Enhanced Operational Stability for Always-on Business Operations

The SAN128B-6 with Fabric Vision® technology delivers a breakthrough hardware and software solution that helps simplify monitoring, increase operational stability, and dramatically reduce costs. Fabric Vision technology includes IO Insight and VM Insight, which provides organizations with deeper visibility into both SCSI and NVMe traffic. This enhanced visibility enables administrators to quickly identify the problem and accelerate root-cause analysis for faster time to resolution. The SAN128B-6 also optimizes the performance of NVMe over Fibre Channel by leveraging integrated, non-intrusive, real-time network monitoring and alerts. This proactive monitoring of NVMe traffic provides administrators with key insights for maintaining optimal network health and performance.

IO Insight proactively monitors IO performance and behavior through integrated network sensors, providing deep insight into problems and helping to ensure service levels. This capability non-disruptively and non-intrusively gathers IO statistics from any device port, then feeds them to a monitoring policy that sets thresholds and generates alerts. VM Insight applies IO Insight visibility for each VM. Integrated VM, application-, and device-level IO latency and IOPS monitoring enables administrators to set the baseline for application performance and identify the VM or physical layer responsible for the degraded performance.

Innovative Fabric Vision monitoring, management, and diagnostic capabilities enable administrators to avoid problems before they impact operations. Fabric Vision capabilities include the following:

- **Monitoring and Alerting Policy Suite (MAPS):** Simplifies fabric-wide threshold configuration, monitoring, and alerting with pre-built, rule- or policy-based templates. Administrators can configure the entire fabric (or multiple fabrics) at one time using common rules and policies, or customize policies for specific ports or switch elements. In addition, administrators can use IO Insight metrics to set thresholds in MAPS policies to be notified of application, VM, and storage IO performance degradation.
- **Fabric Performance Impact (FPI) Monitoring:** Uses predefined MAPS policies to automatically detect and alert administrators to different latency severity levels, and to identify slow drain devices that could affect network performance. This feature identifies various latency severity levels, pinpointing exactly which devices are causing or are impacted by a bottlenecked port, and quarantines slow drain devices automatically to prevent buffer credit starvation.
- **Dashboards:** Provides integrated dashboards that display an overall SAN health view, along with details on out-of-range conditions, to help administrators easily identify trends and quickly pinpoint issues occurring on a switch or in a fabric.
- **Configuration and Operational Monitoring Policy Automation Services Suite (COMPASS)**: Simplifies deployment, safeguards consistency, and increases operational efficiencies of larger environments with automated switch and fabric configuration services. Administrators can configure a template or adopt an existing configuration to seamlessly deploy a configuration across the fabric. In addition, they can ensure that settings do not drift over time with COMPASS configuration and policy violation monitoring within IBM Network Advisor dashboards.
- **ClearLink® Diagnostics:** Ensures optical and signal integrity for Fibre Channel optics and cables, simplifying deployment and support of high-performance fabrics. ClearLink Diagnostic Port (D_Port) is an advanced capability of Fibre Channel platforms.
- **Flow Vision:** Enables administrators to identify, monitor, and analyze specific application flows to simplify troubleshooting, maximize performance, avoid congestion, and optimize resources. Flow Vision includes these applications:
    - **Flow Monitor:** Provides comprehensive visibility, automatic learning, and non-disruptive monitoring of a flow's performance. Administrators can monitor all flows from a specific host to multiple targets or volumes, from multiple hosts to a specific target/volume, or across a specific ISL. Additionally, they can perform volume-level monitoring of specific frame types to identify resource contention or congestion that is affecting application performance. With the IO Insight capability, administrators can monitor first IO response time, IO completion time, the number of