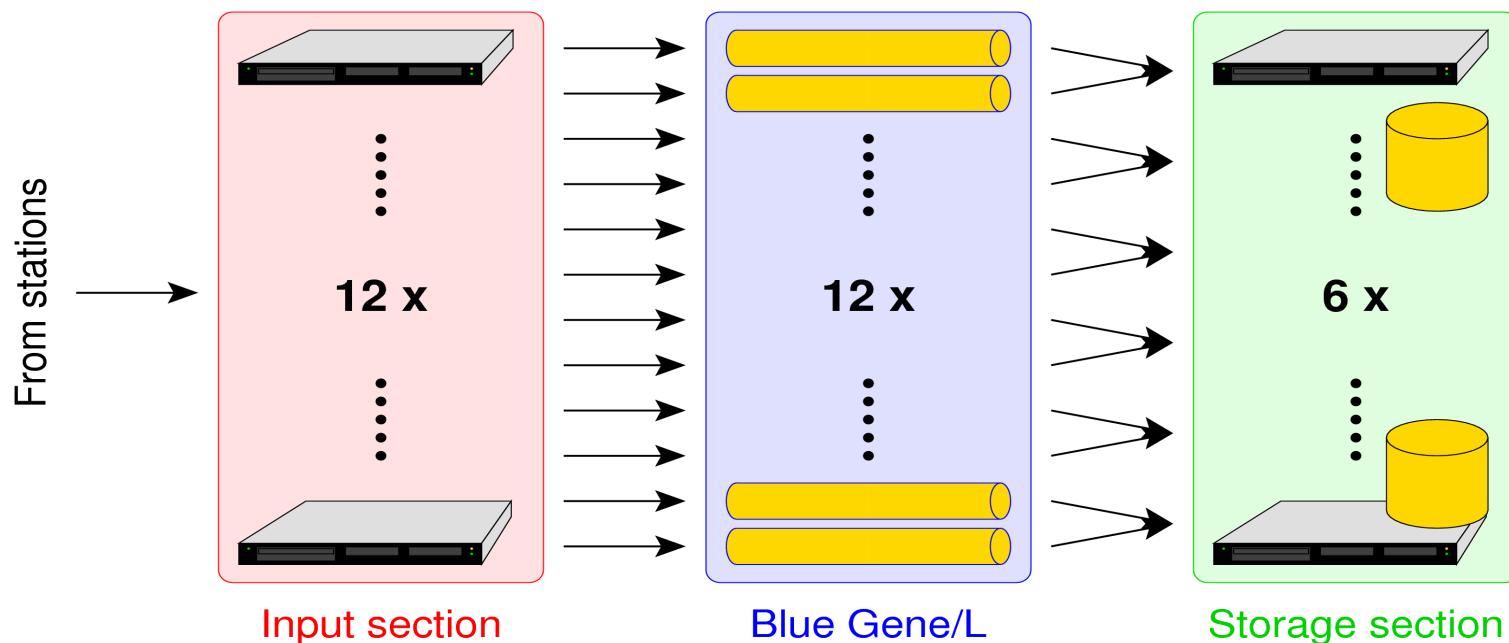# *Reliability*

- ❑ Many hardware failures
  - ❑ Storage section
    - ❑ replaced all disk controllers
    - ❑ some disks broken
  - ❑ Input section
    - ❑ 3rd node broken ...
- ❑ Software not fault tolerant
  - ❑ Future: suspend/restart observation

1

SAS/MAC integration

- ❑ SAS/MAC: automatic schedule/start/stop of observations
- ❑ ongoing development
  - ❑ InputSection, DelayCompensation work
  - ❑ Storage should work
  - ❑ BG/L processing to be done

BG/L I/O bandwidth

Input section   Blue Gene/L   Storage section

- ❏ each pipeline processes 2–4 subbands
- ❏ #subbands limited by BG/L I/O bandwidth
  - ❏ increase #pipelines
  - ❏ increase bandwidth per pipeline *(next slide)*

3

the ZOID communication protocol

- ❑ replacement for IBM software
  - ❑ faster
  - ❑ more flexible
    - ❑ run application on I/O node
- ❑ developed with ANL
- ❑ status:
  - ❑ stable, but needs work
  - ❑ 12x3 subbands @160 MHz ok
  - ❑ 8x4 subbands ok
  - ❑ 12x4 subbands not (?)
- ❑ development: use 2nd CPU

ethernet

CPU CPU

I/O node

tree

tree

Hardware for
one processing
pipeline

CPU CPU
CPU CPU
CPU CPU
CPU CPU
CPU CPU
CPU CPU
CPU CPU
CPU CPU

compute nodes