                            IANA Charset MIB

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Abstract

   This memo defines a portion of the Management Information Base (MIB)
   for use with network management protocols in the Internet community.
   This IANA Charset MIB is now an IANA registry. In particular, a
   single textual convention 'IANACharset' is defined that may be used
   to specify charset labels in MIB objects. 'IANACharset' was
   extracted from Printer MIB v2 (RFC 3805). 'IANACharset' was
   originally defined (and mis-named) as 'CodedCharSet' in Printer MIB
   v1 (RFC 1759). A tool has been written in C, that may be used by
   IANA to regenerate this IANA Charset MIB, when future charsets are
   registered in accordance with the IANA Charset Registration
   Procedures (RFC 2978).

Table of Contents

1. Introduction

    This IANA Charset MIB [CHARMIB] module defines the single textual
    convention 'IANACharset'. Once adopted, all future versions of the
    IANA Charset MIB [CHARMIB] may be machine-generated whenever the IANA
    Charset Registry [CHARSET] is updated by IANA staff according to the
    procedures defined in [RFC2978], using the utility [CHARGEN]
    described in section 3 of this document or any other machine-
    generation method.

    It is strongly recommended that future updates to the IANA Charset
    MIB [CHARMIB] be machine-generated (rather than hand-edited) to avoid
    asynchrony between the IANA Charset Registry [CHARSET] and the IANA
    Charset MIB [CHARMIB].

    Note: Questions and comments on this IANA Charset MIB [CHARMIB]
    should be sent to the editor (imcdonald@sharplabs.com) and IANA
    (iana@iana.org) with a copy to the IETF Charsets mailing list (ietf-
    charset@iana.org).

1.1. Conformance Terminology

    The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
    "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
    document are to be interpreted as described in BCP 14, RFC 2119
    [RFC2119].

1.2. Charset Terminology

    The following terms are used in this specification, exactly as
    defined in section 1 'Definitions and Notation' of the IANA Charset
    Registration Procedures [RFC2978]: "character", "charset", "coded
    character set (CCS)", and "character encoding scheme (CES)".

2. The Internet-Standard Management Framework

    For a detailed overview of the documents that describe the current
    Internet-Standard Management Framework, please refer to section 7 of
    RFC 3410 [RFC3410].

    Managed objects are accessed via a virtual information store, termed
    the Management Information Base or MIB. MIB objects are generally
    accessed through the Simple Network Management Protocol (SNMP).
    Objects in the MIB are defined using the mechanisms defined in the
    Structure of Management Information (SMI). This memo specifies a MIB
    module that is compliant to the SMIv2, which is described in STD 58,
    RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579], and STD 58, RFC 2580
    [RFC2580].

3. Generation of IANA Charset MIB

   Intellectual Property: The C language utility 'ianachar.c' [CHARGEN]
   and the IANA Charset MIB template file [CHARTEMP] are hereby donated
   by the author (Ira McDonald) to IANA, in perpetuity, free of license
   or any other restraint.

   The [CHARGEN] utility may be used to generate an updated version of
   the 'IANACharset' textual convention by reading and parsing the
   (currently plaintext) IANA Charset Registry [CHARSET].

   This utility parses each charset registration, finding (in order):

   1) The 'Name' field (which is saved for a fallback - see below);

   2) The 'MIBenum' field (which contains the IANA-assigned positive
      decimal enum value); and

   3) The (usually present) 'Alias' field that begins with 'cs' (that
      contains the IANA-assigned enum label). If an 'Alias' field is
      not found, the utility constructs one from the 'Name' field by:

      - Beginning the enum label with a lowercase 'cs' prefix;

      - Copying _only_ alpha/numeric characters from the 'Name' field
         to the enum label (ignoring punctuation, whitespace, etc.).

4. Definition of IANA Charset MIB

IANA-CHARSET-MIB DEFINITIONS ::= BEGIN
-- http://www.iana.org/assignments/ianacharset-mib

IMPORTS
    MODULE-IDENTITY,
        mib-2
            FROM SNMPv2-SMI   -- [RFC2578]
    TEXTUAL-CONVENTION
            FROM SNMPv2-TC;   -- [RFC2579]

ianaCharsetMIB MODULE-IDENTITY
    LAST-UPDATED   "200406080000Z"
    ORGANIZATION   "IANA"
    CONTACT-INFO   "   Internet Assigned Numbers Authority

                    Postal: ICANN
                            4676 Admiralty Way, Suite 330
                            Marina del Rey, CA 90292

```
                   Tel:    +1 310 823 9358
                   E-Mail: iana@iana.org"

    DESCRIPTION        "This MIB module defines the IANACharset
                        TEXTUAL-CONVENTION.  The IANACharset TC is used to
                        specify the encoding of string objects defined in
                        a MIB.

                        Each version of this MIB will be released based on
                        the IANA Charset Registry file (see RFC 2978) at
                        http://www.iana.org/assignments/character-sets.

                        Note:  The IANACharset TC, originally defined in
                        RFC 1759, was inaccurately named CodedCharSet.

                        Note:  Best practice is to define new MIB string
                        objects with invariant UTF-8 (RFC 3629) syntax
                        using the SnmpAdminString TC (defined in RFC 3411)
                        in accordance with IETF Policy on Character Sets and
                        Languages (RFC 2277).

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                        initial version of this MIB module was published
                        in RFC 3808; for full legal notices see the RFC
                        itself.  Supplementary information may be
                        available on
                        http://www.ietf.org/copyrights/ianamib.html."

    -- revision history

    REVISION           "200406080000Z"
    DESCRIPTION        "Original version transferred from Printer MIB,
                        generated from the IANA maintained assignments
                        http://www.iana.org/assignments/character-sets."

    ::= { mib-2 106 }

IANACharset ::= TEXTUAL-CONVENTION
    STATUS  current
    DESCRIPTION
        "Specifies an IANA registered 'charset' - coded character set
        (CCS) plus optional character encoding scheme (CES) - terms
        defined in 'IANA Charset Registration Procedures' (RFC 2978).

        Objects of this syntax are used to specify the encoding for
        string objects defined in one or more MIBs.  For example, the
        prtLocalizationCharacterSet, prtInterpreterDefaultCharSetIn, and
        prtInterpreterDefaultCharSetOut objects defined in Printer MIB.
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       The current list of 'charset' names and enumerated values
       is contained in the IANA Character Set Registry at:

          http://www.iana.org/assignments/character-sets

       Enum names are derived from the IANA Charset Registry 'Alias'
       fields that begin with 'cs' (for character set).
       Enum values are derived from the parallel 'MIBenum' fields."
     SYNTAX   INTEGER {
       other(1),   -- used if the designated
                   -- character set is not currently
                   -- registered by IANA
       unknown(2), -- used as a default value
       csASCII(3),
       csISOLatin1(4),
       csISOLatin2(5),
       csISOLatin3(6),
       csISOLatin4(7),
       csISOLatinCyrillic(8),
       csISOLatinArabic(9),
       csISOLatinGreek(10),
       csISOLatinHebrew(11),
       csISOLatin5(12),
       csISOLatin6(13),
       csISOTextComm(14),
       csHalfWidthKatakana(15),
       csJISEncoding(16),
       csShiftJIS(17),
       csEUCPkdFmtJapanese(18),
       csEUCFixWidJapanese(19),
       csISO4UnitedKingdom(20),
       csISO11SwedishForNames(21),
       csISO15Italian(22),
       csISO17Spanish(23),
       csISO21German(24),
       csISO60DanishNorwegian(25),
       csISO69French(26),
       csISO10646UTF1(27),
       csISO646basic1983(28),
       csINVARIANT(29),
       csISO2IntlRefVersion(30),
       csNATSSEFI(31),
       csNATSSEFIADD(32),
       csNATSDANO(33),
       csNATSDANOADD(34),
       csISO10Swedish(35),
       csKSC56011987(36),
       csISO2022KR(37),

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            csEUCKR(38),
            csISO2022JP(39),
            csISO2022JP2(40),
            csISO13JISC6220jp(41),
            csISO14JISC6220ro(42),
            csISO16Portuguese(43),
            csISO18Greek7Old(44),
            csISO19LatinGreek(45),
            csISO25French(46),
            csISO27LatinGreek1(47),
            csISO5427Cyrillic(48),
            csISO42JISC62261978(49),
            csISO47BSViewdata(50),
            csISO49INIS(51),
            csISO50INIS8(52),
            csISO51INISCyrillic(53),
            csISO54271981(54),
            csISO5428Greek(55),
            csISO57GB1988(56),
            csISO58GB231280(57),
            csISO61Norwegian2(58),
            csISO70VideotexSupp1(59),
            csISO84Portuguese2(60),
            csISO85Spanish2(61),
            csISO86Hungarian(62),
            csISO87JISX0208(63),
            csISO88Greek7(64),
            csISO89ASMO449(65),
            csISO90(66),
            csISO91JISC62291984a(67),
            csISO92JISC62991984b(68),
            csISO93JIS62291984badd(69),
            csISO94JIS62291984hand(70),
            csISO95JIS62291984handadd(71),
            csISO96JISC62291984kana(72),
            csISO2033(73),
            csISO99NAPLPS(74),
            csISO102T617bit(75),
            csISO103T618bit(76),
            csISO111ECMACyrillic(77),
            csa71(78),
            csa72(79),
            csISO123CSAZ24341985gr(80),
            csISO88596E(81),
            csISO88596I(82),
            csISO128T101G2(83),
            csISO88598E(84),
            csISO88598I(85),
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            csISO139CSN369103(86),
            csISO141JUSIB1002(87),
            csISO143IECP271(88),
            csISO146Serbian(89),
            csISO147Macedonian(90),
            csISO150(91),
            csISO151Cuba(92),
            csISO6937Add(93),
            csISO153GOST1976874(94),
            csISO8859Supp(95),
            csISO10367Box(96),
            csISO158Lap(97),
            csISO159JISX02121990(98),
            csISO646Danish(99),
            csUSDK(100),
            csDKUS(101),
            csKSC5636(102),
            csUnicode11UTF7(103),
            csISO2022CN(104),
            csISO2022CNEXT(105),
            csUTF8(106),
            csISO885913(109),
            csISO885914(110),
            csISO885915(111),
            csISO885916(112),
            csGBK(113),
            csGB18030(114),
            csOSDEBCDICDF0415(115),
            csOSDEBCDICDF03IRV(116),
            csOSDEBCDICDF041(117),
            csUnicode(1000),
            csUCS4(1001),
            csUnicodeASCII(1002),
            csUnicodeLatin1(1003),
            csUnicodeIBM1261(1005),
            csUnicodeIBM1268(1006),
            csUnicodeIBM1276(1007),
            csUnicodeIBM1264(1008),
            csUnicodeIBM1265(1009),
            csUnicode11(1010),
            csSCSU(1011),
            csUTF7(1012),
            csUTF16BE(1013),
            csUTF16LE(1014),
            csUTF16(1015),
            csCESU8(1016),
            csUTF32(1017),
            csUTF32BE(1018),
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        csUTF32LE(1019),
        csBOCU1(1020),
        csWindows30Latin1(2000),
        csWindows31Latin1(2001),
        csWindows31Latin2(2002),
        csWindows31Latin5(2003),
        csHPRoman8(2004),
        csAdobeStandardEncoding(2005),
        csVenturaUS(2006),
        csVenturaInternational(2007),
        csDECMCS(2008),
        csPC850Multilingual(2009),
        csPCp852(2010),
        csPC8CodePage437(2011),
        csPC8DanishNorwegian(2012),
        csPC862LatinHebrew(2013),
        csPC8Turkish(2014),
        csIBMSymbols(2015),
        csIBMThai(2016),
        csHPLegal(2017),
        csHPPiFont(2018),
        csHPMath8(2019),
        csHPPSMath(2020),
        csHPDesktop(2021),
        csVenturaMath(2022),
        csMicrosoftPublishing(2023),
        csWindows31J(2024),
        csGB2312(2025),
        csBig5(2026),
        csMacintosh(2027),
        csIBM037(2028),
        csIBM038(2029),
        csIBM273(2030),
        csIBM274(2031),
        csIBM275(2032),
        csIBM277(2033),
        csIBM278(2034),
        csIBM280(2035),
        csIBM281(2036),
        csIBM284(2037),
        csIBM285(2038),
        csIBM290(2039),
        csIBM297(2040),
        csIBM420(2041),
        csIBM423(2042),
        csIBM424(2043),
        csIBM500(2044),
        csIBM851(2045),
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        csIBM855(2046),
        csIBM857(2047),
        csIBM860(2048),
        csIBM861(2049),
        csIBM863(2050),
        csIBM864(2051),
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        csIBM868(2053),
        csIBM869(2054),
        csIBM870(2055),
        csIBM871(2056),
        csIBM880(2057),
        csIBM891(2058),
        csIBM903(2059),
        csIBBM904(2060),
        csIBM905(2061),
        csIBM918(2062),
        csIBM1026(2063),
        csIBMEBCDICATDE(2064),
        csEBCDICATDEA(2065),
        csEBCDICCAFR(2066),
        csEBCDICDKNO(2067),
        csEBCDICDKNOA(2068),
        csEBCDICFISE(2069),
        csEBCDICFISEA(2070),
        csEBCDICFR(2071),
        csEBCDICIT(2072),
        csEBCDICPT(2073),
        csEBCDICES(2074),
        csEBCDICESA(2075),
        csEBCDICESS(2076),
        csEBCDICUK(2077),
        csEBCDICUS(2078),
        csUnknown8BiT(2079),
        csMnemonic(2080),
        csMnem(2081),
        csVISCII(2082),
        csVIQR(2083),
        csKOI8R(2084),
        csHZGB2312(2085),
        csIBM866(2086),
        csPC775Baltic(2087),
        csKOI8U(2088),
        csIBM00858(2089),
        csIBM00924(2090),
        csIBM01140(2091),
        csIBM01141(2092),
        csIBM01142(2093),
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            csIBM01143(2094),
            csIBM01144(2095),
            csIBM01145(2096),
            csIBM01146(2097),
            csIBM01147(2098),
            csIBM01148(2099),
            csIBM01149(2100),
            csBig5HKSCS(2101),
            csIBM1047(2102),
            csPTCP154(2103),
            csAmiga1251(2104),
            csKOI7switched(2105),
            cswindows1250(2250),
            cswindows1251(2251),
            cswindows1252(2252),
            cswindows1253(2253),
            cswindows1254(2254),
            cswindows1255(2255),
            cswindows1256(2256),
            cswindows1257(2257),
            cswindows1258(2258),
            csTIS620(2259),
            reserved(3000)
      }
END
```

5. IANA Considerations

   IANA has assigned a base arc in the 'mgmt' (standards track) OID tree
   for the 'ianaCharset' MODULE-IDENTITY defined in the IANA Charset MIB
   [CHARMIB].

   Whenever any 'charset' is added to the IANA Charset Registry
   [CHARSET], a new version of the IANA Charset MIB [CHARMIB] may be
   machine-generated using the C language utility [CHARGEN], described
   in section 3 of this document or some other utility.

6. Internationalization Considerations

   The IANA Charset MIB [CHARMIB] defines the 'IANACharset' textual
   convention that may be used in a given MIB module to supply explicit
   character set labels for one or more text string objects defined in
   that MIB module.

   For example, the Printer MIB [RFC1759] defines the three character
   set label objects 'prtLocalizationCharacterSet' (for description and
   console strings), 'prtInterpreterDefaultCharSetIn' (for received

   print job input data), and 'prtIntpreterDefaultCharSetOut' (for
   processed print job output data).

   The IANA Charset MIB [CHARMIB] supports implementation of the best
   practices specified in "IETF Policy on Character Sets and Languages"
   [RFC2277].

   Note: The use of the 'SnmpAdminString' textual convention defined in
   [RFC3411], which has a fixed character set of UTF-8 [RFC3629], is
   STRONGLY RECOMMENDED in defining new MIB modules. The IANA Charset
   MIB [CHARMIB] supports locale-specific MIB objects with variable
   character sets.

7. Security Considerations

   This MIB module does not define any management objects. Instead, it
   defines a (set of) textual convention(s) which may be used by other
   MIB modules to define management objects.

   Meaningful security considerations can only be written in the MIB
   modules that define management objects. Therefore, this document has
   no impact on the security of the Internet.

8. Acknowledgements

   The editor would like to thank: Bert Wijnen (Lucent) for his
   original suggestion that the 'IANACharset' textual convention should
   be extracted from Printer MIB v2 [RFC3805]; Ron Bergman (Hitachi
   Printing Solutions) and Harry Lewis (IBM) for their many years of
   effort as editors of Printer MIB v2 [RFC3805].

9. References

9.1. Normative References

   [RFC2119]   Bradner, S., "Key words for use in RFCs to Indicate
                Requirement Levels", BCP 14, RFC 2119, March 1997.

   [RFC2277]   Alvestrand, H., "IETF Policy on Character Sets and
                Languages", RFC 2277, January 1998.

   [RFC2578]   McCloghrie, K., Perkins, D., and J. Schoenwaelder,
                "Structure of Management Information Version 2 (SMIv2)",
                STD 58, RFC 2578, April 1999.

   [RFC2579]   McCloghrie, K., Perkins, D., and J. Schoenwaelder,
                "Textual Conventions for SMIv2", STD 58, RFC 2579, April
                1999.

   [RFC2580]   McCloghrie, K., Perkins, D., and J. Schoenwaelder,
                   "Conformance Statements for SMIv2", STD 58, RFC 2580,
                   April 1999.

   [RFC2978]   Freed, N. and J. Postel, "IANA Charset Registration
                   Procedures", BCP 19, RFC 2978, October 2000.

   [RFC3411]   Harrington, D., Presuhn, R., and B. Wijnen, "An
                   Architecture for Describing SNMP Network Management
                   Frameworks", STD 62, RFC 3411, December 2002.

   [RFC3629]   Yergeau, F., "UTF-8, a transformation format of ISO
                   10646", RFC 3629, November 2003.

9.2.   Informative References

   [CHARGEN]   IANA Charset MIB Generation Utility (archived at):
                   ftp://www.pwg.org/pub/pwg/pmp/tools/ianachar.c

   [CHARMIB]   IANA Charset MIB (in the future, to be archived at):
                   http://www.iana.org/assignments/ianacharset-mib

   [CHARSET]   IANA Charset Registry (archived at):
                   http://www.iana.org/assignments/character-sets

   [CHARTEMP]   IANA Charset MIB template file (archived at):
                   ftp://www.pwg.org/pub/pwg/pmp/tools/ianachar.dat

   [RFC1759]   Smith, R., Wright, F., Hastings, T., Zilles, S., and J.
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                   v2", RFC 3805, June 2004.

   [RFC3410]   Case, J., Mundy, P., Partain, D., and B. Stewart,
                   "Introduction and Applicability Statements for
                   Internet-Standard Network Management Framework", RFC
                   3410, December 2002.

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   Note: Questions and comments on this IANA Charset MIB [CHARMIB]
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   (iana@iana.org) with a copy to the IETF Charsets mailing list
   (ietf-charset@iana.org).

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