling infrastructure elements to support ISO/IEC 14763-2 and equivalent standards. The symbols and object codes specified in this Technical Report are primarily based on IEC 81346-1 and IEC 81346-2.

### 2 Normative references

The following referenced documents are indispensable for the application 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/IEC 14763-2, *Information technology – Implementation and operation of customer premises cabling – Part 2: Planning and installation*

ISO 4157 (all parts), *Construction drawings – Designation systems*

ISO 4157-1, *Construction drawings – Designation systems – Part 1: Buildings and parts of buildings*

### 3 Terms, definitions, abbreviations and conventions

#### 3.1 Terms and definitions

For the purposes of this document the terms and definitions of ISO/IEC 14763-2 apply.

#### 3.2 Abbreviations

For the purposes of this document the abbreviations of ISO/IEC 14763-2 apply.

#### 3.3 Conventions and special symbols

Square brackets indicate optional fields. The square brackets are not part of the identifier. Characters in italics are variables. With the exception of the square brackets, all other characters that are not in italics are used in the identifier, as shown.

For example, the telecommunications space identifier has the format:

$$[[+c]+b]+[f]s$$

Thus, depending on the need to include the campus identifier (*c*), building identifier (*b*), or floor (*f*) identifier the identifier may have the format of either

$+c+b+fs, +b+fs, +fs, +c+b+s, +c+s, +b+s, \text{ or } +s$

where

$s$  is the space identifier.

Note that the brackets for the campus identifier  $+c$  are nested within the brackets for the building identifier  $+b$ . Thus, the campus identifier  $+c$  is only included if the building identifier  $+b$  is also included.

The plus sign “+” is part of the identifier and specifies that the next portion of the identifier is the location aspect of an object.

The equal sign “=” is also used to specify a function aspect of an object (for example “=XO” for telecommunications outlet).

The period “.” character separates the portion of the identifier for the space and the portion of the identifier for the cabinet or frame.

The colon “:” is used as a prefix to port identifiers.

The underscore “\_” character separates the vertical and horizontal coordinates of a closure in a cabinet, frame, or wall section. In a cable identifier it is also used between the first and last port, pair, or fibre numbers.

The forward slash “/” is used between the identifiers of the two ends of a horizontal cable, backbone cable, or telecommunications pathway.

The back slash “\” is used between the identifiers of the two ends of a patch cord or jumper.

Additional information, such as the coordinates of a maintenance hole, conduit number within a duct bank, or subduct number within a conduit, is enclosed in parenthesis.

## 4 Requirements

### 4.1 Premises identifiers

#### 4.1.1 Site or campus

##### 4.1.1.1 General

Campus or site identifiers shall use the following format:

$c$  one or more alpha-numeric characters identifying a campus or site.

Campus and site identifiers shall be unique within a telecommunications administration system.

If a site or campus shall be identified, and no other scheme is otherwise employed by the organization, the designation should be based on a recognised code system, for example the IATA airport codes:

+LHR2 (for site 2 within the region served by LHR airport)

If no such code system exists or is applicable, the site or campus should use the following designation system:

$+ [N] [Ra] Ce$



The fields are defined in the following subclauses.

Examples of identifiers for a campus (site 2) in San Francisco (area code 415) in the United States (County Code 1) are:

+N1R415C2 or +R415C2 or +N1C2 or +C2

#### 4.1.1.2 Nation

If the format  $+ [N] [Ra] Ce$  is used for campus/site identifiers, the country  $Ni$  shall be designated as follows:

$N$  letter N

$i$  numeric characters consisting of the international dialling code for the nation.

Examples:

+N44 (for UK)

+N47 (for Norway)

#### 4.1.1.3 Region

If the format  $+ [N] [Ra] Ce$  is used for campus/site identifiers, the region  $Ra$  should be designated as follows:

$R$  letter R

$a$  numeric characters consisting of the area code or code.

NOTE There is a risk that area codes in certain countries are prone to change as telecommunications need increase.

Examples:

+R415 (The region with the dialling code 415 within a defined country)

+R231 (The region with the dialling code 231)

#### 4.1.1.4 Campus number

If the format  $+ [N] [Ra] Ce$  is used for campus/site identifiers, the campus  $Ce$  should be designated as follows:

$Ce$  is the campus or site identifier, with

$C$  letter C

$e$  numeric characters consisting of the campus or site number that is unique within a given domain (i.e., region or country).

#### 4.1.2 Building

Building identifiers shall use the following format:

$[+c]+b$

where the fields are defined as follows:

- c* optional field one or more alpha-numeric characters identifying a campus or site;
- b* one or more alpha-numeric characters that uniquely identify the building on the campus/site (if the campus field is used), or within the organization if no campus/site identifier is used.

Examples:

- +LHR2+B5 (the 5<sup>th</sup> building on the +LHR2 campus)
- +HQ (a building named HQ that is not on a campus)
- +NAR2 (a building with the unique name NAR2, it may be on the same campus or region as a building named NAR1, but the campus id is omitted since the building name is unique within the administration system)

If buildings on a site or campus need to be designated, the rules of ISO 4157-1 should be applied.

If ISO 4157-1 is not applicable, it is recommended that the building identification scheme described below be used:

+*[N]**[Ra]**[Ce]**Bk*

*Ni*, *Ra*, and *Ce* are as defined in 4.1.1. *Bk* is defined as follows:

*B* letter B

*k* numeric characters consisting of the building number.

NOTE This is an alternative building identifier scheme that includes both the site/campus identifier as part of the building identifier.

Examples:

- +N44C20B4 (the 4<sup>th</sup> building on campus N44C20)
- +B5 (building 5 in an administration system with no nation or region identifiers)

## 4.2 Space identifiers

### 4.2.1 Indoor telecommunications space

Indoor telecommunications space identifiers shall have the format:

*[[+c]+b]+[f]s*

where the fields are defined as follows:

*[+c]+b* are optional and defined in 4.1.2.

- f* numeric character(s) identifying the floor of the building occupied by the space (it may be excluded for buildings with only a single floor);
- s* alphanumeric character(s) uniquely identifying the telecommunications space on floor *f*, or the building area in which the space is located.

For buildings with non-numeric floors, alpha-numeric characters may be used in the “*f*” field and shall be consistent with the floor naming convention used within the building.

Where no other indoor space identifiers are used, the indoor space identifiers shall follow the specifications of the ISO 4157 series.

All telecommunications space identifiers in a single infrastructure should have the same format.

For example, the data centre on the ground floor of building +N44C20B4 may be named

+ N44C20B4+0DC

If the building had only the ground floor, the data centre could alternatively be named

+ N44C20B4+DC

The two floor distributors with room identifiers 301 and 351 in building + N44C20B4 could be named:

+ N44C20B4+301 and + N44C20B4+351

#### 4.2.2 Outdoor telecommunications space

Identifiers for outdoor telecommunications spaces such as maintenance holes, handholes, joining chambers, pedestals, or outdoor cabinets shall have the format:

[+*c*]+*T*[(*g*)]

where

- c* optional field, as defined in 4.1.1 identifying the campus or site, this field is not required if the identifiers for the outdoor telecommunications spaces *U* are unique within the administration system.
- T* alphanumeric characters that either alone or in conjunction with the coordinates in the (*g*) field uniquely identify the outdoor telecommunications space within the site or within the administration system if the site identifier is not used.
- (*g*) optional field with the Global Positioning System (GPS), Universal Transverse Mercator (UTM), or map co-ordinates of the outdoor telecommunications space in parentheses. The (*g*) field shall be consistently applied throughout the administration system.

Examples:

+PED(37.797413,-122.414925) (telecommunications pedestal at GPS co-ordinates 37.797413,-122.414925)

+SFO1+MH45 (maintenance hole 45 on campus SFO1)

This outdoor telecommunications space identifier may be used in place of an indoor telecommunications space identifier  $[[+c]+b]+[f]s$ , as part of another identifier such as an outdoor pathway identifier or outdoor cable identifier.

### 4.2.3 Cabinet, frame, and wall space

#### 4.2.3.1 Rooms with grid co-ordinates

In telecommunications spaces with multiple rows of cabinets, or frames such as computer rooms, large distributors, or telecommunications equipment rooms, it is recommended that a grid co-ordinate system be used to identify the name and location of equipment, cabinets, and frames.

See 4.2.3.2 for alternatives to a grid system for cabinet, frame and wall space identification.

In rooms that have access floor systems, identification for the space shall use the access floor grid identification scheme described in this Clause. In rooms without access floor, the ceiling tile grid, if present, should be used as the basis for space identification. If the room has neither a floor tile grid nor a ceiling tile grid, a grid should be applied to the floor plan. The grid, if used, shall be dense enough to ensure that two frames or cabinets do not occupy the same grid co-ordinates – consider grid spacing between 500 mm and 600 mm (20 in to 24 in).

The quantity of characters used along the “X” and “Y” axes shall be adequate to cover the entire space to be covered by the grid.

The “X” and “Y” axes may be reversed to minimize the quantity of characters required – consider selecting the long axis of the room as the “X” axis and the short axis of the room as the “Y” axis.

The starting point for the grid may be any one of the four corners of the space to be covered. When selecting the starting point, consider the direction in which the room might be expanded. The starting point of the grid should be in a corner of the room away from any likely direction of room expansion.