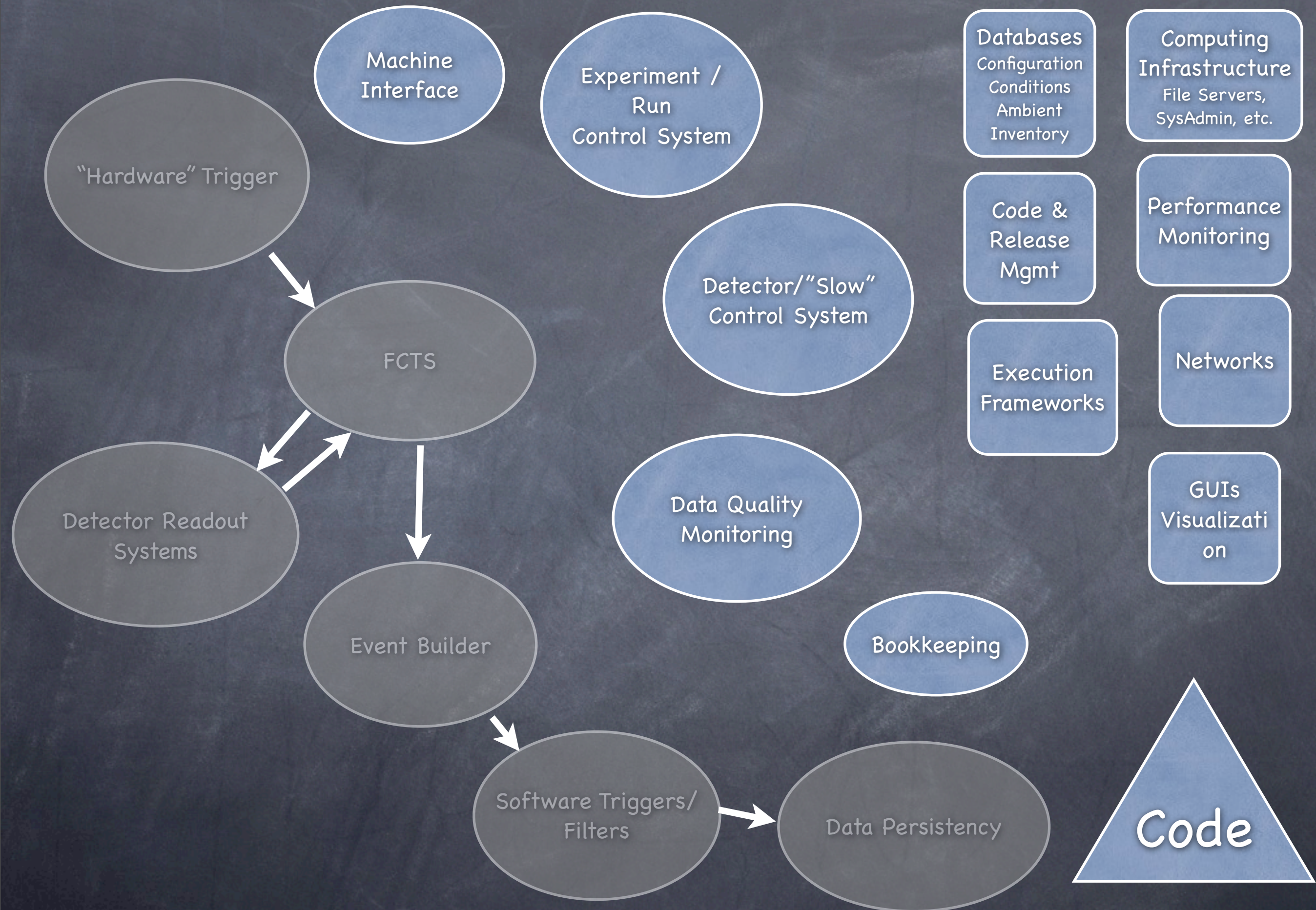# SuperB Online Introduction, Topics & Goals

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Fundamental Online "Features"

- "Forward Data Flow" – process data only once

  - Blessing – system does not need to grow with the amount of accumulated data

  - Curse – if something goes wrong, you lose data!

- Factory mode

  - High operational efficiency

  - Continuous improvement based on operational experience

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Topics & Goals for Thought & Discussion (1)

- Existing Online Frameworks – what can we (re-) use?
  - Event builder, HLT infrastructure, data logging, data quality monitoring, run control, detector control, etc.
  - Taking advantage of modern CPUs (cores, caches, threads, ...)?
  - GPUs or FPGA coprocessors for FEX, data formatting, compression, etc.? Programming paradigms, etc.
  - Part of the system is specialized hardware – what's the model?
  - How does using an existing Online framework interact with sharing of code with Offline
  - Approaches to fault tolerance? Explicit engineering of FT?

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Topics & Goals for Thought & Discussion (2)

- Sharing of code, coding standards and code quality standards
  - Implications for error handling
    - "handle vs. crash", report up, decide at appropriate level; restarting from scratch to "reset the system" often wasteful
  - Performance standards (beneficial for everybody)
    - Near-realtime requirements: Worst-case performance is important!
    - Startup and turn-around times (re-config) are important
  - Code & Dependency Management
    - Keep Online agile while taking advantage of as much Offline code as possible