



INFUZE API CHANGE LOG

Support

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scientiamobile

www.scientiamobile.com
Tel +1.703.310.6650
E-mail: sales@scientiamobile.com

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Version 1.13.4.0 - Jun 10, 2025

- Added support for
 - emerging custom User-Agents for Android, iOS and other platforms
 - new robots, spiders, content fetchers and crawlers
- Expanded support for
 - User-Agent Client Hints
 - iOS and iPadOS versions and devices
 - SmartTVs, STBs and other OTT devices and platforms
 - app detection via `is_app` and `advertised_app_name`
 - Chromium based browsers and web clients
- Note: VIZIO SmartCast and VizioS User-Agents now return `advertised_*` virtual capability return values consistent with the platform's branding and specification. Notable updates for that platform:
 - `advertised_device_os`: defaults to VIZIO SmartCast
 - `advertised_browser`: defaults to Chromium
- C++ wrapper api vers 1.4 : removed deprecated methods

Version 1.13.3.1 - May 6th, 2025

- New C++ method `isUAFrozen()` that receives a `std::string` as parameter
- C++ example code for `/usr/share/wurfl/examples`
- Now using PCRE2 regexp library

1.13.3.0 - Feb 18th, 2025

- Added support for
 - `advertised_architecture`: A new virtual capability that returns the architecture of the device based on analysis of the 'Sec-Ch-Ua-Arch' User-Agent Client Hint.
 - emerging custom user-agents for Android, iOS and other platforms
 - new robots, spiders and crawlers
- Expanded support for
 - app detection via `is_app` and `advertised_app_name`
 - SmartTVs, STBs and other OTT devices
 - Android versions and devices
 - iOS and iPadOS versions and devices
 - User-Agent Client Hints

1.13.2.1 - Jan 7, 2025

- Replaced minizip with libzip
- Error messages review
- New C++ Builder methods `setUpdaterLogPath()` and `setUpdaterDataURL()` accepting string as parameter
- New C++ Manager method `lookup()` accepting string as parameter

1.13.2.0 - Oct 2nd, 2024

- Added support for
 - emerging custom user-agents for Android, iOS and other platforms

- new robots, spiders and crawlers
- Expanded support for
 - app detection via `is_app` and `advertised_app_name`
 - SmartTVs, STBs and other OTT devices
 - User-Agent Client Hints
 - iOS and iPadOS versions and devices
- Hard deprecating all the suggested deprecated methods:
 - all old enumerators
- Fixed naming of errors that were out of guidelines (no breaking change, old values still valid)

1.13.1.1 - Jul 15th, 2024

- New method `wurfl_download()` to get latest `wurfl.zip` from snapshot server
- New Method `const char *wurfl_get_error_string(wurfl_error error_code)` to return error string from error code
- [C++] New `wurflDownload()` method in Manager class
- [C++] New `getStaticCapabilities()` method (replaces method `getCapabilities()`) in Manager class:
- [C++] New `staticCapability()` method (replaces method `capability()`) in Device class:
- [C++] Deprecated methods removed in this version:
 - `virtualCapabilities()`, `deviceIds()`, `capabilities()`, `mandatoryCapabilities()`
- [C++] Newly deprecated methods in class Manager:
 - `setEngineTarget()`, `setUserAgentPriority()`, `engineTarget()`, `engineTargetAsString()`, `useragentPriority()`, `useragentPriorityAsString()`, `getCapabilities()`
- [C++] Newly deprecated methods in class Builder:
 - `setEngineTarget()`, `setUserAgentPriority()`
- [C++] Newly deprecated methods in class Device:
 - `capability()`

1.13.1.0 - May 28th, 2024

- Added support for
 - emerging custom user-agents for Android, iOS and other platforms
 - new robots, spiders and crawlers
- Expanded support for
 - app detection via `is_app` and `advertised_app_name`
 - SmartTVs, STBs and other OTT devices
 - iOS and iPadOS versions and devices
 - User-Agent Client Hints

1.13.0.1 - Mar 8th, 2024

- removed debug log on stdout

1.13.0.0 - Feb 28th, 2024

- Added support for
 - New robots, spiders and crawlers
 - Emerging custom user-agents for Android, iOS and other platforms

- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - User-Agent Client Hints
 - App detection via `is_app` and `advertised_app_name`
 - Digital assistant and connected speaker devices
 - Game Consoles
- Fixed behavior for
 - Spark Email Client (iOS/macOS) now defaults to a desktop detection

1.12.11.1 - Nov 23rd, 2023

- Added `wurfl_get_last_updated()` to return xml target
- Fixed some sanitizing issues with gcc 11.4

1.12.11.0 - Oct 23rd, 2023

- Added support for
 - new SmartTVs, STBs and other OTT devices
 - new robots, spiders and crawlers
- Expanded support for
 - custom user-agents for Android, iOS and other platforms
 - User-Agent Client Hints
 - app detection via `is_app` and `advertised_app_name`
 - iOS and iPadOS versions and devices
 - Tizen based devices
- Fixed behavior for
 - Firefox on Android will now use "6.0" as the default/fallback OS version in cases where an Android version is absent

1.12.10.2 - Sept 11th, 2023

- Faster Important Headers implementation

1.12.10.1 - Jun 29th, 2023

- Fixed incorrect `.so` versioning in alpine (apk) packages
- C++ API wrapper : binding for `wurfl_device_get_parent_id`

1.12.10.0 - June 27th, 2023

- Added support for
 - new robots, spiders and crawlers
 - new SmartTVs, STBs and other OTT devices
- Expanded support for
 - custom user-agents for Android, iOS and other platforms
 - app detection via `is_app` and `advertised_app_name`
 - Chromium based browsers and web clients
- Fixed behavior for
 - User-Agents and HTTP Requests with invalid or missing Android versions will now return "6.0" as the default/fallback Android version. The previously returned version was "4.0".

- Note: We periodically update the definition of what we consider to be a smartphone. These changes affect the `is_smartphone` and `form_factor` capabilities. This version of the WURFL API makes the following change:
 - Minimum OS version requirements increased to iOS 12, Android 8.0

1.12.9.0 - March 14th, 2023

- Added support for
 - new robots, spiders and crawlers
 - custom user-agents for Android, iOS and other platforms
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - User-Agent Client Hints
 - App detection via `is_app` and `advertised_app_name`
 - iOS and iPadOS versions and devices
 - Android devices

1.12.8.0 - Nov 30, 2022

- Added support for
 - new robots, spiders and crawlers
 - custom user-agents for Android, iOS and other platforms
- Expanded support for
 - Android devices
 - SmartTVs, STBs and other OTT devices
 - Chromium based browsers and web clients
 - App detection via `is_app` and `advertised_app_name`
 - iOS and iPadOS versions and devices
 - User-Agent Client Hints

1.12.7.0 - Sep 21, 2022

- Added support for
 - new robots, spiders and crawlers
 - new email clients
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - Digital assistant and connected speaker devices
 - Fire OS devices
 - App detection via `is_app` and `advertised_app_name`
 - Mobile and desktop applications
 - iOS and iPadOS versions and devices

1.12.6.1 - July 19, 2022

- fixed updater error messages

1.12.6.0 - May 31, 2022

- Added support for
 - custom user-agents for Android, iOS and other platforms

- new SmartTVs, STBs and other OTT devices
- device level detection for certain Roku UAs
- Expanded support for
 - User-Agent Client Hints
 - ChromeOS devices
 - is_smartphone and form_factor capabilities
 - App detection via is_app and advertised_app_name
 - Chromium based browsers and web clients
 - iOS and iPadOS versions and devices Note: We periodically update the definition of what we consider a Smartphone. These changes affect the is_smartphone and form_factor capabilities. This version of the WURFL API makes the following changes:
 - Horizontal Resolution requirements increased to 540 pixels
 - Minimum OS version requirements increased to iOS 9, Android 6.0
 - Removed RIM OS and Windows Phone OS from being considered as Smartphone OS'es
 - Added HarmonyOS

1.12.5.0 - March 1, 2022

- Added support for
 - new robots, spiders and crawlers
 - custom user-agents for Android, iOS and other platforms
- Expanded support for
 - User-Agent Client Hints
 - SmartTVs, STBs and other OTT devices
 - App detection via is_app and advertised_app_name
- Added new API functions:
 - wurfl_is_ua_frozen()
 - wurfl_important_header_is_ua_frozen()
 - wurfl_important_header_uach_quality()
 - wurfl_uach_quality_with_callback() Note: Support for User-Agent Client Hints is now turned on by default.

1.12.4.0 - November 24, 2021

- Added support for
 - new robots, spiders and crawlers
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - Custom user-agents for Android, iOS and other platforms
 - App detection via is_app and advertised_app_name
 - Certain Windows 11 User-Agents
 - iOS and iPadOS versions and devices
 - KaiOS based devices
 - Tizen based devices

1.12.3.3 - October 28, 2021

- Fixed behavior for
 - ExtraHeadersExperimental

1.12.3.2 - October 21, 2021

- C++ API wrapper : bindings for wurfl_set_attr and wurfl_get_attr
- macos libwurfl : missing export for wurfl_get_attr new method

1.12.3.1 - October 7th, 2021

- Fixed behavior for
 - macOS libwurfl: missing export for wurfl_set_attr new method

1.12.3.0 - September 29, 2021

- Added support for
 - new robots, spiders and crawlers
- Expanded support for
 - App detection via is_app and advertised_app_name
 - SmartTVs, STBs and other OTT devices
 - Certain User-Agents from the Roku OS platform
 - iOS and iPadOS versions and devices
- Fixed behavior for
 - Google Read Aloud Assistant: this service is a text to speech assistant and will no longer be categorized as a robot

1.12.2.0 - July 19, 2021

- Added support for
 - Chromium based browsers and web clients
- Expanded support for
 - Android devices
 - App detection via is_app and advertised_app_name
 - Certain non-standard app based user-agents
 - SmartTVs, STBs and other OTT devices
 - Custom user-agents for Android, iOS and other platforms

1.12.1.0 - May 24, 2021

- Added support for
 - new robots, spiders and crawlers
- Expanded support for
 - SmartTVs, STBs and other OTT devices
- New wurfl_setattr() for setting engine attributes

1.12.0.0 - February 26, 2021

- Added support for
 - new robots, spiders and crawlers
 - Chromium based browsers and web clients
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - KaiOS based devices
 - App detection via is_app and advertised_app_name

- game consoles
- Firefox based browsers
- Fixed behavior for
 - User-Agents with invalid Android versions will now consistently return the default/fallback Android version (4.0)

1.11.10.0 - November 23, 2020

- Added support for
 - Chromium based browsers and web clients
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - App detection via is_app and advertised_app_name
 - iOS and macOS webviews and apps
 - iOS and iPadOS versions and devices
 - Android TV devices

1.11.9.0 - September 14, 2020

- Added support for
 - new robots, spiders and crawlers
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - iOS and macOS webviews and apps
 - App detection via is_app and advertised_app_name

1.11.8.0 - July 1, 2020

- Added support for
 - new robots, spiders and crawlers
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - Android devices
 - iOS versions and devices
 - App detection via is_app and advertised_app_name

1.11.7.1 - May 4, 2020

- Expanded support for
 - iOS versions and devices

1.11.7.0 - April 30, 2020

- Added support for
 - new digital assistant and connected speaker devices
- Expanded support for
 - UC Browser User-Agents
 - iOS versions and devices
 - App detection via is_app and advertised_app_name
 - SmartTVs, STBs and other OTT devices
 - Chromium based browsers and web clients

- Speed improvement for advertised_browser, advertised_browser_version, advertised_device_os, advertised_device_os_version

1.11.6.0 - February 17, 2020

- Expanded support for
 - App detection via is_app and advertised_app_name
 - Web browsers
 - new iOS versions and devices
 - SmartTVs, STBs and other OTT devices
- Fixed behavior for
 - Android User-Agents

1.11.5.0 - December 2, 2019

- Added support for
 - new robots, spiders and crawlers
- Expanded support for
 - new iOS versions and devices
 - App detection via is_app and advertised_app_name
 - Chromium based browsers and web clients
 - SmartTVs, STBs and other OTT devices
 - Fire OS TV devices
- Fixed behavior for
 - UC Browser User-Agents
 - Samsung Browser: Both Dex and Samsung browsers will now return "Samsung Browser" for the advertised_browser_name virtual capability. This is because both browsers will send a similar HTTP request in desktop mode/requesting a desktop User-Agent.
 - Vivaldi: Vivaldi web browser will now return "Vivaldi" and not "Vivaldi browser" for the advertised_app_name virtual capability. This is to be consistent with the browser's branding.
- Performance improvement for computing advertised_browser and advertised_browser_version virtual capabilities

Version 1.11.4.0 - September 16, 2019

- Expanded support for
 - App detection via is_app and advertised_app_name
 - Chromium based browsers and web clients
 - SmartTVs, STBs and other OTT devices
 - KaiOS based devices
 - certain Xiaomi devices

Version 1.11.3.0 - June 17, 2019

- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - App detection via is_app and advertised_app_name

- Chromium based browsers
 - Digital Assistant devices
 - new iOS versions and devices
- Fixed behavior for
 - UC Browser User-Agents
 - bot, spider and crawler detection

Version 1.11.2.0 - April 17, 2019

- Added support for
 - new robots, spiders and crawlers
- Expanded support for
 - SmartTVs, STBs and other OTT devices
 - App detection via `is_app` and `advertised_app_name`
 - Google Assistant based devices
 - Chromium based browsers
- Fixed behavior for
 - bot, spider and crawler detection

Version 1.11.1.0 - February 11, 2019

- Added support for
 - new robots, spiders and crawlers
 - new Chromium and Gecko based browsers
- Expanded support for
 - App generated UAs on Android and iOS platforms
 - App detection via `is_app` and `advertised_app_name`
 - STBs and other OTT devices
 - SmartTVs, STBs and other OTT devices
 - Chromium based browsers
 - Google Assistant based devices
- Fixed behavior for
 - `is_app` and `is_app_webview` behavior under certain conditions where additional HTTP headers are available
 - Android model name extraction for certain User-Agents

Version 1.11.0.1 - December 6, 2018

- avoid newline in `wurfl_get_last_load_time_as_string()` return string
- fix on `wurfl_get_wurfl_info()` returned string length

Version 1.11.0.0 - December 5, 2018

- Added support for
 - new Chromium based browsers

- new virtual capability - pixel_density
- Expanded support for
 - app detection via is_app, is_app_webview and advertised_app_name
 - Xbox game consoles
 - web automation frameworks and libraries
 - Internet Explorer and Edge browsers
 - Yahoo Mail
 - robots, crawlers and spiders
 - new Apple devices
 - Gmail

Version 1.10.0.0 - September 24, 2018

- Potentially breaking change: Please note that this version standardizes tvOS return values for advertised_device_os and advertised_browser capabilities and aligns them to Apple's branding practices. "TV OS" will henceforth be called "tvOS" and "TV OS App" will be renamed to "tvOS App"
- Added support for
 - new Chromium and Gecko based browsers
- Expanded support for
 - app detection via is_app and advertised_app_name
 - KaiOS based devices
 - PlayStation devices
 - Apple TV devices

Version 1.9.5.1 - July 23, 2018

- fixed bug on wurfl_get_device_with_important_header() called with empty headers

Version 1.9.5.0 - July 23, 2018

- Deprecated methods/structs:
 - wurfl_engine_target, wurfl_useragent_priority and all relative getters and setters. These are now marked for future removal.
- Aligned some return values for the advertised_device_os virtual capability to align with device_os static capability
 - "Bada" is now "Bada OS"
 - "Nokia Series 40" is now "S40 OS"
 - "Symbian" is now "Symbian OS"
- Added support for
 - Certain Android P user-agents
 - Certain TV OS User-Agent formats
 - Digital Assistants
 - New Opera browser versions

- New Tizen versions
- Upcoming Android and iOS versions
- New tvOS versions
- Improved support for is_app capability for SmartTV devices
- Expanded app detection support via is_app and advertised_app_name
- Optimized model name extraction for certain Android apps that send irregular User-Agent structures
- Fixed an issue that caused certain Fire OS webview User-Agents to be misclassified within is_app and is_app_webview

Version 1.9.4.0

- Added support for
 - Upcoming iOS versions
 - MIUI Browser
 - Quark Browser
 - Avast Secure
- Improved support for
 - Apple iPad (6th gen)
 - Sony and Vizio Smart TVs
 - Roku devices
 - App name detection (advertised_app_name)
 - Microsoft Office
 - Yandex browser
 - Baidu Browser
 - Apple Core Media User-Agents
 - Facebook Messenger

Version 1.9.3.1

- Fixed Roku regression
- New Virtual Capabilities:
 - generalized_browser_type
 - generalized_os_brand

Version 1.9.3.0

- Potentially breaking change: The definition of what we consider smartphones is changing with this release. Please read this article for more details on what is changing and why - <https://www.scientiamobile.com/keeping-smartphones-smart>
- Added support for
 - KaiOS
 - Tizen 4.0
- Improved detection of

- Robots and Crawlers
- Mobile and desktop applications
- Smart-TVs
- SmartPhones
- Game consoles

Version 1.9.2.0

- Added support for
 - Upcoming iOS versions
 - Upcoming Tizen versions
 - Extracting model numbers for desktop devices under certain conditions
- Improved detection of
 - Opera Mobi and Tablet on Android
 - Requests from UCBrowser's U2 engine

Version 1.9.1.0

- Breaking: The default version of Android is now 4.0. Undetectable/corrupted Android User-Agents will now return a more appropriate OS version.
- Added support for
 - Upcoming iOS versions
 - Upcoming Android versions
 - Edge browser on iOS and Android
 - Steam in-game requests
 - Firefox Focus
 - Yandex Desktop
 - Android and iOS UCbrowser User-Agents
 - Edge browser
- Improved detection of
 - Fire OS
 - iPhone hardware
 - Apps
 - Huawei devices
 - Firefox on Android User-Agents
- Added additional validation for advertised_device_os
- Now using libru/libfh for LRU cache

Version 1.9.0.3

- Product codes check added to AMI detection code / pwd-protected WURFL file load

Version 1.9.0.2

- Added AMI detection code and password-protected WURFL file load

Version 1.9.0.1

- Fixed multithread cache miss/failed lookup bug
- Optimized Aho-Corasick vs repeated strstr() usage on all platforms

Version 1.9.0.0

- Decommissioning of engine target options
- Improved detection of
 - Android
 - Bots
 - Apps
 - Amazon Silk Browser
 - CFNetwork User-Agents
- Added support for
 - Epiphany detection
 - iOS 11
 - Samsung Dex
 - Samsung Browser
 - Tizen 3.0
- Added stripping of non-printable characters from the User-Agent

Version 1.8.4.2

- Fix: handle rare updater error when client sets to ignore SIGCHLD

Version 1.8.4.1

- Revision and test of C++ API Wrapper

Version 1.8.4.0

- Added detection of Nintendo Switch
- Added detection of Email client
- Improved detection of devices with encoded user agents
- Fix: Android 4.4/5.x mistakenly classified as apps

Version 1.8.3.1

- Now using libvcap for vcap computation
- Now using PCRE regex library instead of boost::regex in generic normalization
- Avoiding precomputation of values in device caps/vcaps enumerators

Version 1.8.3.0

- Added Infuze Updater API
- Added alternative no-callback header-passing API
- Added Edge 15 support
- Added iOS 10.3 support
- Added Android 7.2 and 8.0 support
- Updated detection of Nintendo products
- Updated detection of OsX/macOS

Version 1.8.2.3

- Added built-in updater and Updater API

Version 1.8.2.2

- In-depth revision and test of patch load mechanism

Version 1.8.2.1

- Replaced XML parsing library from libxml2 to expat

Version 1.8.2.0

- Added support for Edge14
- Updated IE support
- Updated iOS 10 support
- Updated Windows Phone support
- Updated Kindle support
- Updated MSIE support
- Updated IsBot VCap (CUBOT devices)
- Updated Opera and UCWEB U3 IDs
- New Virtual Capability: advertised_app_name

Version 1.8.1.0

- Added support for Amazon Shopping App
- Added support for Android 7.1
- Added iPhone 7 and 7 Plus detection
- Review of Patch File Load Process

Version 1.8.0.0

- Support for url-encoded UAs
- Better iPod Touch detection
- Better Facebook and Mobile App detection
- Added Chinese Android detection
- Added Android 7 detection
- Mandatory Capabilities are automatically loaded during engine load
- Added iOS 10 detection
- NGINX module : per site conf, white/black lists for injection urls
- lighttpd module : fixed breaking change in 1.4.39

Version 1.7.1.0

- Added Palemoon Browser
- Added Bravia, SmartTV
- Added iOS 10 and new iOS devices
- Added Desktop App
- IIS Module : no automatic injection of virtual capabilities
- Bugfixing:
 - controlcap mechanism, libwurfl wrong behaviour in multi-threaded mode

Version 1.7.0.0

- Added WURFL.XML devicelds consistency check
- Added new Virtual Capability: device_name
- Improved detection of:
 - Apple devices
 - Edge browser

Version 1.6.4.2

- Fixed rare multithreading race condition on wurfl_get_capability()

Version 1.6.4.1

- Added mandatory capabilities for advertised capabilities

Version 1.6.4.0

- Improved detection of:
 - Nokia devices
 - Android User-Agents (UAs) without model names
 - Certain feature phones running Opera Mini
 - SmartTVs
 - UAs from Android apps
 - Blackberry Playbook
 - Bot UAs
 - Firefox on iOS
- Improved internal UA matching methods

Version 1.6.3.0

- Improved detection of Apple devices
- Improved detection of Bots
- Improved detection of Androids
- Improved detection of Edge browser
- Improved virtual capability computation for Safari on iOS
- Improved virtual capability computation for Samsung Browser
- Improved virtual capability computation for BlackBerry 10
- Improved virtual capability computation for Mac OS X
- Improved is_app_webview virtual capability computation for Android 5.X
- Improved CFNetwork UAs detection

Version 1.6.2.2

- Improved detection for iPhones

Version 1.6.2.1

- Improved detection in VC tool for:
 - MSIE 12/Edge
- Improved detection of:
 - Windows Phone
 - Bots

Version 1.6.1.0

- Improved detection in VC tool for:
 - Baidu browser
 - iOS
- Improved detection of:
 - iOS

- FirefoxOS
- Opera

Version 1.6.0.2

- Improved detection in VC tool for MSIE 12/Edge
- Improved detection of Windows Phone
- Improved detection of Kindle
- Improved detection of SmartTV
- Added Baidu Browser detection

Version 1.6.0.0

- Added Android 5.1 support.
- Added MSIE 12/Edge 12.0 support.
- Added Tizen 2.3 support.
- Added Trove Bot detection.
- Added Windows Phone 10 support.
- Added New is_phone and is_app_webview virtual capabilities.
- Improved WURFL detection performances.
- Improved detection of Android, CFNetwork, Chromium, Firefox OS, MSIE 12/Edge, Opera, SmartBrowser, SmartTV, UCWebBrowser, Wii.

Version 1.5.3.2

- Fixed Windows CE advertised_browser virtual capability.

Version 1.5.3.1

- Improved Apple detection.

Version 1.5.3.0

- Added 360 Browser (for Desktop and Android) detection in VC tool.
- Added Opera on Android detection in VC tool.
- Added Opera on iOS detection in VC tool.
- Added iOS 8.1 and 8.2 WURFL hardware IDs.
- Added Windows 10 detection.
- LD Algorithm Enhancement.
- Added UC browser on Windows Phone support.
- Added wurfl_has_capability and wurfl_has_virtual_capability functions to the main WURFL interface.

Version 1.5.2.1

- Improved detection of:
 - Android
 - Apple
 - Firefox OS
 - Internet Explorer
 - Opera
 - Smart TVs
 - Tizen
 - Ubuntu OS

- Windows Phone
- Windows RT
- Improved existing virtual capabilities.
- Added virtual capabilities:
 - complete_device_name: The brand_name, model_name and marketing_name (if applicable).
 - form_factor: Tablet, Smartphone, Feature Phone, Robot, Desktop, Smart-TV, Other Non-Mobile.
- Added support for iOS 8 and iPhone 6 / 6 Plus.
- Added the ability to detect sideloaded browser instead of the device with its stock browser.

Version 1.5.1.5

- Add: Added new form_factor virtual capability.

Version 1.5.1.4

- Fix: Fixed an issue with the XML parser.

Version 1.5.1.3

- The normalized user agent can now be queried via every module.
- Added WURFL module for Varnish 4.
- Fixed an issue with is_app virtual capability computation, which prevented returning correct values for Apple iOS devices.

Version 1.5.1.2

- User agent extraction procedure has been refined.

Version 1.5.1.1

- Fixed possible bug in virtual capability management.
- Added Zip/GZip support when parsing Wurfl DB, which can now be loaded providing either wurfl.xml or wurfl.zip (containing a valid wurfl.xml as a first entry) or wurfl.xml.gz.

Version 1.5.1

- Added Thunderbird, Microsoft Outlook and MSOffice matching on desktops.
- Added recognition for three characters locale inside a user agent.
- Apple devices matching logic has been improved.
- Tweaked Android devices model and version recognition, improved Android matching logic.
- Improved Samsung matching logic.
- Improved LG matching logic.
- Improved Windows Phone matching logic.
- Updated Pantech matching logic.
- Updated Xbox matching logic.
- Updated Apple devices matching logic.
- Enhanced Virtual Capability computation logic.

Version 1.5.0

- Added Virtual Capabilities management. A full list of supported Virtual Capabilities can be found [here](#).

- Mandatory capabilities (required to correctly compute the virtual capabilities):
 - device_os
 - device_os_version
 - is_tablet
 - is_wireless_device
 - pointing_method
 - preferred_markup
 - resolution_height
 - resolution_width
 - ux_full_desktop
 - xhtml_support_level
- Greatly improved memory footprint.
- Improved overall performances.
- Improved Skyfire matching.
- Improved Nintendo matching.
- Fixed many issues when using WURFL in a multi-threaded environment.
- Fixed a locking bug in DoubleLRU Cache.

Version 1.4.4.1

- Fixed WURFL patch xml parsing phase.

Version 1.4.4

- Apache Module - Each capability names is uppercased and prefixed with WURFL_. For example, the capability brand_name becomes WURFL_BRAND_NAME.
- Apache Module - Changed WURFL Environment variables naming:
 - From UserAgent to WURFL_USERAGENT.
 - From RootId to WURFL_ROOT_ID.
 - From Id to WURFL_ID.
 - From IsDevRoot to WURFL_ISDEVROOT.
- Added support for new iOS naming in device_os capability.
- Added Android and Firefox version matching.
- Improved Opera on Android matching.
- Improved XBox user agents matching.
- Fixed Windows RT recovery ID.

Version 1.4.3.1

- Fixed HTTP header parsing issue.

Version 1.4.3

- Added support for WindowsRT, Kindle Fire, XBox and Playstation Vita.
- Improved matching of particular Windows Phone, Safari, SmartTV and Maemo User Agents.

Version 1.4.2.1

- Fixed resource unlock failure in particular conditions.
- Fixed wurfl.xml repository reload failure in non-initialized core conditions.

Version 1.4.2

- Fixed a rare condition causing C++ API to crash.
- Improved C++ API alignment with Java API codebase.
- System will automatically skip capabilities list if not found in database.
- Added some virtual capabilities (Note: only supported virtual capabilities are `is_smartphone`, `is_iphone_os`, `is_android`).
- Added Varnish module.
- Added Nginx module.
- Removed old C Interfaces.

Version 1.4.1.1

- Fixed memory leak issue with glibc.
- New XML reader technique, system loads `wurfl.xml` file 3x faster.
- Ability to define cache providers (`none`, `lru`, `double_lru`, etc ...) through C API.
- Ability to define engine mode in between High Performance or High Accuracy through C API.

Version 1.4.0

- Version number alignment with other WURFL APIs.
- Initial public release.

Version 1.0.0

- Preliminary alpha release.

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