Health Check for FICON Dynamic routing

Starting with z13, the channel microcode was changed to support FICON dynamic routing. Although change is required in z/OS to support dynamic routing, I/O errors can occur if the FICON switches are configured for dynamic routing despite the missing support in the processor or storage controllers. Therefore, a health check is provided that interrogates the switch to determine whether dynamic routing is enabled in the switch fabric.

No action is required on z/OS to enable the health check; it is automatically enabled at IPL and reacts to changes that might cause problems. The health check can be disabled by using the **PARMLIB** or **SDSF** modify commands.

The supported operating systems are listed in Table 7-6 on page 264. For more information about FICON Dynamic Routing (FIDR), see Chapter 4, “Central processor complex I/O structure” on page 155.

Global resource serialization FICON CTC toleration

For some configurations that depend on ESCON CTC definitions, global resource serialization (GRS) FICON CTC toleration that is provided with APAR OA38230 is essential, especially after ESCON channel support was removed from IBM Z starting with zEC12.

The supported operating systems are listed in Table 7-6 on page 264.

Increased performance for the FCP protocol

The FCP LIC is modified to help increase I/O operations per second for small and large block sizes, and to support 16-Gbps link speeds.

For more information about FCP channel performance, see the performance technical papers that are available at the IBM Z I/O connectivity page of the IBM IT infrastructure website.

The FCP protocol is supported by z/VM, z/VSE, and Linux on Z. The supported operating systems are listed in Table 7-6 on page 264 and Table 7-7 on page 266.

T10-DIF support

American National Standards Institute (ANSI) T10 Data Integrity Field (DIF) standard is supported on IBM Z for SCSI end-to-end data protection on fixed block (FB) LUN volumes. IBM Z provides added end-to-end data protection between the operating system and the DS8870 unit. This support adds protection information that consists of Cyclic Redundancy Checking (CRC), Logical Block Address (LBA), and host application tags to each sector of FB data on a logical volume.

IBM Z support applies to FCP channels only. The supported operating systems are listed in Table 7-6 on page 264 and Table 7-7 on page 266.

N_Port ID Virtualization

N_Port ID Virtualization (NPIV) allows multiple system images (in LPARs or z/VM guests) to use a single FCP channel as though each were the sole user of the channel. First introduced with z9 EC, this feature can be used with supported FICON features on z14 servers. The supported operating systems are listed in Table 7-6 on page 264 and Table 7-7 on page 266.

Worldwide port name tool

Part of the z15 system installation is the pre-planning of the SAN environment. IBM includes a stand-alone tool to assist with this planning before the installation.