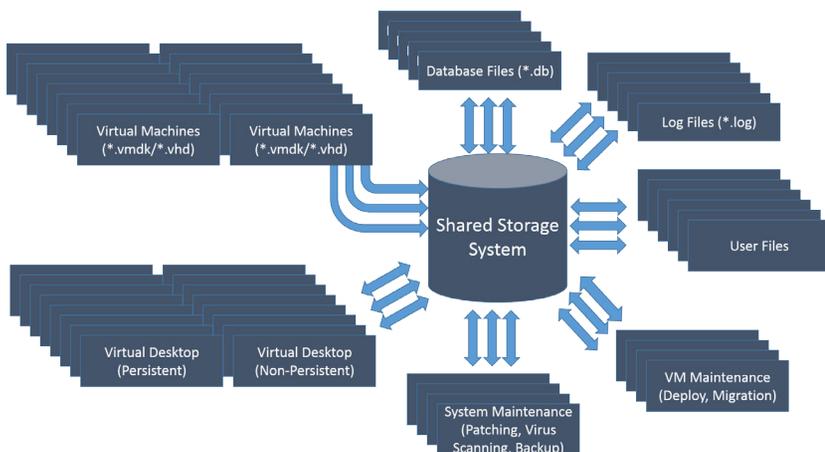X-IO Intelligent Storage Elements (ISE) are well suited for mission critical, high performance workload demanding environments.

High performance databases, tier 0/1 applications, and multi-tenant virtualized environments (such as Cloud Service Providers) can see tremendous benefits when utilizing ISE G3 storage systems as the foundation for business solution platforms. These solutions require a tremendous amount of performance (measured in IOPS) and reliability - the main tenants of the ISE system architecture.

To further provide these environments with greater control and flexibility, ISE G3 storage arrays now offer Quality of Service (QoS) controls to give system administrators and architects a method to allocate system performance is where it is needed.
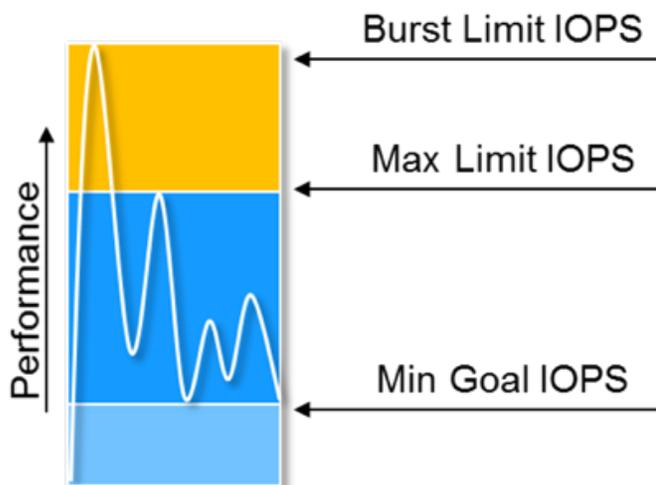
Key benefits of Quality of Service

- Assign performance priority for volumes when contention for system resources is high
- Simple and intuitive, virtualization aware setup
- Separate enforcement policies for flash and disk based volumes
- Non-disruptive dynamic policy settings at the array or individual volume level

Why Quality of Service?

- Improve the multi-tenant and cloud experience in a shared storage infrastructure
- Mitigate a "noisy neighbor" performance problem that is affecting other applications on the storage system
- Protection against host software that can unexpectedly spawn processes that consumes an excessive amount of storage performance resources
- To enforce performance limits that align with a service provider's agreed upon 'pay for use' service levels

Burst Limit IOPS

Max Limit IOPS

Min Goal IOPS

Performance

Today's enterprise and cloud environments are demanding systems. Application variability is not the exception to the rule, it is the rule. Administrators need a method for ensuring storage performance with a Quality of Service solution that is easy to understand, dynamic for additions/removals, and intelligent enough to discern internal system architecture.

The ISE Quality of Service functionality gives administrators a simple method for dynamically managing volume QoS, while providing an ultra-reliable, high performance platform for their business.

Min Goal IOPS	Max Limit IOPS	Burst Limit IOPS
IOPS value to be reserved for a volume when system contention is occurring	IOPS value past which throttling will be performed when system resources become constrained	IOPS value that cannot be exceeded. This is a "Hard Limit" value for the volume

How Quality of Service works

By applying a priority policy to the incoming I/O requests, administrators can enforce performance levels for a particular workload when competition for the system's shared resources is occurring.The ISE's QoS capability isolates and gives performance preference to each storage volume, eliminating the need to use dedicated systems for resource hungry workloads. These QoS settings can control performance by adjusting resources dynamically, with no interruption to. This new functionality ensures administrators have a powerful method for harnessing the power of ISE for their most critical applications.

ISE Quality of Service quantifies volume priority in a manner that administrators are already familiar with, the transactional performance (IOPS) that the application requires. When a volume is created on the ISE for a new workload, simply enter the desired QoS performance levels and the volume is automatically added to the enforcement policies.
ISE Quality of Service intelligently cooperates with ISE Media Affinity, automatically applying separate policy routines for Flash vs CADP/HDD based volumes. This ensures that QoS policies can be applied to much higher performance All-Flash based volumes, without interference from HDD policy enforcement, enabling administrators to more closely tailor their QoS strategy based on the volume performance tier selected inside the ISE.

To find out more about how Quality of Service can work for you visit:
http://xiostorage.com/products/ise-storage-systems