CLAIMS

What is claimed is:

1. A refrigerated storage and dispensing unit, comprising:

a refrigerator cabinet;

a chassis positioned on an interior of said refrigerator cabinet having walls defining an open cavity on an interior of said chassis;

a chassis release bar pivotably mounted on the interior of said chassis and engaging a mounting nut affixed to said interior of said refrigerator cabinet;

a shelf affixed to said walls of said chassis within said open cavity; and

a plurality of product dispensing cartridges removably positioned on said shelf, each said product dispensing cartridge further comprising a vertical housing holding a plurality of product units and a dispensing drawer configured for horizontal movement out of said housing, wherein each said product dispensing cartridge is configured to sequentially dispense a single one of said product units upon each horizontal extension of said dispensing drawer from a fully closed position to a fully open position.

2. The refrigerated storage and dispensing unit of claim 1, wherein each said dispensing cartridge is further configured to gravity feed a product unit to said dispensing drawer upon closure of said dispensing drawer from a fully open position.

3. The refrigerated storage and dispensing unit of claim 1, said shelf further comprising a plurality of movable latches mounted to a back side of said shelf, each said latch engaging a ridge on a back side of one of said product dispensing cartridges.

4. The refrigerated storage and dispensing unit of claim 3, wherein said latches are downwardly biased to a locking position that locks each of said product dispensing cartridges to said shelf.

5. The refrigerated storage and dispensing unit of claim 4, further comprising a processor-controlled actuator engaging said latches and configured to pivot said latches upward to an unlocking position that enables removal of said product dispensing cartridges from said shelf.

6. The refrigerated storage and dispensing unit of claim 5, further comprising a manual release bar having a back end engaging said latches and a front end accessible from a front side of said shelf.

7. The refrigerated storage and dispensing unit of claim 6, wherein said front end of said manual release bar is positioned behind a removable security panel.

8. The refrigerated storage and dispensing unit of claim 1, wherein each said product dispensing cartridge further comprises two parallel side walls, a top wall, and a front wall, wherein each of said side walls are perforated to provide airflow openings through said sidewalls.

9. The refrigerated storage and dispensing unit of claim 8, wherein said front wall has a width dimension that is greater than a width dimension of said top wall, and wherein side edges of said front walls of adjacent ones of said dispensing cartridges abut one another.

10. The refrigerated storage and dispensing unit of claim 8, wherein each said dispensing cartridge further comprises a product reload door pivotably mounted to said front wall of said dispensing cartridge, each said product reload door having a vertical portion aligned with said front wall of said dispensing cartridge and a horizontal portion aligned with said top wall of said dispensing cartridge.

11. The refrigerated storage and dispensing unit of claim 1, wherein said shelf further comprises a plurality of slots, each said slot receiving one of said dispensing cartridges.

12. The refrigerated storage and dispensing unit of claim 11, further comprising cartridge guide tabs extending upward from said shelf and defining said slots.

13. The refrigerated storage and dispensing unit of claim 12, each said slot further comprising a sensor configured to detect dispensing of product units from one of said dispensing cartridges.

14. The refrigerated storage and dispensing unit of claim 13, wherein said sensors are configured to detect dispensing of product units from one of said dispensing cartridges upon opening of said dispensing drawer on said one of said dispensing cartridges to a fully open position.

15. The refrigerated storage and dispensing unit of claim 1, further comprising a drawer assembly affixed to said walls of said chassis within said open cavity, said drawer assembly further comprising a horizontally slidable drawer.

16. The refrigerated storage and dispensing unit of claim 15, said drawer further comprising a perforated, hinged door in an upper wall of said drawer.

17. The refrigerated storage and dispensing unit of claim 1, wherein said chassis release bar is spring biased toward engagement with said mounting nut.

18. The refrigerated storage and dispensing unit of claim 1, further comprising a second shelf affixed to said walls of said chassis within said open cavity.

19. The refrigerated storage and dispensing unit of claim 18, further comprising an open-front storage box positioned on said second shelf.

20. The refrigerated storage and dispensing unit of claim 19, said open-front storage box having a hollow wall having a planar RFID antenna positioned therein and configured to detect radio frequency signals emitted from product units positioned in said open-front storage box.

21. The refrigerated storage and dispensing unit of claim 20, said second shelf further comprising a plurality of movable latches mounted to a back side of said second shelf, each said latch engaging a ridge on a back side of open-front storage box.