CLAIMS

1. A method of accessing a memory system, the method comprising:

setting a write credit counter in a host device to reflect available write buffer space of a write buffer in the memory system;

decrementing the write credit counter upon issuing a write command from the host device to the memory system, the write command being a persistent memory write (PWRITE) or a write with accompanying parity information (XWRITE); and

incrementing the write credit counter upon receiving at the host device, an indication of additional available write buffer space in the write buffer, based on separate PWRITE and XWRITE credit reporting, from the memory system,

wherein for a PWRITE command, the host receives an explicit confirmation of a write operation reaching persistent memory,

wherein for an XWRITE, the accompanying parity information is an exclusive OR (XOR) parity information, and

wherein the indication of additional available write buffer space comprises one or more bits encoding a number of write credits for incrementing the write credit counter in which a range of the number of write credits encoded within the indication of additional available write buffer space is greater than a range of bit values of the indication of additional available write buffer space.

2. The method of claim 1, wherein the additional available write buffer space in the write buffer is based on write operations from the write buffer being written to a non-volatile memory in the memory system.

3. The method of claim 1, comprising receiving separate indications for additional available write buffer space for PWRITE and XWRITE in the write buffer, from the memory system.

4. The method of claim 1, further comprising receiving the indication of available write buffer space in the write buffer from the memory system in response to a read status

command sent to the memory system by the host device.

5. The method of claim 4, comprising receiving the indication of the available write buffer space in metadata of one or more read data packets from the memory system.

6. The method of claim 5, wherein the indication comprises one of a programmable write credit value, an encoding for write credits, or a mode register bit setting.

7. The method of claim 5, further comprising performing an error check, by the host device, on the one or more read data packets.

8. The method of claim 7, further comprising, determining, by the host device, an error in the one or more read data packets based on the error check, and issuing another read status command to the memory system.

9. The method of claim 1, further comprising preventing write commands being issued by the host device to the memory system if the write credit counter reaches a value of zero.

10. An apparatus comprising:

a host device comprising a write credit counter, wherein the host device is coupled to a memory system comprising a write buffer, wherein the host device is configured to:

set the write credit counter to reflect available write buffer space of the write buffer;

decrement the write credit counter upon issuing a write command to the memory system, the write command being a persistent memory write (PWRITE) or a write with accompanying parity information (XWRITE); and

increment the write credit counter upon receiving an indication of additional available write buffer space in the write buffer, based on separate PWRITE and XWRITE credit reporting, from the memory system,

wherein for a PWRITE command, the host receives an explicit confirmation of a write operation reaching persistent memory,

wherein for an XWRITE, the accompanying parity information is an exclusive OR (XOR)

parity information, and

wherein the indication of additional available write buffer space comprises one or more bits encoding a number of write credits for incrementing the write credit counter in which a range of the number of write credits encoded within the indication of additional available write buffer space is greater than a range of bit values of the indication of additional available write buffer space.

11. The apparatus of claim 10, wherein the additional available write buffer space in the write buffer is based on write operations from the write buffer written to a non-volatile memory in the memory system.

12. The apparatus of claim 10, wherein the host device is configured to receive separate indications for additional available write buffer space for PWRITE and XWRITE in the write buffer, from the memory system.

13. The apparatus of claim 10, wherein the host device is further configured to receive the indication of available write buffer space in the write buffer from the memory system, in response to a read status command sent to the memory system by the host device.

14. The apparatus of claim 13, wherein the host device is configured to receive the indication of the available write buffer space in metadata of one or more read data packets from the memory system.

15. The apparatus of claim 14, wherein the indication comprises one of a programmable write credit value, an encoding for write credits, or a mode register bit setting.

16. The apparatus of claim 14, wherein the host device is further configured to perform an error check on the one or more read data packets.

17. The apparatus of claim 16, wherein the host device is further configured to determine an error in the one or more read data packets based on the error check, and issue another

read status command to the memory system.

18. The apparatus of claim 10, wherein the host device is further configured to prevent write commands from being issued to the memory system if the write credit counter reaches a value of zero.

19. A non-transitory computer-readable storage medium comprising code, which, when executed by a processor, causes the processor to perform operations for accessing a memory system, the non-transitory computer-readable storage medium comprising:

code for setting a write credit counter in a host device to reflect available write buffer space of a write buffer in the memory system;

code for decrementing the write credit counter upon issuing a write command from the host device to the memory system, the write command being a persistent memory write (PWRITE) or a write with accompanying parity information (XWRITE); and

code for incrementing the write credit counter upon receiving at the host device, an indication of additional available write buffer space in the write buffer, based on separate PWRITE and XWRITE credit reporting, from the memory system,

wherein for a PWRITE command, the host receives an explicit confirmation of a write operation reaching persistent memory,

wherein for an XWRITE, the accompanying parity information is an exclusive OR (XOR) parity information, and

wherein the indication of additional available write buffer space comprises one or more bits encoding a number of write credits for incrementing the write credit counter in which a range of the number of write credits encoded within the indication of additional available write buffer space is greater than a range of bit values of the indication of additional available write buffer space.

20. The non-transitory computer-readable storage medium of claim 19, wherein the additional available write buffer space in the write buffer is based on write operations from the write buffer being written to a non-volatile memory in the memory system.

21. The non-transitory computer-readable storage medium of claim 19, further comprising code for receiving separate indications for additional available write buffer space for PWRITE and XWRITE in the write buffer, from the memory system.

22. The non-transitory computer-readable storage medium of claim 19, further comprising code for receiving the indication of available write buffer space in the write buffer from the memory system in response to a read status command sent to the memory system by the host device.

23. The non-transitory computer-readable storage medium of claim 22, further comprising code for receiving the indication of the available write buffer space in metadata of one or more read data packets from the memory system.

24. The non-transitory computer-readable storage medium of claim 23, wherein the indication comprises one of a programmable write credit value, an encoding for write credits, or a mode register bit setting.

25. The non-transitory computer-readable storage medium of claim 23, further comprising code for performing an error check, by the host device, on the one or more read data packets.

26. The non-transitory computer-readable storage medium of claim 25, further comprising, code for determining, by the host device, an error in the one or more read data packets based on the error check, and code for issuing another read status command to the memory system.

27. An apparatus comprising:

a host device coupled to a memory system, the host device comprising means for tracking write credits, the write credits reflecting available write buffer space of a write buffer in the memory system, wherein the means for tracking write credits comprises:

means for decrementing the write credits upon the host device issuing a write

command to the memory system, the write command being a persistent memory write (PWRITE) or a write with accompanying parity information (XWRITE); and

means for incrementing the write credits upon receiving at the host device, an indication of additional available write buffer space in the write buffer, based on separate PWRITE and XWRITE credit reporting, from the memory system,

wherein for a PWRITE command, the host receives an explicit confirmation of a write operation reaching persistent memory,

wherein for an XWRITE, the accompanying parity information is an exclusive OR (XOR) parity information, and

wherein the indication of additional available write buffer space comprises one or more bits encoding a number of write credits for incrementing the write credit counter in which a range of the number of write credits encoded within the indication of additional available write buffer space is greater than a range of bit values of the indication of additional available write buffer space.