

Release Notes

IBM® Software Development Toolkit for Linux on Power™ 1.9.0

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Chapter 1

Introduction

The IBM SDK for Linux on Power is a free, Eclipse-based Integrated Development Environment (IDE). It integrates C/C++ source development with the IBM Advance Toolchain for Linux on Power and classic Linux debugging and performance analysis tools.

This release includes materials licensed to IBM under ILAN (International License Agreement for Non-Warranted Programs). The full licensing text can be found in the licenses folder under the installation directory.

Further documentation may be found at [IBM SDK for Linux on Power website](#).

Chapter 2

Features

- IBM Advance Toolchain for Linux on Power 8.0, version 8.0-6 or greater.
- IBM Advance Toolchain for Linux on Power 9.0, version 9.0-2 or greater.
- IBM FDPR (Feedback Directed Program Restructuring), version 5.6.2-7.
- Pthread monitoring tool for Linux on Power, version 0.5.11-1.
- IBM Eclipse SDK, version 4.5.2:
 - C/C++ Development Tools (CDT), version 8.8.0.
 - Eclipse Parallel Tools (PTP), version 9.2.0
 - Eclipse Linux Tools, version 4.2:
 - * Autotools plugin.
 - * Libhover plugin.
 - * ChangeLog plugin.
 - * Man Page plugin.
 - * Specfile Editor and RPM plugin.
 - * Valgrind plugin.
 - * OProfile plugin.
 - * SystemTap plugin.
 - * Perf plugin.
 - * Gprof plugin.
 - * Gcov plugin.
 - IBM Source Code Advisor plugin, version 1.9.0.

- IBM Trace Analyzer plugin, version 1.9.0.
- IBM Advance Toolchain for Linux on Power plugin, version 1.9.0.
- IBM Advance Toolchain for Linux on Power Remote plugin, version 1.9.0.
- IBM Migration Advisor plugin, version 1.9.0.
- IBM Integrated Bug Report plugin, version 1.9.0.
- IBM CPI Breakdown plugin, version 1.9.0.
- IBM Coding Assistant plugin, version 1.9.0.
- IBM Power Performance Advisor plugin, version 1.9.0.
- IBM Power Build Advisor plugin, version 1.9.0.
- IBM Qemu User-Mode plugin, version 1.9.0.
- IBM SDK, Java™ Technology Edition, version 8.0-2.10.
- IBM Runtime Environment, Java™ Technology Edition, 8.0-2.10.

Chapter 3

What's New on SDK 1.9.0

3.1 Built on Eclipse Mars

The SDK leverages the latest stable version of Eclipse Mars (4.5.2) provided by the IBM Eclipse SDK (IES) team.

3.2 Updated Eclipse Projects

The SDK bundles the latest stable versions of Eclipse CDT, Eclipse PTP and Eclipse Linux Tools.

3.3 Support for ppc64, ppc64le and x86_64/amd64

Updated support for the three supported architectures and its main operating systems.

3.4 Installation made easy

A new, simplified installation procedure with a single script to download and perform the installation of the SDK, Advance Toolchain, and IBM Power Tools repository. [Get it now!](#)

3.5 Integrated Launches

For CPI Breakdown, SCA, FDPDR and Trace Analyzer there is now only one launcher for each plugin which allows profiling both remote and local

applications.

3.6 New quick fixes and enhancements on the suggestions provided by the SCA plugin

The Source Code Advisor plugin can now suggest quick fixes for several problems identified by FDPR and also, the list of messages describing the problems and solutions is even better.

3.7 Enhancements on the Migration Advisor plugin

The MA engine was improved in order to make the experience on porting applications easier. The amount of built-ins recognized as possible problems during the migration of an application to Power significantly grow. In addition new checkers were added: chars and sync builtin

3.8 New checkers on porting applications from Power 32bit to Power 64bit

Migration Advisor now identifies problems related to the usage on the type long, implicit cast, pointers, heterogeneous types like structs and unions and format specifiers which is a symbol used in ANSI C/C++ to format input/output strings.

3.9 New visualization graphics on CPI Break-down

The CPI provides a new radar chart that eases the visualization of problems and the comparing between multiples executions.

3.10 New support for automatic updates via Eclipse Update Site

Now it is possible to consume updates of the SDK between major releases via update site. When active, the SDK will look for updates periodically.

3.11 New resources on Cheat Sheets

The Cheat sheets provide a quick help inside the Eclipse IDE (*Help > Cheat Sheets*). Each cheat sheet is designed to help completing a specific task, listing the sequence of steps required to achieve that goal. The cheat sheets now provide links to the User Guide, pointing directly to the section of interest.

3.12 Bug Fixes

This version of the SDK provides several fixes that increase its usability and stability.

Chapter 4

Supported Linux Distributions

The IBM SDK for Linux on Power 1.9.0 has been tested with the Linux distributions listed below:

1. ppc64
 - (a) Red Hat Enterprise Linux 7.2
 - (b) Fedora 22
2. ppc64le
 - (a) Red Hat Enterprise Linux 7.2
 - (b) SUSE Linux Enterprise Server 12
 - (c) Fedora 22
 - (d) Ubuntu 14.04.4 LTS
3. x86_64
 - (a) Red Hat Enterprise Linux 7.2
 - (b) SUSE Linux Enterprise Server 12
 - (c) Fedora 22
 - (d) Ubuntu 14.04.4 LTS

Chapter 5

Documentation

The most recent release notes, a complete user guide and further documentation may be found at [IBM SDK for Linux on Power](#) website.

Documentation for each component of the IBM SDK for Linux on Power can be found at:

- Advance Toolchain for:
 1. [How to use IBM Advance Toolchain for Linux on Power](#)
 2. [Performance improvements leveraging the IBM Advance Toolchain for Linux on Power](#)
- QEMU user-mode emulation
 1. [Developing C/C++ cross-compiled applications for Linux on Power systems](#)
- FDPR:
 1. [Feedback Directed Program Restructuring](#)
 2. SCA (Source Code Advisor) plugin documentation: launch the IDE and then open the Help menu. Select Help Contents, then FDPR Optimization Tools Documentation.
- Trace Analyzer:
 1. Trace Analyzer plugin documentation: launch the IDE and then open the Help menu. Select Help Contents, then Trace Analyzer User Guide.

- Eclipse Linux Tools Project:
 1. [Project Site](#).
 2. [User Guides](#).
- Other plugins of the IDE:
 1. Launch the IDE and thus open the Help menu. Select Help Contents, and browse through plugins documentation.