► Two Flexible Support Processor (FSP) cards that are used to control the drawer.

► Two Power Supply Units (PSUs) in a redundant configuration.

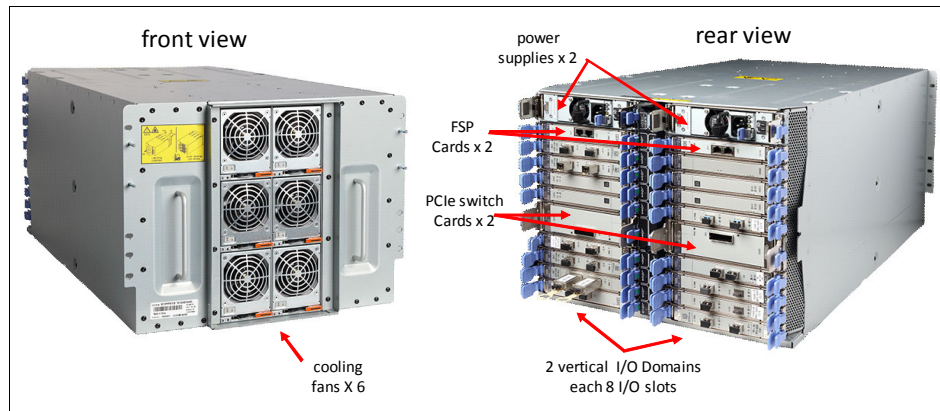► Six hot-swappable cooling fan modules at the front of the drawer.

Figure 2-4   PCIe+ I/O drawer front and rear view

PCIe I/O infrastructure

Terminology: Throughout this chapter, the terms *adapter* and *card* are interchangeable and refer to a feature that is installed in a PCIe+ I/O drawer.

The PCIe I/O infrastructure uses the PCIe fanouts that are installed in the processor (CPC) drawer to connect to the PCIe+ I/O drawer. The PCIe adapters include the following features:

► FICON Expresss16S+ (two port card), long wavelength (LX) or short wavelength (SX), which contains two physical channel IDs (PCHIDs)

► FICON Express16S (two port card), long wavelength (LX) or short wavelength (SX), which contain two PCHIDs (only for carry-forward MES)

► FICON Express8S (two port card), long wavelength (LX) or short wavelength (SX), which contain two PCHIDs (only for carry-forward MES)

► Open Systems Adapter (OSA)-Express7S 25GbE Short Reach (SR) - New feature

► Open System Adapter (OSA)-Express6S:

– OSA-Express6S 10 Gb Ethernet (single port card, Long Reach (LR) or Short Reach (SR), one PCHID)

– OSA-Express6S Gb Ethernet (two port card, LX or SX, one PCHID)

– OSA-Express6S 1000BASE-T Ethernet (two port card, RJ-45, one PCHID)

► Open System Adapter (OSA)-Express5S and 4S features (for carry-forward MES only):

– OSA-Express5S and 4S 10 Gb Ethernet (one port card, LR or SR, and one PCHID)
– OSA-Express5S and 4S Gb Ethernet (two port card, LX or SX, and one PCHID)
– OSA-Express5S 1000BASE-T Ethernet (two port card, RJ-45, and one CHPID)

► Crypto Express6S (new build) and Crypto Express5s (only for carry-forward MES). Each feature holds one PCIe cryptographic adapter. Each adapter can be configured as:

– Secure IBM Common Cryptographic Architecture (CCA) coprocessor

– Secure IBM Enterprise Public Key Cryptography Standards (PKCS) #11 (EP11) coprocessor

– Accelerator