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Information technology — Group management protocol

Technologies de l'information — Protocole de gestion de groupe

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Foreword

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The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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ISO/IEC 16513:2005 was prepared jointly by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems* in collaboration with ITU-T. The identical text is published as ITU-T Rec. X.602.

Introduction

Conventional multicast transport protocols do not include a dynamic mechanism for group management according to the join/leave of receivers and for the modification of membership information.

GMP provides a framework for multicast session management (SM) mechanism and membership management (MM), which supports the required management of multicast sessions and their members. This protocol can be key to reliable multicast communications.

GMP will operate over conventional transport protocols and/or ECTP as shown in Figure 1.

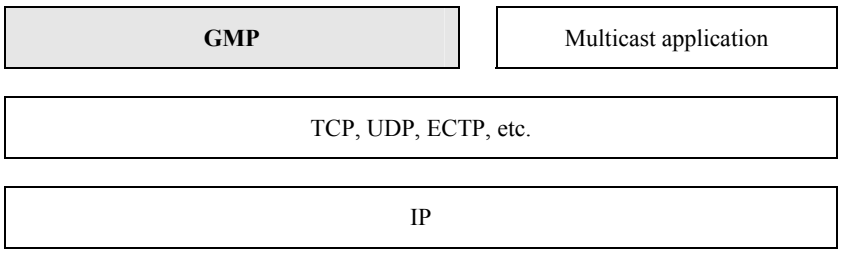

Figure 1 – GMP model (GMP protocol stack)

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Group management protocol

1 Scope

This Recommendation | International Standard provides a specification of a Group Management Protocol (GMP), which is an application-layer control protocol for creating a group session and for managing the group's participating members.

The GMP consists of session management (SM), membership management (MM), and the function of exchanging information between SM and MM. SM is responsible for session creation and deletion. MM manages the member lists based on session information retrieved from SM.

According to ITU-T Rec. X.601, "Multi-peer communications framework", the multi-peer communication service is achieved in seven distinct phases: registration, enrolment, activation, data transfer, deactivation, de-enrolment, and de-registration. Since one of these operations – data transfer – may be performed using ECTP or TCP, SM may perform the rest of operations: creation, announcement, registration, enrolment, activation, including session announcement. In addition, MM manages group members who are in enrolled or active groups.

SM may provide a convenient interface to users because it may be implemented on the Web. Operation of MM is transparent to users as in a transport protocol.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

- ITU-T Recommendation X.601 (2000), *Multi-peer communications framework.*
- ITU-T Recommendation X.605 (1998) | ISO/IEC 13252:1999, *Information technology – Enhanced Communications Transport Service definition.*
- ITU-T Recommendation X.606 (2001) | ISO/IEC 14476-1:2002, *Information technology – Enhanced Communications Transport Protocol: Specification of simplex multicast transport.*
- ITU-T Recommendation X.606.1 (2003) | ISO/IEC 14476-2:2003, *Information technology – Enhanced Communications Transport Protocol: Specification of QoS management for simplex multicast transport.*