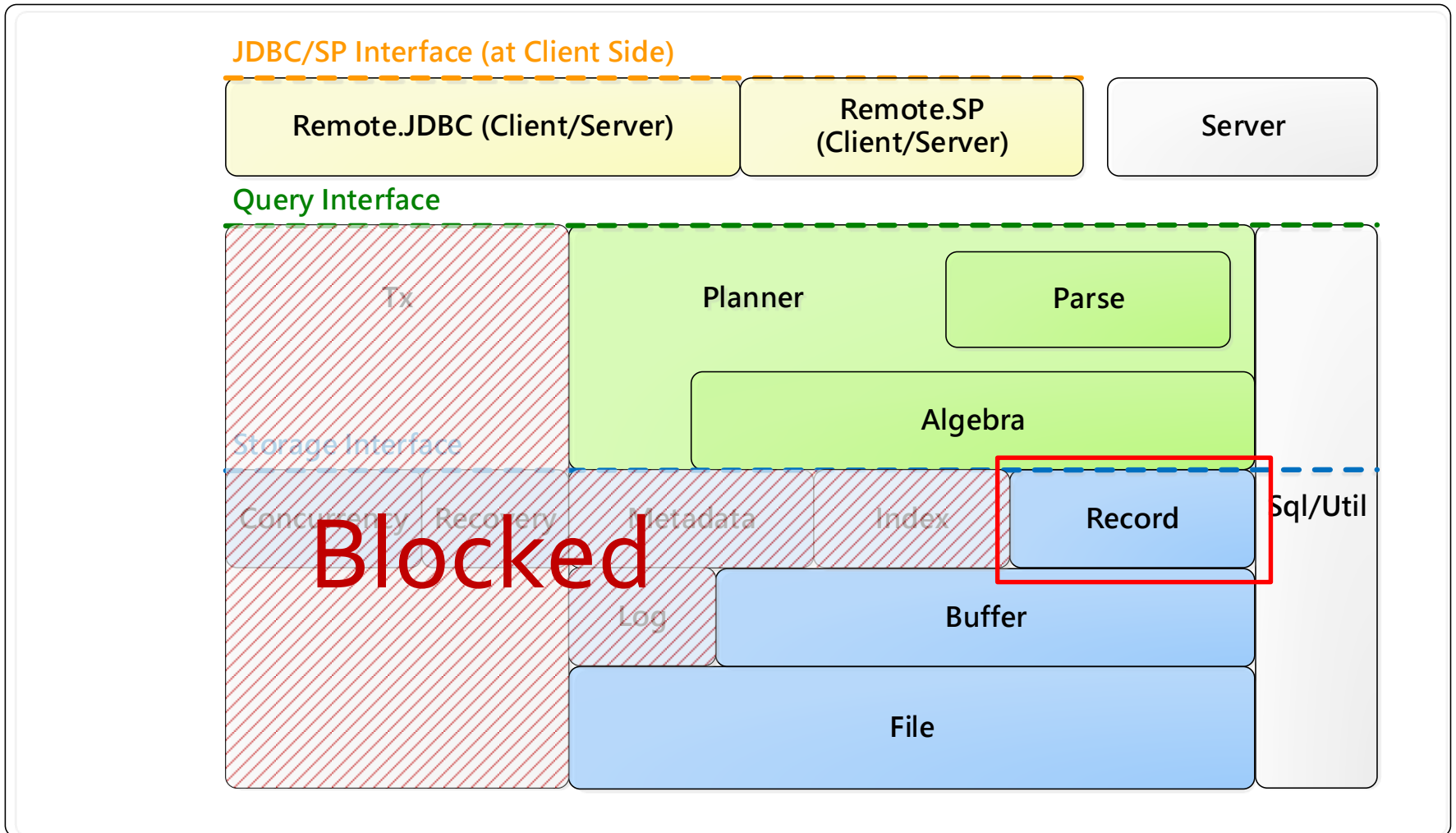# VanillaCore Walkthrough
Part 3

Introduction to Databases

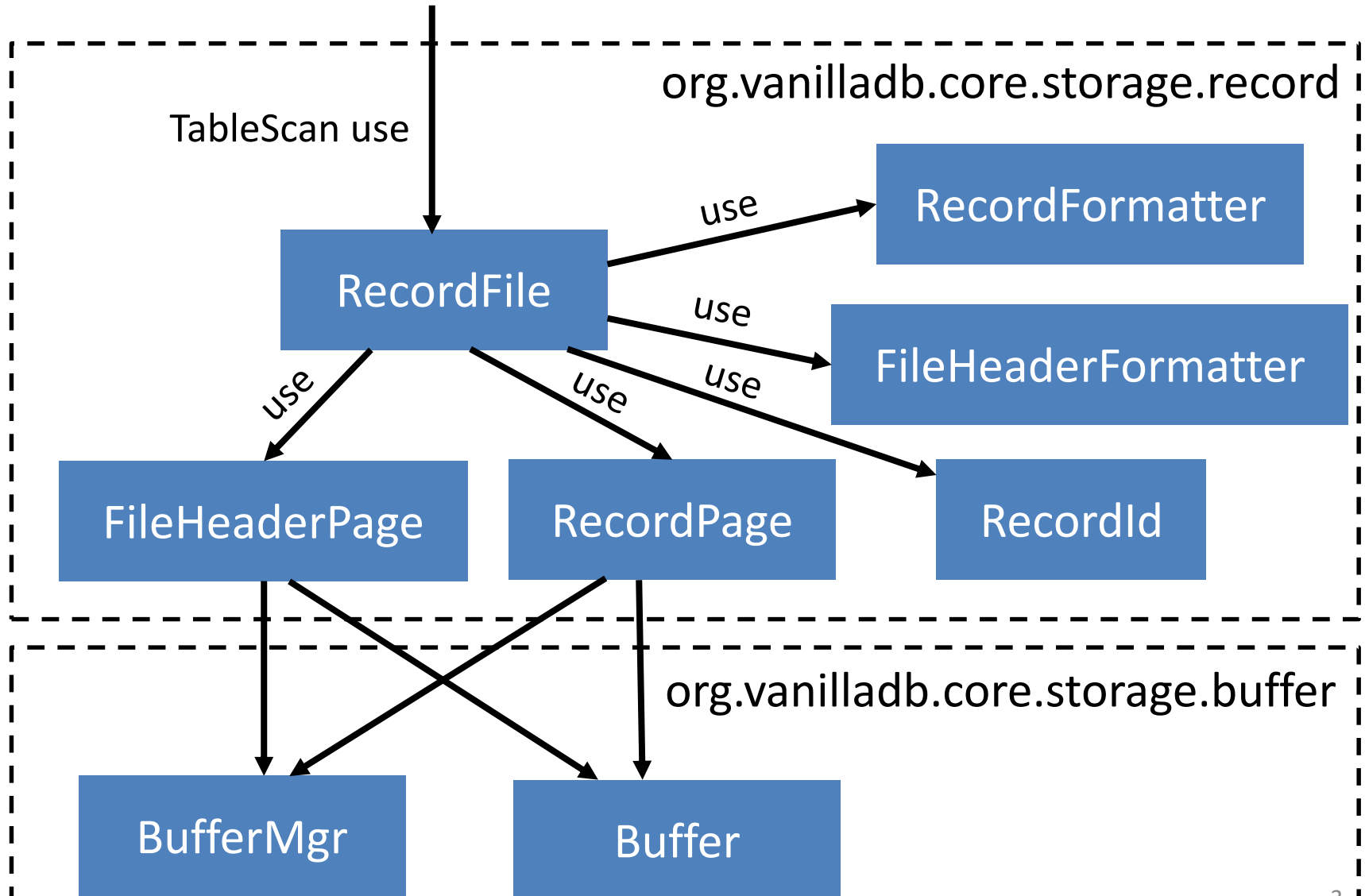DataLab

CS, NTHU

The Unlocked Modules
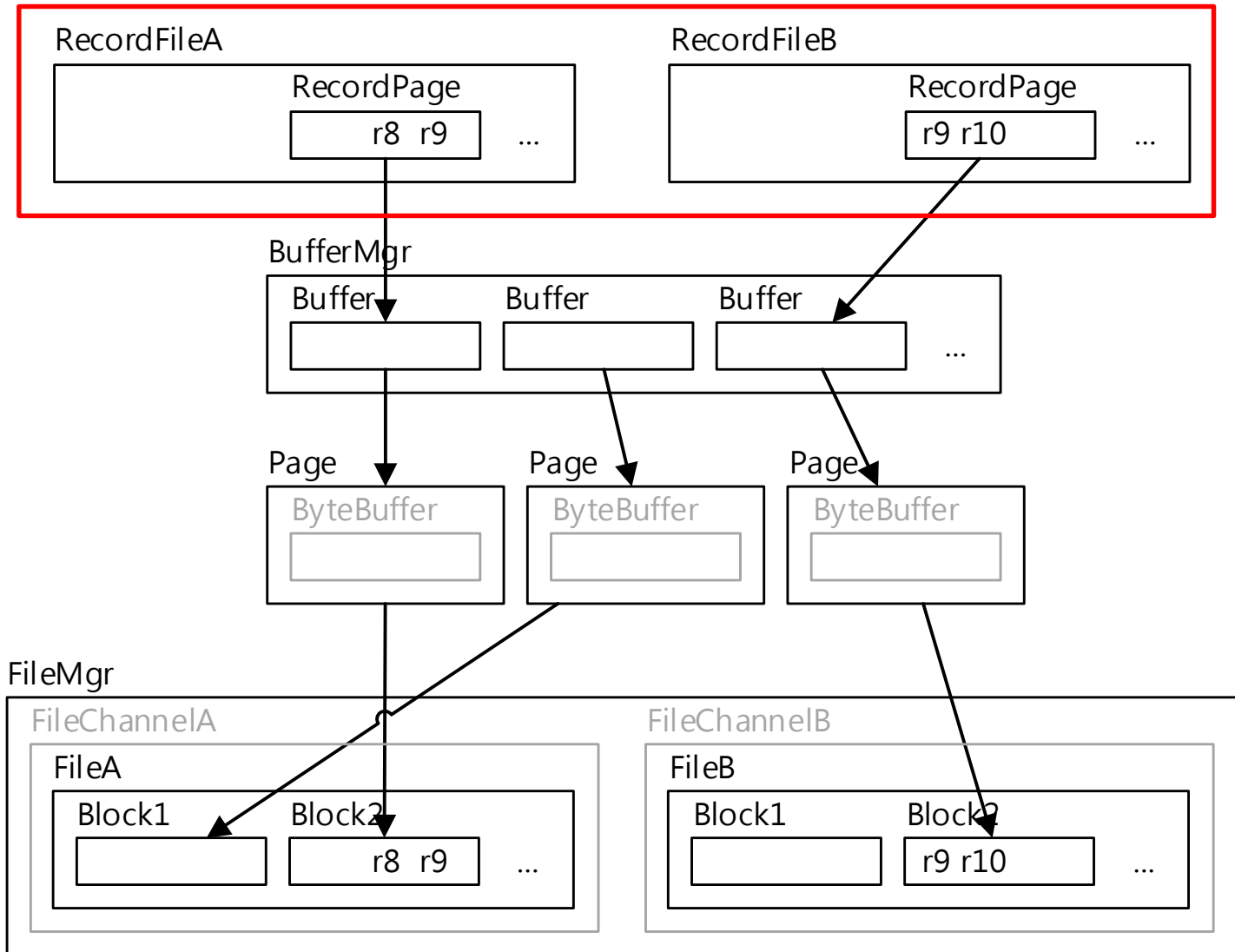
VanillaDB

record Package

Recap of Data Access Layers

RecordFileA

RecordFileB

RecordPage

RecordPage

r8 r9   ...

r9 r10   ...

BufferMgr

Buffer

Buffer

Buffer   ...

Page

Page

Page

ByteBuffer

ByteBuffer

ByteBuffer

FileMgr

FileChannelA

FileChannelB

FileA

FileB

Block1

Block2

Block1

Block2

r8 r9   ...

r9 r10   ...
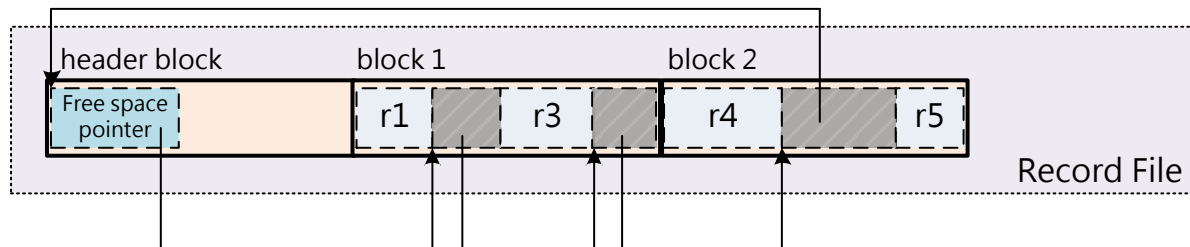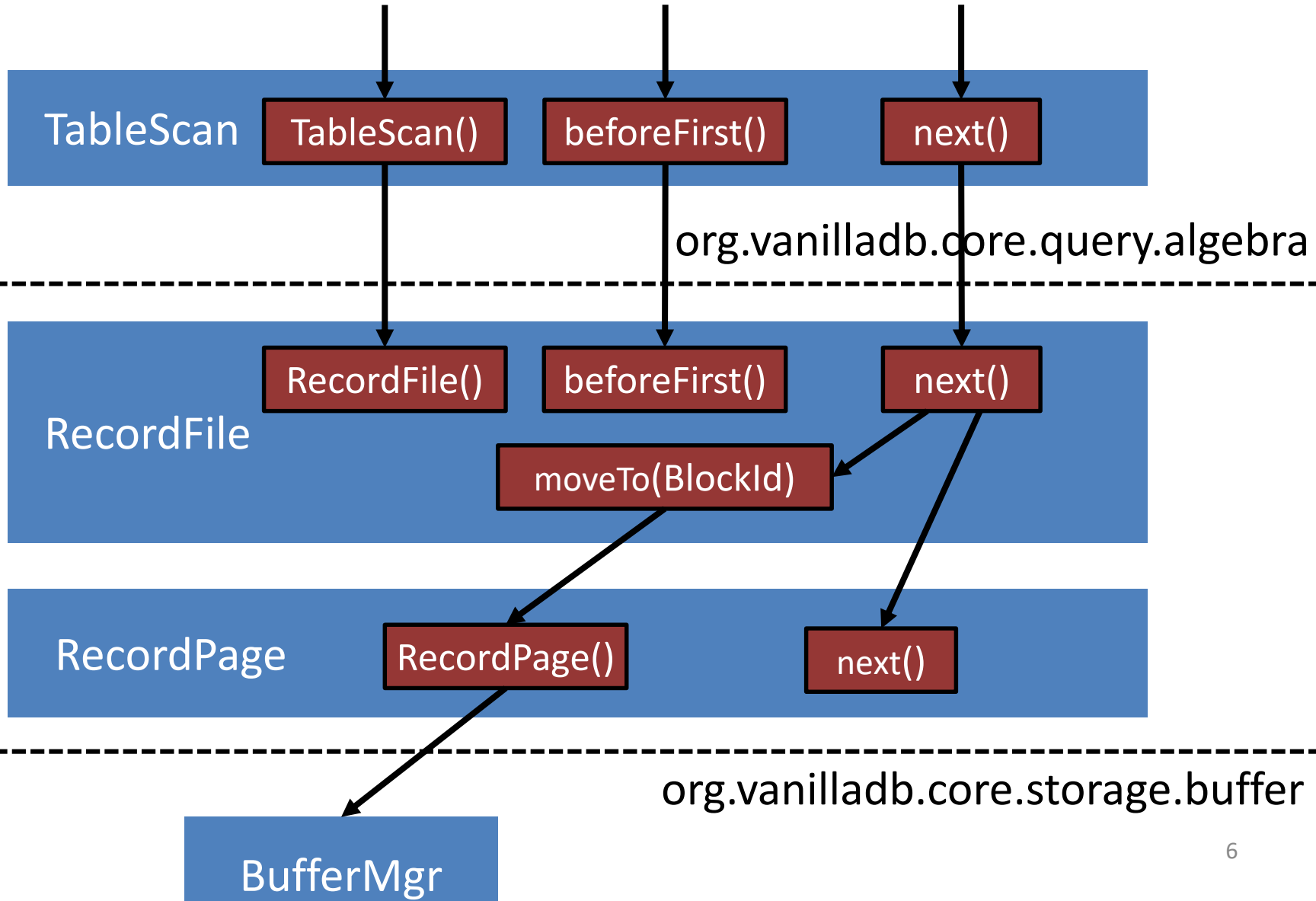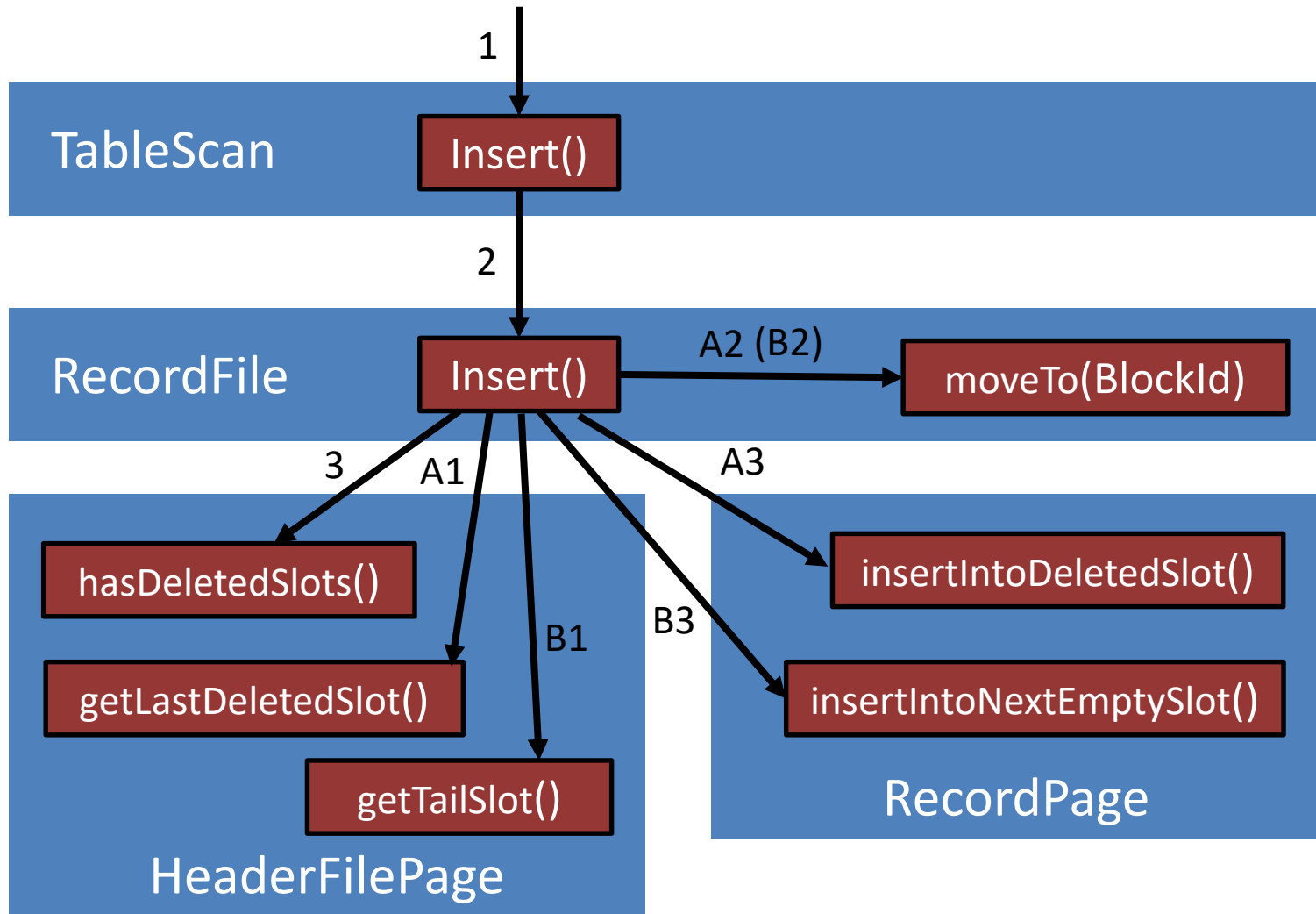
Responsibility of Each Component

- `RecordFile`: manages a file of records and calls the concurrency manager to ensure isolation property
- `RecordPage`: lays out records in a page
- `FileHeaderPage`: header of free-space chain

How Is A Record Read?

TableScan

TableScan()   beforeFirst()   next()

org.vanilladb.core.query.algebra

RecordFile

RecordFile()   beforeFirst()   next()

moveTo(BlockId)

RecordPage

RecordPage()   next()

org.vanilladb.core.storage.buffer

BufferMgr

How Is A Record Inserted?

Assigned Reading

- How is a record deleted?
- How is the free space chain maintained?