Alpaquita Linux 23
Release Notes

Alpaquita Linux
Revision 1.1
January 2024

bellsoft

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1. Introduction

The release notes give you late-breaking information about BellSoft Alpaquita Linux 23 release. Please read this document carefully, as it contains information that is not included in other BellSoft Alpaquita documents.

Kernel version

Alpaquita Linux ships `6.1` kernel version that is the LTS version with the longest period of support. This kernel version will continue to be updated to include all required security and major functional fixes. Note that our release supports smooth kernel updates when the previous kernel version is not deleted right away and can be used for boot or in the roll back.

Architecture

This release supports x86_64-based processors for all deliverables - iso, minirootfs, package repositories, and docker images.

- Intel (x86-64-v2)
- AMD 64-bit (x86-64-v2)

Modern CPUs can provide optimal extensions for better performance in the core system libraries. x86-64-v2 provides proper support for new CPU features (CMPXCHG16B, LAHF-SAHF, POPCNT, SSE3, SSE4_1, SSE4_2, SSSE3), vector instructions up to Streaming SIMD Extensions 4.2 (SSE4.2), Supplemental Streaming SIMD Extensions 3 (SSSE3), the POPCNT instruction (useful for data analysis and bit-fiddling in some data structures), and CMPXCHG16B (a two-word compare-and-swap instruction useful for concurrent algorithms).

Aarh64 architecture is planned to be supported in later releases.

2. New Features and Changes

This section lists the features that are introduced in Alpaquita Linux 23 release.

New kernel build with configuration optimized for smaller size, better security and performance.

- Better latencies and responsiveness
- Compressed modules to save disc space
- Dropped some old modules that have improper support or have known CVE defects

New package updates include the following features.

- alpaquita-installer - Cross-libc installer for Alpaquita Linux that supports non-interactive installation process. See *Alpaquita Linux Installation Guide* for details.
- musl-perf - BellSoft version with performance improvements.
    - glibc-string - this new package can be used to enable optimized string operations for a particular application or used in a build to link to it; synced with glibc 2.37 upstream.
- apk-tools - Improved version of the well-known APK tools with the support for
    - gradual downgrade in `apk add` command
    - support for alternative packages and cleaner db handling
    - sorted `apk search` output
- malloc - BellSoft versions with different malloc implementations: jemalloc, mimalloc, and rpmalloc.
- liberica product family - JRE and JDK packages for the latest 8, 11, 17, and 21 versions; NIK version 22.
- openrc - Set up quiet mode and agetty.tty1 service to speed up booting.

Noticeable package updates

- GCC 12.2.1
- Go 1.19.9
- LLVM 15

- mariadb 10.6.14
- Node.js (current) 18.18
- perl 5.36.2
- redis 7.0.14
- Ruby 3.1.4
- Rust 1.64.0
- Python 3.11
- PHP 8.28.1.22
- PostgreSQL 15.5

3. Known Issues

No known issues are reported for this first release.

Report issues to info@bell-sw.com.

4. Security Bug Fixes

This release includes a number of bug and security fixes.

5. Installation Process

Alpaquita installation procedures are described in the *Alpaquita Linux Installation Guide*. Typical process for installing from the ISO image requires access to a command line interpreter and contains several steps.

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