

# BitWackr™ for Windows and Linux Servers

## ENABLES OEMS TO DELIVER IN-LINE BLOCK LEVEL DATA DEDUPLICATION, COMPRESSION AND THIN PROVISIONING WITH HARDWARE ACCELERATION FOR PRIMARY STORAGE



Proactively managing the growth of data and data storage is a critical concern for organizations of all sizes. A great deal of effort has recently been focused on optimizing disk-based backup storage capacity using data compression and deduplication. The focus of data reduction, however, is now shifting toward data deduplication and compression at its source - Online and Primary storage - due to the much higher cost per terabyte of primary storage over secondary storage.

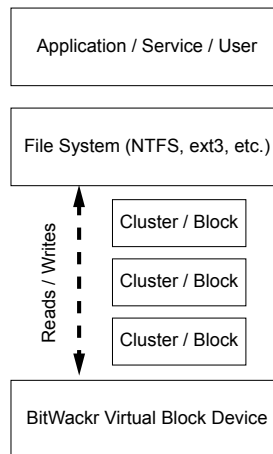
With Online and Primary storage devices costing up to 100x per terabyte more than disk-based backup storage, business enterprises will observe a significantly faster return on investment (ROI) and overall reduction in infrastructure costs over time following the introduction of data reduction technology to the mission-critical tiers of storage.

### Hifn BitWackr: Deduplication Beyond Backup™

Hifn BitWackr provides data deduplication, compression, encryption and thin provisioning. BitWackr leverages the advantages of PCI Express acceleration card technology to meet multiple tiered storage requirements with minimal impact on server, network and storage resources. Using an innovative and patent-pending approach, BitWackr presents itself as a block storage disk device to both Windows and Linux operating systems, allowing users to take full advantage of BitWackr's unique capabilities without stretching beyond the comfort of using standard operating system disk and volume management utilities.

With BitWackr, comprehensive use of high performance data deduplication can now be cost-effectively added to Windows and Linux

servers as an advantage applicable to a diverse set of applications and use cases. By employing a distinctive and in-line, block-level and content agnostic approach to capacity optimization, BitWackr remains transparent and non-disruptive to all applications, services and users making roll-out convenient and virtually effortless.



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BitWackr extends data deduplication technology beyond backup to mission-critical application storage, to minimize costs where they are the greatest.

By eliminating the duplicate data stored on premium tiers of storage, organizations will experience greatly reduced operational and capacity expenses immediately and in future deployments.



### HIGHLIGHTS

- **Optimize Data Storage Utilization** by introducing data deduplication and compression across multiple tiers of storage devices
- **Helps End Users Reduce Storage Administration** requirements and costs with scale-on-demand thin provisioning
- **Offload Server Resources** with enterprise-proven hardware acceleration technology
- **Greatly Reduce Buyer OPEX/CAPEX** by reducing server and storage heat dissipation, power and cooling requirements
- **Minimize Integration Effort** with "plug-n-play" ease of use and an intuitive management user interface

### KEY APPLICATIONS INCLUDE:

- Network File Services
- Email Application Storage
- File Collaboration Suites
- Backup and CDP Storage
- Long-term Data Archival

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Feature Highlights	What it does
Hardware-Accelerated Data Deduplication	BitWackr's data deduplication eliminates redundant blocks of data by "fingerprinting" each block using the enterprise-recognized Secure Hashing Algorithm (SHA)160 implemented in specialized silicon to produce a hash from data blocks. Those data blocks and unique fingerprints are automatically indexed, compressed and retained. Duplicate copies of data that have previously been stored are "deduplicated", leaving only a single copy of each unique data block along with its corresponding fingerprint.
Hardware-Accelerated Data Compression	BitWackr's adaptive data compression techniques look for repetitive data sequences in data streams that are then converted into a compressed form. Because data compression is based on the contents of the data stream, BitWackr's algorithm dynamically adapts to different types of data. BitWackr employs the lossless eLZS variant of the industry-standard Lempel-Ziv compression algorithm for increased performance, automated load-balancing and non-disruptive failover.
Hardware-Accelerated Data Encryption	BitWackr's data-at-rest 256-bit key AES-CBC encryption is enabled as an option for new volumes as they are created. When enabled, all data stored is secured at the block level and no further management is required from the system or storage administrator, adding heightened security with minimal required supervision. Encryption operations are automated and take place as data is written to and read from the disk, completely transparent to the end user yet fully protected from an attempted security breach.
Thin Provisioning	BitWackr's thin provisioning enables storage managers to allocate storage volumes of any size to servers without the need to physically install the storage until needed, enabling highly cost-effective and on-demand capacity acquisitions. Thin provisioning reduces the near- and long-term storage costs while minimizing administration tasks and eliminating downtime costs by remaining non-disruptive to the operating system, file system, applications and end users.

### OEM Value Proposition

- Fast deduplication market entry
- Enhances end-user appeal and value
- Adds significantly to server virtualization value propositions
- Adds competitive advantage and distinction
- Building a deduplication system is a significant research and development challenge
  - But we've done it for you
- In a "make vs. buy" analysis, the Hifn solution delivers outstanding value



48720 Kato Road | Fremont, CA 95032 | 510.668.7000 tel | 510.668.7001 fax | [hifn.exar.com](http://hifn.exar.com)