

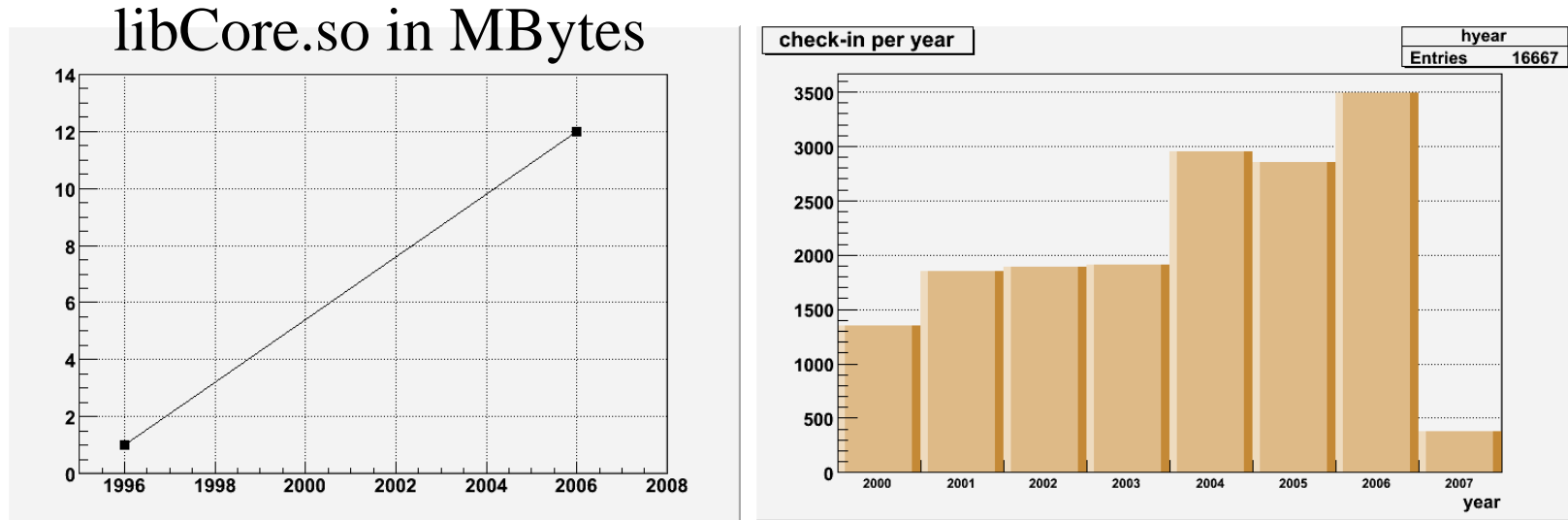
Restructuring sources and libs

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Motivation

- Introduce a more modular structure with new subdirs "io", "math", "net"
- Reduce the size of libCore
- Reduce compilation time when changing the most important header files.
- Better documentation in sources
- In view of the removal of the G__ files
- Towards BOOT

Size of libCore



5.10: Process Map (pmap) root.exe = 66 Mbytes

5.10: Process Map (pmap) root.exe -b = 58 MBytes

5.14: Process Map (pmap) root.exe = 44 MBytes

5.14: Process Map (pmap) root.exe -b = 34 Mbytes

Reducing pmap reduces startup time

Objective is to reach 15 Mbytes in two steps

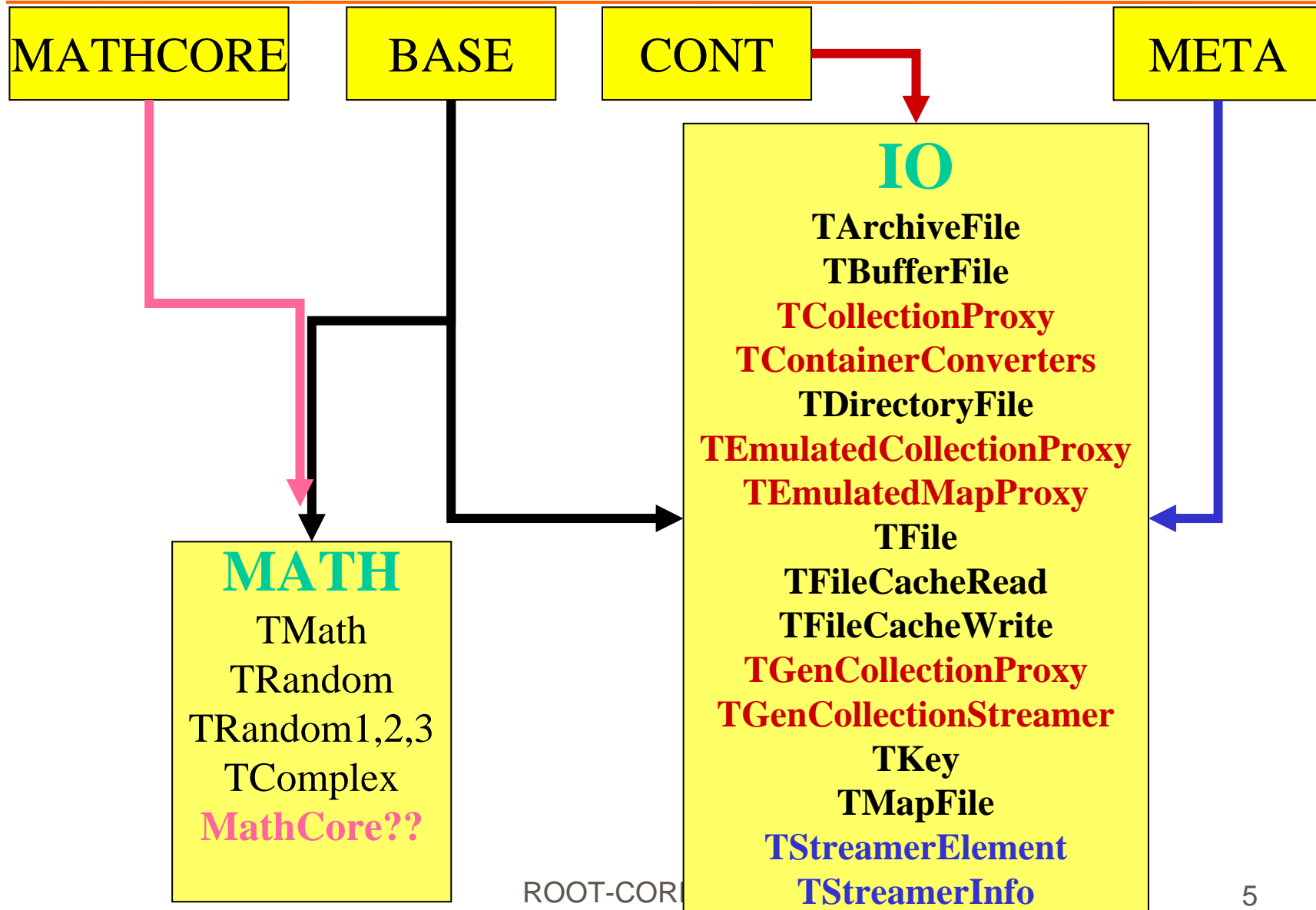
Obtained by reducing size of CINT pointers tables

Effect on compilation time

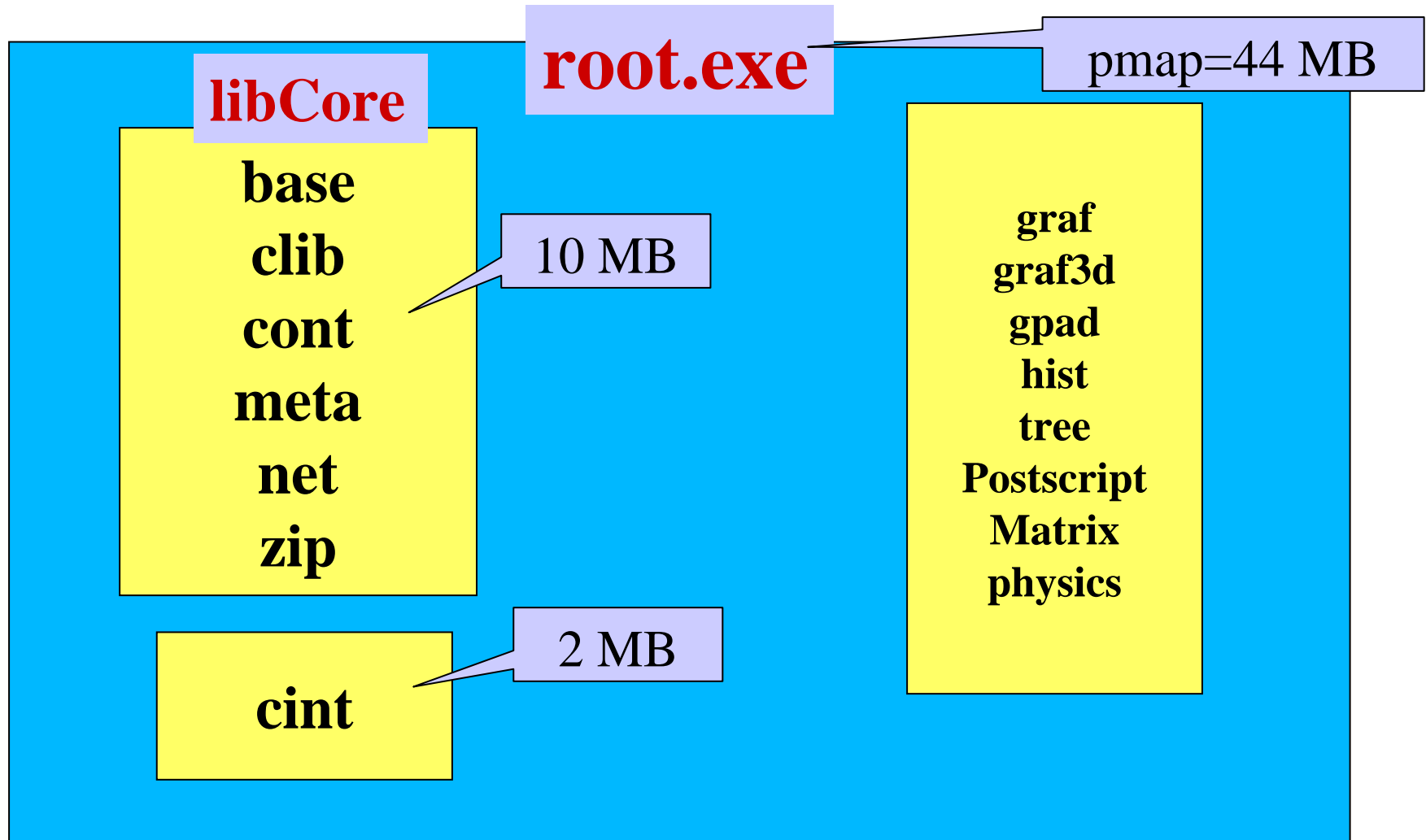
Time for “make -j 2” on MacBookPro when all packages are enabled (twice as long as the default ./configure)

	5.14	5.15 (CVS)
clean	20' 43"	20' 12"
Varargs.h	15' 31"	7' 01"
TQObject.h		7' 50"
TMath.h	14' 37"	4' 11"
TBuffer.h	15' 00"	14' 46"
TBufferFile.h		1' 44"
TDirectory.h	13' 59"	5' 38"
TDirectoryFile.h		1' 57"
TROOT.h	13' 54"	5' 01"
TStreamerInfo.h	13' 48"	1' 5"
TClass.h	13' 13"	9' 36"
TFile.h	3' 15"	2' 34"
TH1.h	4' 25"	3' 19"

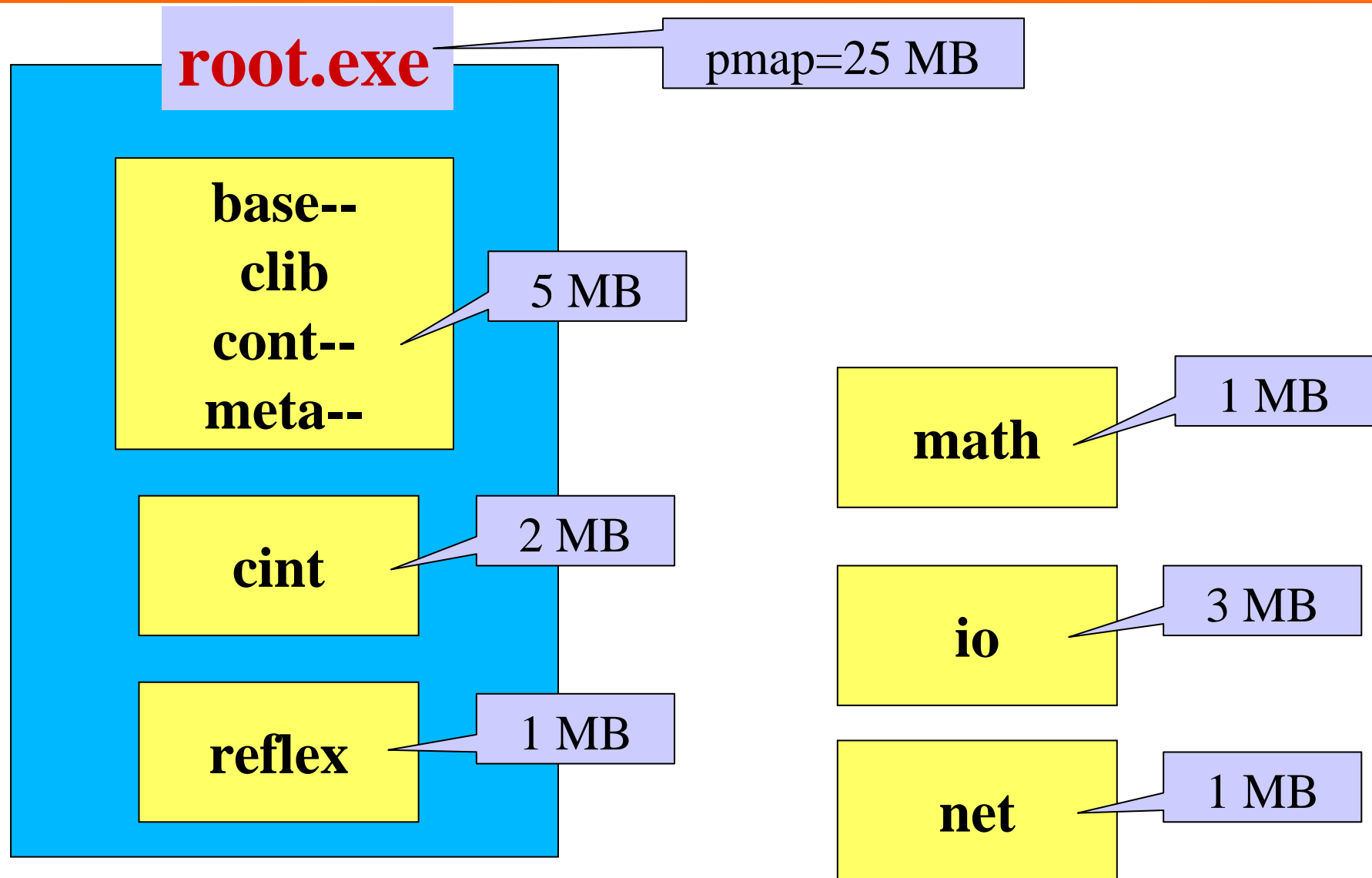
Cont/meta/base reorganization



Libraries reorganization (5.14)

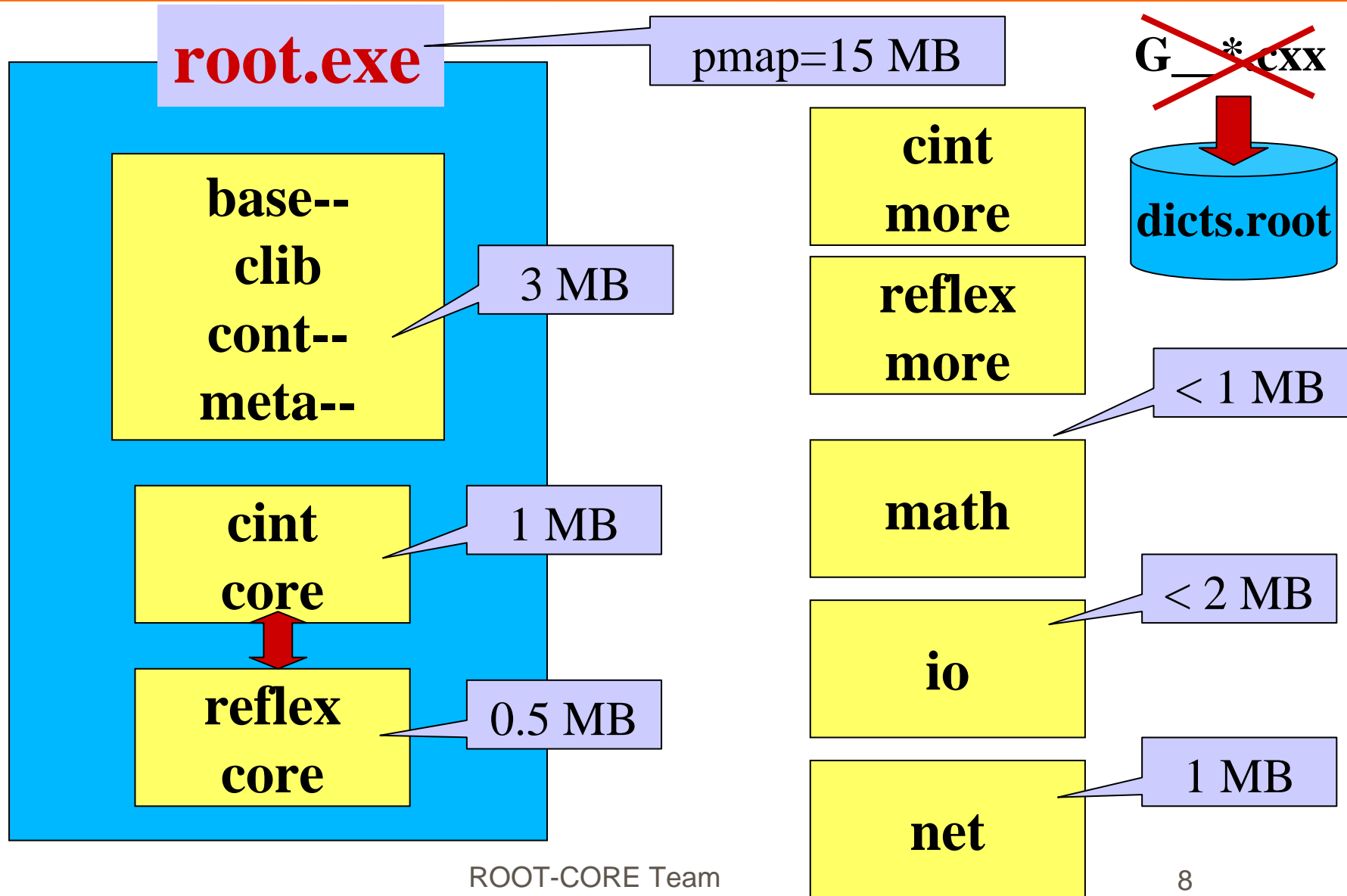


Libraries reorganization (proposal phase1)



Libraries reorganization

(proposal phase2 == **BOOT phase1**)



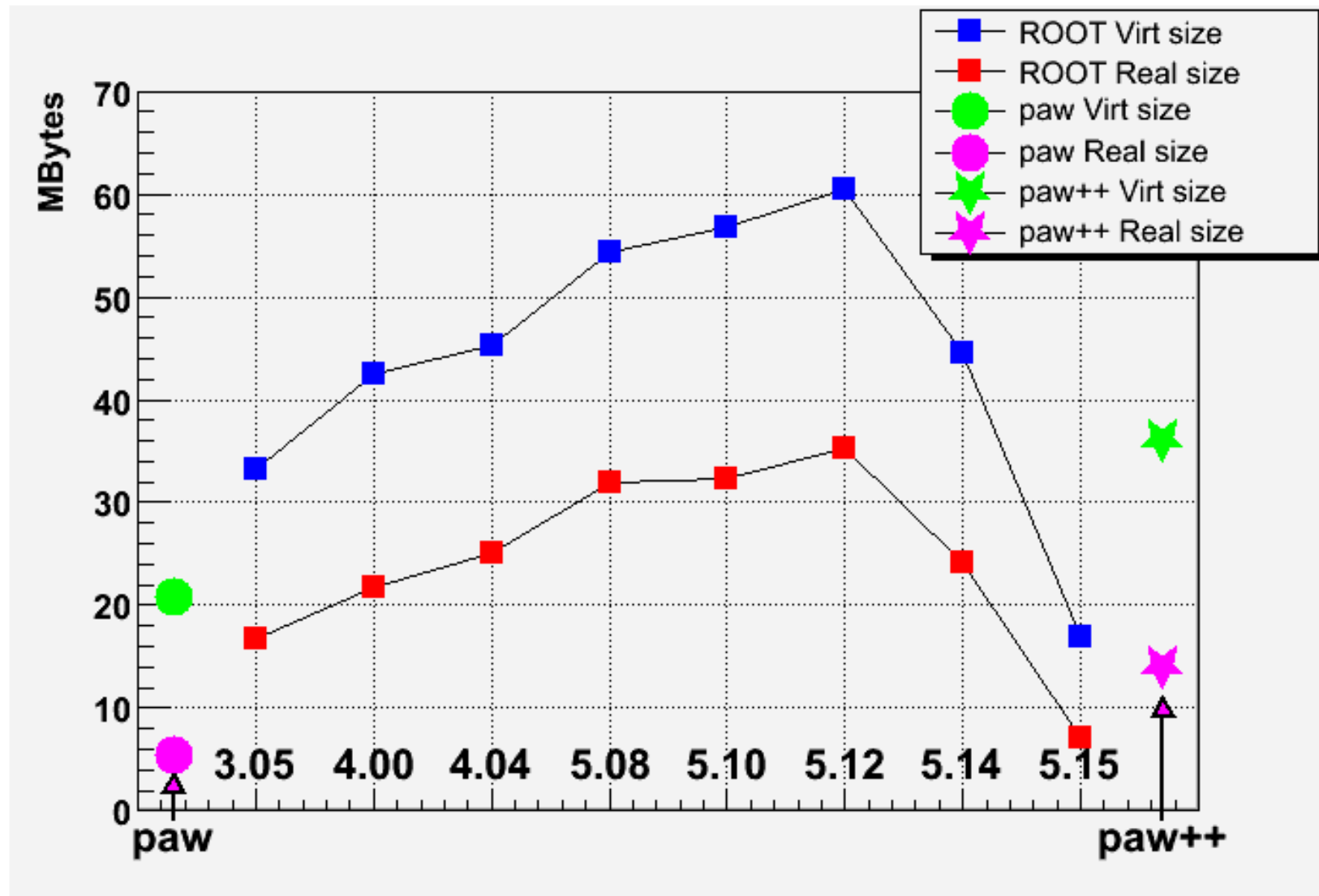
Important changes in CINT

- The data structures `G__ifunc_table` has been reorganized to be independent of the parameter `G__MAXFUNCPARA = 40`. Only real function arguments are stored in memory.
- The data structures `G__inheritance` has been reorganized to be independent of the parameter `G__MAXBASE = 50`. Only real function arguments are stored in memory.

Important changes in AutoLoading

- Many changes had to be done (thanks **Axel, Bertrand, Fons**) to minimize libraries dependencies and make possible the autoloading via the plugin manager.
- Still a lot of work in front to cleanup the GUI dependencies (now the biggest lib).
- Would like to remove the **libMatrix** dependency in **libHist** and other places too.
- **Axel** has developed a nice script that will automatize **Makefile.depend** and make it full proof.

Where are we today with 5.15/03 ?



Where are we today with 5.15/03 ?

	3.05	5.10	5.12	5.14	5.15
root -n	33.2 16.8	56.7 32.4	60.5 35.2	44.6 24.2	17 7.1
root	33.8 18.1	59.2 35.9	63.2 38.5	47.5 28	29 13.6
hpx.Draw	35.4 20.3	62.2 38.4	67.1 42.1	51.8 31.7	41.9 21
benchmarks.C	75.4 31.7	103.4 50	118.5 53.6	104.1 43.6	94.5 32

virtual size (MB) real size (MB)

Libraries reorganization (proposal phase1 today)

