



# Debian Archive Structure

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# What? Why? Where? How?

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- What? A collection of Debian packages and indices to them.
- Why? To download and install Debian packages and sources.
- Where? Anywhere on the internet, on CD or other media.
- How? apt-get, dselect, aptitude.

# The Packages file

Package: gcc

Version: 4:3.3.5-3

Source: gcc-defaults (1.21)

Architecture: amd64

Maintainer: GCC maintainers <debian-gcc@lists.debian.org>

Depends: cpp (>= 4:3.3.5-3), gcc-3.3 (>= 1:3.3.5-1)

Suggests: make, manpages-dev, autoconf, automake, gcc-doc

Conflicts: gcc-doc (≪ 1:2.95.3)

Provides: c-compiler

Filename: pool/main/g/gcc-defaults/gcc\_3.3.5-3\_amd64.deb

MD5sum: c1043c3385c4afc322028be2f4f1414d

Description: The GNU C compiler

This is a dependency package providing the GNU C compiler.

# The Sources file

Package: gcc-defaults

Binary: libgcj-dev, chill, gcc, gcj, g77-doc, cpp-doc, gobjc, cpp

Version: 1.21

Priority: standard

Section: devel

Maintainer: GCC maintainers <debian-gcc@lists.debian.org>

Build-Depends: m4, debhelper (>= 4)

Architecture: any

Directory: pool/main/g/gcc-defaults

Files:

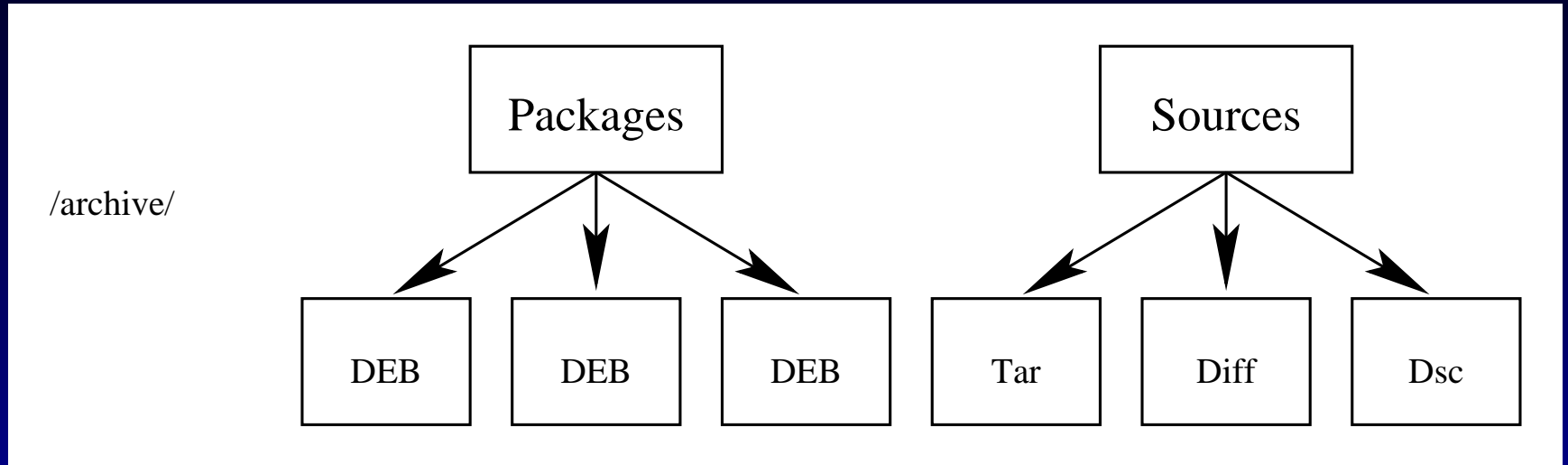
91e9...4115c94a8ebdfae6709c 684 gcc-defaults\_1.21.dsc

772f...71434d62f175e488b338 33896 gcc-defaults\_1.21.tar.gz

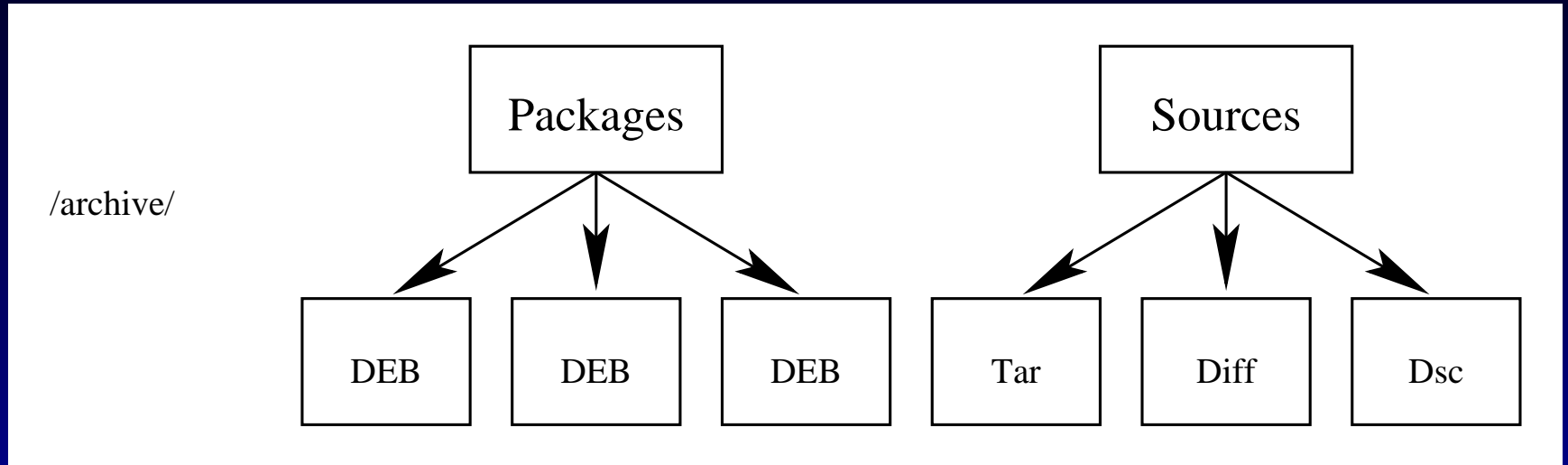
Uploaders: Matthias Klose <doko@debian.org>



# Simple archive

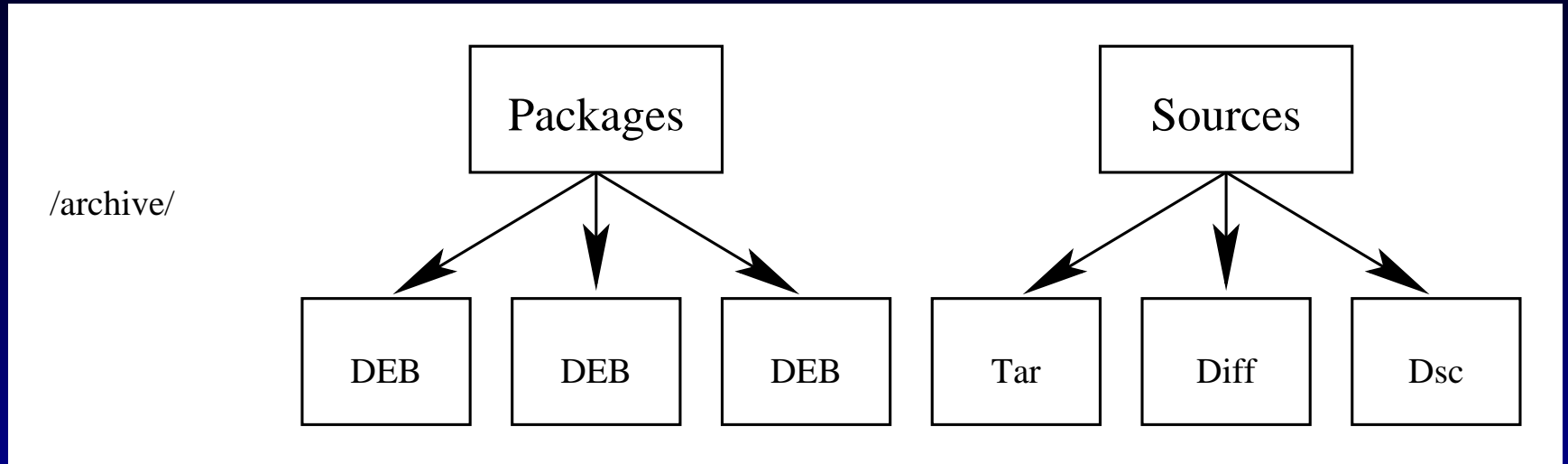


# Simple archive



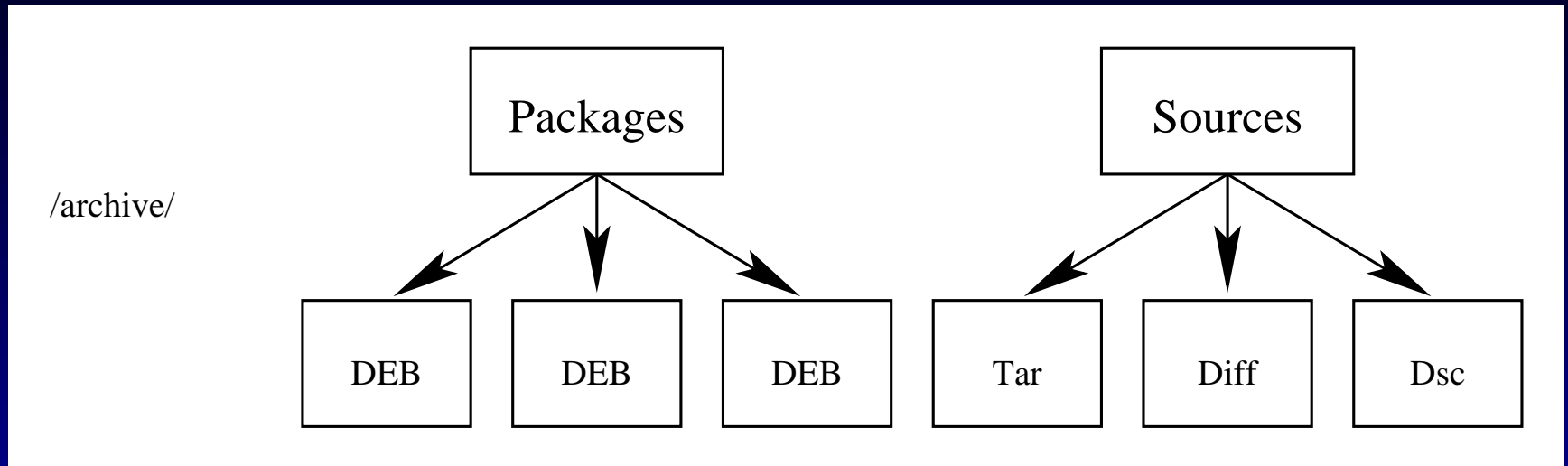
- `cp *deb *tar.gz *diff.gz *dsc /archive`

# Simple archive



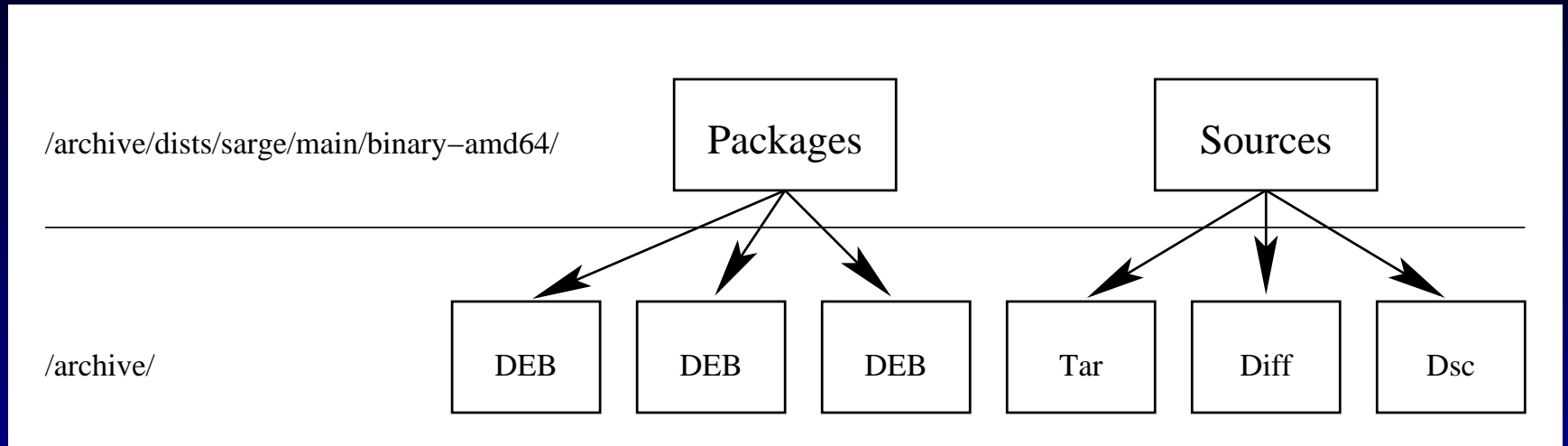
- `cp *deb *tar.gz *diff.gz *dsc /archive`
- `cd /archive`  
`dpkg-scanpackages . /dev/null > Packages`  
`dpkg-scansources . /dev/null > Sources`

# Simple archive

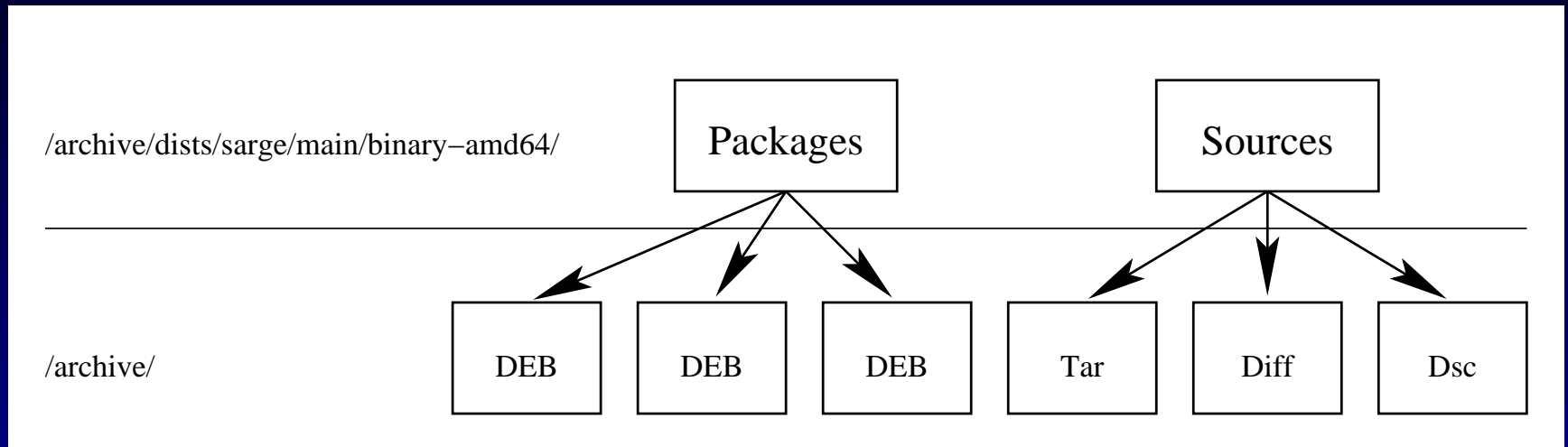


- `cp *deb *tar.gz *diff.gz *dsc /archive`
- `cd /archive`  
`dpkg-scanpackages . /dev/null > Packages`  
`dpkg-scansources . /dev/null > Sources`
- `deb file:///archive ./`  
`deb-src file:///archive ./`

# Archive with architectures

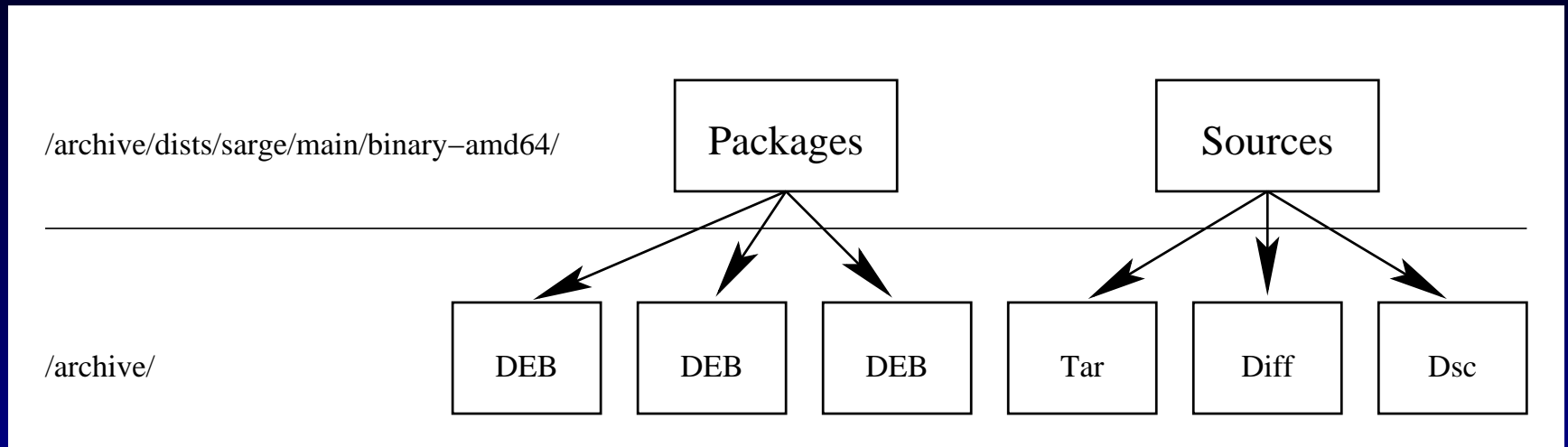


# Archive with architectures



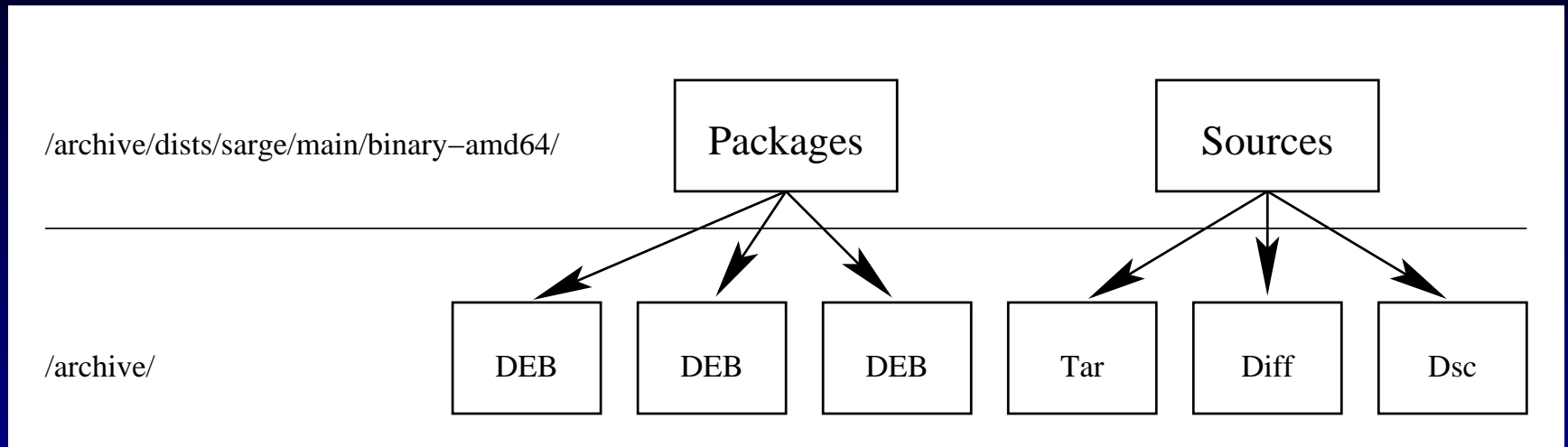
- `cp *deb *tar.gz *diff.gz *dsc /archive`

# Archive with architectures



- `cp *deb *tar.gz *diff.gz *dsc /archive`
- `cd /archive`  
`dpkg-scanpackages -aamd64 . /dev/null > dists/sarge/main/binary-amd64/Packages`  
`dpkg-scansources . /dev/null > dists/sarge/main/binary-amd64/Sources`

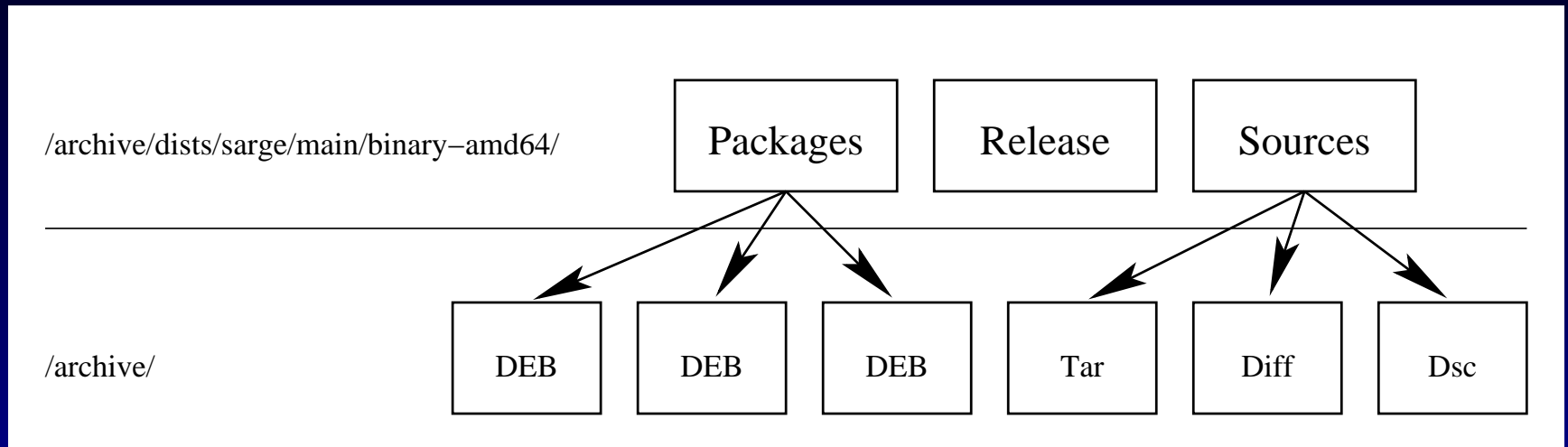
# Archive with architectures



- `cp *deb *tar.gz *diff.gz *dsc /archive`
- `cd /archive`  
`dpkg-scanpackages -aamd64 . /dev/null > dists/sarge/main/binary-amd64/Packages`  
`dpkg-scansources . /dev/null > dists/sarge/main/binary-amd64/Sources`
- `deb file:///archive sarge main`  
`deb-src file:///archive sarge main`



# The Release file (1)



`/archive/dists/sarge/main/binary-amd64/Release:`

Archive: stable

Version: 3.1

Component: main

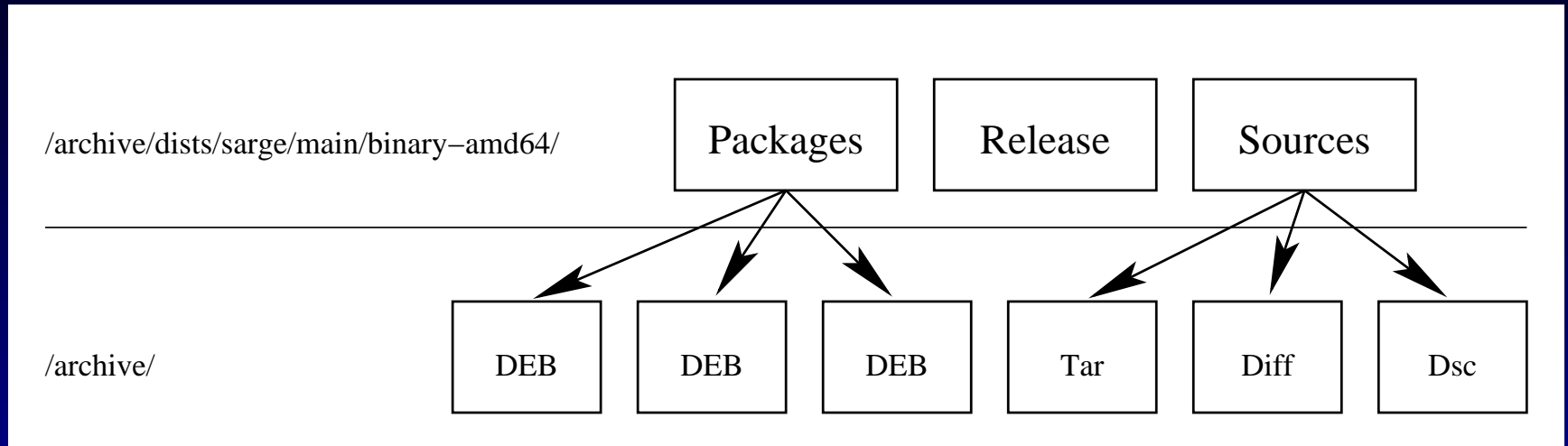
Origin: Debian

Label: Debian

Architecture: amd64

Description: Debian sarge

# The Release file (1)



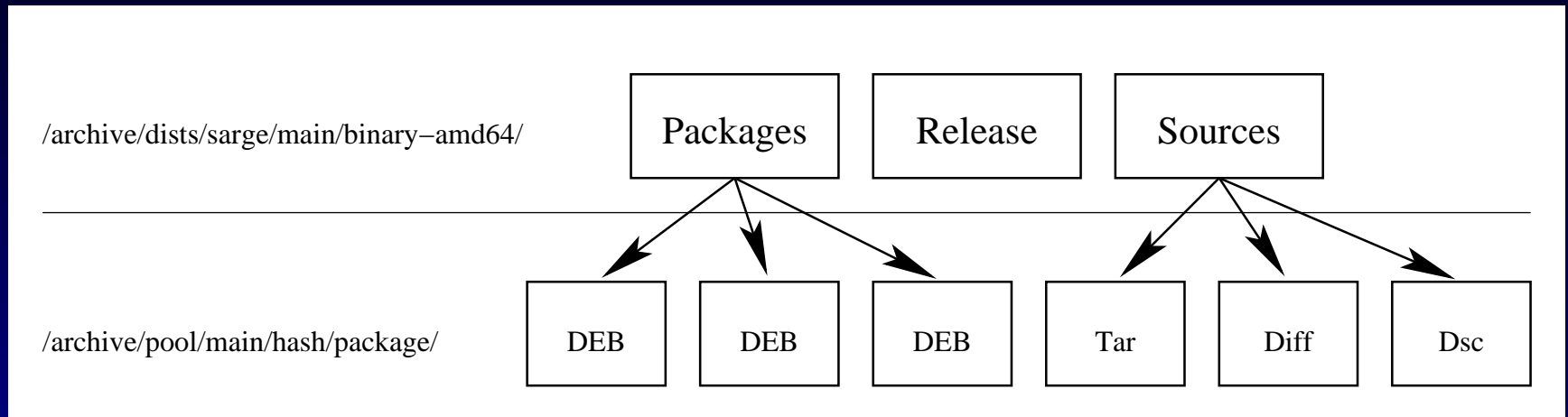
`/etc/apt/preferences:`

`Package: *`

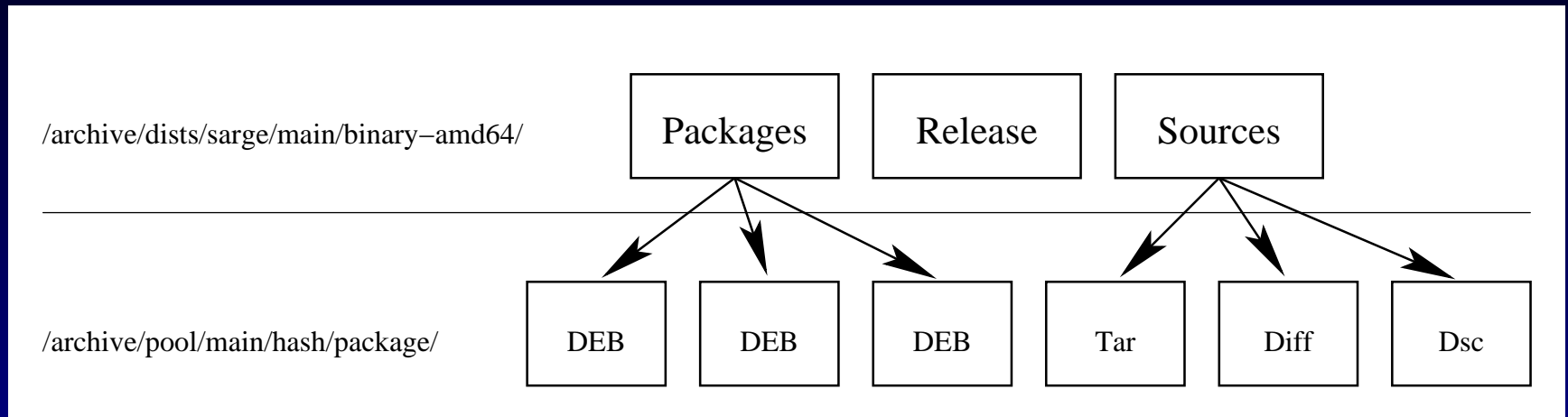
`Pin: release o=Debian,a=stable,v=3.1`

`Pin-Priority: 1001`

# The pool structure

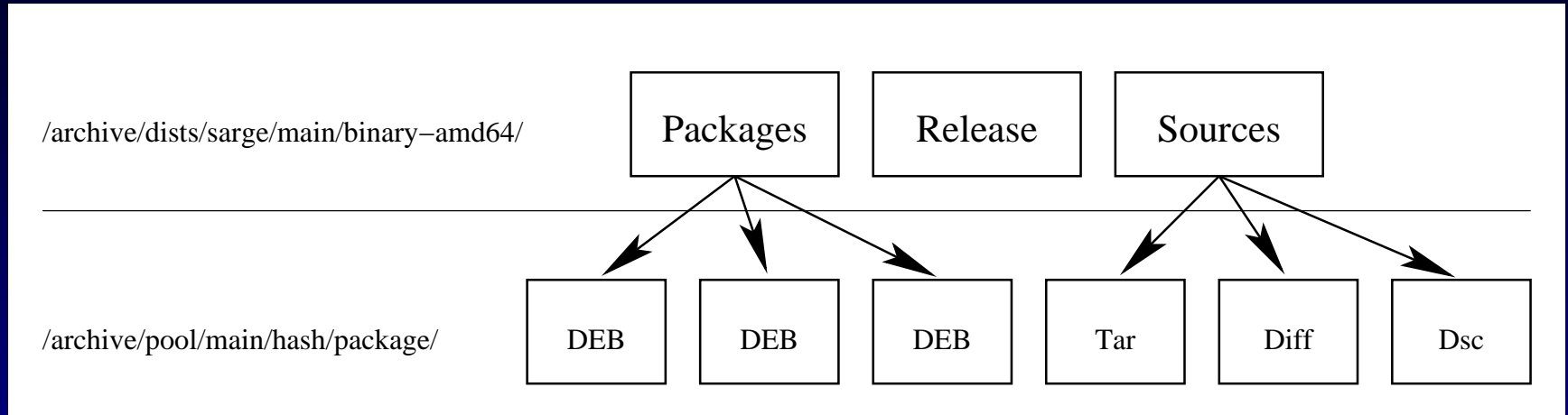


# The pool structure



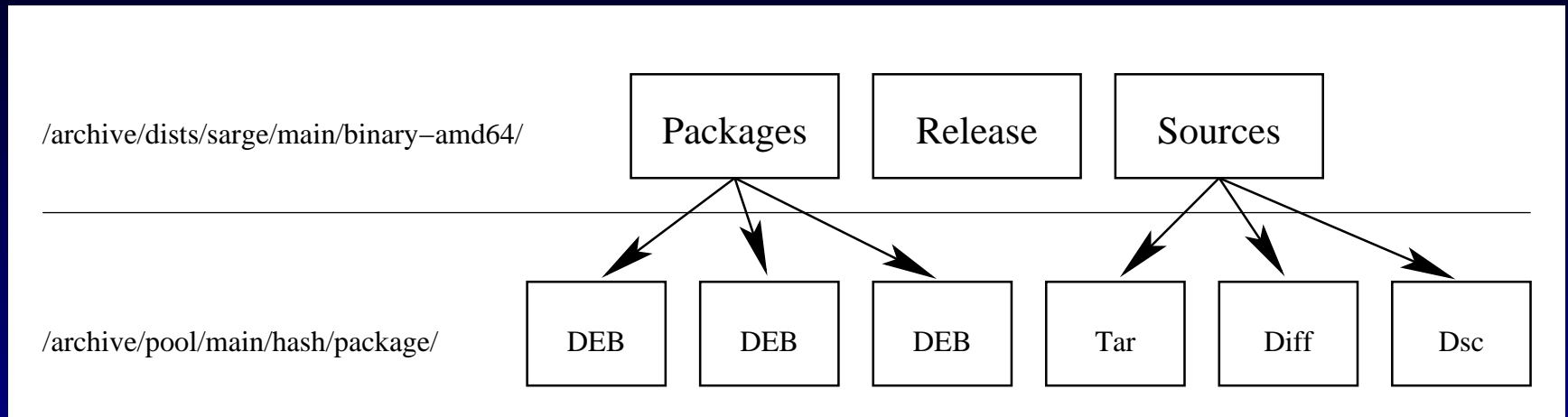
- Put groups of files into separate directories to limit the number of files per directory.

# The pool structure



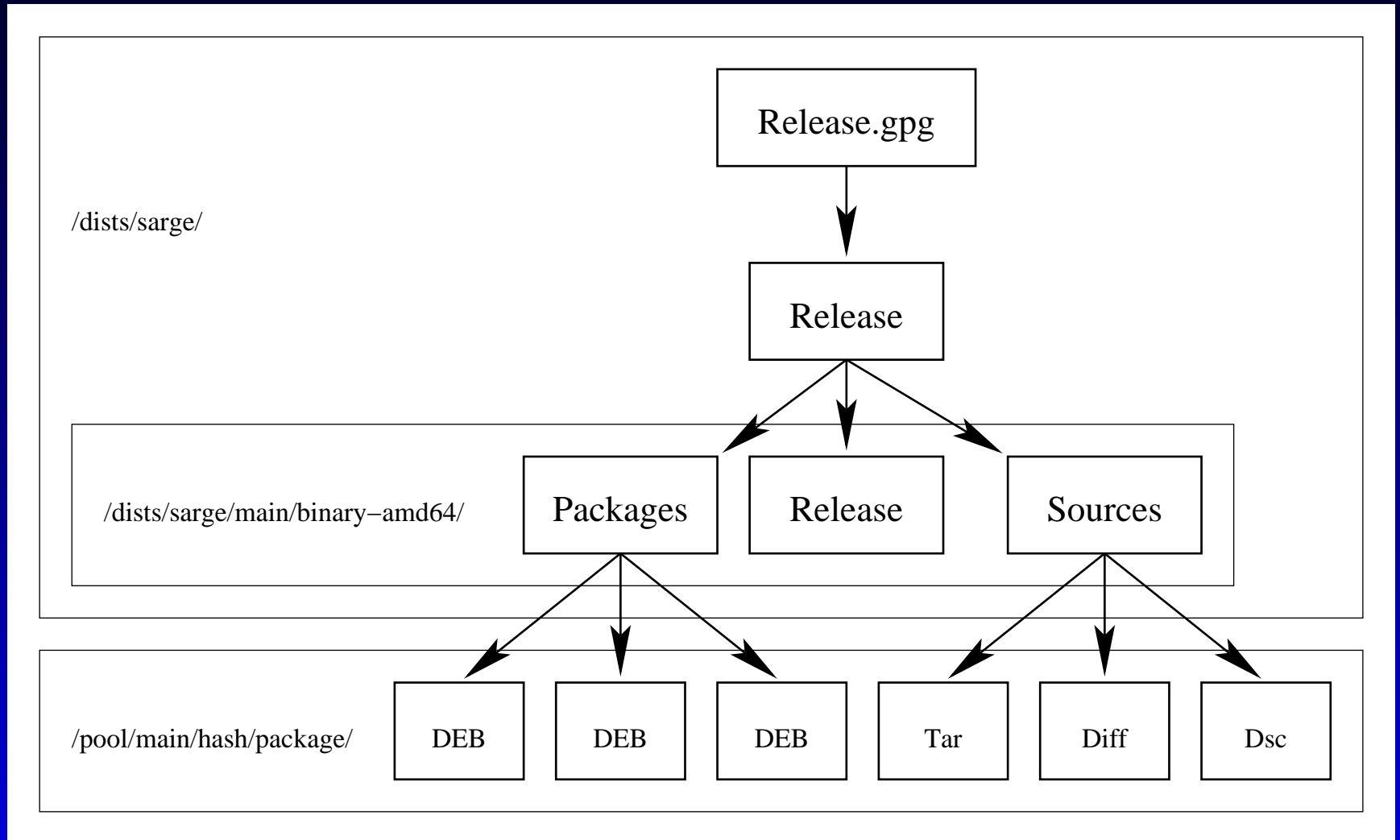
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- Debian uses the distribution, a hash and the source package name for a 3 level directory structure.

# The pool structure



- Put groups of files into separate directories to limit the number of files per directory.
- Debian uses the distribution, a hash and the source package name for a 3 level directory structure.
- The hash used is the first letter (or the first 4 for lib\*) of the source package name.

# The Release file (2)



# The Release file (2)

Origin: Debian

Label: Debian

Suite: stable

Codename: sarge

Version: 3.1

Date: Mon, 20 Jun 2005 00:53:33 +0000

Architectures: amd64

Components: main

Description: Debian sarge

MD5Sum:

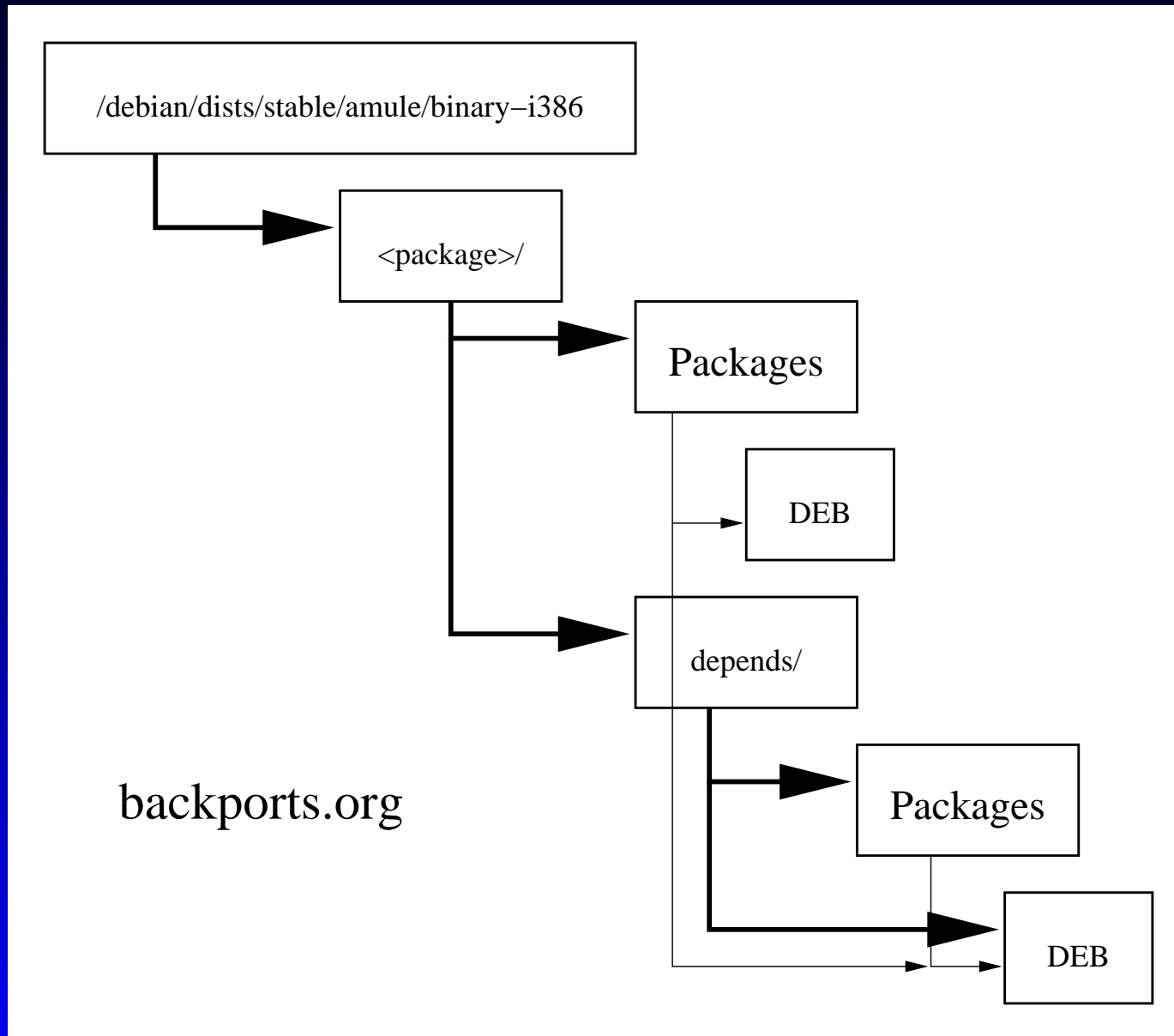
```
6377224f3fc45662bf41bd615660a114 12402781 main/binary-amd64/Packages
c377acce1e0655b7f20adc527dbf93a 3222402 main/binary-amd64/Packages.gz
78b4fb7fbb8df4f1b391c27e01eddb3e 120 main/binary-amd64/Release
f4674568389db85389494077297860a9 1320829 main/source/Sources.gz
a2170393bdf6b6ec39ba374ed3b73cf3 121 main/source/Release
```



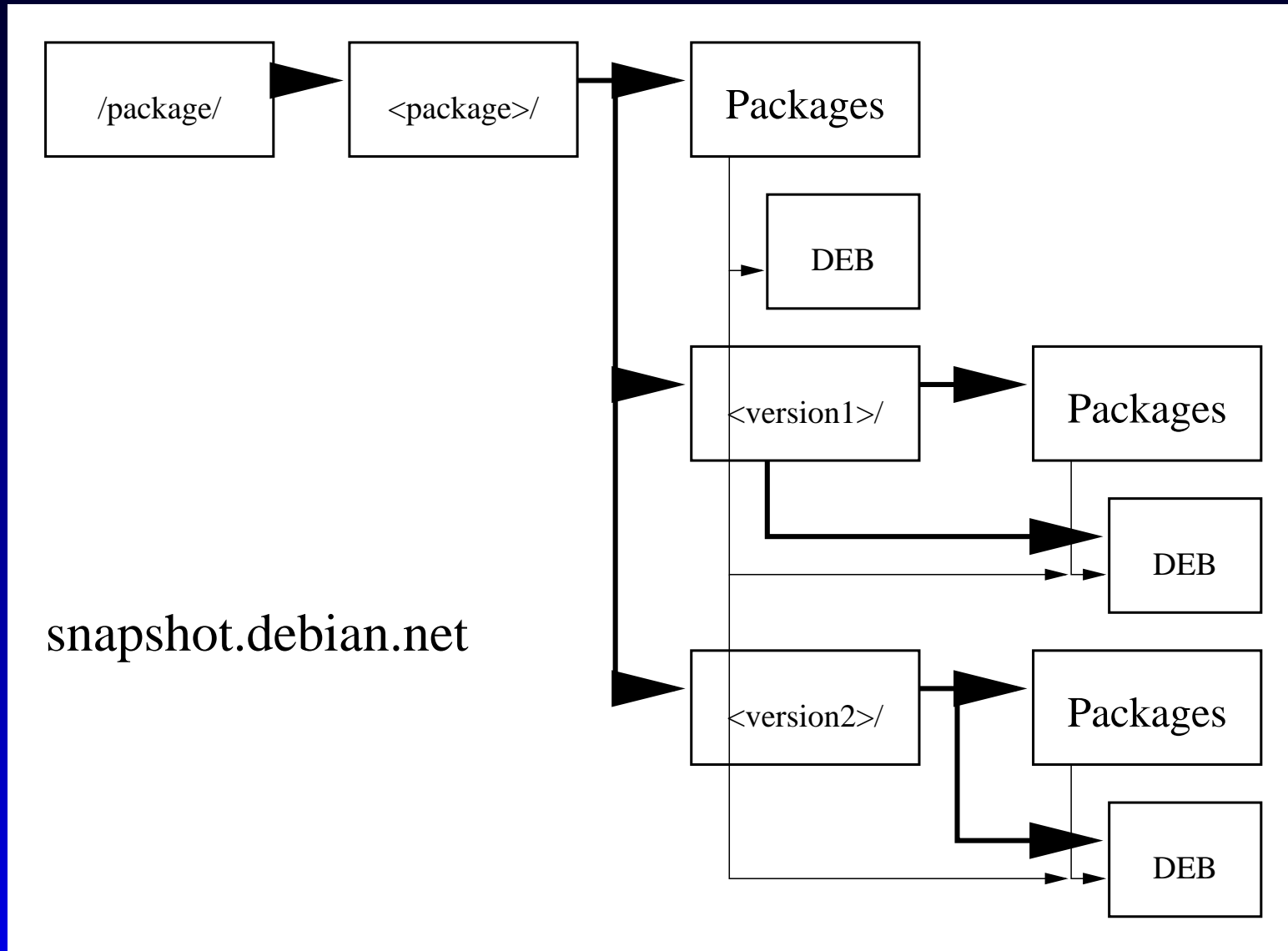
# Other stuff in Debians archive

- UDebs
- /doc
- /indices/override.\*
- /project/experimental
- /project/trace
- /tools
- /Archive-Update-in-Progress-<hostname>

# Archive Layouts

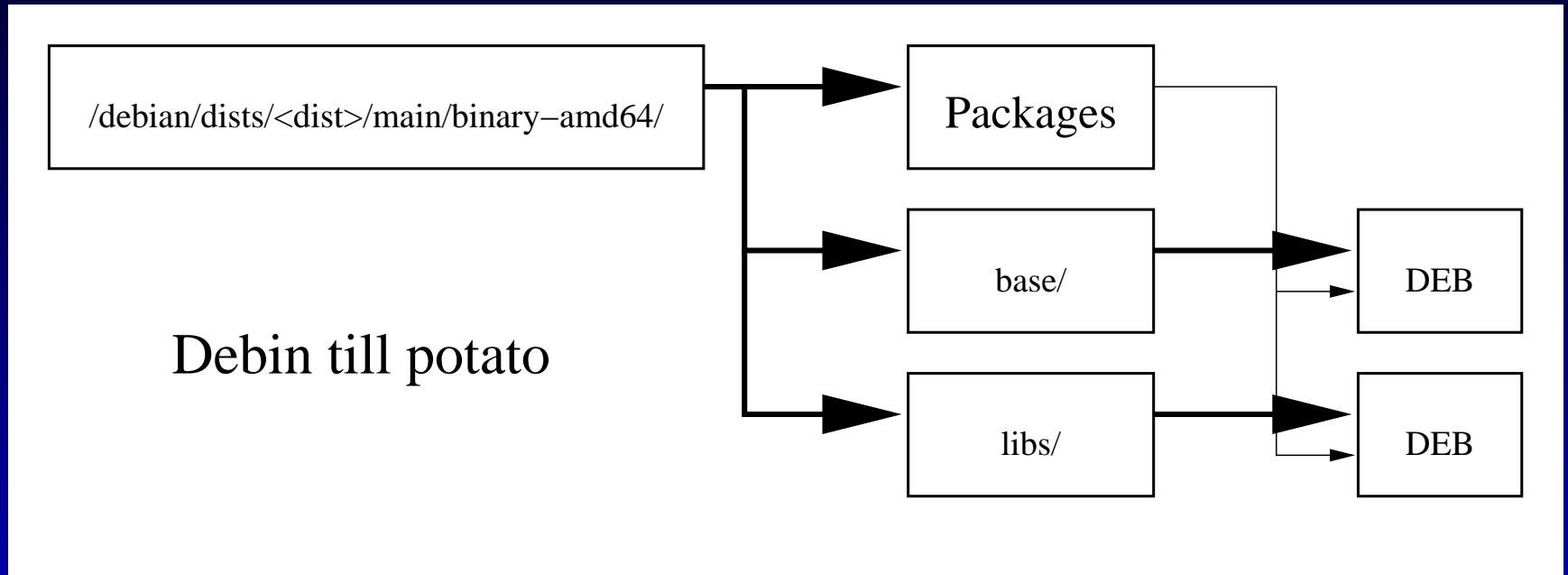


# Archive Layouts



# Archive Layouts

## Debian till potato



# Archive Layouts

Debian since woody

# Archive related software

proxies	squid, apt-proxy, apt-cacher, apt-move
mirroring	rsync, apt-move, debmirror, reprepro
small archive	dpkg-scanpackages, dpkg-scansources apt-ftparchive, debpool, reprepro mini-dinstall
full archive	reprepro, DAK

# apt-move

Pro	Contra
<ul style="list-style-type: none"><li>can reuse an existing apt cache</li><li>can mirror a list of packages</li><li>can exclude patterns</li><li>very easy to configure</li><li>can't rsync</li></ul>	<ul style="list-style-type: none"><li>only works for the host arch + src</li><li>does not work for udebs</li><li>does not work for extras</li><li>no signature checks</li></ul>

# debmirror

Pro	Contra
<p>can mirror any arch, dist and suite</p> <p>comandline and optional conffig file</p> <p>supports ftp, hftp, http and rsync</p> <p>checks signatures</p> <p>can filter by section and priority</p> <p>stateless / self repairing</p>	<p>hard to mirror different subsets</p> <p>tricky to add e</p>



# dpkg-scanpackages/sources

Pro	Contra
require no config file knows about overrides most basic tool	no caching between runs only builds Packages / Sources most basic tool

# apt-ftparchive

Pro	Contra
used by the official DAK caches between runs builds Contents files	needs config file for proper use no archive maintainance

# debpool

Pro	Contra
relative simple to setup	only in experimental no pool subdirectories

# mini-dinstall

Pro	Contra
<p>easy to setup</p> <p>incoming queue</p> <p>signature check on uploads</p> <p>notices package removals / inserts</p> <p>can mail or call script for new debs</p>	<p>no pool subdirectories</p> <p>no version check on uploads</p> <p>no override files</p>

# reprepro

Pro	Contra
<ul style="list-style-type: none"><li>very strict integrity checks</li><li>simple setup</li><li>combines multiple mirrors and local packages</li><li>supports override files</li><li>simple filtering buildin</li><li>advanced external filtering (cvs)</li></ul>	<ul style="list-style-type: none"><li>very strict integrity c</li><li>no incoming que</li><li>no support for ext</li></ul>

My favourite!

# Debian Archive Kit

Pro	Contra
very powerfull has a girl for everything official software used by Debian	very complex too many tools for newbies needs a lot of infrastructure

More details in 'Debian Project Intern' Saturday 15:00-16:00.