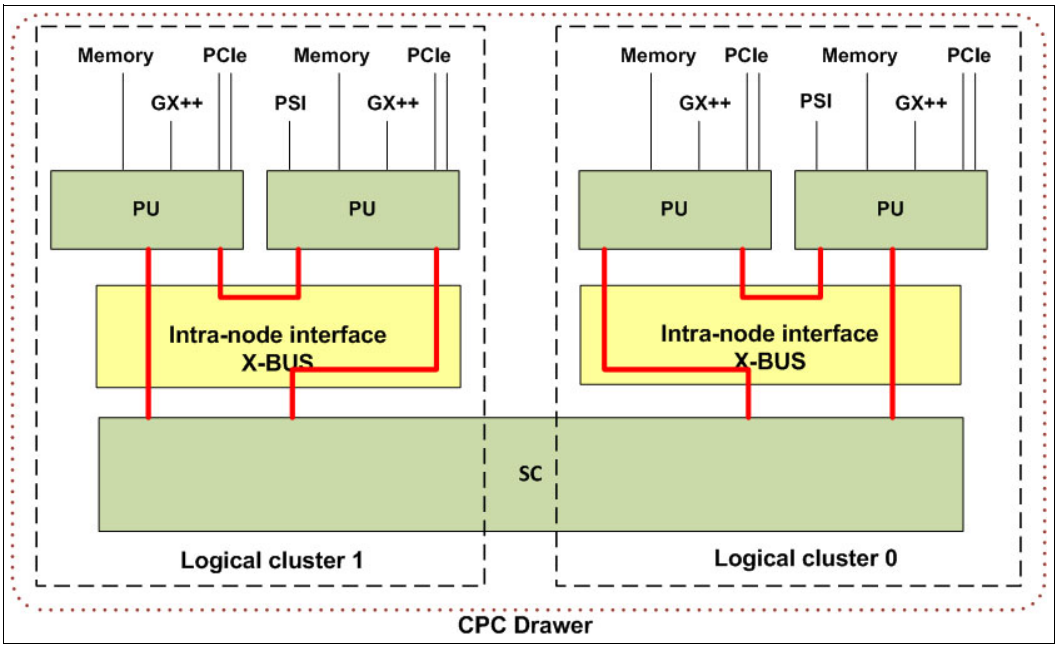

Figure 2-10 CPC drawer logical diagram

The buses are organized in the following configurations:

- The PCIe I/O buses provide connectivity for PCIe fanouts and can sustain up to 16 GBps data traffic per bus direction.
- The X-bus provides interconnects between SC SCM to PU SCM and PU SCMs to each other, in the same node.
- Processor support interfaces (PSIs) are used to communicate with FSP cards for system control.
- Configurations with four PU SCMs operate as two Logical PU clusters with two PU SCMs per logical cluster.
- Configurations with two PU SCMs or one PU SCM operate in one logical PU cluster.

2.3.1 Oscillator cards

The z14 ZR1 CPC drawer contains the two oscillator cards (OSCs): One primary and one backup. If the primary OSC fails, the secondary detects the failure, takes over transparently, and continues to provide the clock signal to the CPC. The two oscillators have Bayonet Neill-Concelman (BNC) connectors that provide pulse per second signal (PPS) input for synchronization to an external time source with PPS output.

The SEs provide the Simple Network Time Protocol (SNTP) client function. When Server Time Protocol (STP) is used, the time of an STP-only Coordinated Timing Network (CTN) can be synchronized to the time that is provided by a Network Time Protocol (NTP) server. This configuration allows time-of-day (TOD) synchronization in a heterogeneous platform environment and throughout the LPARs running on the CPC.

The accuracy of an STP-only CTN is improved by using an NTP server with the PPS output signal as the External Time Source (ETS). NTP server devices with PPS output are available from several vendors that offer network timing solutions. A cable connection from the PPS port on the OSC to the PPS output of the NTP server is required when z14 ZR1 uses STP and is configured in an STP-only CTN that uses NTP with PPS as the external time source.