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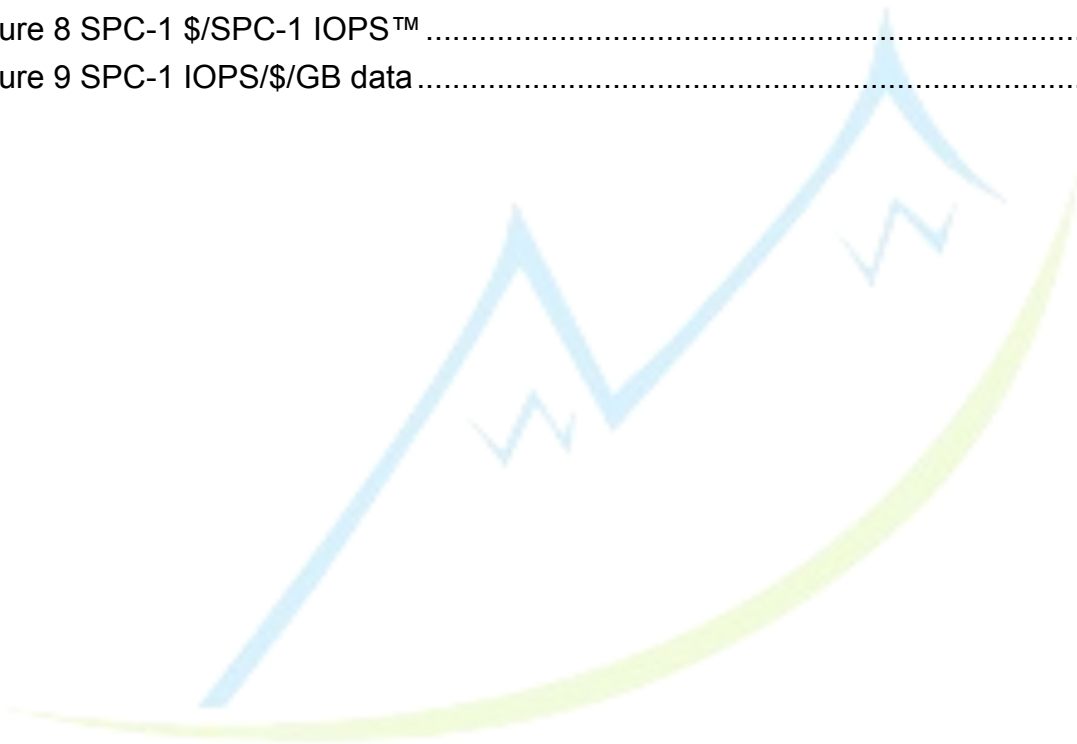
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Synopsis

SAN storage selection and performance optimization is an ongoing, multi-step activity. Hence, performance optimization begins at pre-purchase and continues until array retirement. Array configuration options available at pre-purchase include drive type and capacity, number and speed of front-end and backend interfaces, cache size, and subsystem sophistication.

Accordingly there are three classes of storage array subsystems - enterprise, midrange and low-end. We primarily describe enterprise and midrange subsystems but most performance optimizations are applicable to all classes of subsystems. We also discuss typical storage array features and how they impact subsystem performance.

In addition, we quantify performance for different drive types, cache vs. disk IO, and interfaces. In fact, we specifically describe how disk drive class, RAID type, remote and local mirroring, cache size and sophistication, transfer size, and workload mix can all impact performance. Storage array performance can often be limited by choices made at pre-purchase. Nevertheless, all of these features reflect choice made at pre-purchase or during subsystem configuration and can be optimized for performance.

This briefing supplies an in depth overview of SAN storage array features and performance to make better pre-purchase decisions and be better able to optimize the performance of storage arrays. A better performing storage array equates to better performing applications/user activity. However, not every storage array in your shop needs to perform well to have great application performance. One must understand the linkage between application and storage performance. Once the storage that needs to perform better is identified this briefing can help.