DymaxIO™

DYNAMICALLY ACCELERATING DATA FOR **MAXIMUM I/O PERFORMANCE**

Fast Data. Fast Throughput.
Fast IO. Guaranteed.

Overview

DymaxIO is fast data software. It is the most cost-effective, easy, and indispensable solution for increased throughput and accelerated I/O performance, so systems and applications run at peak speed. *DymaxIO* utilizes AI (artificial intelligence) to detect and deploy the appropriate performance enhancement technologies for the exact individual system so organizations can boost performance without overspending on hardware.

DymaxIO eliminates the two big I/O inefficiencies in Windows environments that generate a minimum of 30-40% of noisy I/O traffic causing performance and reliability problems. By installing *DymaxIO,* organizations can expect an immediate performance boost in virtual environments, MS-SQL workloads, Oracle on Windows, ERP, VDI, EHR (MEDITECH), Business Intelligence (BI) apps, CRM, Exchange, SharePoint, file servers, backup, and more.

If you want fast data, you want *DymaxIO*. No new hardware and no reboot necessary.

I/O Inefficiencies that Rob Performance

There are 2 severe I/O inefficiencies that cause performance and reliability problems.
First, is caused by the behavior of the Windows file system. It will tend to break up writes into separate storage I/Os and send each I/O packet down to the storage layer separately and this causes I/O characteristics that are much smaller, more fractured, more random than they need to be.

Second is storage I/O contention, also known as the I/O Blender Effect, which happens when you have multiple systems all sharing the same storage resource. Your performance is penalized twice by these storage I/O inefficiencies causing systems to process workloads about 50% slower than they should.

DymaxIO dynamically accelerates data for maximum I/O performance. By solving I/O inefficiencies at the source, *DymaxIO* improves application performance, increases throughput 30-40%, reduces latency, increases VDI capacity, reduces timeouts and crashes, shortens backups, improves data transfer rates and extends hardware lifecycles.

Enabling Fast Data and Boosting Performance

DymaxIO contains thin file system drivers, that installs (no reboot required) on Windows VMs or physical servers and performs optimizations inline automatically while running transparently in the background with near-zero overhead to the server. What little CPU cycles are needed run at lowest priority so as not to interfere with server operations in the event that CPU cycles are needed by other applications or processes.

DymaxIO contains a suite of patented technologies that optimize the Windows Storage I/O subsystem so that applications can get to and from the storage layer much faster and process a lot more data.

Some organizations may react to performance challenges by throwing expensive new hardware at the problem. Overbuying and overprovisioning for more IOPS or data throughput might mask the underlying problem for a while, but it does not solve root cause of performance issues. The quickest, most inexpensive, and least disruptive approach to more performance is simply installing *DymaxIO* fast data software on all of your Windows systems and watching performance problems disappear.

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A Suite of Performance Acceleration Technologies

DymaxIO contains a suite of patented technologies to accelerate your applications from VM or physical server to storage.

IntelliWrite®
IntelliWrite is a patented write optimization technology that automatically prevents excessively small, fractured, random writes and reads that harms performance due to the severe inefficiency in the native hand-off of data between the Windows OS and underlying storage. IntelliWrite provides file size intelligence to Windows to help it choose the best allocation at the logical disk layer when writing files. This intelligence ensures large, clean contiguous writes and reads in which maximum payload is carried with every I/O operation to and from the OS to underlying storage.

IntelliMemory®
IntelliMemory is a patented read I/O optimization technology that intelligently caches hot read requests from server memory that is otherwise idle and unused. IntelliMemory is a server-side DRAM read caching engine that dynamically leverages idle, available DRAM to target I/O that penalizes storage performance the most—small, random I/O. IntelliMemory's behavioral analytics engine makes the best use of DRAM for caching by collecting usage data and I/O characteristics across a wide range of data points. By servicing I/O at the top of the technology stack from the fastest storage media possible, organizations reduce latency and further reduce the amount of I/O having to travel to storage, complementing the I/O reduction benefits from IntelliWrite.

InvisiTasking®
InvisiTasking is a patented intelligent scheduling technology that allows all the *DymaxIO* "background" operations within the server to run with zero resource impact on current production by only leveraging idle CPU cycles and memory. Should other processes demand those resources, InvisiTasking ensures they are released without latency so there is never an issue of resource contention.

Benefits Dashboard
The "time saved" dashboard demonstrates the value by showing the amount of I/O traffic offloaded from storage, the percentage of read and write I/O traffic offloaded, and the resulting time saved to any one system or group of systems.

CogniSAN™ and V-Aware®
These technologies are extensions to InvisiTasking that ensure optimizations occur using only available resources. As a result, *DymaxIO* avoids creating additional I/O that might interfere with workloads on the storage media being executed by other systems. This is ideal for SANs or hypervisor-managed storage, where multiple VMs have the VDDs on the same physical storage.

AI Detection and Adaption
DymaxIO utilizes AI (artificial intelligence) to automatically detect the type of hardware and workload on which it is installed and deploys the appropriate performance enhancement technologies for that exact individual system so organizations can boost performance without overspending on hardware. The best technologies in V-locity®, Diskeeper®, and SSDkeeper® have now been rolled into *DymaxIO*.

Diskeeper, SSDkeeper and V-locity have been combined into a single product that intelligently detects and adapts to its operating environment using artificial intelligence.

Condusiv Management Console
Provides seamless deployment and centralized management. Enjoy fast, non-disruptive deployment even in the most complex environments - No reboots required. Easy management across a wide range of environments and locations. I/O performance monitoring gives administrators visibility into key I/O metrics to explain workload behavior across different applications—greatly reducing the burden of troubleshooting and tuning for performance.

DymaxIO Benefits

/ Faster performance for Windows Servers, desktops, and laptops
/ Better application performance
/ Fast SQL and database performance
/ Fast data transfer rates
/ Increased throughput and reduced latency
/ Fast file reads and writes
/ Optimal performance from your storage, HDDs and SSDs
/ More reliable Windows Servers, desktops, and laptops
/ Reduced timeouts, crashes, freezes, hangs
/ Reduced file corruption and data loss
/ Reduced "phantom" IT issues
/ Reduced user support calls
/ Extended hardware lifecycle
/ Increased VM Density
/ Faster backups allowing backups to complete in named window's timeframe
/ Reduced network traffic, increasing your network bandwidth for other work
/ Reduced cloud compute costs
/ Overall increased system and network-wide efficiency due to increased performance, reliability, longevity, and energy conservation
/ True "Set It and Forget It"® management
/ Compatible with all SAN/NAS and hyperconverged systems
/ Deploys to hundreds or thousands of servers with just a few clicks – no reboot required
/ "Time saved" reporting dashboard to validate benefits
/ Enterprise-wide visibility into I/O performance health from the operating system to storage

Supported Platforms & Configurations

DymaxIO is both hypervisor and storage agnostic. *DymaxIO* is compatible with any system that is compatible with Windows and improves the efficiency of all VMware ESX/ESXi, Hyper-V, and Xen platforms supported by SAN/NAS storage, Hyperconverged storage, local storage, SSDs, all-flash, or cloud storage like Azure or AWS.
DymaxIO installs on all Windows systems and supports Windows 7, Windows 8/8.1, Windows 10, Windows 11, Windows Server 2008 R2, Windows Server 2012 (or R2), Windows Server 2016, Windows Server 2019, and Windows Server 2022.

Required Memory: 3GB of physical memory per VM or physical server

Recommended Memory for Optimum Caching: 4GB of available physical memory per VM or physical server.

If running on MS-SQL: Add up to 16GB of DRAM for blazing results, then cap SQL memory usage leaving the additional memory leftover for the OS and *DymaxIO*. If no additional memory is available, cap SQL memory usage leaving 8GB for the OS and *DymaxIO*.

Recommendation: Optimum results will not be achieved unless (1) systems have adequate memory and (2) the software is installed on each VM on the same host. Since each Windows VM generates a minimum of 30-40% unnecessary I/O traffic, it is imperative to install *DymaxIO* on all the VMs on the same host. If installing on 10+ servers, simply request the centralized management console from sales@condusiv.com to push the software out to as many servers as desired.

Condusiv Management Console UI supports IE 11. CMC master node installs on physical servers and VMs and supports Windows Server 2019, Windows Server 2016, Windows Server 2012 64-bit, Windows Server 2008 R2, 64-bit.

About Condusiv
Condusiv Technologies makes software that makes Windows servers faster and more reliable. Condusiv's software is designed for virtual, cloud, and physical server environments, enabling systems to process more data in less time for faster application performance.

More Information
Purchase: DymaxIO is available as an annual subscription SaaS model. To buy online or find a reseller, visit condusiv.com/purchase
Contact: To speak with a solution specialist in your region, visit condusiv.com/contact
Case studies & Documentation: visit condusiv.com/resources
To learn more: visit www.condusiv.com/dymaxio