Introduction to WrightEagleBase

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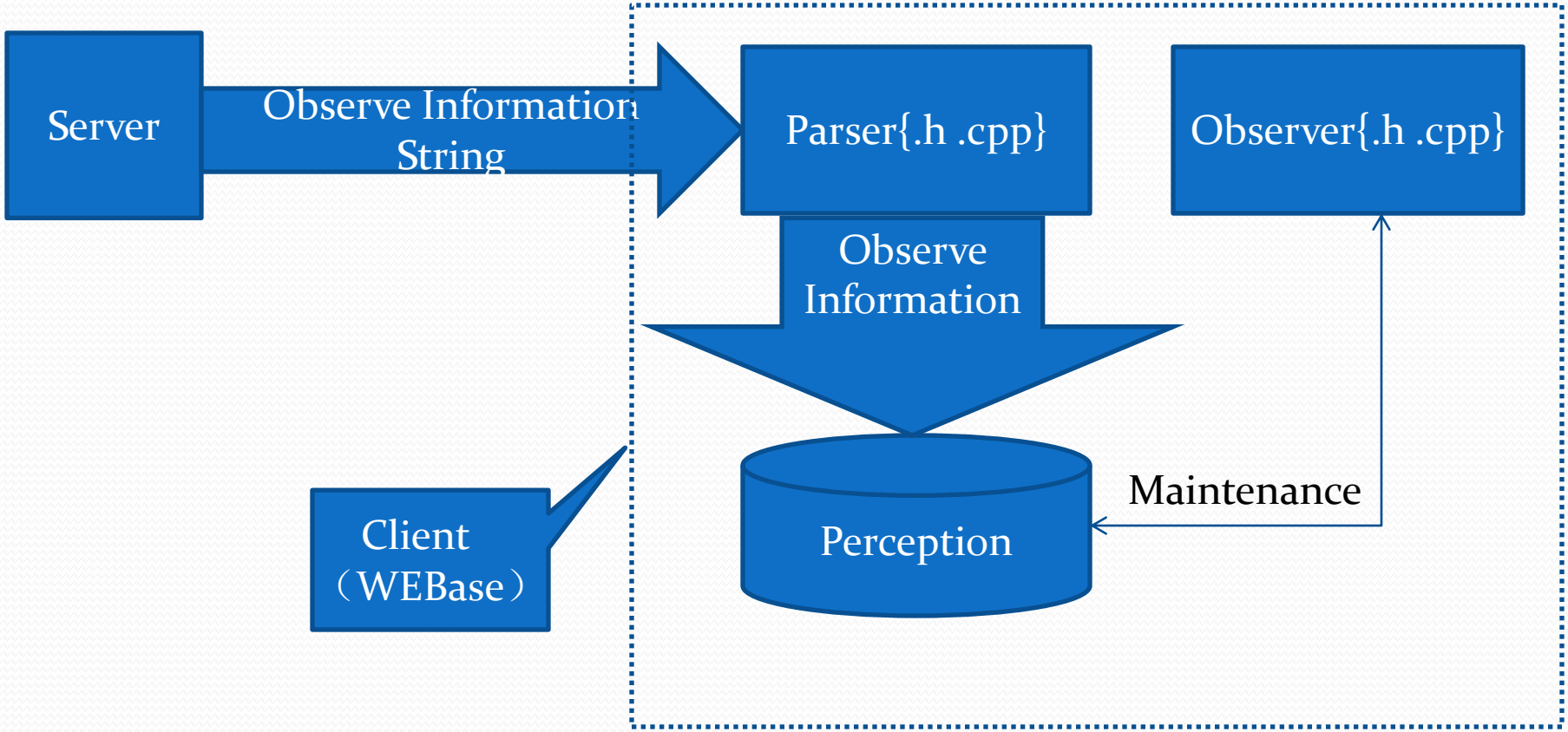
（Base on WrightEagleBase3.0）

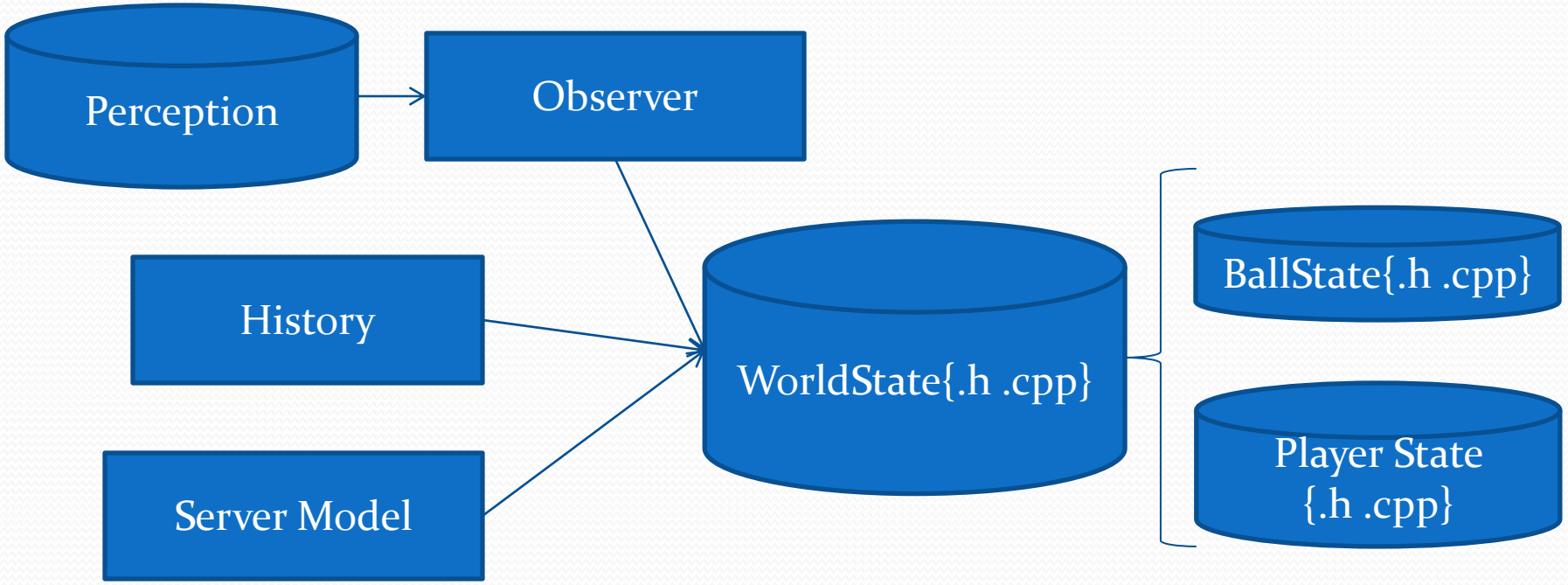
Outline

- About World State
- About Decision
- Source Code Structure
- Some Useful Functions and Tools

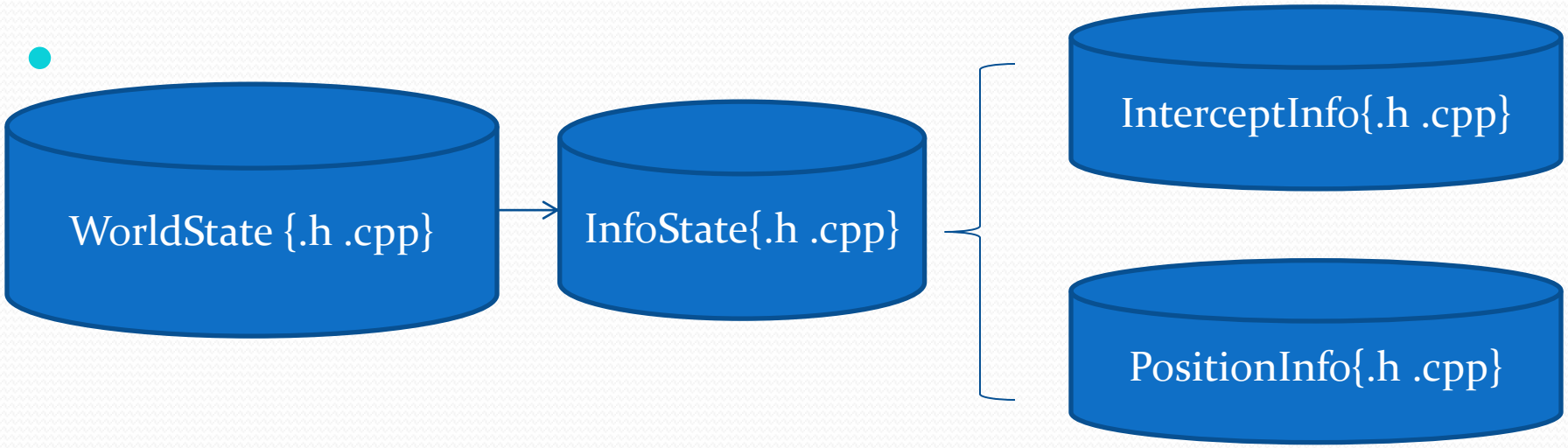
About World State



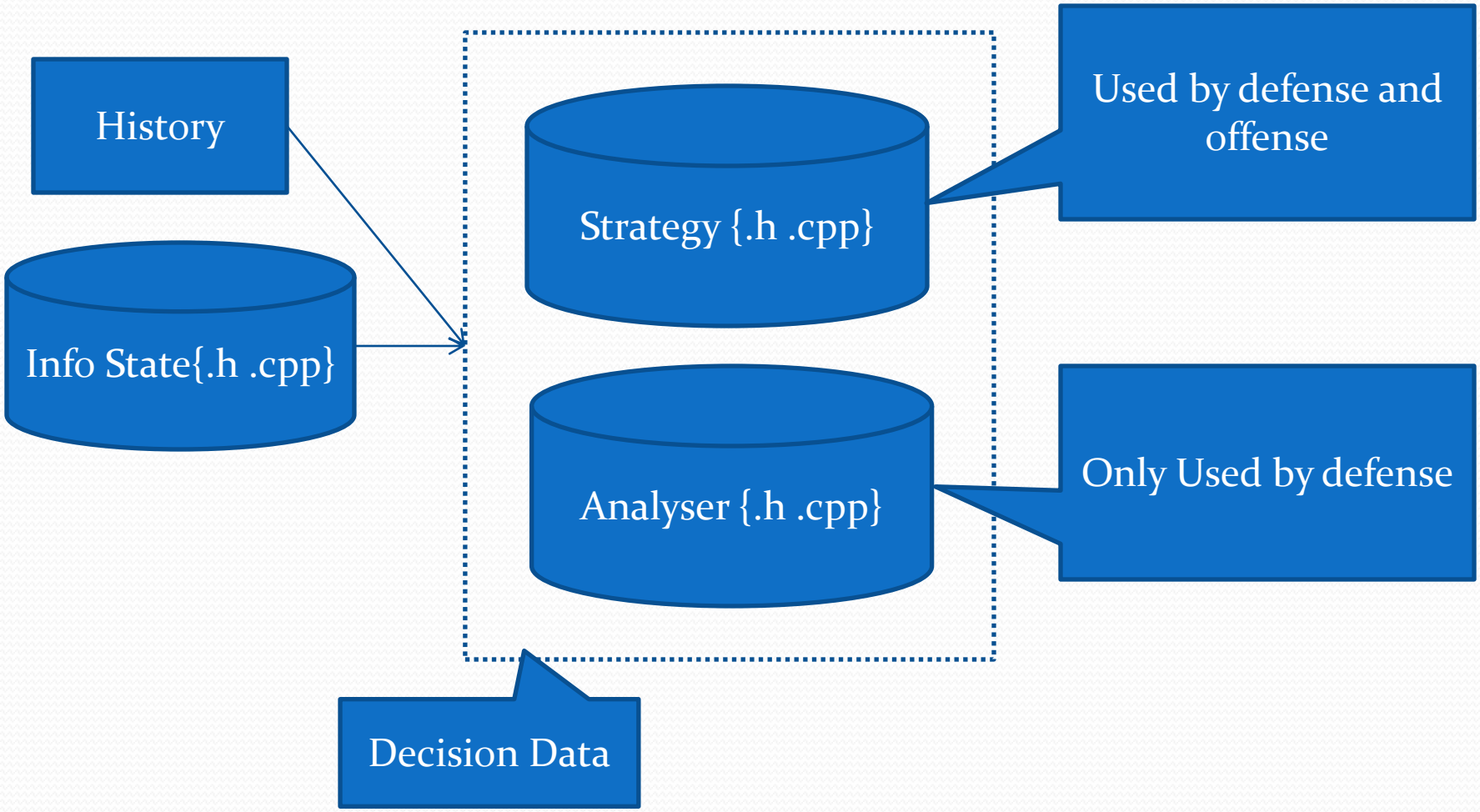
About World State



Info State

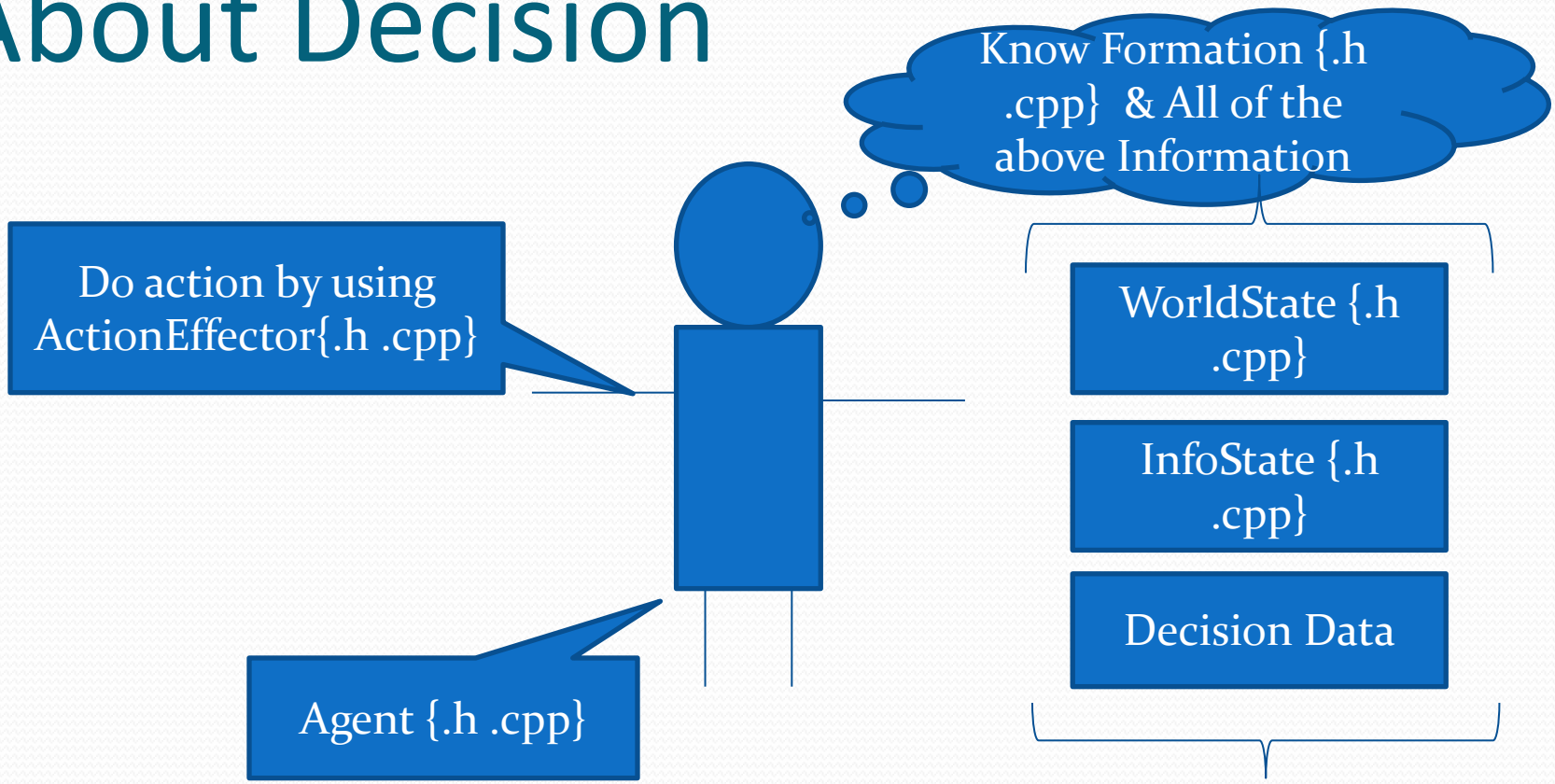

WorldState {.h .cpp}
InfoState{.h .cpp}
InterceptInfo{.h .cpp}
PositionInfo{.h .cpp}

Decision Data

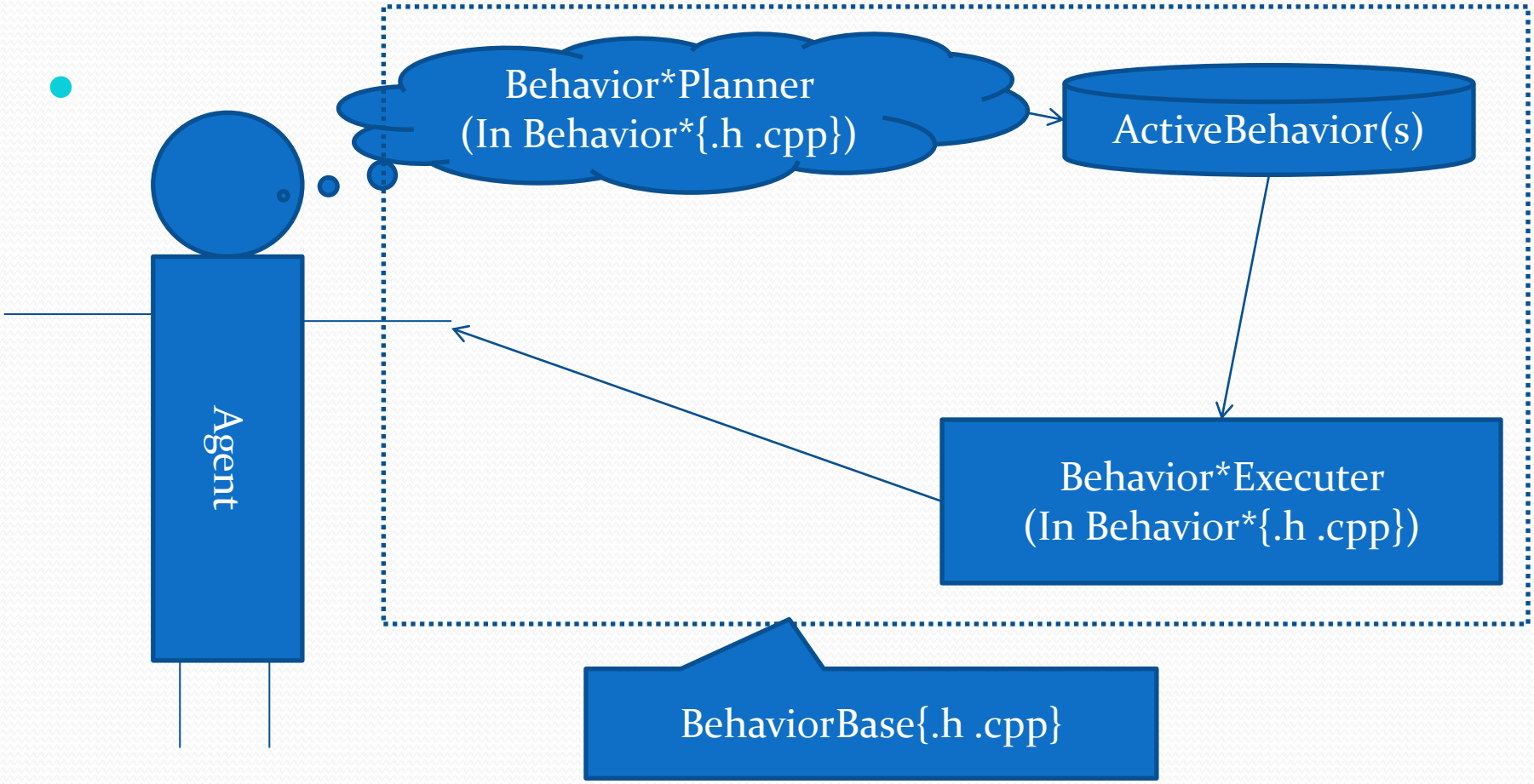


Inverse

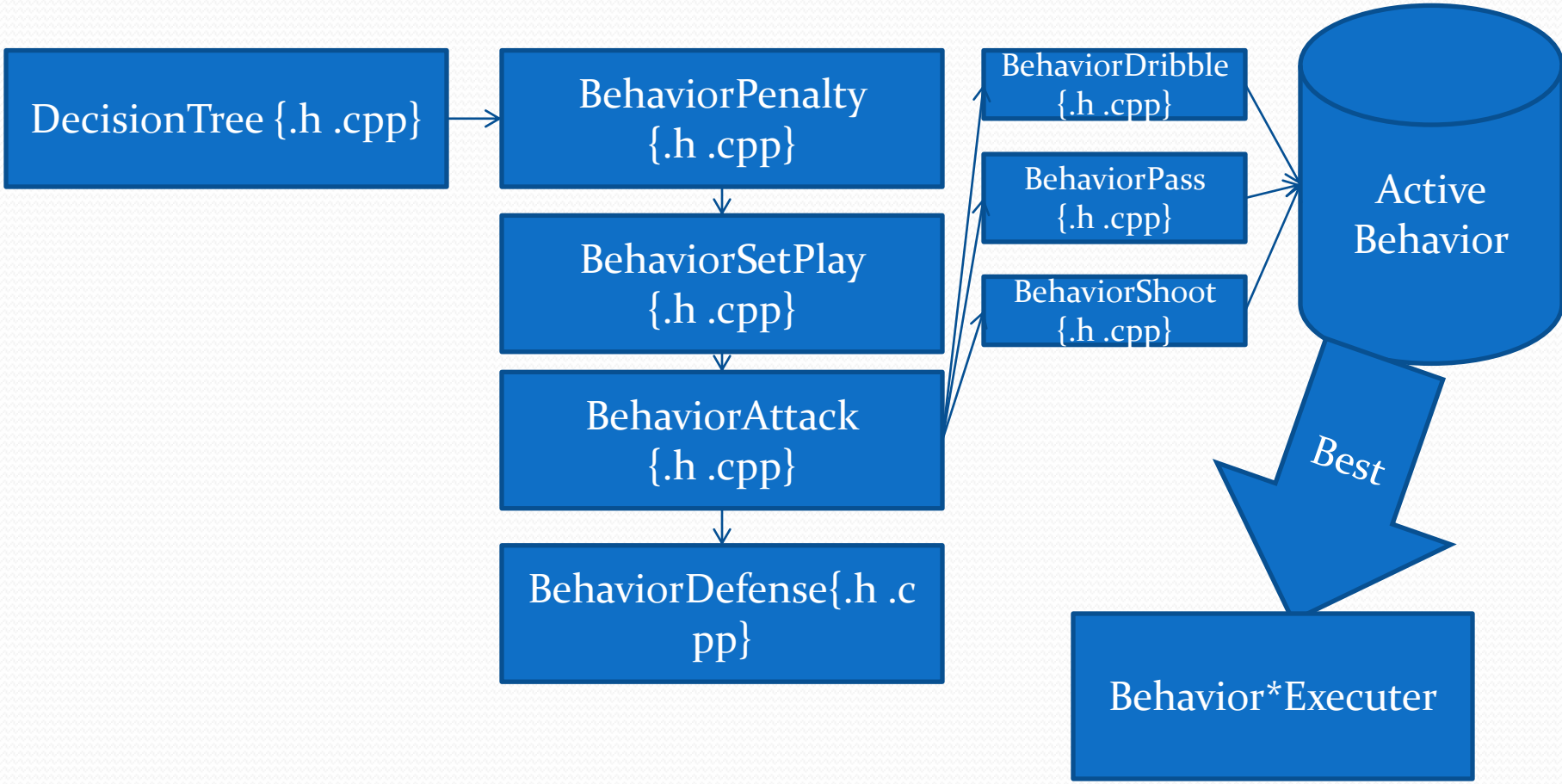
About Decision



Do Decision


Behavior*Planner
(In Behavior*{.h .cpp})
ActiveBehavior(s)
Agent
Behavior*Executer
(In Behavior*{.h .cpp})
BehaviorBase{.h .cpp}

Decision Tree



Structure of Source Code

- conf/ player.conf、server.conf and other file of configuration
- data/ some data generated by offline calculation
- formations/ files of formation
- src/ C++ source code
- Logfiles/ log files (created by the class "Logger")
- Debug/ Debug version Makefile
- Release Release version Makefile

Files

- dbg, dd — dynamic debug tools
- genlog — generate log files
- showlog — show sight log
- memcheck — check the fault about memory
- initrc — the sharing shell, used by all of tools above
- dynamicdebug.txt the text file used to dynamic debug.
- start.sh — start the team
- Makefile — Makefile

Files (cont)

- Types.{h, cpp} some basic class, some marco
- Geometry.{h, cpp} about the geometric computing
- Utilities.{h, cpp} some useful tools and data structure such as PythonArray
- Dasher.{h, cpp} about dashing
- Kicker.{h, cpp} about kicking
- Tackler.{h, cpp} about tackling
- Behavior*.{h, cpp} about planning and executing all the behavior.
  You can change the Behavior*::Plan() to change strategy.
- CommunicationSystem.{h, cpp} the subsystem about communication
- VisualSystem.{h, cpp} the subsystem about visual.
- Coach.{h,cpp} the online coach, you can change the types of player in this file.

Useful Functions

- Dasher {.h .cpp}
- Kicker {.h .cpp}
- Tackler {.h .cpp}
- VisualSystem {.h .cpp}
- CommuniteSystem {.h .cpp}

Dasher

- GetBall(…) Get ball in specified cycle or as fastest as possible
- GoToPoint(…) Go to point in specified cycle or as fastest as possible
- CycleNeedToPoint(…) Calculation the cycle needed running to a specified point
- RealCycleNeedToPoint(…) Calculation the real cycle needed running to a specified point

Kicker

- KickBall(…) Kick ball in the specified way
- GetMaxSpeed(…) Maximum speed that can be kicked to the specified direction
- GetStopBallAction(…)
- GetAccelerateBallAction(…)
- GetKickBallToAngleAction(…)

Tackler

- TackleStopBall(…)
- CanTackleStopBall(…)
- TackleToDir(…)
- CanTackleToDir(…)
- GetBallVelAfterTackleToDir(…)

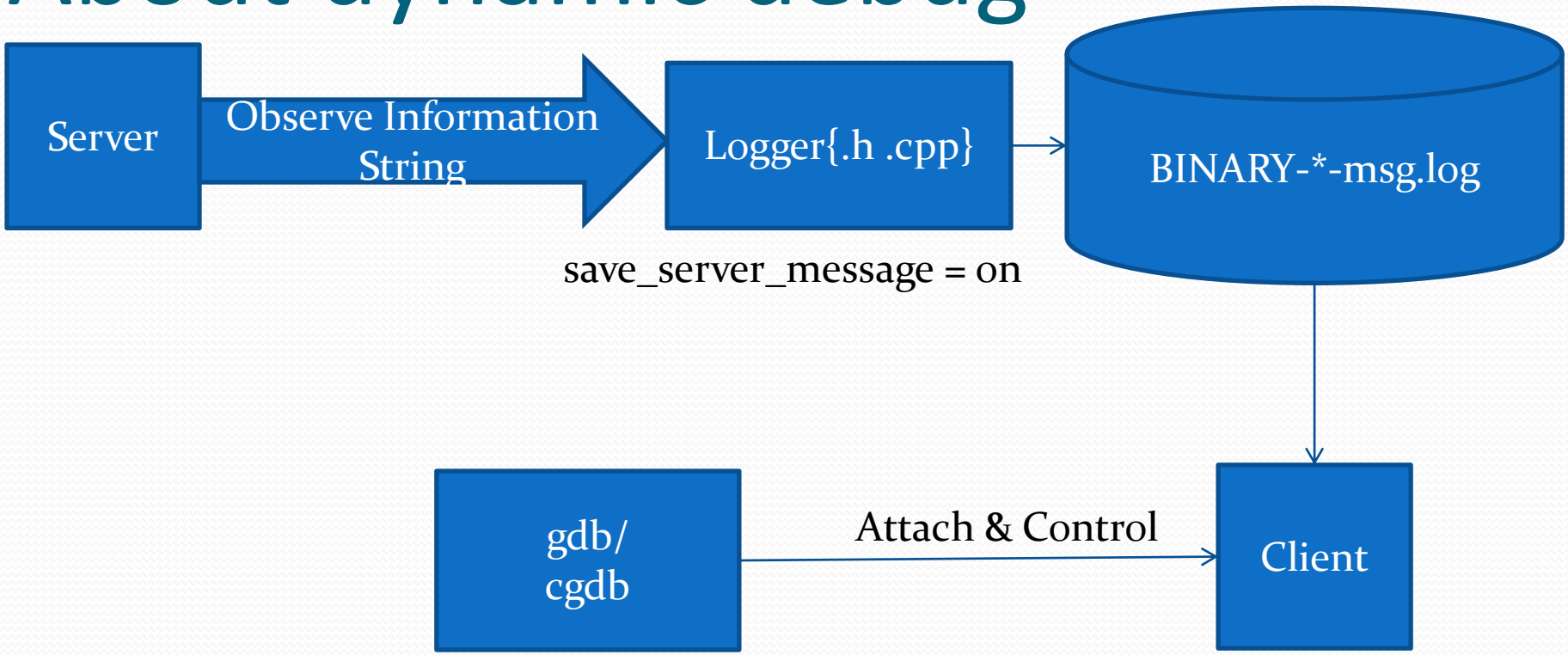
Visual System

- RaiseBall(…) Attention the ball by assigning weights
- RaisePlayer(…) Attention the player by assigning weights
- SetForceSeeBall(…) (If you can)
- SetForceSeePlayer(…)
- SetCritical(…) Set whether use the narrow view width
- ForbidDecision(…)
- SetCanTurn(…) Set whether consider “turn” action while doing decision
- ChangeViewWidth(…)

Communicate System

- SendBallStatus(…)
- SendTeammateStatus(…)
- SendOpponentStatus(…) (All of above is Boardcast)
- ParseReceivedTeammateMsg(…)

About dynamic debug



Process of dynamic debug

- Modify the name of BINARY in initrc
- Modify the team_name in conf/player.conf
- Set save_server_message = on
- Start the match normally（server_message will be recored in Logfiles/ as BINARY-*-msg.log）
- ./dd unum，run the Client in dynamic debug mode
- ./dbg，make gdb attach to the Client process, then debug.

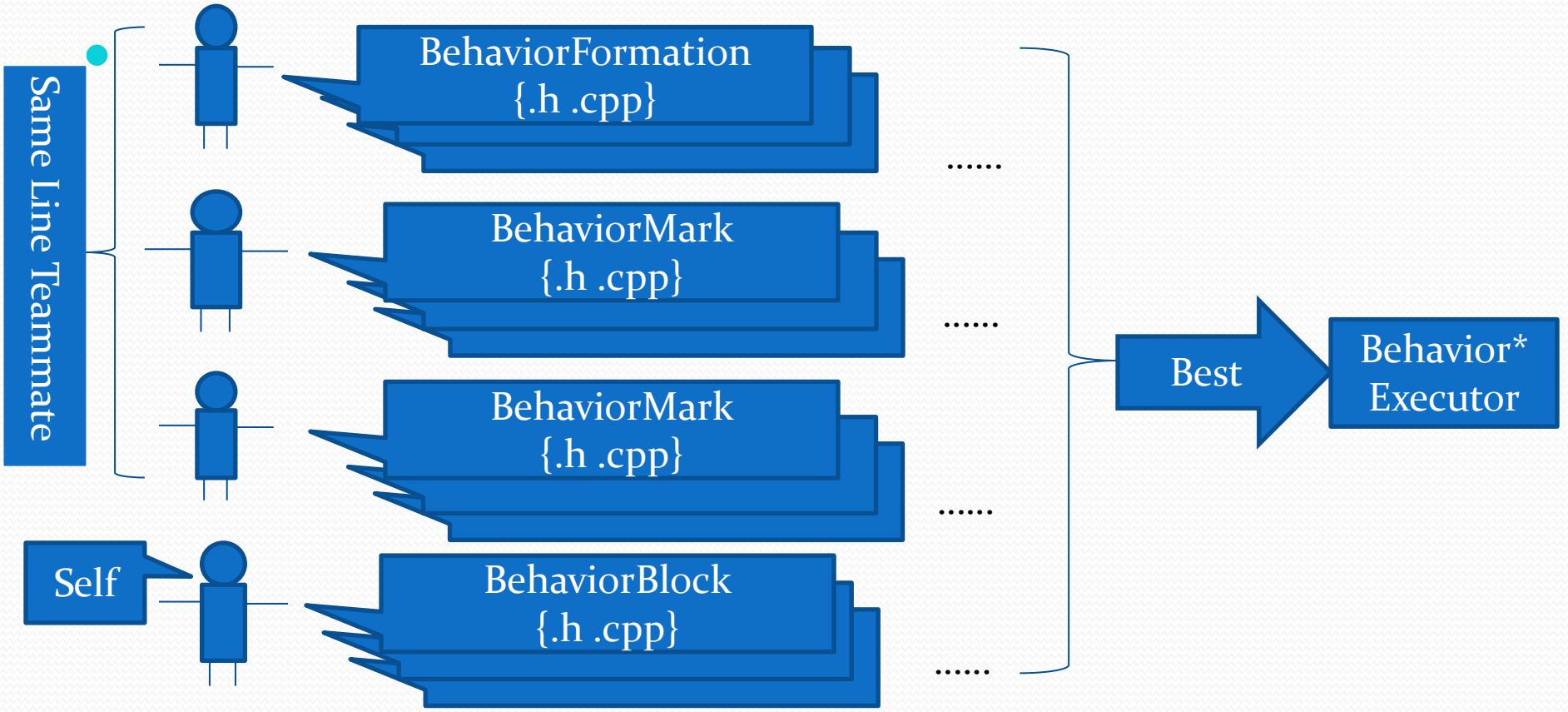
About Logger

- Record Log files
- TextLogger — record logs in the text form
- SightLogger — record logs in the rcg form
- ./genlog unum — generate log files using server message log
- ./showlog — show sight log using rcsslogplayer

Hint on Offense Decision

- Assort Position
- Ahead Pass
- And so on

Hint on Defense Decision



Thanks