Japan has the following technical requirements to the international standards for Linux.

- Internationalization: The international standard for Linux base (LSB) should have at least equivalent internationalization functionality with ISO/IEC 9945 series of standards and have capability to input, manipulate and output textual data whose character repertoire is ISO/IEC 10646. The required functionality is specified in OpenI18N specification developed by the Free Standards Group. The detail requirements are described in A below.
- Advanced internationalization functionality: In addition to the LSB, international standards for Linux should specify the following advanced internationalization functionality as a modern operating system:
  - Smart fonts handling API: In addition to bitmap fonts support interface specified by the X Window System, the international standards for Linux should specify interface through which various types of smart fonts can be accessed in a consistent manner. Also, the international standards should enable the handling of characters beyond the Basic Multilingual Plane of ISO/IEC 10646.
  - Advanced Input Method API: In addition to the XIM interface and protocols specified by the X Window System, the international standards for Linux should specify an Advanced Input Method interface and protocols which allow users to switch input methods dynamically, for example between English direct input method and Japanese Kana-to-Kanji input method, and allow programs to get interim conversion result during input process. The functionality is needed for Linux desktop applications.
  - Multi-lingual console and terminal emulator: The international standards for Linux should specify console and terminal emulator that is capable to display multi-lingual textual data simultaneously. That console and terminal emulator shall support not only Latin single byte, single column, left-to-right writing system, but also multiple bytes, multiple columns and right-to-left writing system.
  - Method to handle non-standard characters: The international standards for Linux should specify a means how Private Use characters of ISO/IEC 10646 can be handled in Linux.
- RAS functionality: The international standards for Linux should have the RAS functionality including crash dump and trace. OSDL (Open Source Development Lab.) developed those technologies for enterprise use of Linux.
- Printing: The international standards for Linux should specify interfaces for printing system in the near future. These interfaces should not conflict with OpenPrinting specification that is now under development by the Free Standards Group.
- Embedded systems functionality: The international standards for Linux should specify its subset for embedded systems' usages in the future. It should also specify interfaces for battery management and QoS features. Embedded systems functionality on Linux is under development by various groups in worldwide cooperation.

Some of the requirements shown above may be integrated in the LSB standard, and others may be

standardized as supplemental standards to the LSB.

A. Internationalization Requirements to be included in the ISO/IEC LSB standard

A1. Environment Variables

Conforming implementations shall provide the following environment variables that are relevant to the operation of internationalized interfaces and/or internationalized commands and utilities.

LANG
LC_ALL
LC_COLLATE
LC_CTYPE
LC_MESSAGES
LC_MONETARY
LC_NUMERIC
LC_TIME
NLSPATH

The usage and the semantics of these environment variables shall be the same as the descriptions in ISO/IEC 9945-1:2003, ISO/IEC 9945-2:2003 and ISO/IEC 9945-3:2003.

A2. Locales

Conforming implementations shall support the POSIX and C locales as specified in ISO/IEC 9945-1:2003.
Conforming implementations may provide additional locales.
Conforming implementations shall document supported locales on a system.

The localedef utility shall have the capability to create locales based on UTF-8 codeset.
Once a new locale is created, the functions and utilities, whose behavior is determined by the setting of the environment variable specified in A1, shall behave according to the created locale.

A3. Input Methods

Conforming implementations shall provide a means for users to input all of the characters supported in each locale.

Conforming implementations should have a capability to allow users to input whole repertoire of Unicode 3.0.

A4. Output Methods

Conforming implementations shall provide a means for users to output all of the characters supported in each locale.

Conforming implementations should have a capability to allow users to output the following collections of UCS implementation level 1 defined in ISO/IEC 10646-1:2000.

Note: ISO/IEC 10646-1:2000 defines character blocks for subsetting purpose which are called character collections. Such character collections are used here to indicate minimum displayable subset.

1	BASIC LATIN	0020-007E
2	LATIN-1 SUPPLEMENT	00A0-00FF
3	LATIN EXTENDED-A	0100-017F
4	LATIN EXTENDED-B	0180-024F
5	IPA EXTENSIONS	0250-02AF
8	BASIC GREEK	0370-03CF
9	GREEK SYMBOLS AND COPTIC	03D0-03FF
10	CYRILLIC	0400-04FF
11	ARMENIAN	0530-058F
27	BASIC GEORGIAN	10D0-10FF
30	LATIN EXTENDED ADDITIONAL	1E00-1EFF
31	GREEK EXTENDED	1F00-1FFF
32	GENERAL PUNCTUATION	2000-206F (only graphical characters)
33	SUPERSCRIPTS AND SUBSCRIPTS	2070-209F
34	CURRENCY SYMBOLS	20A0-20CF
36	LETTERLIKE SYMBOLS	2100-214F
37	NUMBER FORMS	2150-218F
38	ARROWS	2190-21FF
39	MATHEMATICAL OPERATORS	2200-22FF
40	MISCELLANEOUS TECHNICAL	2300-23FF
41	CONTROL PICTURES	2400-243F
42	OPTICAL CHARACTER RECOGNITION	2440-245F
44	BOX DRAWING	2500-257F
45	BLOCK ELEMENTS	2580-259F

46	GEOMETRIC SHAPES	25A0-25FF
47	MISCELLANEOUS SYMBOLS	2600-26FF
49	CJK SYMBOLS AND PUNCTUATION	3000-303F
50	HIRAGANA	3040-309F
51	KATAKANA	30A0-30FF
52	BOPOMOFO	3100-312F
54	CJK MISCELLANEOUS	3190-319F
55	ENCLOSED CJK LETTERS AND MONTHS	3200-32FF
56	CJK COMPATIBILITY	3300-33FF
60	CJK UNIFIED IDEOGRAPHS	4E00-9FFF
62	CJK COMPATIBILITY IDEOGRAPHS	F900-FAFF
66	CJK COMPATIBILITY FORMS	FE30-FE4F
69	HALFWIDTH AND FULLWIDTH FORMS	FF00-FFEF
71	HANGUL EXTENDED	AC00-D7A3
76	YI SYLLABLES	A000-A48F
77	YI RADICALS	A490-A4CF
81	CJK UNIFIED IDEOGRAPHS EXTENSION A	3400-4DBF