



Introducing the OCZ Z-Drive 4500 Solid State Drive Series

*Next Generation Enterprise-Class
Performance and Reliability*

March 2014

OCZ
STORAGE SOLUTIONS

A Toshiba Group Company

NEWS EMBARGO

OCZ's new Z-Drive 4500 PCIe SSD Series will be formally announced to the public on:

Tuesday March 4th, 2014 at 8:00 am ET

OCZ requests that the media honor this embargo date and time

Thank you in advance!

About OCZ Storage Solutions

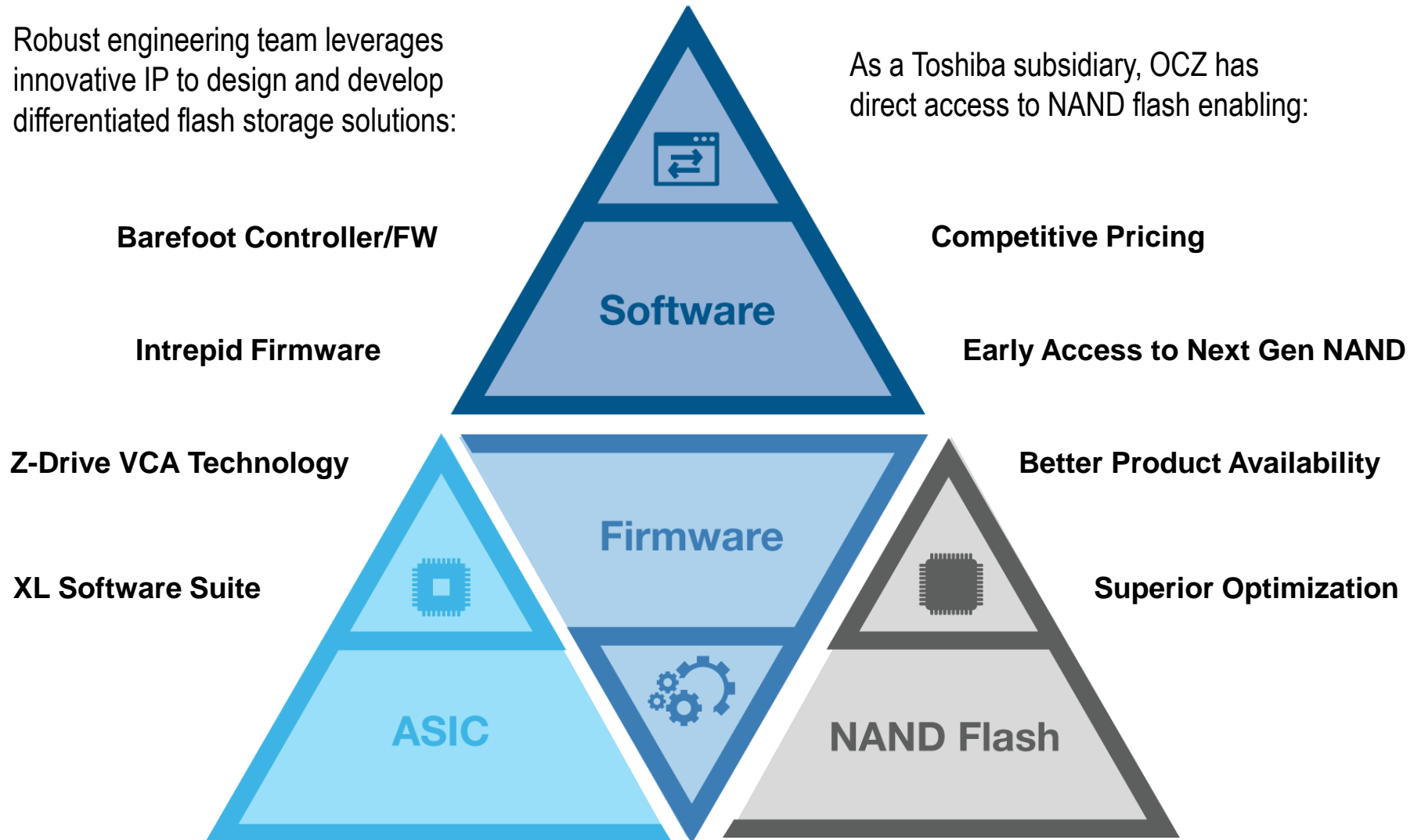


- OCZ Storage Solutions is a Toshiba Group Company
- The only fully-integrated SSD provider solely focused on SSD products
- Industry-leading solid-state storage that addresses client and enterprise storage challenges
- **Our solutions:**
 - Offer intelligent and optimized approaches to how data is captured, accessed, and leveraged
 - Are designed with an application in mind, enabling us to meet specific demands

A Strong, Fully Integrated Organization

Robust engineering team leverages innovative IP to design and develop differentiated flash storage solutions:

As a Toshiba subsidiary, OCZ has direct access to NAND flash enabling:

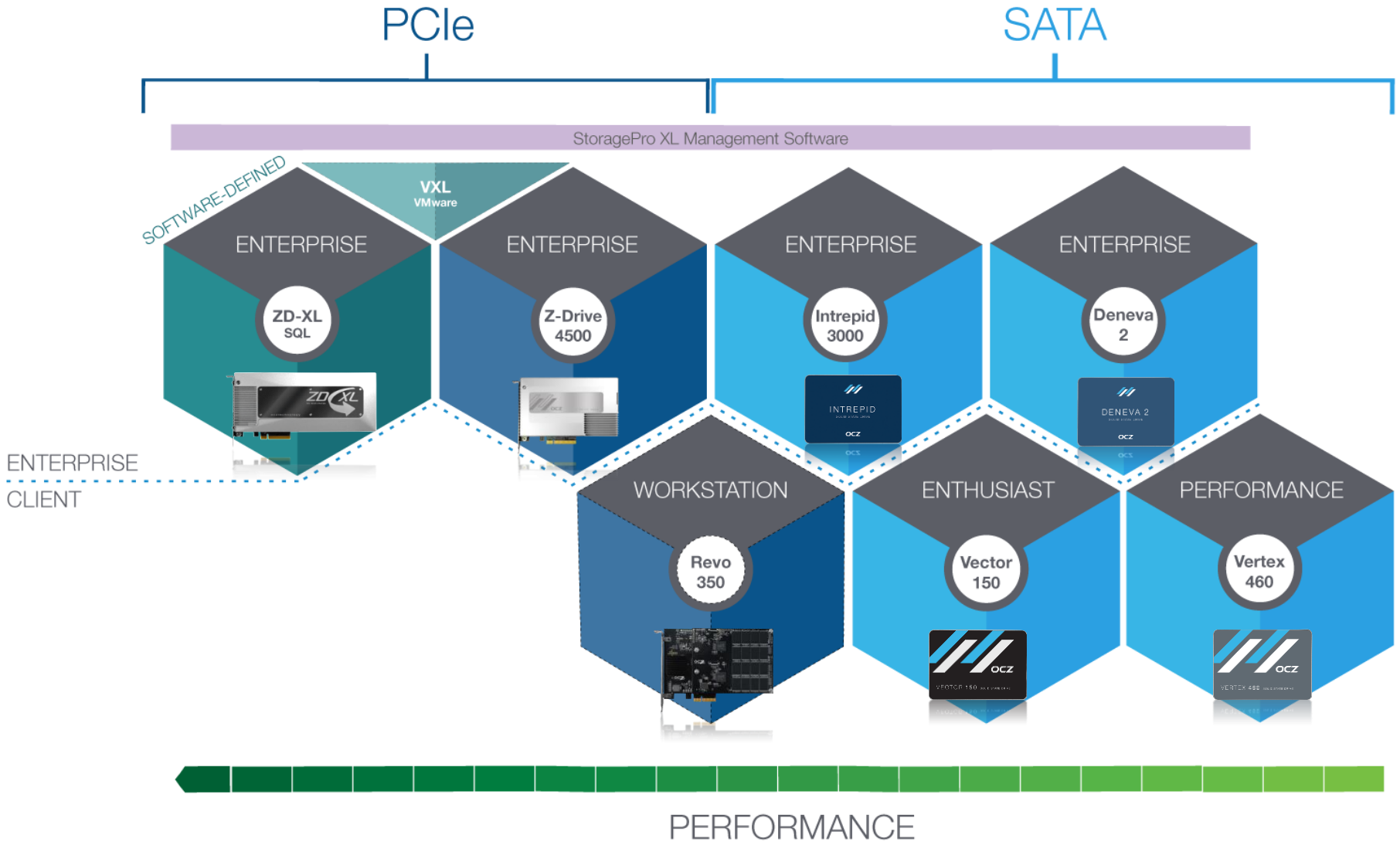


Global Presence, Global Innovation



- Global footprint and support network
- Robust in-house R&D team
- Sales / marketing offices in each major region

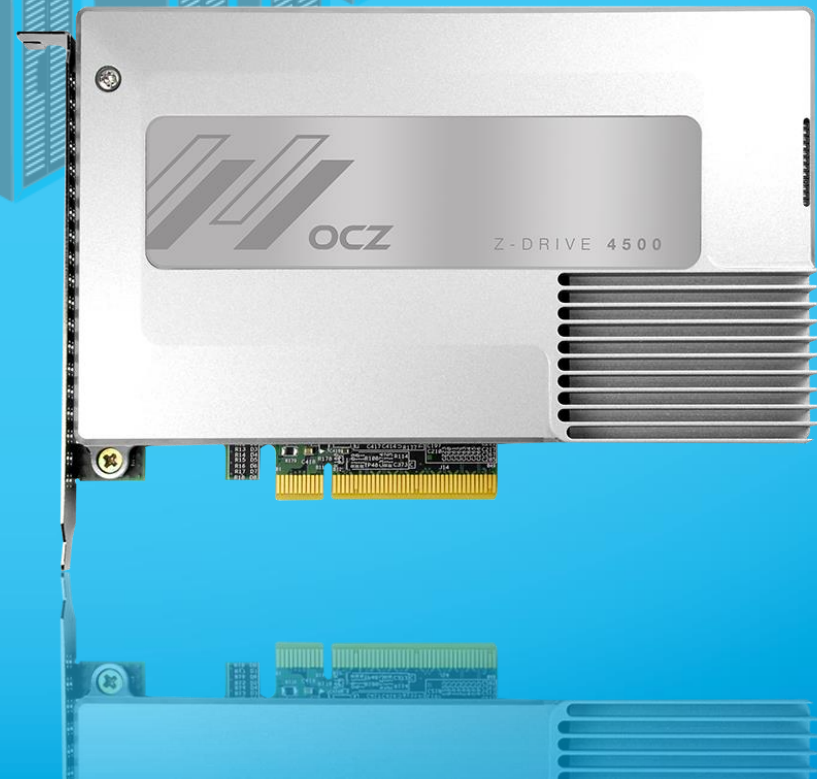
Product Line Breakdown



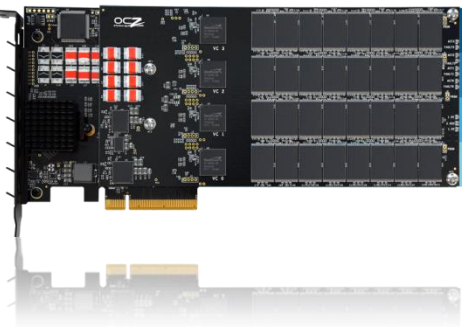
*RevoDrive 350 coming in Q2

Data centers have evolved.

So has the OCZ Z-Drive.



The All-New Z-Drive 4500 PCIe Solution



Performance
Thermals
Form Factor
Manageability

The new Z-Drive 4500 features an array of updates and improvements over the Z-Drive R4, delivering a superior enterprise solution

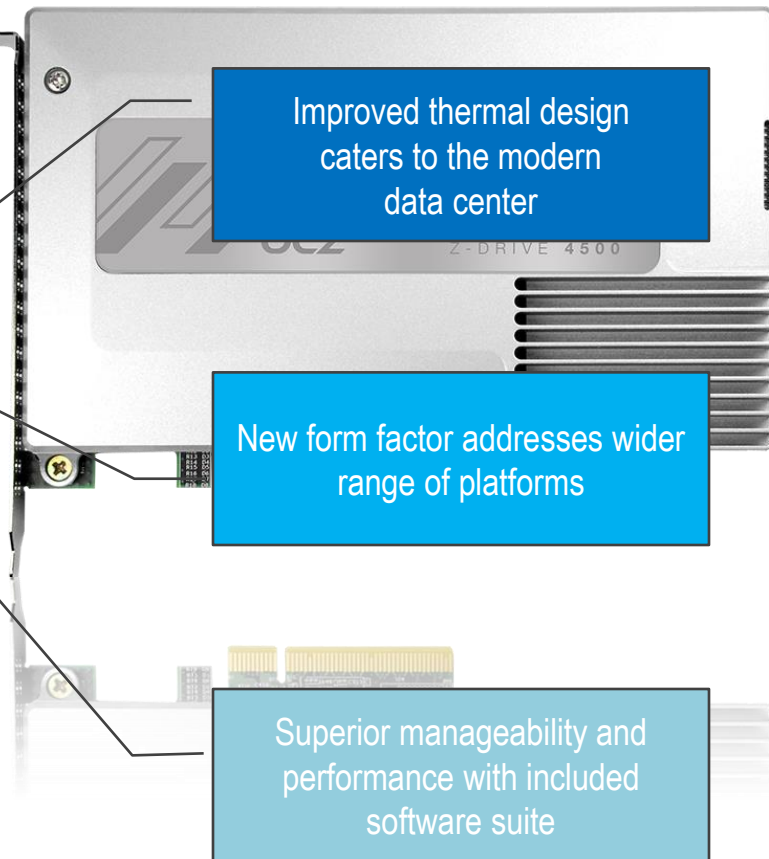


Ground-up, redesigned drivers for ultimate performance efficiency

Improved thermal design caters to the modern data center

New form factor addresses wider range of platforms

Superior manageability and performance with included software suite



Optimized Functionality & Feature-Set

The New Z-Drive 4500

Full Height-Half Length

In-house Flash

Thermal Throttling

Temperature-cool casing

Optimized Drivers

WXL Support

5 Year Warranty



Z-Drive R4

Full Height-Full Length

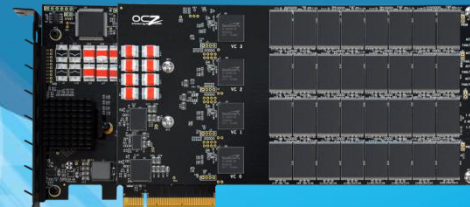
Up to 3.2TB

PCIe Gen2 x8

VCA

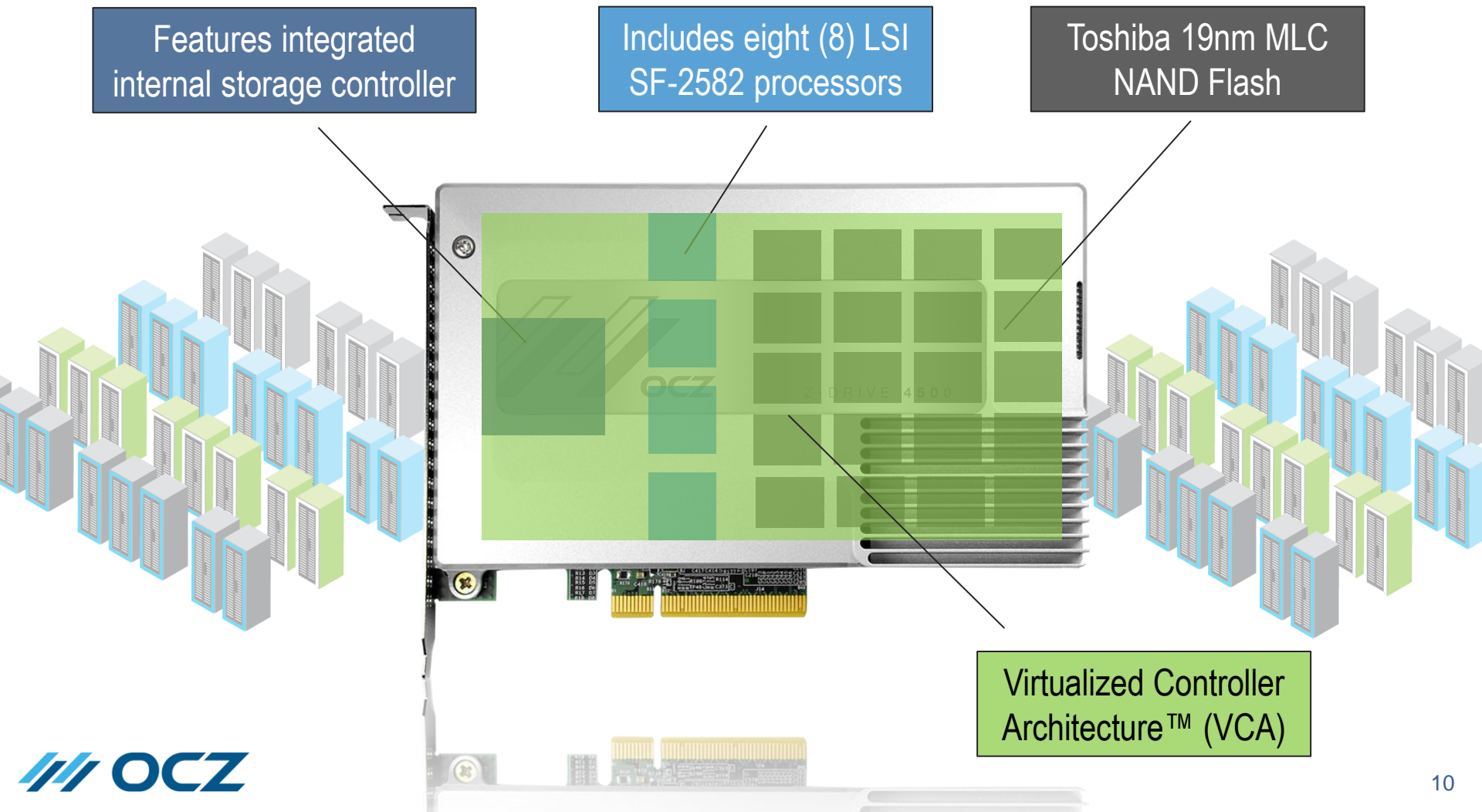
VXL Support

3 Year Warranty



Z-Drive 4500 = Proven Architecture

- The new Z-Drive is built using proven technology with the added benefit of utilizing in-house Toshiba flash memory for optimal product availability



Virtualized Controller Architecture

- Implements OCZ's Virtualized Controller Architecture™ (VCA) identical to the Z-Drive R4 Series

- Effectively makes the 8 controllers of the Z-Drive 4500 appear and act as a single drive to the host system

- Delivers leading MLC *sustained* performance:

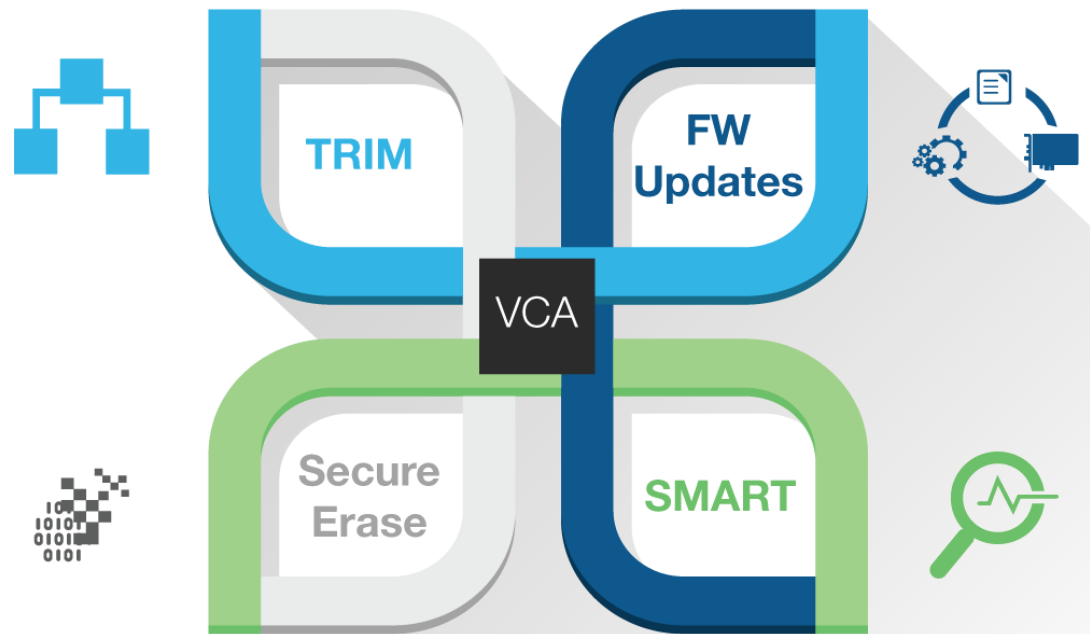
Read Bandwidth: up to 2,900 MB/s

Write Bandwidth: up to 2,200 MB/s

4K Random Read: up to 252,000 IOPS

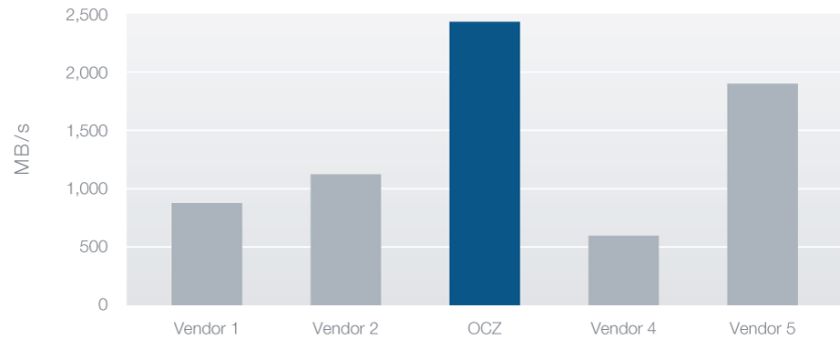
4K Random Write: up to 76,000 IOPS

VCA enables easy and effective:

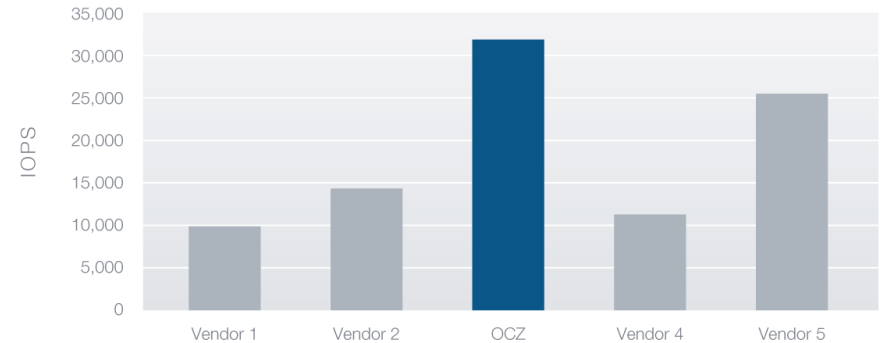


The Leading Performance of OCZ's VCA Architecture

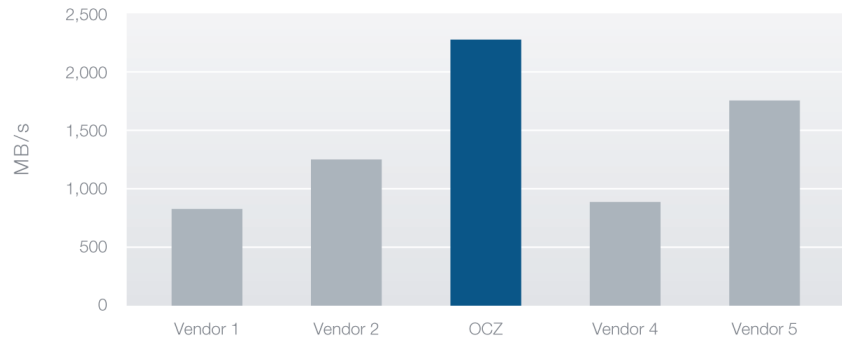
Write Saturation 128k Sequential Workloads



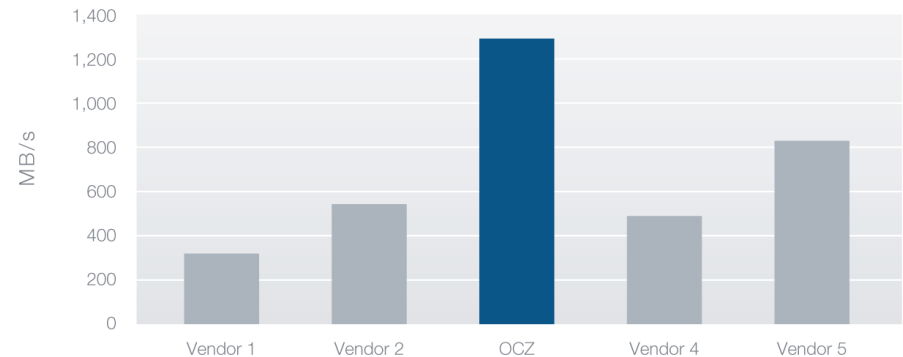
SQL Server Logs 8k Workload 100:0 Seq/Rdm; 0:100 Reads/Writes



Video on Demand Server 512k Workload
100:0 Seq/Rdm; 0:100 Reads/Writes



Archive Server 2MB Workload 05:95 Seq/Rdm; 55:45 Reads/Writes



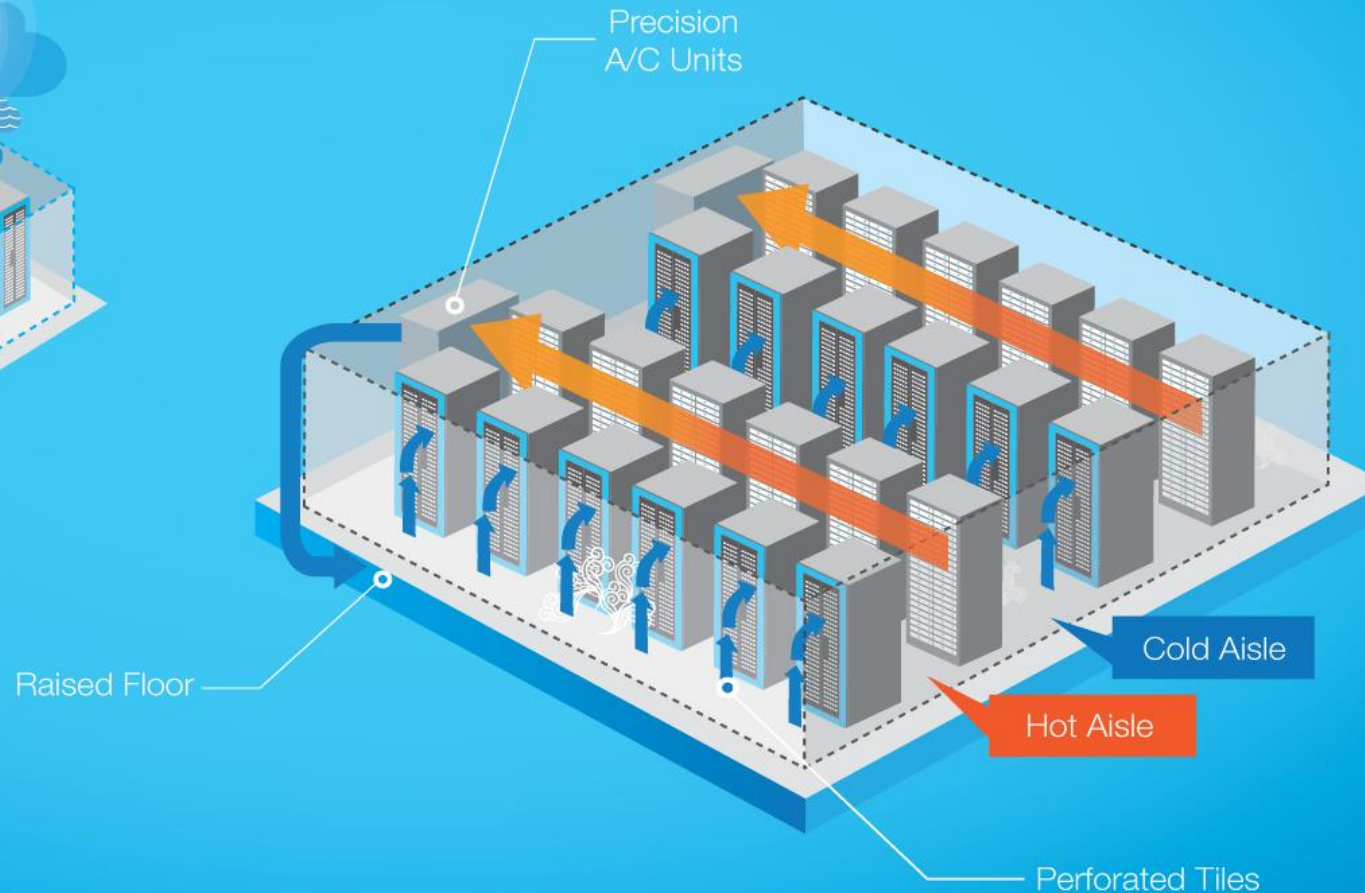
Evolving with the Data Center

Yesterday's Data Center



Expensive, Inefficient
Cooling

Today's Data Center



Cold Aisle

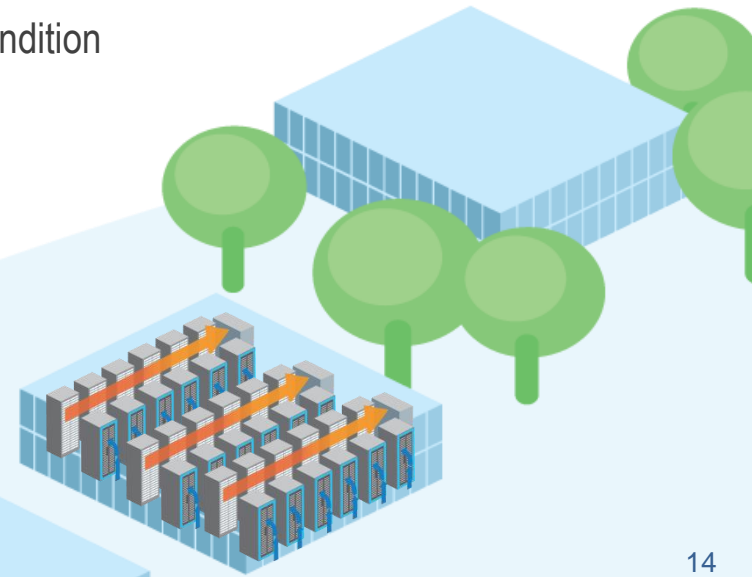
Hot Aisle

Perforated Tiles

Evolving with Data Center Thermals

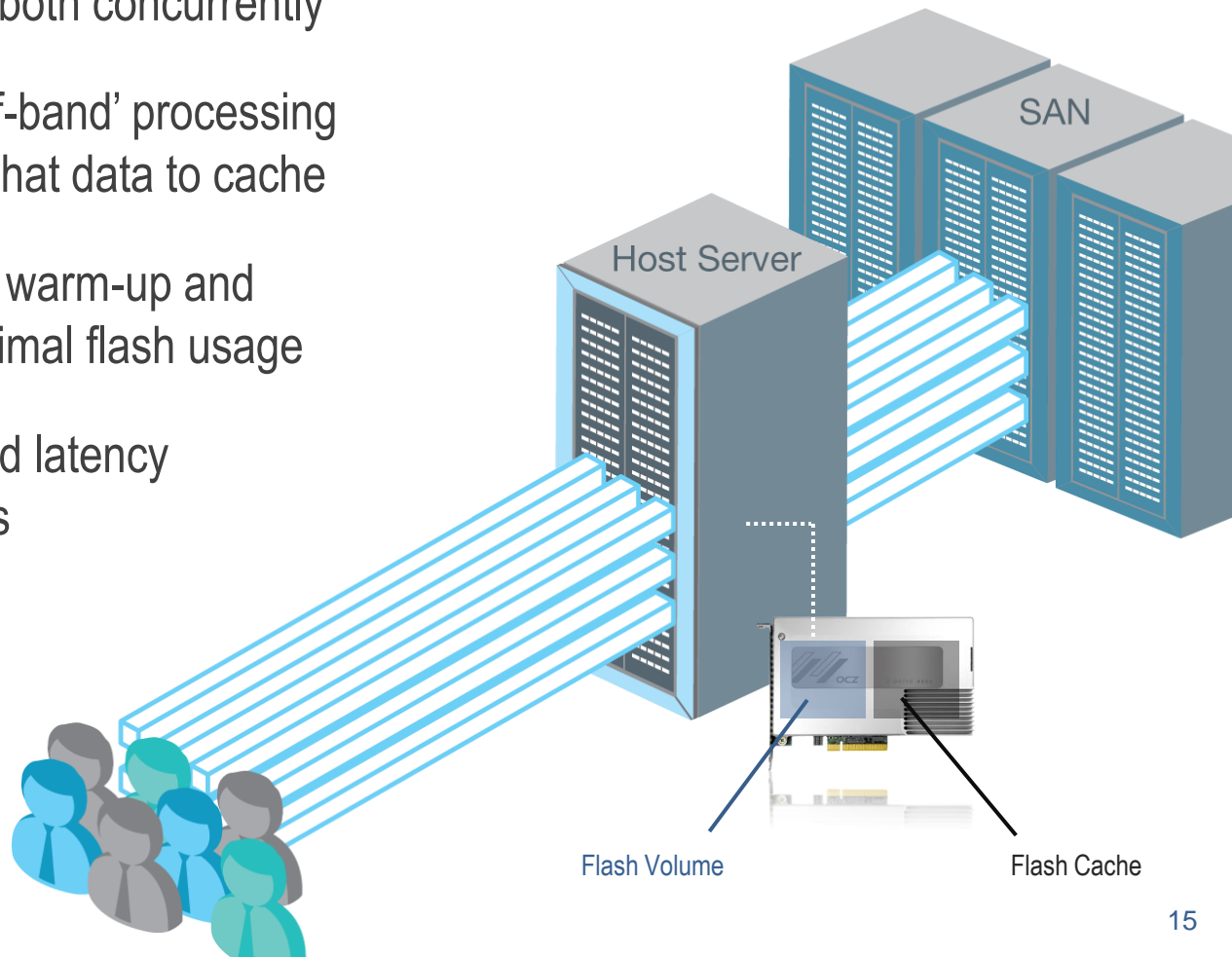
Gone are the days of expensive, inefficient air-conditioned data centers

- Today's data centers require hardware to perform efficiently in warmer server environments (e.g., hot/cold aisle approach) to decrease Op-Ex
- New Z-Drive 4500 thermal features enable it to be a part of aggressive TCO (Total Cost of Ownership) models:
 - New temperature sensing measures onboard heat to ensure that operating temperatures stay below maximum limit
 - New thermal-throttling engages if a high temperature condition occurs to protect the drive enabling it to operate under adverse temperature variances
 - New attractive outer casing provides a more stable and cooler thermal SSD environment



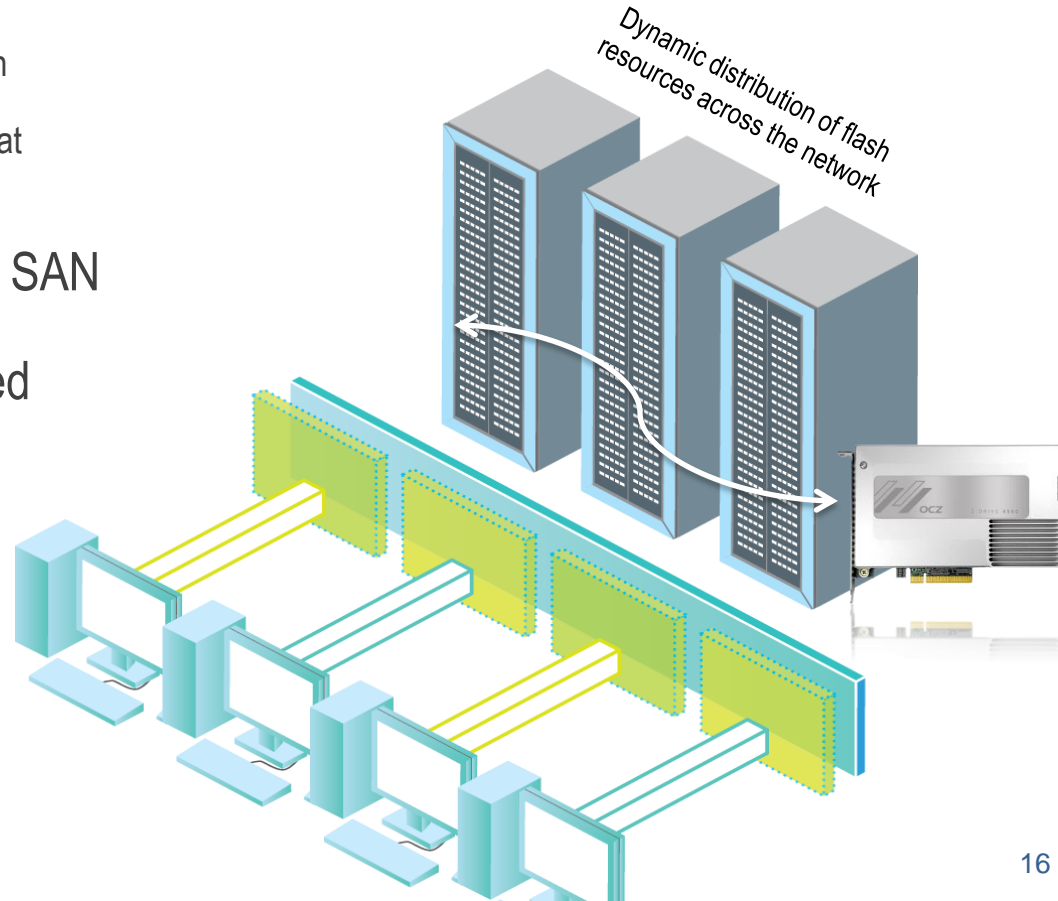
Included WXL Caching Software

- Each Z-Drive 4500 comes with integrated Windows Accelerator (WXL) Software
- Enables efficient use of the Z-Drive 4500 as a flash volume, a flash cache, or both concurrently
- Performs statistical 'out-of-band' processing to selectively determine what data to cache
- Includes advanced cache warm-up and analysis scheduler for optimal flash usage
- Improves performance and latency on SAN and DAS systems making them more available for other applications

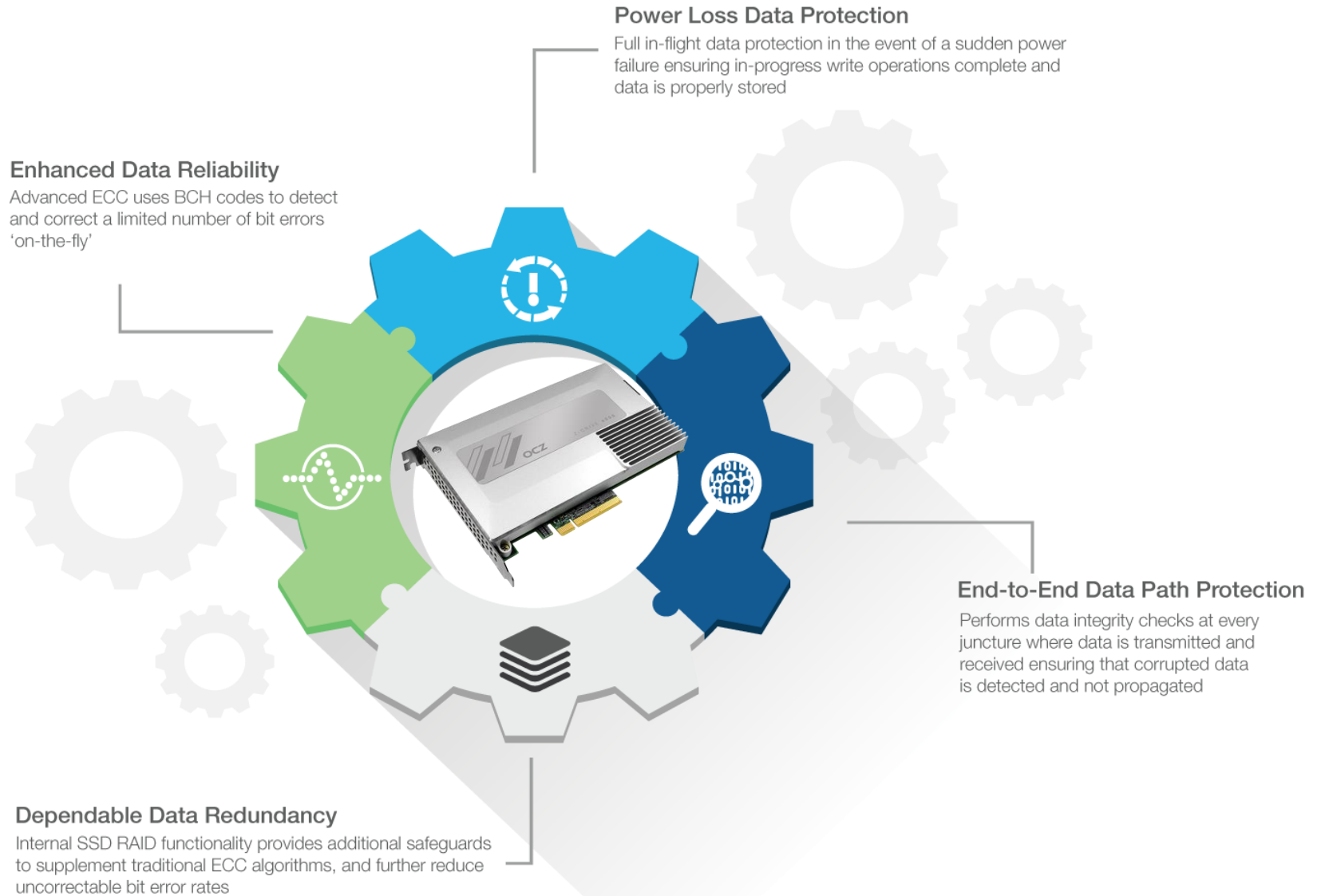


VXL Virtualization Software Support

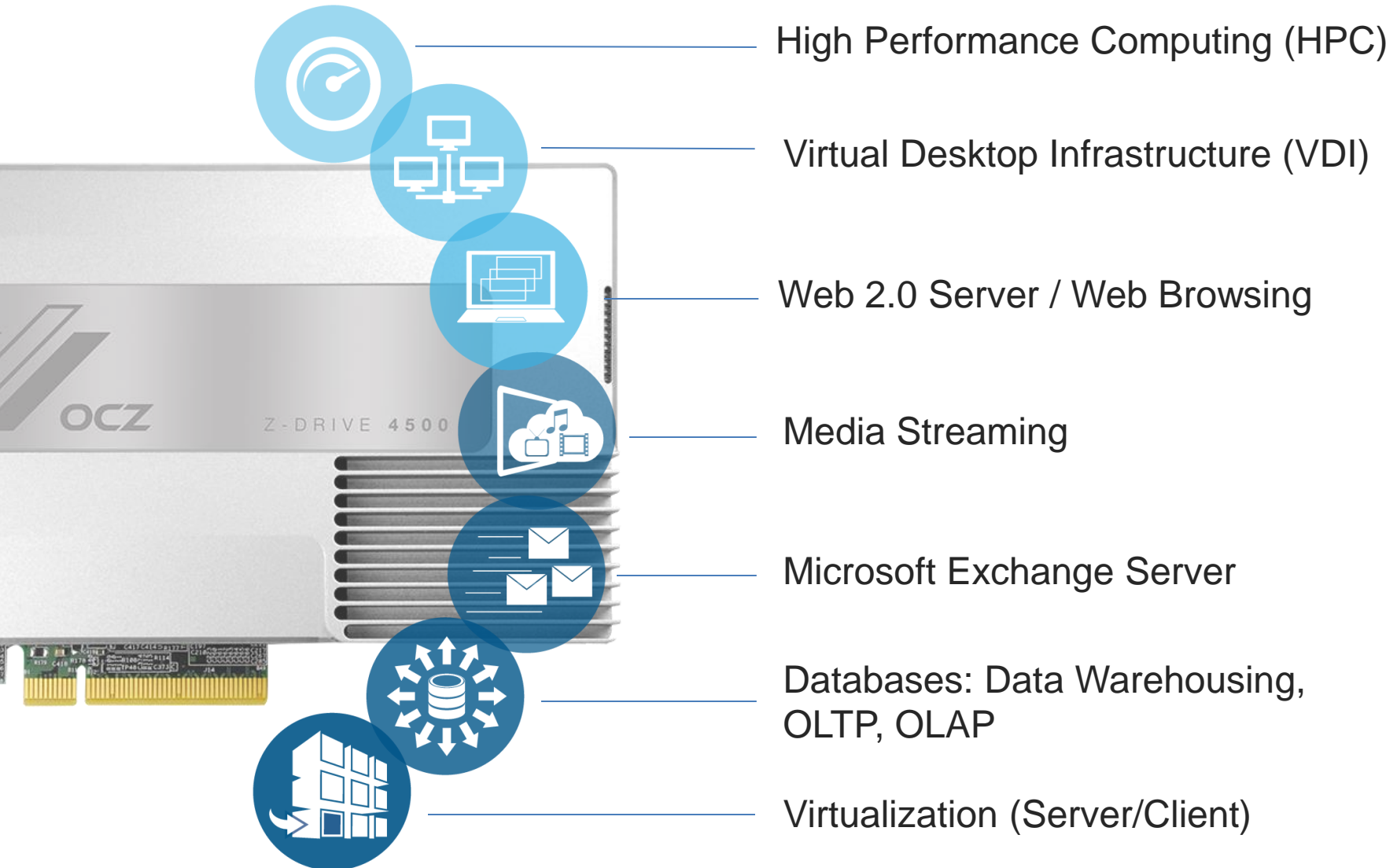
- Works with OCZ's VXL Virtualization Software to optimized virtualized environments by ensuring critical data is available on flash for use by VMs
- Distributes flash resources on-demand across VMs to accelerate application performance
 - Makes sure no VM inefficiently occupies flash
 - Utilizes Z-Drive 4500's flash cache optimally at all times regardless of VM quantity
- Reduces data traffic to and from the SAN
- Delivers a SAN-less software-defined storage system



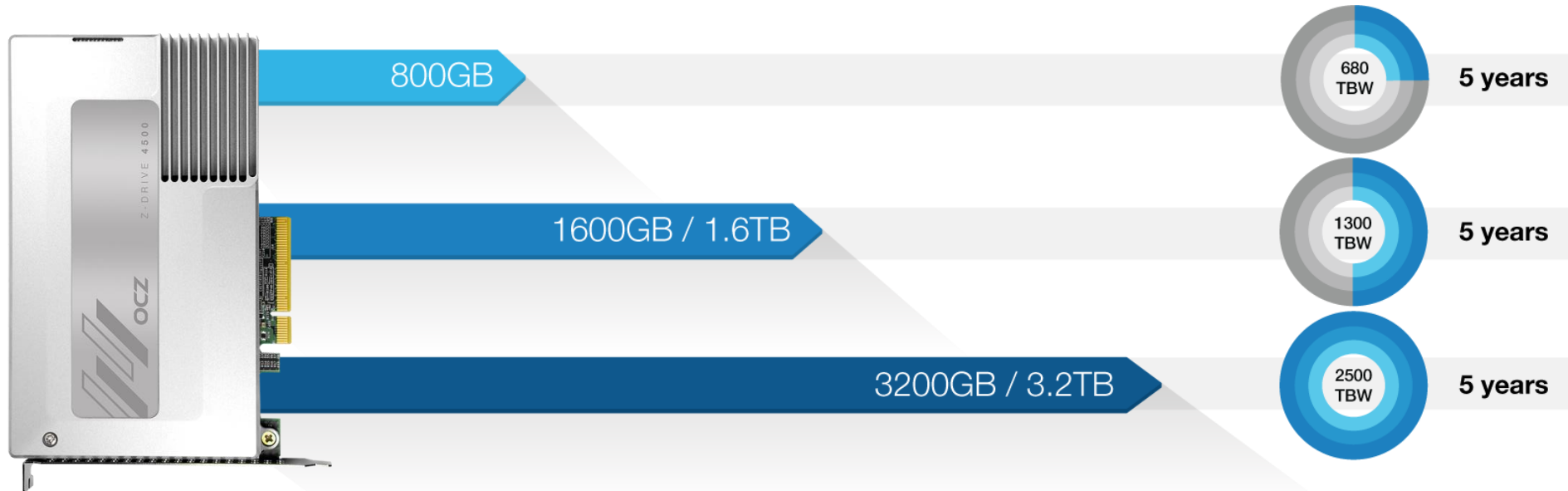
Enterprise-Grade Data Reliability



Targeted Z-Drive 4500 Applications



Z-Drive 4500 Drive Models and Endurance



- The Z-Drive 4500 is available solely in a full height, half length form factor in 3 capacity offerings
- Offers competitive endurance ratings at up to 2500 Terabytes Written (TBW) for 5 years

Z-Drive 4500 Summary

- Leading sustained performance for MLC-based PCIe enterprise SSDs
- 19nm NAND flash in a FH-HL design
- Temperature sensing and thermal throttling
- 'Temperature-cool' casing
- Integrated Windows Acceleration (WXL) Software
- Support for VXL Virtualization Software
- Data protection: power loss & end-to-end
- 800GB, 1.6TB and 3.2TB usable capacities





A Toshiba Group Company

Thank you! Questions?



A Toshiba Group Company

Disclaimer

OCZ may make changes to specifications and product descriptions at any time, without notice. The information presented in this document is for informational purposes only and may contain technical inaccuracies, omissions and typographical errors. Any performance tests and ratings are measured using systems that reflect the approximate performance of OCZ products as measured by those tests. Any differences in software or hardware configuration may affect actual performance, and OCZ does not control the design or implementation of third party benchmarks or websites referenced in this document. The information contained herein is subject to change and may be rendered inaccurate for many reasons, including but not limited to any changes in product and/or roadmap, component and hardware revision changes, new model and/or product releases, software changes, firmware changes, or the like. OCZ assumes no obligation to update or otherwise correct or revise this information.

OCZ MAKES NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE CONTENTS HEREOF AND ASSUMES NO RESPONSIBILITY FOR ANY INACCURACIES, ERRORS OR OMISSIONS THAT MAY APPEAR IN THIS INFORMATION.

OCZ SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL OCZ BE LIABLE TO ANY PERSON FOR ANY DIRECT, INDIRECT, SPECIAL OR OTHER CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF ANY INFORMATION CONTAINED HEREIN, EVEN IF OCZ IS EXPRESSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

ATTRIBUTION

© 2014 OCZ Storage Solutions – A Toshiba Group Company. All rights reserved.

OCZ, the OCZ logo, OCZ **XXXX**, OCZ **XXXXX**, **[Product name]** and combinations thereof, are trademarks of OCZ Storage Solutions – A Toshiba Group Company. All other products names and logos are for reference only and may be trademarks of their respective owners.