GNU Automake

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Overview

Background

- What is GNU?
  - A free operating system
  - Software packages
  - Autotools
  - Automake a part of Autotools
- Make Utility
  - Compile what is necessary
  - Works without manual intervention
  - Needs a *makefile*
  - *makefile* + time-stamp

Automake-I

- Autoconfig
  - Automatically configure software source code packages
  - Configuration scripts independent of Autoconf when they are run
- Automake
  - Must use Autoconfig
  - Makefile.ins from files calledMakefile.am
  - Makefile.ins used to make makefile by configuration scripts
- Pros and Cons
  - System independent
  - Uses syntax of M4, which is difficult to debug
  - Extremely difficult to build code on Windows

Automake-II

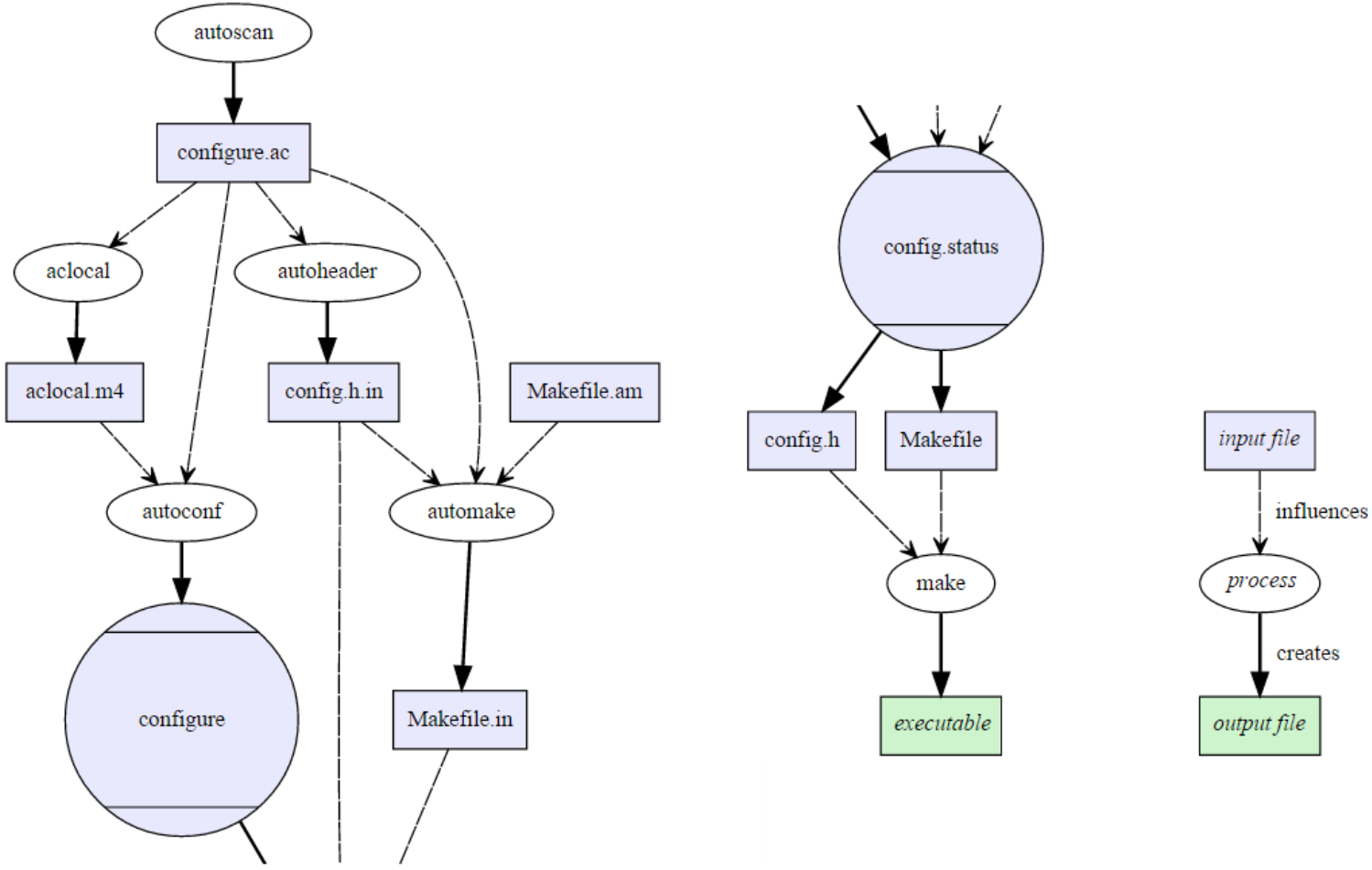

Figure : Flow diagram including configure, autoconf and automake, three tools in the GNU build system.

Current Build Systems

SCons

1. Based on python
2. Has auto configuration abilities
3. No need for intermediate steps like generating a makefile and then using a makefile.
4. All-in-one, self-contained, usable with a single call

Gradle

1. Supports builds for around 60 languages
2. Highly customizable
3. Android recently shifted to Android Studio which uses Gradle
4. Good user support

References

 Official GNU website - http://www.gnu.org

 Official Automake Manual - www.gnu.org/s/automake/manual/automake.html

 Configure Script wiki - http://en.wikipedia.org/wiki/Configure_script

 GNU build system wiki - http://en.wikipedia.org/wiki/GNU_build_system

 Official SCons website - http://www.scons.org

 Official Gradle website - https://gradle.org

The End