AWS FSX Configuration SOP

Venio FSX Configuration

- Deployment type: Single-AZ 2
- Storage Type: HDD
- Storage Capacity: Depending on current EBS storage, factor in for future growth.
- Throughput Capacity: Venio performs at best when 256 MBps is selected.
- Authentication: via AWS-managed AD
- Encrypted: With default AWS/FSX key
- DNS: User-friendly DNS alias; you may have to manually create a CNAME record in DNS if it doesn't do it for you.

Benchmarking

Note: We originally started with 128 MBps but then bumped it up to 256 MBps after Venio noticed a few files were erroring out (it was a very small percentage, I think around 1-2%). As the FSx shares grow, they may need to be increased to 512 MBps to keep up with throughput requirements (more data = more connections to the data in our case).

Here are the performance metrics for EBS st1 throughput optimized drives (what we previously used) vs. the performance metrics for FSx. FSx can burst way higher. Additionally, the throughput is a fixed rate ($2.20 per MBps/mo) for FSx, so increasing the throughput even higher is a marginal cost when you're hosting large amounts of data.

Here is the AWS link to FSx for Windows File Server performance.

FSx throughput capacity (MBps)	Network throughput capacity (MBps)		Network IOPS	Memory (GB)	Disk throughput (MBps)		Disk IOPS	
	Baseline	Burst (for a few minutes a day)			Baseline	Burst (for 30 mins a day)	Baseline	Burst (for 30 mins a day)
32	32	600	Thousands	4	32	260	2K	12K
64	64	600	Tens of thousands	8	64	350	4K	16K
128	150	1,250		8	128	600	6K	20K
256	300	1,250	Hundreds of thousands	16	256	600	10K	20K
512	600	1,250		32	512	–	20K	–
1,024	1,500	–		72	1,024	–	40K	–
2,048	3,125	–		144	2,048	–	80K	–

Overview of HDD-backed volumes

The following is a summary of the use cases and characteristics of HDD-backed volumes. For instance, see Amazon EBS–optimized instances.

	Throughput Optimized HDD
Volume type	`st1`
Durability	99.8% - 99.9% durability (0.1% - 0.2% annual failure rate)
Use cases	• Big data • Data warehouses • Log processing
Volume size	125 GiB - 16 TiB
Max IOPS per volume (1 MiB I/O)	500
Max throughput per volume	500 MiB/s
Amazon EBS Multi-attach	Not supported
Boot volume	Not supported