QDIO interface isolation is supported on all OSA-Express features on z15. The supported operating systems are listed in Table 7-8 on page 267 and Table 7-9 on page 269.

### QDIO optimized latency mode

QDIO optimized latency mode (OLM) can help improve performance for applications that feature a critical requirement to minimize response times for inbound and outbound data.

OLM optimizes the interrupt processing in the following manner:

► For inbound processing, the TCP/IP stack looks more frequently for available data to process. This process ensures that any new data is read from the OSA-Express features without needing more program controlled interrupts (PCIs).

► For outbound processing, the OSA-Express cards also look more frequently for available data to process from the TCP/IP stack. Therefore, the process does not require a Signal Adapter (SIGA) instruction to determine whether more data is available.

The supported operating systems are listed in Table 7-8 on page 267.

### QDIO Diagnostic Synchronization

QDIO Diagnostic Synchronization enables system programmers and network administrators to coordinate and simultaneously capture software and hardware traces. It allows z/OS to signal OSA-Express features (by using a diagnostic assist function) to stop traces and capture the current trace records.

QDIO Diagnostic Synchronization is supported by the OSA-Express features on z15 when in QDIO mode (CHPID type OSD). The supported operating systems are listed in Table 7-8 on page 267.

### Adapter interruptions for QDIO

Linux on Z and z/VM work together to provide performance improvements by using extensions to the QDIO architecture. First added to z/Architecture with HiperSockets, adapter interruptions provide an efficient, high-performance technique for I/O interruptions to reduce path lengths and processor usage. These reductions are in the host operating system and the adapter (supported OSA-Express cards when CHPID type OSD is used).

In extending the use of adapter interruptions to OSD (QDIO) channels, the processor utilization to handle a traditional I/O interruption is reduced. This configuration benefits OSA-Express TCP/IP support in z/VM, z/VSE, and Linux on Z. The supported operating systems are listed in Table 7-8 on page 267 and Table 7-9 on page 269.

### Inbound workload queuing (IWQ) for OSA

OSA-Express3 introduced inbound workload queuing (IWQ), which creates multiple input queues and allows OSA to differentiate workloads "off the wire." It then assigns work to a specific input queue (per device) to z/OS.

Each input queue is a unique type of workload, and has unique service and processing requirements. The IWQ function allows z/OS to preassign the appropriate processing resources for each input queue. This approach allows multiple concurrent z/OS processing threads to process each unique input queue (workload), which avoids traditional resource contention.

IWQ reduces the conventional z/OS processing that is required to identify and separate unique workloads. This advantage results in improved overall system performance and scalability.