

Network Working Group
Request for Comments: 2503
Category: Informational

R. Moulton
United Kingdom
M. Needleman
Data Research Associates, Inc
February 1999

MIME Types for Use with the ISO ILL Protocol

Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

Copyright Notice

Copyright (C) The Internet Society (1999). All Rights Reserved.

Abstract

This memorandum describes a set of MIME types for use with the ISO Interlibrary Loan Protocol (ISO 10160/10161). Two MIME types are specified below.

The first is a media type to carry objects which are BER [BER] encoded ISO ILL Protocol Data Units (PDU's). BER are the basic Encoding Rules used to encode PDU's which have been described using ASN.1 (Abstract Syntax Notation 1) [ASN.1] .

The second is for use with the associated document delivery instructions. Document Delivery Instructions (DDI) is an emerging protocol which enables automatic electronic delivery of items. It allows a request management system (which might have received a request for an item via the ISO Interlibrary Loan Protocol (ISO 10160/10161)) to pass details of the request, item, and delivery, to a delivery module, and to receive back reports on the delivery process or arrival of an item. It is currently being submitted to the ISO TC46/SC4/WG4 committee for approval as an ISO standard.

Registration Information

Media type name: application

Media subtype name: iso-10161-ill-1 - for BER encoded ISO ILL APDU's

Media type name: application

Media subtype name: ill-ddi - For associated Document Delivery Instructions

Required Parameter: transfer-encoding

For BER-encoded PDU's or DDI's, the only current legal value of this parameter is:

iso-8825-ber

The transfer-encoding parameter describes the way the PDU has been encoded before being submitted to the transport service (in this case MIME/RFC822). The two protocols described in this RFC specify their APDU's using ASN.1 (ISO 8824:1990) and the most common way of encoding ASN.1 packets is to use the Basic Encoding Rules (BER ISO 8825)

The parameter is included to allow future use of these MIME types with other encoding schemes. As an example, the ISO 10161 standard also describes an encoding method using EDIFACT. In the future, other schemes might also be employed. (Since the EDIFACT encoding is not currently in use amongst the ISO 10161 and DDI communities, a value for the transfer-encoding parameter to describe it is not being registered in this RFC.)

Optional parameter: iso-10161-apdu-type

Valid values are:

ILL-Request
Forward-Notification
Shipped
ILL-Answer
Conditional-Reply
Cancel
Cancel-Reply
Received
Recall
Returned
Checked-In
Overdue
Renew
Renew-Answer
Lost
Damaged
Message
Status-Query
Status-Or-Error-Report
Expired

This parameter is optional and can be provided for informational or diagnostic purposes. The value of the PDU or DDI type can be determined from the actual data sent. The use and format of the PDU's and DDI's is defined in the relevant protocol documents which describe them.

Examples

```
Content-Type: application/iso-10161-ill-1; transfer-encoding=iso-8825-ber; iso-10161-apdu-type=Recall;
```

```
Content-Type: application/ill-ddi; transfer-encoding=iso-8825-ber;
```

Encoding

Since BER encoded material is binary in nature, some form of encoding is needed when 7bit or 8bit transport mechanisms are employed.

The recommended encoding for BER encoded PDU's is Base64

PDU's per Message

When used to send BER encoded PDU's or DDI's. Each MIME body part will carry at most one BER encoded PDU or DDI. However, a single MIME message containing multiple body parts can be used to transport more than one BER PDU and or DDI.

Security Considerations

There are no known security risks associated with transmitting BER encoded PDU's in general. However, a particular BER encoded PDU or DDI may have security considerations that make it inappropriate for transmittal through public data networks unless appropriate protection mechanisms, like encryption, are used. Such a situation might occur, for example, when organizations are exchanging documents that contain secure or classified information and it is necessary to keep information about both the material being exchanged and the exchanging partners confidential.

Interoperability Considerations

BER is an international standard for encoding data meant to be transferred between two systems that may store data in different local formats internally [BER].

References

- [BER] ISO/IEC 8825:1990 Information Technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)
- [ASN.1] ISO/IEC 8824:1990 Information Technology - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1)
- ISO 10160:1997 Information and Documentation - Open Systems Interconnection - Interlibrary Loan Application Service Definition
- ISO 10161-1:1997 Information and Documentation - Open Systems Interconnection - Interlibrary Loan Application Protocol Specification - Part 1: Protocol Specification

Additional Information:

The National Library of Canada has been designated the maintenance agency for the ISO ILL protocol. For more information on this MIME type contact:

Barbara Shuh
Library Network Specialist
Information Analysis and Standards
Information and Technology Services
National Library of Canada
395 Wellington Street
Ottawa, Ontario CANADA
K1A 0N4

Phone: (819) 994-6969
Fax: (819) 994-6835
EMail: barbara.shuh@nlc-bnc.ca

Authors' Addresses

Ruth Moulton
Consultant
65 Tetherdown
London N10 1NH
United Kingdom

Phone: +44 (181) 883 5823
Email: ruth@muswell.demon.co.uk

Mark H Needleman
Data Research Associates, Inc.
1276 North Warson Road
P.O. Box 8495
St Louis, MO 63132-1806
USA

Phone: (800) 325-0888 (US/Canada)
(314) 432-1100 x318
Fax: (314) 993-8927
Email: mneedleman@dra.com

Full Copyright Statement

Copyright (C) The Internet Society (1999). All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to the Internet Society or other Internet organizations, except as needed for the purpose of developing Internet standards in which case the procedures for copyrights defined in the Internet Standards process must be followed, or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

