

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

F.743

(11/2019)

SERIES F: NON-TELEPHONE TELECOMMUNICATION
SERVICES

Multimedia services

Requirements and service description for video surveillance

Recommendation ITU-T F.743



International
Telecommunication
Union
Documents

Document Sharing Hub

ITU-T F-SERIES RECOMMENDATIONS
NON-TELEPHONE TELECOMMUNICATION SERVICES

TELEGRAPH SERVICE	
Operating methods for the international public telegram service	F.1–F.19
The gentex network	F.20–F.29
Message switching	F.30–F.39
The international telemessage service	F.40–F.58
The international telex service	F.59–F.89
Statistics and publications on international telegraph services	F.90–F.99
Scheduled and leased communication services	F.100–F.104
Phototelegraph service	F.105–F.109
MOBILE SERVICE	
Mobile services and multideestination satellite services	F.110–F.159
TELEMATIC SERVICES	
Public facsimile service	F.160–F.199
Teletex service	F.200–F.299
Videotex service	F.300–F.349
General provisions for telematic services	F.350–F.399
MESSAGE HANDLING SERVICES	F.400–F.499
DIRECTORY SERVICES	F.500–F.549
DOCUMENT COMMUNICATION	
Document communication	F.550–F.579
Programming communication interfaces	F.580–F.599
DATA TRANSMISSION SERVICES	F.600–F.699
MULTIMEDIA SERVICES	F.700–F.799
ISDN SERVICES	F.800–F.849
UNIVERSAL PERSONAL TELECOMMUNICATION	F.850–F.899
ACCESSIBILITY AND HUMAN FACTORS	F.900–F.999

For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T F.743

Requirements and service description for video surveillance

Summary

The purpose of Recommendation ITU-T F.743 is to define a video surveillance system based on IP networks. The video surveillance system provides the display and storage of the video captured by multiple remote cameras over an IP network for multiple users. It also provides other functionalities such as remote control and alarming. This Recommendation provides the service description, a brief system model, service scenarios and requirements for the video surveillance service. The requirements for the video surveillance service are derived from the scenarios of different applications that a video surveillance service can support. Therefore, the service requirements meet the needs of different kinds of users and enables interoperability among video surveillance systems of different telecom operators and units of different vendors.

This revision updates the title of this Recommendation, some technical content descriptions, and video surveillance system requirements in clause 8.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T F.743	2009-12-14	16	11.1002/1000/10615
2.0	ITU-T F.743 (V2)	2019-11-29	16	11.1002/1000/14102

Keywords

Alarming, camera, IP remote control, video surveillance.

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

© ITU 2019

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

Table of Contents

		Page
1	Scope.....	1
2	References.....	1
3	Definitions	1
	3.1 Terms defined elsewhere	1
	3.2 Terms defined in this Recommendation.....	1
4	Abbreviations and acronyms	2
5	Conventions	2
6	Introduction.....	2
7	Scenarios.....	3
	7.1 Real-time surveillance	3
	7.2 Recording and alarming	5
	7.3 Convergence of the VS service and other services	5
	7.4 Virtual special subsystem/rented subsystem	7
8	Video surveillance system requirements	8
	8.1 User requirements.....	8
	8.2 Service requirements	9
	8.3 Security requirements	12
	8.4 Network and control requirements	13
	8.5 QoS and QoE requirements	14
	8.6 Management requirements	14
	8.7 Accounting, charging and billing requirements	16
	8.8 Convergence with other service system requirements	16
	8.9 Output capabilities requirements	16
	8.10 Input capabilities requirements.....	16
	8.11 Accessibility requirements	16
	8.12 General design requirements	17
	Bibliography.....	18

Recommendation ITU-T F.743

Requirements and service description for video surveillance

1 Scope

This Recommendation describes the system model, service scenarios and specific service requirements for video surveillance. It fits within the framework of multimedia services defined by [ITU-T F.700], [ITU-T F.701] and [ITU-T F.702].

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T F.700] Recommendation ITU-T F.700 (2000), *Framework Recommendation for multimedia services*.
- [ITU-T F.701] Recommendation ITU-T F.701 (2000), *Guideline Recommendation for identifying multimedia service requirements*.
- [ITU-T F.702] Recommendation ITU-T F.702 (1996), *Multimedia conference services*.

3 Definitions

3.1 Terms defined elsewhere

None.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

- 3.2.1 closed user group:** An aggregation of some users within which each user can do some special operations with others, such as sharing resources.
- 3.2.2 customer unit:** A device located at the customer part of a video surveillance system and used to present multimedia information (such as audio, video, image, alarm signals, etc.) to the end user.
- 3.2.3 premises unit:** A device located at the remote part of a video surveillance system and used to capture multimedia information (such as audio, video, image, alarm signal, etc.) from a surveilled object.
- 3.2.4 surveilled object:** The target (such as site, human, and related environment) which is surveilled.
- 3.2.5 video surveillance system:** A telecommunication system focusing on video (but including audio) application technology, which is used to remotely capture multimedia (such as audio, video, image, alarm signals, etc.) and present them to the end user in a friendly manner, based on a managed broadband network with quality, security and reliability ensured.

3.2.6 video surveillance system ID: An identifier that identifies or names a device or a user in a video surveillance system.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

CU	Customer Unit
DRM	Digital Rights Management
EPG	Electronic Programme Guide
GIS	Geographic Information System
GPS	Global Positioning System
IM	Instant Messaging
IPTV	Internet Protocol Television
PC	Personal Computer
PSTN	Public Switched Telephone Network
PTZ	Pan/Tilt/Zoom
PU	Premises Unit
QoE	Quality of Experience
QoS	Quality of Service
SMS	Short Message Service
VoD	Video on Demand
VS	Video Surveillance
VSS	Video Surveillance System

5 Conventions

In this Recommendation:

- The keywords "**is required to**" indicate a requirement which must be strictly followed and from which no deviation is permitted if conformance to this Recommendation is to be claimed.
- The keywords "**is recommended**" indicate a requirement which is recommended but which is not absolutely required. Thus this requirement need not be present to claim conformance.
- The keywords "**can optionally**" indicate an optional requirement which is permissible, without implying any sense of being recommended. This term is not intended to imply that the vendor's implementation must provide the option and the feature can be optionally enabled by the network operator/service provider. Rather, it means the vendor may optionally provide the feature and still claim conformance to this Recommendation.

6 Introduction

Video surveillance (VS) can provide real-time surveilled video from one or more cameras possibly located in large, complex and spatially distributed regions; hence, users can monitor and analyze remote sites. Further, the surveilled video can be recorded for replaying.