

INTERNATIONAL STANDARD



Content management – Monitoring and management of personal digital content
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IEC 62919:2017

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms, definitions and abbreviated terms	7
3.1 Terms and definitions.....	7
3.2 Abbreviated terms.....	8
4 Basic system structure	8
4.1 View of digital content.....	8
4.2 Consumption of digital content.....	10
5 Requirements	11
5.1 General.....	11
5.2 Required functionalities.....	11
5.2.1 Content devices.....	11
5.2.2 Content information server.....	11
5.2.3 Personal content monitoring device	11
6 General measures for visualizing personal content	12
6.1 Protocol	12
6.2 Application layer	12
6.2.1 General requirement.....	12
6.2.2 HTML5	12
6.2.3 Improved view of my library	12
7 Sending content information to servers or cloud	13
7.1 General.....	13
7.1.1 Content meta and base information	13
7.1.2 Content meta information.....	13
7.1.3 Content base information.....	13
7.1.4 Content extension information	14
7.2 Data format of content preservation information	14
7.2.1 Basic structure content preservation information.....	14
7.2.2 Entire content information.....	19
7.2.3 Addition and deletion information for content on devices	19
7.2.4 Modification information for content on devices.....	20
7.2.5 Clear all.....	21
7.3 Application-type dependent content information	21
7.3.1 General	21
7.3.2 Meta information.....	21
8 Managing content information on servers or cloud	22
8.1 Receiving content information from devices	22
8.1.1 Receiving entire content information	22
8.1.2 Receiving addition/deletion request on content information.....	22
8.2 Saving content information.....	22
8.3 Interface for extracting content information	22
8.3.1 General	22
8.3.2 Extract content information by user ID units.....	23

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8.3.3	Extract the summary data from content information	23
9	Creating and sending HTML to browser	23
Annex A (informative)	Communication between content information servers and monitoring clients	24
	Bibliography	25
Figure 1	– Sending content preservation information to servers or cloud	9
Figure 2	– Request for extracting content information	9
Figure 3	– Request for viewing digital content	10
Figure 4	– Consumption of digital content	11
Figure 5	– Example of view of my library	12
Figure 6	– Content preservation information	18
Figure 7	– Entire content preservation information	19
Figure 8	– Added content preservation information	20
Figure 9	– Deleted content preservation information	20
Figure 10	– Modified content preservation information	21
Figure A.1	– Protocol	24
Figure A.2	– Operating sequence	24
Table 1	– Management table for application type	14
Table 2	– List of meta_head_XXXX	22

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CONTENT MANAGEMENT – MONITORING AND MANAGEMENT OF PERSONAL DIGITAL CONTENT

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International Standard IEC 62919 has been prepared by technical area 8: Multimedia home systems and applications for end-user network, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this International Standard is based on the following documents:

CDV	Report on voting
100/2803/CDV	100/2924/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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- replaced by a revised edition, or
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INTRODUCTION

Users have ICT devices on which they store various digital content, such as movies, photos, music, e-books and documents. Since the capacity of each ICT device is getting larger and online storage services are provided, digital content can be stored on a wide range of devices. Users also create backup copies of digital content on multiple devices. That causes the production of multiple generations of digital copies from an original and the digital content can be put somewhere in any order. As a result, digital content goes into hiding and users can be unaware of the location where the digital content is stored. Therefore, users have difficulties in searching for and finding the digital content they want, or it takes a lot of time to find the content.

Since users may forget the provenance of the digital content saved on their devices, the information to identify the distribution channel is helpful for the users.

Even if users can easily recognize digital content, its location or its directory on a specific device, it is not enough to solve the difficulties.

This document specifies the method in which each device makes content preservation information in the specified format and sends it to the server system. The operation enables the visualization of all their digital content, which is separately stored on various devices, and an easy way to find the desired content.

In addition, the central server, which gathers the content preservation information from many users' own devices, provides the interface to derive the summary from the gathered information. By deriving users' content preservation information, a service provider can analyse the users' usage and preference information, and it helps launch new flexible digital content distribution structures.

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CONTENT MANAGEMENT – MONITORING AND MANAGEMENT OF PERSONAL DIGITAL CONTENT

1 Scope

This document specifies requirements, the protocol and the data format to visualize personal content saved on the various devices, such as mobile phones, music players, personal computers, hard disk recorders and e-book devices.

This document also specifies methods for gathering information of digital content saved on personal devices and shared within a group, and to extract the gathered information by uniform application interface.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions (standards.iteh.ai)

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1.1 content preservation information

information on content that is preserved in a user's device

3.1.2 content information server

server which receives and stores content preservation information

3.1.3 personal content

digital content stored on user devices

Note 1 to entry: Personal content includes content that users purchase or create by themselves.

3.1.4 content device

user device where content is stored

3.1.5 device ID

identifier to specify a device

3.1.6**user ID**

identifier to specify the user in the system

3.1.7**family ID**

identifier to specify a group where digital content can be shared

Note 1 to entry: Family ID is not necessarily used for a family group. It can be applied not only to a family, but also to friends, colleagues and other groups.

3.1.8**my library**

application viewer to monitor and manage all content that a user has on their own device

3.2 Abbreviated terms

API	application programme interface
HTML	HyperText Markup Language
HTTP	Hypertext Transfer Protocol
JSON	JavaScript Object Notation
RDB	relational database
X MDF	ever-eXtending Mobile Document Format
XML	Extensible Markup Language

4 Basic system structure**4.1 View of digital content**

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Clause 4 shows the system behaviour and operations to visualize and monitor all digital content that users have. The system behaviour and operations are listed as follows.

- a) Each device sends out the content preservation information to the content information server, which gathers the information on digital content saved on the device.
- b) The content information server receives and stores the content preservation information. The saved content preservation information can be extracted in user ID units.

Figure 1 shows the system behaviour on a) and b) in 4.1.

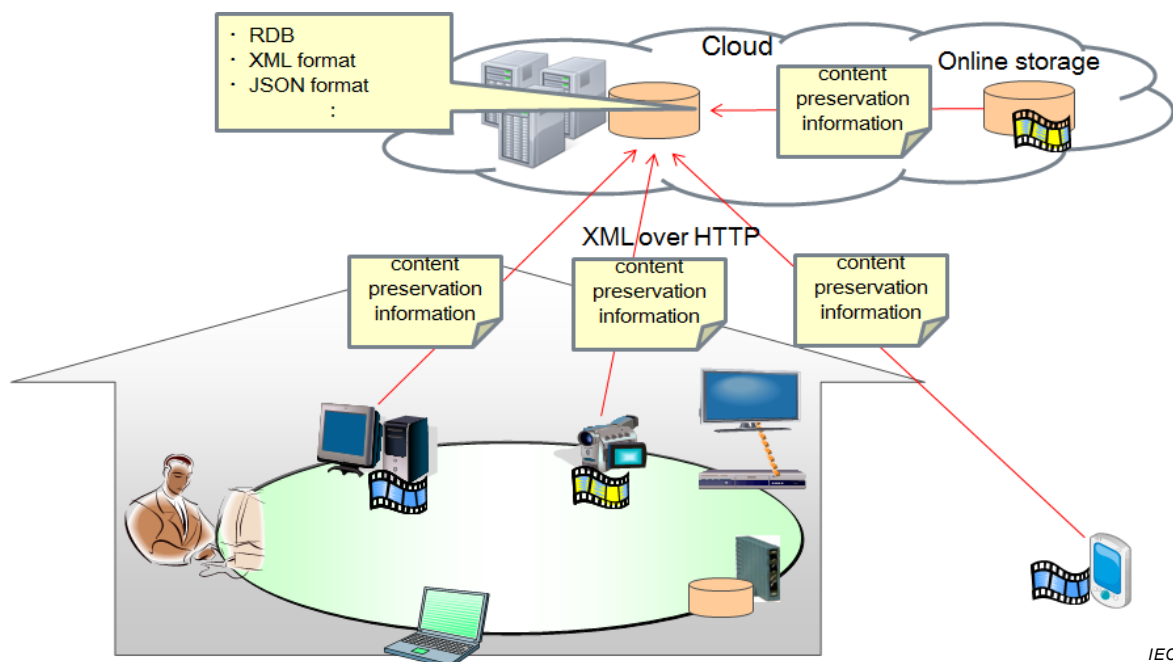


Figure 1 – Sending content preservation information to servers or cloud

- c) The content information server provides an interface that enables other servers to extract content information in user ID units. The same or other servers can use the interface to create the HTML format on my library and send it to the monitoring devices. The interface also enables other servers and service providers to get, search and analyze users' content usage information or content preference information.

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Figure 2 shows the interface on c) in 4.1.

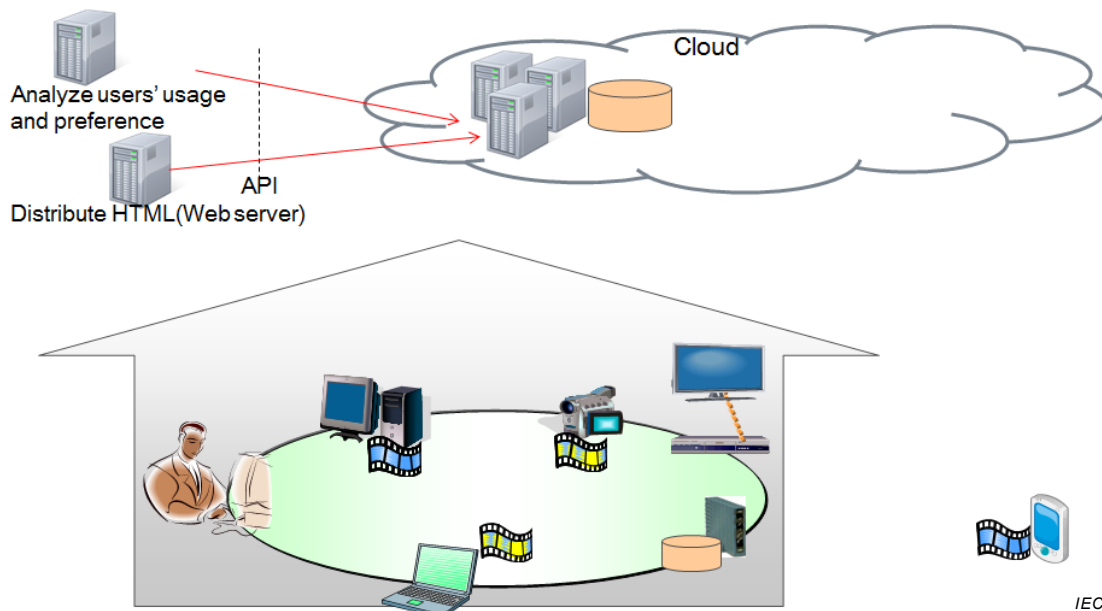


Figure 2 – Request for extracting content information

- d) The monitoring device requests the web server to send the information on my library, as shown in Figure 3. The web server gets content preservation information via the interface provided on content information server and creates the HTML format.

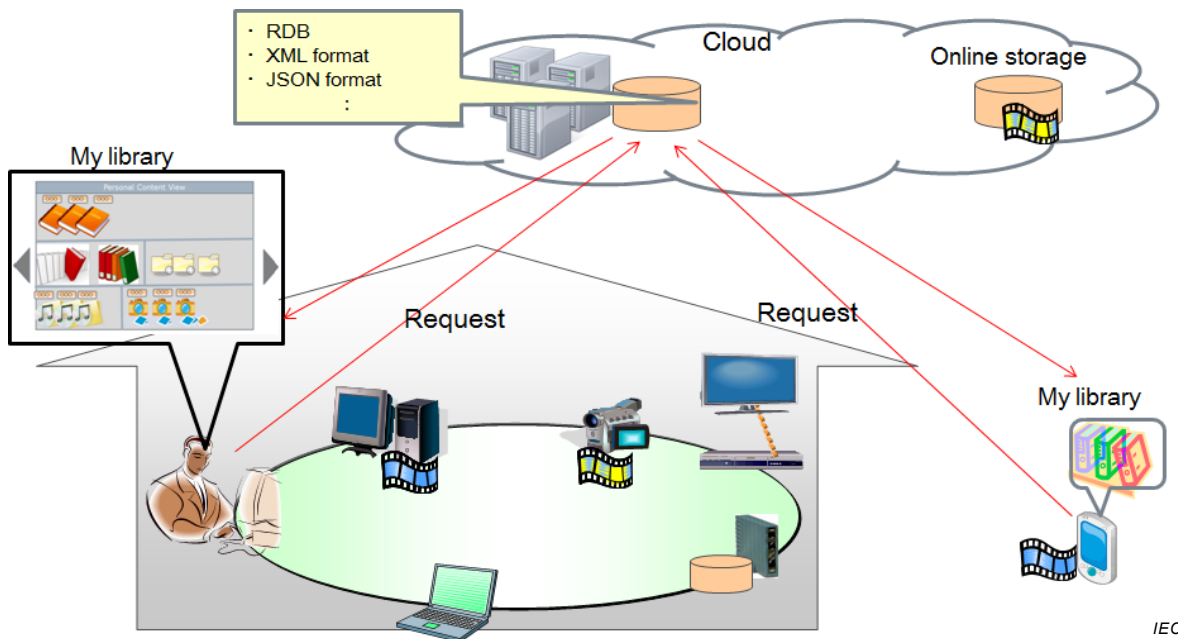


Figure 3 – Request for viewing digital content

- e) The web server distributes the information on my library to the monitoring devices in user ID units.
- f) If users acquire new digital content, the users' content preservation information is changed. In that case, the change is notified to the monitoring devices appropriately and the monitoring devices render the change and modify its view.
- g) The content information can be shared among other users in a group, such as a family, a household or colleagues.

NOTE 4.1 d), e), f) and g) indicate the operations to distribute and render the content information on my library. They are dependent on the implementation and improvement. Therefore, d), e), f) and g) are out of scope and described as informative in this document.

4.2 Consumption of digital content

If users want to access or consume digital content from my library, the application sends a request for content delivery to the content server or other devices. Its access methods can be implemented over the existing, or new, technology.

Figure 4 shows an overview on how to consume digital content on my library.