



AOSC OS's Overlay System

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Goals

- Make full use of modern processors
- Break compatibilities to obtain speed
- Simultaneously, providing general optimized packages

Overlay

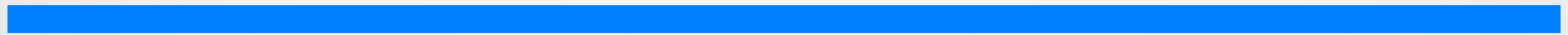
Multimedia: Blender

Cryptographic: LibreSSL, GnuPG

Mathematics: R



Optimized Layer



Packages with General Flags

Overlay on AMD64

-march=x86_64 (-mtune=haswell) -mavx2 -maes -mpclmul
-mfsbase -mrdrnd -mfma -mbmi -mbmi2 -mf16c

bdver4 / znver1

-march=haswell

-march=x86_64 -mtune=core2 -msse -msse2 -msse3

Overlay on ARMEL / ARM64

BSP (Board Support Package)



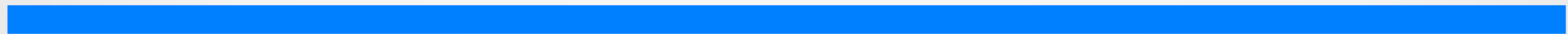
General Packages

Overlay on MIPSEL

* ~~-march=mips3 -mabi=32 ...~~



-march=mips32r2 -mabi=32 ...




-march=mips2 -mtune=loongson2f -mabi=32
-Wa,-mfix-loongson2f-nop -mshared

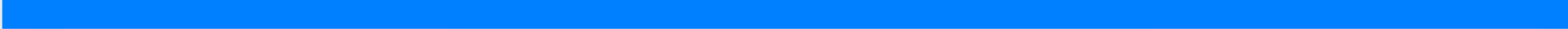
Overlay on MIPS64EL

Special Loongson GCC, Binutils, Glibc,
Linux Kernel, FFmpeg, *&%\$#@...

-mabi=64

 -march=loongson3a -mdsp -mdspr2





-mabi=64 -march=mips64r2 -mtune=loongson3a

Overlay on PowerPC (PPC32)



... -maltivec -mabi=altivec



-m32 -mtune=G4 -mno-altivec -msecure-plt -mhard-float

Overlay on PPC64 (Big Endian)

-m64 -mtune=G5 -maltivec -maltivec=be -mabi=altivec
-msecure-plt -mhard-float

Problems

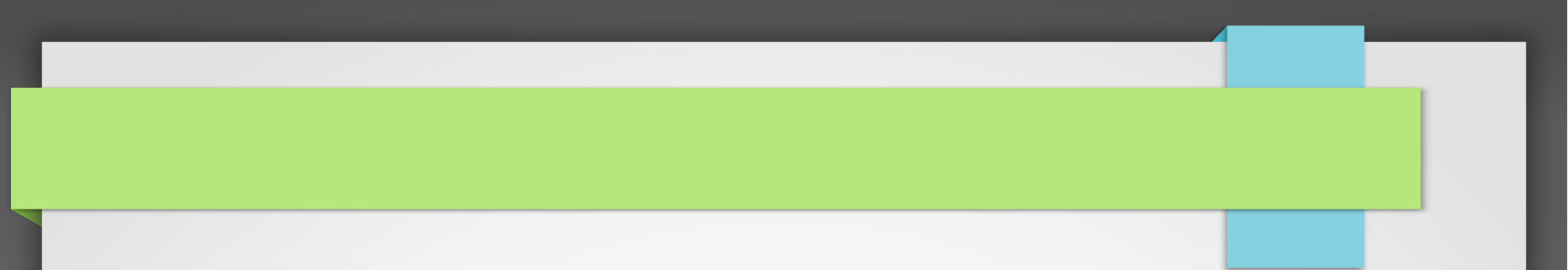
- Overlay is not always faster...
 - **Botan** obtains little improvement on speed
 - **p7zip** becomes a little faster
 - 我偷懒了，对不起组织

Support

- The brand new **apt-gen-list**
 - **Deb822** source config
- Repository support
 - os-amd64/os3-dpkg
 - os-amd64/**haswell+**/os3-dpkg
 - os-mipsel/os3-dpkg
 - os-mipsel/**mips32r2+**/os3-dpkg
 - Set /etc/apt/preference
- Autobuild / ACBS / Ciel support?

Plan

- **AMD64, PPC{32,64}** will be Tier 1
- **MIPSEL** may be Tier 2
- Forgive **MIPS64EL** (wait until next AOSC OS Core)



Ask Me Questions!