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INTERNATIONAL STANDARD

AMENDMENT 1

Information technology – Automated infrastructure management (AIM) systems – Requirements, data exchange and applications

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INFORMATION TECHNOLOGY – AUTOMATED INFRASTRUCTURE MANAGEMENT (AIM) SYSTEMS – REQUIREMENTS, DATA EXCHANGE AND APPLICATIONS

AMENDMENT 1

FOREWORD

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Amendment 1 to ISO/IEC 18598 has been prepared by subcommittee SC 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The text of this Amendment is based on the following documents:

FDIS	Report on voting
JTC1-SC25/2996/FDIS	JTC1-SC25/3011/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1, available at www.iec.ch/members_experts/refdocs.

INTRODUCTION TO THE AMENDMENT

This amendment adds the following content to ISO/IEC 18598:2016:

- updates to the data exchange model;
- an Annex E which addresses the optional application of AIM systems to cabling supporting remote powering in accordance with IEEE 802.3bt-2018;
- an Annex F which addresses formatting of data from field test equipment.

_____

1 Scope

Add the following new paragraph after bullet d).

For AIM systems providing support functionality for remote powering as an option, this International Standard addresses additional administration requirements and recommendations.

3 Terms, definitions and abbreviations

3.1.16

In the definition, replace "connector" *with* "cord".

Add the following new terms and definitions at the end of 3.1:

3.1.32
Power over Ethernet
PoE
remote powering in accordance with ISO/IEC/IEEE 8802-3

3.1.33
remote powering
power delivery from power sources to terminal equipment or powered devices over telecommunications cabling

EXAMPLE Power over Ethernet in accordance with ISO/IEC/IEEE 8802-3

3.2 Abbreviations

Add the following new abbreviations at the end of 3.2:

PD powered device

PSE power supply equipment

4 Conformance

Add the following new paragraph after bullet c):

AIM systems that provide support functionality for remote powering to conform to this International Standard shall conform with the requirements of Annex E in addition to the conformance requirements above.

6 AIM solutions: business benefits

6.2 Intrinsic benefits of stand-alone AIM systems

Insert the following new subclause after 6.2.5:

6.2.6 Documentation, monitoring and management of remote powering

AIM systems offering remote powering support provide users with the ability to automatically track remote powering usage in an installation to facilitate ease of assessing whether a given cable or cable bundle is capable of supporting specific remote powering types.

Due to the dynamic nature of the remote powering status of cables within a cable bundle (i.e. connections/disconnections from power supply equipment (PSE) ports and connections/disconnections of powered devices (PDs)), the above functionality can be achieved through a combination of

a) AIM system hardware capability for automatically detecting connection changes,
b) AIM system software ability to extract end device and remote powering information from PSE using standardized networking protocols, e.g. SNMP, and
c) AIM system documentation of the electrical characteristics of the cables.

7 AIM solutions: Data exchange framework

7.4 Common data model definition

7.4.3 Element and attribute definitions

7.4.3.1 General

Table 5 – Attribute key

Replace the description of key "O" with the following:

This field and/or attributes to this field need not be present in all AIM systems, but system interoperability shall be provided.

7.4.3.5 Telecommunications equipment

Table 9 – Telecommunications equipment

*Replace the attributes for "*Cord (O)*" with the following:*

ID
Name (O)
Part Number (O)
Colour (O)
Vendor (O)
Length
Connector A
Connector B
Cable
Catalogue image (O)

*Replace the attributes for "*Connector (O)*" with the following:*

ID
Name (O)
Connector Type
Catalogue image (O)

7.4.3.7 Work Order

Table 11 – Work Order

*Replace "*WorkOrderState*" with "*Work Order State*".*

Annex B (informative) Field descriptions

Table B.1 – AIM software fields

*Replace the description of "*Cable*" with the following:*

A physical cable containing either fibre or copper elements

Annex D (informative) Optional lower level data exchange framework

Table D.1 – Port level

Replace the description with the following:

Obtains port and cord information

Replace the response with the following:

Port status,
Cord Data (optional)

Insert the following new annexes:

Annex E
(normative)

AIM systems providing remote powering support

E.1 General

Type 4 remote powering in accordance with IEEE 802.3bt-2018 using Ethernet transmission channels will support delivery of up to 90 W per cable.

Due to the dynamic nature of the connectivity changes in the premise's environments, there are many factors which determine remote powering capacity of a cable bundle and cables within that bundle (i.e. conductor and cable diameter, ambient temperature, installation conditions). For example, the number of remote powering cables in a bundle can change with time and monitoring of the number of these cables per bundle can provide the required information.

Cable management software and spreadsheets are not equipped with a mechanism to detect these changes in real time. AIM solutions offering support for remote powering are capable of automatically tracking information relevant to ensure appropriate remote powering delivery.

AIM systems providing support for remote powering shall provide the functionality described in E.2.

E.2 Documentation and maintenance of information within AIM software

Once configured, an AIM system providing support for remote powering shall be able to

a) define and assign a bundle ID to a single cable or a group of cables,
b) track the cable bundle size for each bundle from a distributor,
c) track the number of cables in a bundle connected to PSE ports (powered or not),
d) track the number of cables in a bundle delivering PoE (powered),
e) track PoE Type and Class for every delivering cable in a bundle,
f) track PoE consumption for every PoE delivering cable in a bundle,
g) track PoE allocated power for every PoE delivering cable in a bundle,
h) automatically detect, document and monitor the presence and the remote powering functionality of PoE equipment connected to the network including:
    1) PoE type of each PoE capable switch (PSE), including number of PoE pairs (in accordance with ISO/IEC/IEEE 8802-3),
    2) PoE class of each PD,
    3) PoE consumption on each switch (PSE) port,
    4) allocated PoE level on each PSE port.

E.3 Management and usage of information within AIM software

Once configured, an AIM system providing support for remote powering shall be able to

a) alert users when a number of cables in a bundle exceeds limit of 24 cables to ensure adequate thermal management for bundled cables by applying mitigation rules in accordance with ISO/IEC TS 29125),

b) provide ability for indicating if a circuit is powered prior to its disconnection to prevent possible damage to network equipment ports,

c) generate reports with information necessary for assessment of the existing installation to support PoE containing the following information:

   1) bundle size,

   2) number of cables connected to PoE switch ports in a bundle,

   3) number of powered cables in a bundle,

   4) current PoE power usage per bundle,

   5) allocated PoE per bundle,

   6) average PoE usage per cable in a bundle,

   7) average allocated PoE per cable in a bundle.

Annex F
(informative)

Data import from field test equipment

Import formats used for the import of data from field test equipment should be either

- CSV data

or

- XML-data.