Data Source state diagram

startRead and dataAvail are call and return for this data source requesting more input.
start and callback are call and return for the client requesting more data.
readDone is the client call to signal it has consumed data.

/ startRead

readDone

Reading

start

[bufferNotEmpty]
/ callback

[bufferEmpty]

ReadingWaiting

dataAvail /
callback

dataAvail

[bufferFull]

[bufferNotFull]

readDone /
startRead

[notEOF] /
startRead

[EOF]

BlockedFull

start /
callback

Draining

readDone

start /
callback

[bufferNotEmpty]

[bufferEmpty]