

Moblin v2 Compliance Specification

Version 1.9.1

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About this document

This document contains the requirements for OSVs to create Moblin v2 compliant distributions and ISVs to create Moblin v2 compliant applications.

This document is preliminary, forward looking, and made available to solicit input. Changes should be expected.

Sections in **blue** are still pending and may not be included in the final version. Sections in **red** are changes from the previous published version, see the Changes chapter for earlier changes.

The majority of the specification describes the compliance requirements which are common among all platform types (Netbook, MID, and IVI). Platform type specific requirements are placed in individual sections as addendums at the end of the specification.

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This document contains information on products in the design phase of development.

*Other names and brands may be claimed as the property of others

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1. Introduction and Goals

The vision for Moblin is to help the ecosystem leverage existing PC Linux applications and allow development of new applications across the emerging category of mobile and embedded devices. These include Intel® Atom™ processor-based Mobile Internet Devices (MID), Netbooks, nettops, and In-Vehicle Infotainment (IVI) systems.

Multiple Operating System Vendors (OSVs) are creating distributions for these platforms. Moblin compliance ensures that applications will run on all devices with Moblin-compliant operating systems, with segment-specific adaptation, lowering the ecosystem efforts to develop or port, validate, and deploy.

Compliance has the following goals:

- **Moblin compliant applications work across all Moblin compliant OSV platforms with little or no modification.** The effort for application developers to support multiple platforms will vary depending on the hardware dependencies, segment specific usage model interface, and features.
- A high standard of quality in the following areas: web browsing experience, boot time, battery life, media playback, and performance.

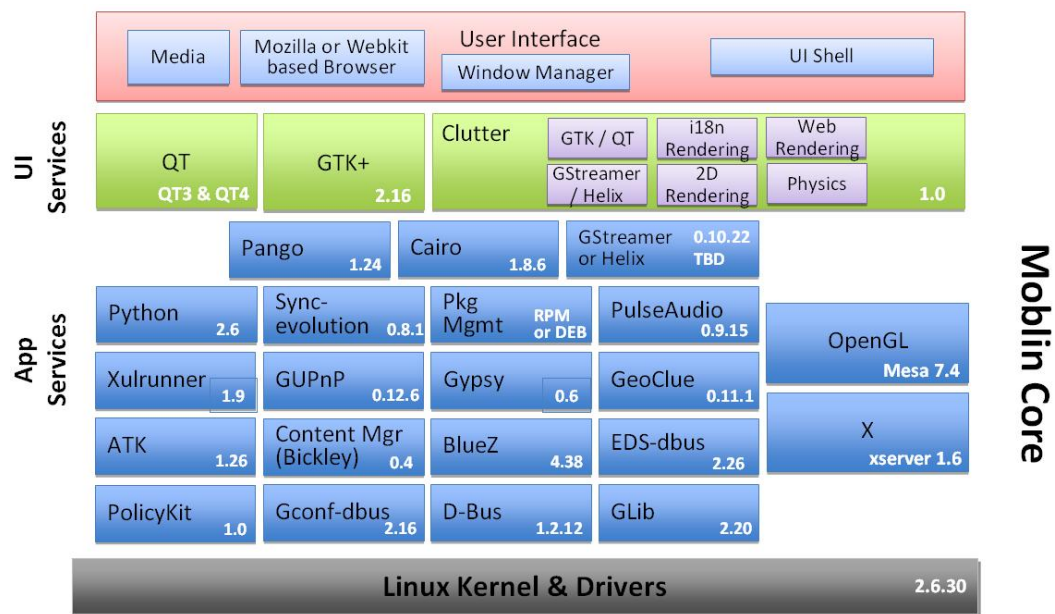
1.1 Relevance to OSVs and Application Developers

This document targets application developers, such as Independent Software Vendors (ISVs), and OSV communities. OSVs that intend to become Moblin compliant must comprehend this entire specification—there are no optional components.

Note: For clarity, an ISV section has been added that details the requirements for applications to be compliant. ISVs should also be familiar with the OSV requirements.

1.2 Software Platform Preview

A Moblin compliant distribution must contain core components of the [Moblin Core](#). The following picture is a high-level view of required components and versions.



2. Compliance Tools

Compliance tools can be downloaded here: <http://moblin.org/compliance>

The following tools assist with self-certification:

1. OSV-library check: Moblin-extended version of LSB tools evaluate existence of correct libraries, versions, and function signatures.
2. OSV-feature check: Checks for browser features, media features, boot time, suspend-to-ram time, battery usage, and other quality metrics.
3. ISV-library check: Moblin-extended version of LSB tools evaluate the libraries used by an application.
4. ISV-Package and install: Verifies that packaging and program installation are compliant.

3. Certification Process

Currently self-certification. Run the tools against your distribution or application and make the necessary adjustments to pass the tests successfully.

4. Proprietary Components

As part of the goal to ensure that products based on Moblin compliant operating systems attain a high standard of quality with respect to web browsing, a group of proprietary media-related components are included as part of compliance. Examples include the Adobe Flash* library and media codecs for popular media types. For all proprietary components (closed source, royalty based or where up front payments/licenses are required), OSVs must ensure they work correctly and could be integrated. However, these components (plug-ins, codecs, etc.) need not be present by default in the OSV offering. Original Equipment Manufacturers (OEMs) or Original Device Manufacturers (ODMs) can decide what proprietary components they want to include in their products based on licensing costs, geographical markets, and device constraints. OEMs and ODMs are responsible for obtaining these components either from the OSV or from another source (e.g. from Adobe® for their Flash® technology or Fluendo or RealNetworks® for media codecs).

5. LSB 4

Moblin compliance incorporates compliance to LSB 4.0. For more information, see the following references:

Introduction: <http://www.linuxfoundation.org/collaborate/workgroups/lsb>

LSB site, specification, and tools: http://www.linuxfoundation.org/en/LSB_4.0_Beta

LSB is a multi-part specification that also supports multiple architectures. In the Moblin context, the following specifications make up the requirements for “LSB 4.0”:

- [Linux Standard Base Core Specification 4.0](#) & [Core Specification for IA32 4.0](#)
- [Linux Standard Base C++ Specification 4.0](#) & [C++ Specification for IA32 4.0](#)
- [Linux Standard Base Desktop Specification 4.0](#) & [Desktop Specification for IA32 4.0](#)
- [Linux Standard Base Languages Specification 4.0](#)
- [Linux Standard Base Printing Specification 4.0](#)

5.1 Libraries More Recent than LSB 4.0

In some cases, Moblin compliance requires newer versions of libraries required by LSB 4.0. In all such cases, the newer API versions are backward compatible to the LSB 4.0 versions (maintain LSB library functions and function signatures) and satisfy the LSB compliance requirement. These libraries are listed in section 14.

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5.2 Differences to LSB

LSB 4.0 requires the program interpreter to be `/lib/ld-lsb.so.3` (ref. [Linux Standard Base Core Specification for IA32 4.0, section 11.1](#)). Moblin removes this requirement, the standard linker is `/lib/ld-linux.so.2`. However, conforming distributions must still provide this LSB linker so that they can run LSB-compliant programs.

LSB 4.0 requires the presence of `/usr/sbin/sendmail` (ref. [Linux Standard Base Core Specification 4.0, Chapter 15 Commands and Utilities](#)). Moblin removes this requirement.

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6. Linux Kernel

6.1 Features

ID	Name	Description
6.1.1	Kernel Version	Recommended: version 2.6.30 or later. No fixed requirement for kernel version (but system must have DRI2 and KMS support)
6.1.2	DRI2 support	Kernel shall support Direct Rendering Infrastructure 2 (DRI2), aka Redirected Direct Rendering. See graphics section 11.
6.1.3	KMS support	Kernel shall support Kernel-based Mode Setting (KMS)

6.2 Recommended Configuration Flags

The following are recommended but not required. These have been proven to provide extended battery life with recent versions of the kernel on x86 platforms.

ID	Name	Description
6.2.1	Tickless	Tickless System (Dynamic Ticks): CONFIG_NO_HZ
6.2.2	HPET	HPET Timer Support: CONFIG_HPET_TIMER
6.2.3	SMP	Symmetric multi-processing support: CONFIG_SMP
6.2.4	SMT	Hyperthreading scheduler support: CONFIG_SCHED_SMT
6.2.5	Power cpufreq	The cpufreq governor should be enabled and the ondemand governor used as default cpufreq governor in the kernel. CONFIG_CPU_FREQ_GOV_ONDEMAND CONFIG_CPU_FREQ_DEFAULT_GOV_ONDEMAND
6.2.6	Power cpu idle	The cpu idle governor should be enabled and the menu idle governor used as default idle governor in the kernel. CONFIG_CPU_IDLE CONFIG_CPU_IDLE_GOV_MENU

7. Performance and Power Standards

This section contains performance and power measurements that may be affected by hardware or platform capabilities. The platform specifics that are used to verify this section are as follows:

Netbook with SolidState Disk	Netbook with Hard Disk
Diamondville platform	Diamondville platform
512 MB DDR2-667 (5333 Mb/sec)	512 MB DDR2-667 (5333 Mb/sec)
SSD boot media	HDD boot media
Examples: Acer AspireOne (8GB SSD) Asus EeePC 900SD (8GB SSD) Dell Mini 9 (8GB SSD)	Examples: Asus EeePC 900HD (160GB HDD) Dell Mini 10v (160GB HDD) Samsung NC10 (160GB HDD)

Moblin devices are expected to have fast boot times and low power consumption. The operating system should be configured to provide these features.

7.1 Boot Time

ID	Name	Description
7.1.1	Startup Cold Boot	A system equipped with an SSD shall boot in 10 seconds or less. A system equipped with an HDD shall boot in 25 seconds or less. This is the time after the BIOS has finished loading until the time X loads and the window manager displays the home screen.
7.1.2	Shutdown	The system shall shutdown in 18 seconds or less.

7.2 Suspend / Recover from RAM (S3)

ID	Name	Description
7.2.1	Suspend to RAM	The system allows the user to suspend to RAM (S3)
7.2.2	STR time	The system suspends to RAM in 5 seconds or less
7.2.3	STR recover time	The system recovers from RAM in 8 seconds or less

Note Moblin has no requirement for S4, Suspend to Disk.

8. Package Management

ID	Name	Description		
8.1.1	RPM or DEB	The system must use either RPM or Debian package management systems and support either .rpm or ..deb package formats.		
8.1.2	Package Manager Version	The system must have one of the following packages and versions:		
		<table border="1"> <tr> <td>RPM-based distro: rpm v4.4.2.3 or compatible</td> <td>DEB-based distro: dpkg v1.14.16 or compatible</td> </tr> </table>	RPM-based distro: rpm v4.4.2.3 or compatible	DEB-based distro: dpkg v1.14.16 or compatible
RPM-based distro: rpm v4.4.2.3 or compatible	DEB-based distro: dpkg v1.14.16 or compatible			
8.1.3	Repository Manager	<table border="1"> <tr> <td>One of: yum v3.2.7 or compatible zypper v1.0.2 or compatible</td> <td>apt v0.7.9 or compatible</td> </tr> </table>	One of: yum v3.2.7 or compatible zypper v1.0.2 or compatible	apt v0.7.9 or compatible
One of: yum v3.2.7 or compatible zypper v1.0.2 or compatible	apt v0.7.9 or compatible			
8.1.4	Support for LSB 4	<p>LSB 4 states: Applications shall either be packaged in the RPM packaging format as defined in this specification, or supply an installer which is LSB conforming.</p> <p>Ref: Linux Standard Base Core Specification 4.0, Chapter 22 Software Installation</p>		

Field Code Changed

9. Desktop Integration

The OS platform must support applications that conform to the following specifications (part of FreeDesktop.org):

1. Desktop base directory specification v0.6 – <http://www.freedesktop.org/wiki/Specifications/basedir-spec>
2. Desktop Entry Specification v1.0 - <http://www.freedesktop.org/wiki/Specifications/desktop-entry-spec>
3. Desktop Menu Specification v1.0 - <http://www.freedesktop.org/wiki/Specifications/menu-spec>
4. Icon Theme Specification v0.11 - <http://www.freedesktop.org/wiki/Specifications/icon-theme-spec>
5. MIME Type Specification v0.18 - <http://www.freedesktop.org/wiki/Specifications/shared-mime-info-spec>

Field Code Changed

ID	Name	Description
9.1.1	Launch App	Provides the user the possibility to launch an application when that application is represented by a conforming .desktop file placed in the \$XDG_DATA_DIRS/applications/ directory or one of its subdirectories. (e.g. /usr/share/applications/)
9.1.2	Display App	Presents any application that has at least one "Main Category," as defined by the Desktop Menu Specification, included in its "Categories" field.
9.1.3	Display App Icon	Visually represents the application with the picture file identified in the "Icon" field of a .desktop file. The picture file location may be specified with an absolute path, otherwise /usr/share/icons/hicolor must be searched. Other locations may be searched as well. Supported picture file types must include PNG and SVG.
9.1.4	Link field	Supports .desktop files with a "Type=Link" field. Activation of such .desktop file MUST cause the URL specified to open in the platform's web browser and brought into focus.

10. Window Manager

ID	Name	Description
10.1.1	Compositing	The window manager shall support compositing for the X Window System.

11. Graphics – DRI2 Support

11.1.1	Redirected Direct Rendering	The graphics subsystem shall support DRI2. The system shall be able to run OpenGL applications within composited windows
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12. Browser and Media

12.1 Web Browser

ID	Name	Description
12.1.1	Browser	The browser must satisfy one of the following requirements: 1) Mozilla based browser (Firefox-branded browser or browser based on Mozilla widget) OR 2) Webkit based browser
12.1.2	Xulrunner	Xulrunner v1.9 or compatible
12.1.3	Adobe Flash*	System includes the Adobe Flash player v10 or higher Note: Various websites may change to require newer formats without warning. The system should be prepared to update the version of Flash support for continued quality media support.
12.1.4	Browser Plugin Flash	Browser has a plugin to run Flash v10 content embedded within the web page.
12.1.5	Browser Plugin Java	(optional) Browser has a plugin to run Java Applets. (Related to optional inclusion of Java in section 13.1)
12.1.6	Browser Plugin Media	Browser has a plugin that supports user clicking on media and having it start playing. Media engine and supported media types are listed in section 12.2
12.1.7	Media played Inline	(optional, recommended) Media plugin supports playing media embedded in the web page (as opposed to launching a separate application UI)

12.1.8	Browser standards support	<p>Browser supports the following features and standards:</p> <ul style="list-style-type: none"> • DOM Level 3 • Javascript 1.6 • Cascading Style Sheets (CSS3) • XHTML 1.1 • iFrame • XMLHttpRequest • Dynamic HTML • HTML 4.01 • Full AJAX - Web 2.0
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12.2 Media Types

The system provides support for the following media types within either the Gstreamer or Helix infrastructure. (Related library requirements are in section 14.4.)

ID	Name	Description
12.2.1	Container: ASF	<p>Support for Advanced Systems Format (ASF) media container. Video codecs: WMV v8, VC-1 Audio codecs: WMA v8</p> <p>Recommended: Support for ASF metadata including things such as artist, title, genre, director, etc.</p>
12.2.2	Container: AVI	<p>Support for Audio Video Interleave (AVI) media container. Video codecs: Full frame (uncompressed), H.264, MPEG-4 part 2 Audio codecs: AAC, MP3, AC3</p>
12.2.3	Container: OGG	<p>Support for OGG media container Video codecs: Theora Audio codecs: Vorbis, FLAC</p>
12.2.4	Container: MP4	<p>Support for MPEG-4 part 14 media container Video codecs: H.264, MPEG-4 part 2 Audio codecs: AAC, MP3, AC3</p>
12.2.5	Container: MOV	<p>Support for MOV (Quicktime) media container Video codecs: H.264, MPEG-4 part 2 Audio codecs: AAC</p>
12.2.6	Container: MPEG TS	<p>Support for MPEG TS media container* Video codecs: H.264, MPEG2 Audio codecs: MP2, MP3, AC3</p> <p>*modern camera output and Blue-ray DVD format</p>
12.2.7	Container: MPEG2 PS	<p>Support for MPEG2 PS media container Video codecs: MPEG2 Audio codecs: MP3, AC3</p>
12.2.8	Video H.264	<p>Ability to play H.264 video format</p> <ul style="list-style-type: none"> • Baseline profile: L1.3, L2.2, and L3.2 • Main profile: L1.3, L2.2, L3.2, and L4.1
12.2.9	Video VC-1	<p>Ability to play VC-1 video format</p> <ul style="list-style-type: none"> • Advanced profile: L0 – L3 • Simple profile at low and medium levels • Main profile at low, medium, and high levels

12.2.10	Video MPEG-2	Ability to play MPEG-2 video format <ul style="list-style-type: none"> • Main profile at high level • Simple profile at high level
12.2.11	Video MPEG-4	Ability to play MPEG-4 part 2 video format <ul style="list-style-type: none"> • Advanced simple profile: L0 – L5 • Simple profile: L0 – L3
12.2.12	Audio MP3	Ability to play MP3 format audio format <ul style="list-style-type: none"> • Baseline profile: L1.3, L2.2, and L3.2 • 32kbps – 320kbps • 11025hz – 48000hz
12.2.13	Audio MP2	Ability to play MPEG-1 Audio Layer II (MP2) audio format
12.2.14	Audio AC3	Ability to play AC3 format audio format <ul style="list-style-type: none"> • Mono/stereo/5.1 channel • 22050hz – 48000hz • 48kbps – 448kbps
12.2.15	Audio AAC	Ability to play AAC format audio format <ul style="list-style-type: none"> • Mono/stereo • 11025hz – 48000hz • 24kbps – 256kbps • Profiles: Low Complexity, Main
12.2.16	Audio WMA	Ability to play WMA v8 audio format <ul style="list-style-type: none"> • Mono/stereo • 22050hz – 48000hz • 32kbps – 192kbps

13. Interpreted Languages

13.1 Java

Java SE 6 is part of LSB 4.0 as a *Trial Use* component.

Moblin has no requirement for Java.

13.2 Python

ID	Name	Sonames	Moblin
13.2.1	Python	libpython2.6.so.1.0	2.6
13.2.2	Python-Gtk Bindings	NA	2.16.1

The Python modules that should be present are the same as LSB 4.0, with the addition of the **gtk** and **gobject** modules.

See http://refspecs.linux-foundation.org/LSB_4.0.0/LSB-Languages/LSB-Languages.html#PYMODULES

Note that the version of Python listed is not required to be used as long as the language and required modules are fully compatible from the viewpoint of a certified application with that of the listed version.

13.3 Perl

ID	Name	Sonames	Moblin
13.3.1	Perl	NA	5.10.0

The Perl modules that should be present are the same as LSB 4.0

See http://refspecs.linux-foundation.org/LSB_4.0.0/LSB-Languages/LSB-Languages.html#PERLYMODULES

Note that the version of Perl listed is not required to be used as long as the language and required modules are fully compatible from the viewpoint of a certified application with that of the listed version.

14. Libraries

This section lists all the libraries required by Moblin compliance that are either not part of LSB 4 or a newer version is required. Note that the specific component version is not required to be used in the distribution as long as the listed .so shared library files are present and the application binary interfaces and functionality are compatible with the listed component version.

Each library included in the specification shall provide a set of public symbols as described in Appendix A.

Deprecated Libraries: Some libraries below are marked as “Deprecated.” These are popular libraries used by legacy applications which we want to ensure still run on Moblin-compliant systems. They must be included by the OSV on the platform. ISVs should not use these libraries in new applications.

14.1 Core

ID	Name	Library Soname(s)	Moblin
14.1.1	hal-libs	libhal-storage.so.1 libhal.so.1	0.5.12
14.1.2	glibc	ld-linux.so.2 libBrokenLocale.so.1 libSegFault.so libanl.so.1 libc.so.6 libcrypt.so.1 libdl.so.2 libm.so.6 libnsl.so.1 libpthread.so.0 libresolv.so.2 librt.so.1 libthread_db.so.1 libutil.so.1	2.9
14.1.3	gcc	libgcc_s.so.1	4.3.3
14.1.4	g++ (stdc++)	libstdc++.so.6	4.3.3
14.1.5	readline	libreadline.so.5 libhistory.so.5	5.2
14.1.6	zlib	libz.so.1	1.2.3

14.2 Graphics

ID	Name	Sonames	Moblin
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14.2.1	libX11	libX11-xcb.so.1 libX11.so.6	1.2.1
14.2.2	libXt	libXt.so.6	1.0.5
14.2.3	mesa-libGL	libGL.so.1	7.4.2
14.2.4	libXext	libXext.so.6	1.0.99
14.2.5	libICE	libICE.so.6	1.0.5
14.2.6	libSM	libSM.so.6	1.1.0
14.2.7	libXi	libXi.so.6	1.2.1
14.2.8	mesa-libGLU	libGLU.so.1	7.4.2
14.2.9	libXtst	libXtst.so.6	1.0.3
14.2.10	libXcomposite	libXcomposite.so.1	0.4.0
14.2.11	libXcursor	libXcursor.so.1	1.1.9
14.2.12	libXdamage	libXdamage.so.1	1.1.1
14.2.13	libXfixes	libXfixes.so.3	4.0.3
14.2.14	libXinerama	libXinerama.so.1	1.0.3
14.2.15	libXrandr	libXrandr.so.2	1.3.0
14.2.16	libXft	libXft.so.2	2.1.13

14.2.17	libXrender	libXrender.so.1	0.9.4
14.2.18	libXScrnSaver	libXss.so.1	1.1.3
14.2.19	libXv	libXv.so.1	1.0.4
14.2.20	libXxf86vm (Deprecated)	libXxf86vm.so.1	1.0.2

14.3 Moblin Foundations

ID	Name	Library Soname(s)	Moblin
14.3.1	dbus	libdbus-1.so.3	1.2.12
14.3.2	glib2	libgio-2.0.so.0 libglib-2.0.so.0 libgmodule-2.0.so.0 libgobject-2.0.so.0 libgthread-2.0.so.0	2.20.1
14.3.3	dbus-glib	libdbus-glib-1.so.2	0.80
14.3.4	atk	libatk-1.0.so.0	1.26
14.3.5	cairo	libcairo.so.2	1.8.6
14.3.6	pango	libpango-1.0.so.0 libpangocairo-1.0.so.0 libpangoft2-1.0.so.0 libpangox-1.0.so.0 (Deprecated) libpangoxft-1.0.so.0	1.24.1
14.3.7	GTK+ GObject GDK	libgtk-x11-2.0.so.0 libgdk-x11-2.0.so.0 libgdk_pixbuf-2.0.so.0 libgdk_pixbuf_xlib-2.0.so.0 libgailutil.so.18	2.16.1
14.3.8	sqlite	libsqlite3.so.0	3.6.13
14.3.9	GConf (or GConf- dbus)	libgconf-2.so.4	2.16.0

14.3.10	avahi	libavahi-client.so.3 libavahi-common.so.3 libavahi-core.so.6	0.6.24
14.3.11	telepathy-glib	libtelepathy-glib.so.0	0.7.28
14.3.12	eds (or eds-dbus)	libedataserverui-1.2.so.8 libedataserver-1.2.so.11 libebook-1.2.so.9 libecal-1.2.so.7 libcamel-1.2.so.14	2.25.91 now, 2.26 when released
14.3.13	bluez	libbluetooth.so.3	4.40, 4.53 recommended
14.3.14	clutter	libclutter-glx-1.0.so.0	1.0
<u>14.3.15</u>	clutter-gtk	libclutter-gtk-0.10.so.0	0.10 now, v1.0 when released
<u>14.3.16</u>	clutter-gst	libclutter-gst-0.10.so.0	0.10 now, v1.0 when released
<u>14.3.17</u>	gupnp	libgupnp-1.0.so.2	0.12.6
<u>14.3.18</u>	gssdp	libgssdp-1.0.so.1	0.6.4
<u>14.3.19</u>	pulseaudio	libpulse-browse.so.0 libpulse-mainloop-glib.so.0 libpulse-simple.so.0 libpulse.so.0	0.9.15
<u>14.3.20</u>	policykit	libpolkit-dbus.so.2 libpolkit-grant.so.2 libpolkit.so.2	0.9 now, 1.0 when released
<u>14.3.21</u>	bickley	libbickley-0.4.so.0 libkozo.so.0	0.4
<u>14.3.22</u>	PIM Services		??
<u>14.3.23</u>	sync evolution	libsynthesis.so.0	0.8.1
<u>14.3.24</u>	mojito	libmojito-client.so.1 libmojito-keystore.so.0	0.13.8.1
<u>14.3.25</u>	xulrunner	libmozjs.so	1.9.2alpre

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14.3.26	mozilla headless services	libmhs-1.0.so.0	0.1.0
14.3.27	poppler	libpoppler.so.4	0.10.6
14.3.28	poppler-glib	libpoppler-glib.so.4	0.10.6
14.3.29	qt3 (Deprecated)	libqt-mt.so.3 libqti.so.1	3.3.8
14.3.30	qt	libQtCore.so.4 libQtDBus.so.4 libQtNetwork.so.4 libQtScript.so.4 libQtSql.so.4 libQtTest.so.4 libQtXml.so.4 libQtXmlPatterns.so.4	4.5.0
14.3.31	qt-x11	libQt3Support.so.4 libQtAssistantClient.so.4 libQtDesigner.so.4 libQtDesignerComponents.so.4 libQtGui.so.4 libQtHelp.so.4 libQtOpenGL.so.4 libQtScriptTools.so.4 libQtSvg.so.4 libQtWebKit.so.4	4.5.0

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14.4 Media

ID	Name	Sonames	Moblin
14.4.1	gstreamer	libgstbase-0.10.so.0 libgstcontroller-0.10.so.0 libgstdataprotocol-0.10.so.0 libgstnet-0.10.so.0 libgstreamer-0.10.so.0	0.10.22
14.4.2	gst-plugins-base	libgstinterfaces-0.10.so.0	0.10.22
14.4.3	alsa-lib	libasound.so.2	1.0.20
14.4.4	libogg	libogg.so.0	1.1.3
14.4.5	libvorbis	libvorbis.so.0 libvorbisenc.so.2 libvorbisfile.so.3	1.2.0

14.4.6	libcanberra	libcanberra.so.0	0.1
14.4.7	libcanberra-gtk2	libcanberra-gtk.so.0	0.1

14.5 Connectivity

ID	Name	Sonames	Moblin
14.5.1	openobex	libopenobex.so.1	1.5
14.5.2	libnl	libnl.so.1	1.1
14.5.3	libusb	libusb-0.1.so.4	0.1.12
14.5.4	libnotify	libnotify.so.1	0.4.5
14.5.5	wpa_supplicant	NA (802.11 authentication)	0.6.9
14.5.6	dhcpc	NA (dynamic IP network config)	4.0
14.5.7	wireless-tools	NA	29
14.5.8	iproute	NA (routing and network device tools)	2.6.28
14.5.9	net-tools	NA (basic networking tools)	1.60
14.5.10	wimax-tools	NA (wimax connection tools)	1.4.2

14.6 General

ID	Name	Sonames	Moblin
14.6.1	aspell	libaspell.so.15	0.60.6

14.6.2	bzip2-libs	libbz2.so.1	1.0.5
14.6.3	cups	libcups.so.2 libcupsimage.so.2	1.3.10
14.6.4	farsight2	libgstfarsight-0.10.so.0	0.0.9
14.6.5	fontconfig	libfontconfig.so.1	2.6.0
14.6.6	freetype	libfreetype.so.6	2.3.5
14.6.7	Gmp	libgmp.so.3	4.2.3
14.6.8	gnome-keyring	libgnome-keyring.so.0	2.26.1
14.6.9	gnutls	libgnutls-extra.so.26 libgnutls-openssl.so.26 libgnutls.so.26	2.6.6
14.6.10	libbonobo (Deprecated)	libbonobo-2.so.0 libbonobo-activation.so.4 libbonoboui-2.so.0	2.24.1
14.6.11	libcroco	libcroco-0.6.so.3	0.6.1
14.6.12	libexif	libexif.so.12	0.6.16
14.6.13	libexpat	libexpat.so.1	2.0.1
14.6.14	libfakekey	libfakekey.so.0	0.1
14.6.15	libgcrypt	libgcrypt.so.11	1.4.4

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14.6.16	libglade2	libglade-2.0.so.0	2.6.4
14.6.17	libgphoto2	libgphoto2.so.2 libgphoto2_port.so.0	2.4.4
14.6.18	libjpeg	libjpeg.so.62	6b
14.6.19	liblcms	liblcms.so.1	1.18
14.6.20	libncurses	libncurses.so.5 libncursesw.so.5	5.6
14.6.21	libORbit-2 (Deprecated)	libORBit-2.so.0 libORBit-imodule-2.so.0 libORBitCosNaming-2.so.0	2.14.17
14.6.22	libpam	libpam.so.0	1.0.4
14.6.23	libpng	libpng12.so.0	1.2.35
14.6.24	librsvg2	librsvg-2.so.2	2.26.0
14.6.25	libsamplerate	libsamplerate.so.0	0.1.7
14.6.26	libsndfile	libsndfile.so.1	1.0.17
14.6.27	libsoup	libsoup-2.4.so.1 libsoup-gnome-2.4.so.1	2.26.1
14.6.28	libtiff	libtiff.so.3 libtiffxx.so.3	3.8.2
14.6.29	libxml2	libxml2.so.2	2.7.3

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14.6.30	nspr	libnspr4.so libplds4.so libplc4.so	4.7.3
14.6.31	nss	libsmime3.so libnss3.so libssl3.so	3.12.3
14.6.32	openldap	liblber-2.4.so.2 libldap-2.4.so.2 libldap_r-2.4.so.2	2.4.12
14.6.33	pam	libpam.so.0 libpam_misc.so.0 libpamc.so.0	1.0.4
14.6.34	SDL	libSDL-1.2.so.0	1.2.13
14.6.35	SDL_image	libSDL_image-1.2.so.0	1.2.7
14.6.36	SDL_mixer	libSDL_mixer-1.2.so.0	1.2.8
14.6.37	SDL_net	libSDL_net-1.2.so.0	1.2.7
14.6.38	SDL_ttf	libSDL_ttf-2.0.so.0	2.0.9
14.6.39	startup-notification	libstartup-notification-1.so.0	0.9
14.6.40	telepathy-farsight	libtelepathy-farsight.so.0	0.0.6
14.6.41	telepathy-mission-control	libmissioncontrol-client.so.0	4.67
14.6.42	unique	libunique-1.0.so.0	1.0.6
14.6.43	xslt	libxslt.so.1 libexslt.so.0	1.1.24

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14.7 Libraries still under review

ID	Name	Sonames	Moblin
14.7.1	gnome-desktop (Deprecated)	libgnome-desktop-2.so	2.26.0
14.7.2	gnome-menus	libgnome-menu.so	2.26.1
14.7.3	jana	libjana-ecal.so libjana.so	20090319
14.7.4	libical	libical.so libicalss.so libicalvcal.so	0.43
14.7.5	PolicyKit- gnome-libs	libpolkit-gnome.so	0.9.2

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15. Platform Vertical Specific Requirements

15.1 Netbook

[There are no distinct requirements for Netbook at this time.](#)

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15.2 Mobile Internet Device (MID)

This section still undefined.

- Security and Manageability
- Telephony components
- Touch screen components
- Memory requirements
- Camera infrastructure/libraries

15.3 In-vehicle Infotainment (IVI)

This section still undefined.

16. ISV Compliance

This section describes the requirements for ISV compliance but is incomplete without the full specification. ISVs are expected to understand the OSV compliance requirements.

See section 2 for links to the ISV compliance tools.

16.1 Packaging

See the OSV packaging requirements in section 1.

ID	Name	Description
16.1.1	RPM and DEB	The application is provided as both RPM and DEB format packages.
16.1.2	Package Template	The application provides all the values shown in the package template. (minimal required features)
16.1.3	Package Structure	<p>Packages shall be created so the native package management system knows which files are installed. Queries on installed packages using standard package management tools shall work as expected. Examples:</p> <p>Report the package a file belongs to: <code>\$ rpm -q --whatprovides <file> or \$ dpkg -S <file></code></p> <p>List all files installed by a package: <code>\$ rpm -ql <pkg> or \$ dpkg -L <pkg></code></p> <p>Packages that install all files in a post install script are not compliant.</p>
16.1.4	Uninstall	The application cleanly uninstalls when the package is uninstalled leaving the system in the state it was in prior to installation (excepting any user-added files or configuration)

16.2 Desktop Integration

See the OSV desktop integration requirements in section 1.

ID	Name	Description
16.2.1	.desktop file	A .desktop file MUST be installed under /usr/share/applications and contain values for at least the following fields: Name, Comment, [Exec or Link], Icon, Type, Categories
16.2.2	Icon	The picture file specified in the Icon field of the .desktop file must be either SVG or PNG format. If PNG format, the following sizes must be provided: 16x16, 32x32, 64x64, 128x128.

16.3 Library Use

ID	Name	Description
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16.3.1	Moblin Libraries	<p>An application may link with libraries as specified below:</p> <ul style="list-style-type: none"> - Dynamically link with libraries in the Moblin compliance specification. These libraries will already be available in Moblin-compliant distributions - Statically link with the library, thereby building the library into the application binary - Dynamically link with libraries that are installed with the application as long as the following requirements are met: <ul style="list-style-type: none"> - the provided libraries are themselves Moblin compliant - the provided libraries are installed in /opt under a directory that is unique to the application or vendor. Domain name spaces are recommended such as /opt/<domain>/<app name>. (e.g. /opt/abc.com/foo.app). Libraries or supporting files may not be installed in directories that are part of the standard lookup path such as /usr/lib, /lib, /usr/include, etc. <p>Note that in order for your application to find these libraries at runtime you need to either use linker rpath to find the library or enable ldconfig to find them.</p>
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16.4 Quality Recommendations

The following are not required for compliance but are strong recommendations.

16.4.1 Compiler Settings

When building Moblin v2 binaries, use the following build flags:

```
-march=core2 -mtune=generic -mfpmath=sse -Os
```

16.4.2 Power management

For guidelines on creating power-friendly applications, see <http://www.lesswatts.org/projects/applications-power-management/>.

ID	Name	Description
16.4.3	App Device Usage	An application should avoid keeping device files open when the device is not in use at that moment. For example when the user puts a media player on "pause," the audio device is not in use and should not be open.
16.4.4	App Idle Power	The application should not consume significant system resources when it is running but not active. Background activity (such as indexing or scanning files) shall be allowed to be controlled by the Power Policy Manager.
16.4.5	App Polling and Timers	Avoid polling, but if polling, use group timers. See g_timeout_add_seconds().

16.4.6 Startup Time

ID	Name	Description
16.4.7	Visual Startup	The application provides a visual indication of starting up within 0.5 seconds of the user launching the application.
16.4.8	Startup	The user shall be able to interact with the application user interface within 5 seconds of launching the application.

17. Changes between Specification Versions

17.1 1.9.0 to 1.9.1

- [Dropped requirement for sendmail in Differences to LSB](#)
- [Dropped requirement for libnbt](#)
- [Dropped requirements for libclutter-box2d and libclutter-qt](#)
- [Dropped requirements for libclutter-mozembed, librest](#)
- [Moved libstartup-notification to required](#)
- [Added libcups, libcupsimage as required](#)

17.2 0.6.3 to 1.9.0

- Numbering sequence adjusted to reflect 2.0 as the intended first release
- Under performance, MID characteristics have been replaced by a second Netbook entry, and these are now distinguished as SDD and HDD; an HDD-based boot time expectation is added
- Explicitly stated that the LSB dynamic linker is not required to be used for applications, but distributions must still provide it for LSB conformance
- The reference to LSB 4.0 is expended to list the actual specifications involved
- The clutter library versions are updated (clutter to 1.0, clutter-gst and clutter-gtk to 0.10)
- The freedesktop.org standards have their links spelled out, and the mime reference is updated to 0.18
- In the suspend section, it is clarified there is no requirement for S4 support
- Improved wording for version requirements for libraries, and a similar version comment added to the Python and Perl sections
- Audio frequencies were listed as KHz when they really are in Hz
- Libraries dropped since the previous version: libiw, libpopt, libpulsecore-0.9.15, libcidn, libperl, libsmgtk, libgvfscommon, libgvfscommon-dnssd, libQtLucene, libusbpp-1.0, libwimax11.so.0, libdhcp-1.99.so.1, libsyncevo-dbus, libgypsy, libgeoclue, libgdbus
- Library deprecated since previous version: libpangox
- Library dropped since previous version: libpyglib-2.0.so.0, replaced with a requirement for the gtk and gobject modules

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18. Open or Unresolved Areas

- Is ELF information needed for Atom (bug 5753)
- Clarify Moblin package format requirements (bugs 5754 and 5776)
- Non-library components are listed in section 14.5, these would perhaps better be listed in a separate section for commands (bug 5756)
- Required bluez version needs clarification (bug 5759)
- More codec specifications needed (bug 5785)
- No profile for mp3 (bug 5787)
- Inaccurate description of browser plugin requirements (bug 5810)
- Problem with incompatible naming of tiff libraries across distros (bug 5889)
- Are libQtWebKit and libQtXmlPatterns required? (bug 5983)
- Are specific locales required (bug 6023)
- Should libSDL_net be required (bug 6055)
- Clean up / combine sections 19, 20
- Complete disposition of 14.7 Libraries Still Under Review – either move into spec, drop, or turn into issues here for tracking
- Fill in or drop empty sections, such as 14.3.4 PIM Services

18.1 Requested Standards (not yet part of spec)

This is a list of issues faced and standards requested for Moblin v2.

Item	Request for standard	Status
18.2	USB mount location (/media/disk)	
18.3	Location for media (at least during import)	
18.4	Standard folders for Music, Pictures, Videos, Documents. (Desktop?). Recommendation to media applications to look in these folders.	
18.5	Valid EDID block LCD size data. <i>Background:</i> ISVs need this information to detect the physical size of the display and adapt the size of their widgets accordingly.	
18.6	Standard for registering applications to show in system menus (icons, names, etc.). <i>Background:</i> Moblin v1 had OnlyShowIn=GNOME;Mobile addition but it wasn't included in all OSV distros.	Included (sec 9)

18.7	How to handle MIME type and default app handler registration. XDG provides tools that allow applications to query and set default application handlers; however they expect underlying systems to be either KDE or GNOME based.	Included Sec 9.
18.8	PPM registration and clear API for Power Policy. <i>Background:</i> Runtimes need to allow applications to register with the Power Policy Manager to allow devices to enter low power states	None for netbook
18.9	Standard to register application or daemon to autostart when user logs in	
18.10	Applications should use standard chrome	
18.11	List of libraries, iptables is missing. Important for firewalls, QoS, security	
18.12	Need Bluetooth and USB profile requirements	

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	clutter-box2d	libclutter-box2d-0.9.so.0	0.9 now, v1.0 when released
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	clutter-qt	libclutter-qt-0.9.so.0	0.9.2 now, v1.0 when released
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	rest	librest.so.0	rest-0.3.1
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	clutter-mozembed	libcluttermozembed.so.0	0.0~20090518
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	startup-notification	libstartup-notification-1.so.0	0.9
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Required libraries for Netbook only.

ID	Name	Library Soname(s)	Moblin
	nbtk	libnbtk-1.0.so	0.7.4