

# Converged Platform for High Performance Databases

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# WHY CUSTOMERS RUN ORACLE ON VBLOCK SYSTEMS TODAY?

Reduce HW/SW costs

Consolidate Licenses

Increase Utilization

Provision Faster

Improve Quality of Service  
and Availability – RAC  
Alternative

**Virtualization**



Pre-Engineered, Pre-Validated,  
Pretested

Speed Deployment

Aggregate Workloads

Optimize & Standardize  
Infrastructure

Lower Operational Cost

Secure Environment

Promote Innovation

**Vblock Systems**

# VCE CUSTOMER RESULTS

COMPUTE

STORAGE

NETWORK

VIRTUALIZATION



**5X** FASTER  
DEPLOYMENT



**4X** LESS STAFF  
RESOURCE TIME



BETTER  
AVAILABILITY

**83X**



LOWER  
COST

**3X**



CONVERGED OPERATIONS



Source: May 2012 report by IDC entitled "Converging the Datacenter Infrastructure: Why, How, So What"

# BE THE MOST STRATEGIC PLATFORM PARTNER TO ORGANIZATIONS YESTERDAY, TODAY AND TOMORROW

Yesterday – Legacy applications

Today - Cloud



## Tomorrow – Big Data

- 1H 2013 – SAP HANA
- 2H 2013 to 1H2014 –
  - High Performance Database - Oracle
  - Pivotal
  - Hadoop

ORACLE



SYSTEM  
100

ORACLE



SYSTEM  
200



ORACLE



SYSTEM  
320



ORACLE



SYSTEM  
720



ORACLE

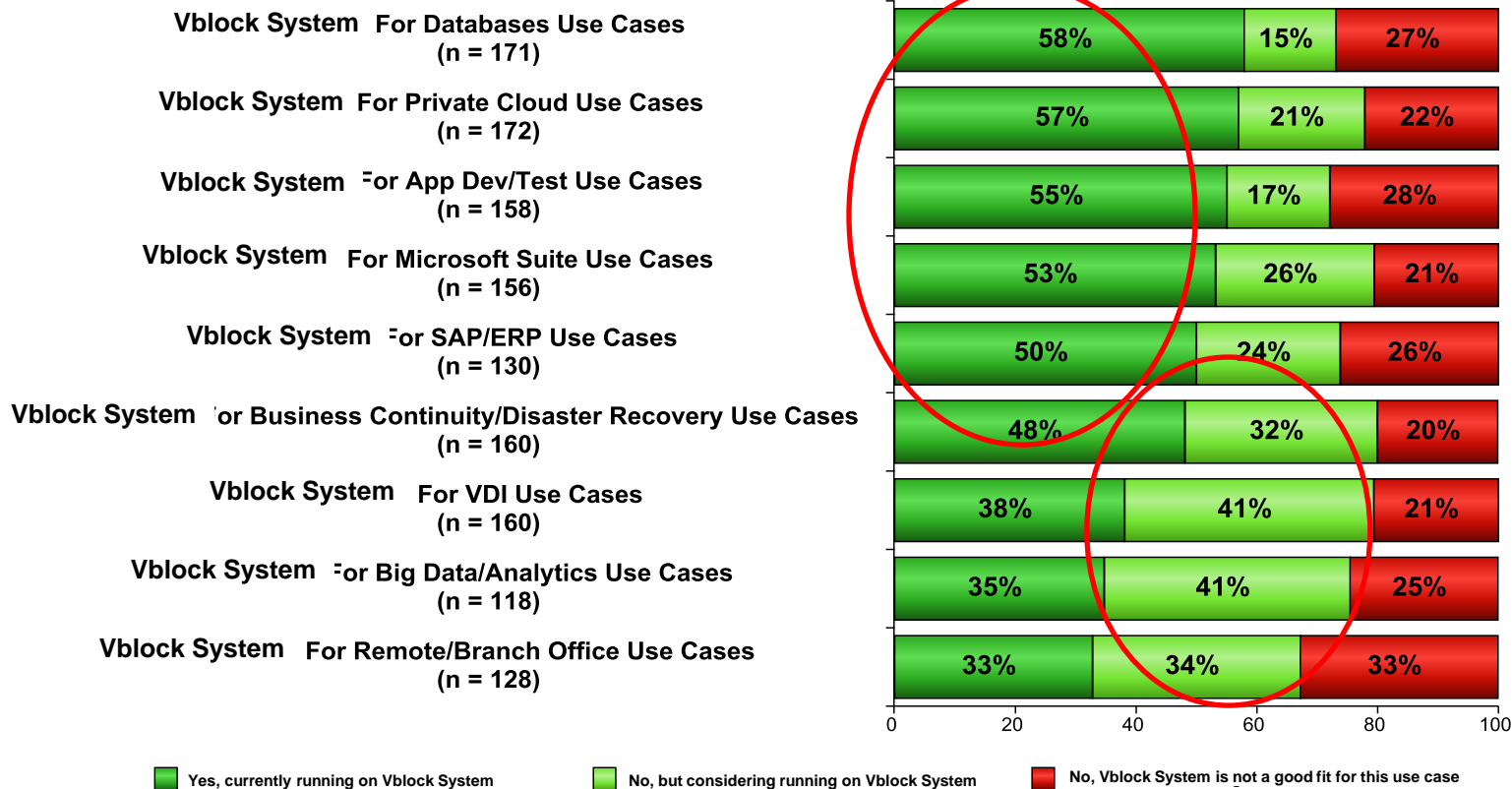


SPECIALIZED  
SYSTEMS



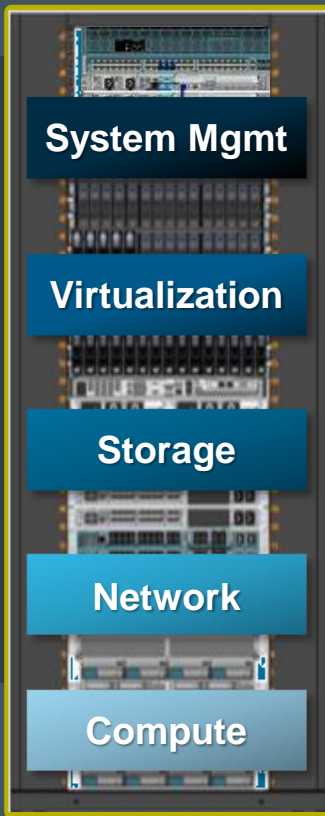
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# DATABASE RUN MIXED WORKLOADS WITH VCE



# VCE PRODUCT STANDARDIZATION

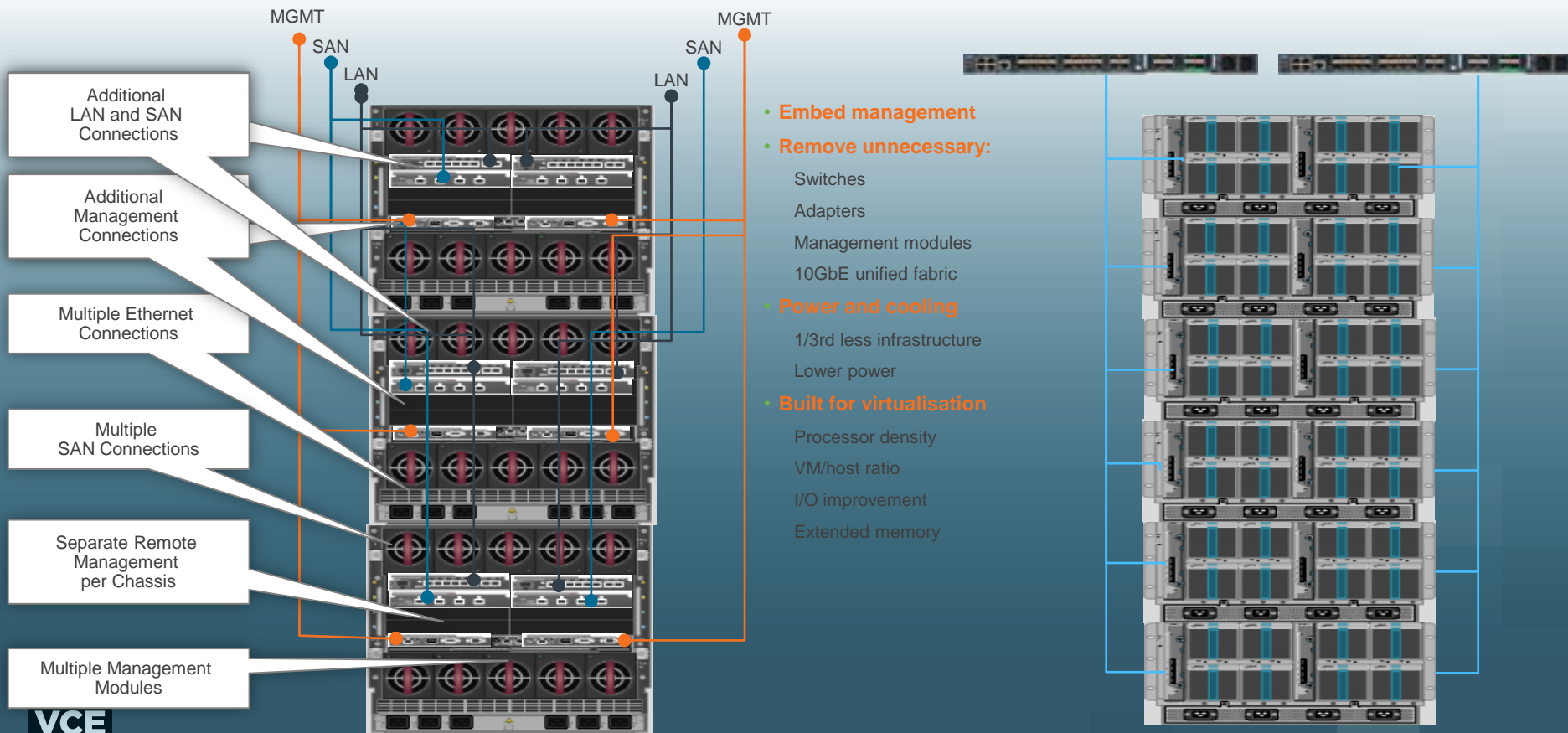
## Converged Infrastructure and Cloud Computing



- Virtualization, server, storage, networking, and security
- Pre-engineered, validated, and physical and logical integration
- Simplified management
- Solutions validation
- Roadmap planning, interoperability testing, change management, and upgrades
- VCE™ Support

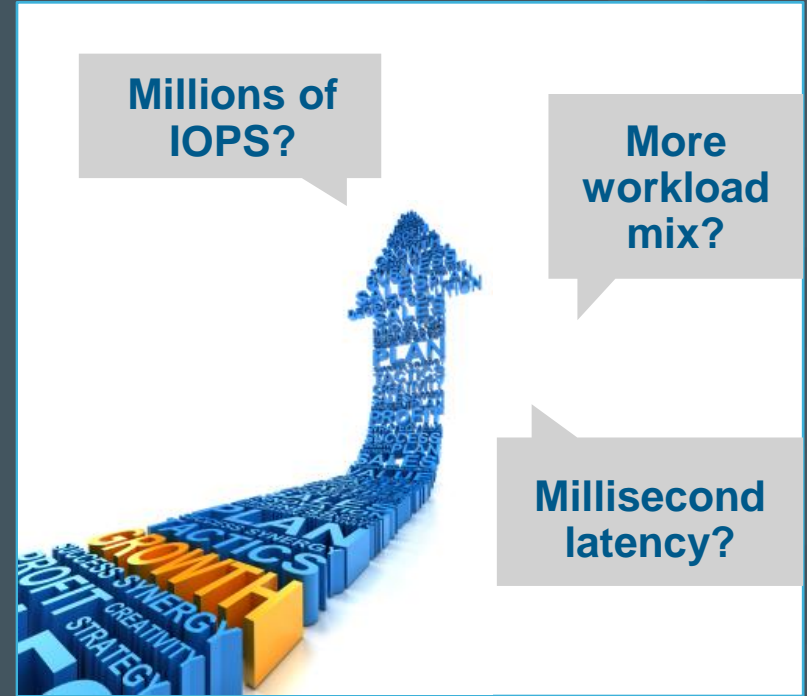


# REDUCING COMPLEXITY WITH CISCO UCS



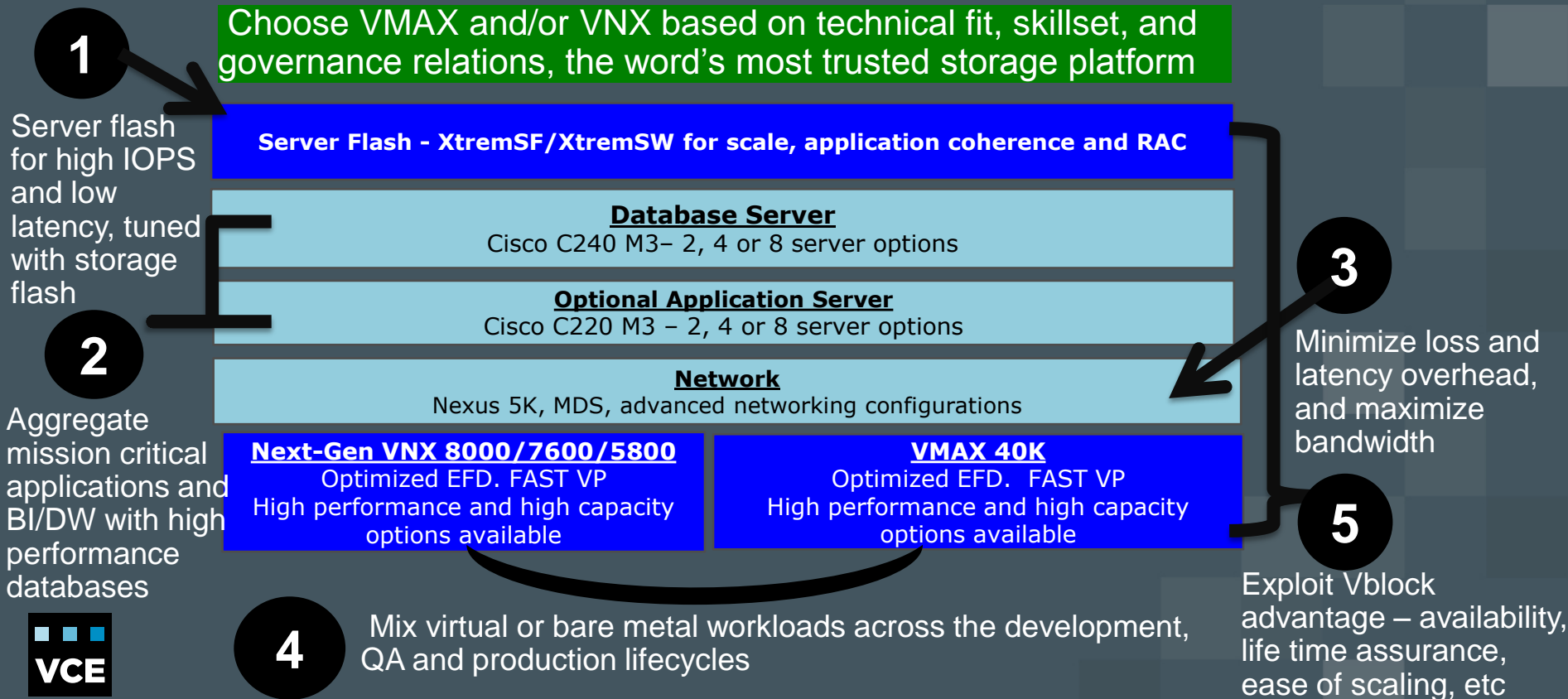
# DESIGN PHILOSOPHY: VBLOCK™ SPECIALIZED SYSTEM FOR HIGH PERFORMANCE DATABASES

- Purpose built, super-scalable for millions of IOPS
  - Ultra-performance with high availability
  - Maximizes CPU performance
  - Ultra low latency
  - Low TCO – operations and licensing
  - Integrated data protection options
- Flexible Oracle database implementations
  - OLTP and OLAP
  - Multi-database version support
- Multi-purpose workload capable
  - DB2, SQL
  - Mixed application workloads





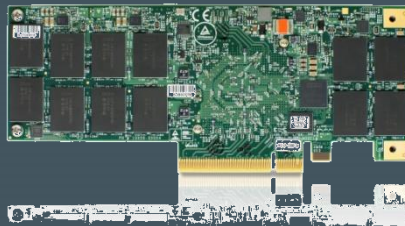
# WHAT IS UNIQUE ABOUT SPECIALIZED SYSTEMS FOR HIGH PERFORMANCE DATABASES?



# SPECIALIZED SYSTEM FOR HIGH PERFORMANCE DATABASES: HARDWARE SUMMARY

		VMAX – 8 node	VMAX – 4 node	VNX- 8 node	VNX – 4 node	VNX – 2 node
Database servers (C240 – ES-2690, 2.9GHz)		8	4	8	4	2
Database server cores		128	64	128	64	32
Database server RAM		6144 GB	3072 GB	6144 GB	3072 GB	1536 GB
XtremSF 700GB SLC		16	8	16	8	4
Application servers (C220)		Optional 2, 4 and 8 nodes				
Networking		Cisco MDS 9148 / 9513 FC SAN switches Cisco Nexus 5548UP Ethernet switches Cisco 6248 fabric interconnects Cisco 2232PP fabric extenders Cisco Nexus 3048 switches				
Storage type		VMAX 40K		VNX 8000	VNX 7600	VNX5800
Raw Storage Capacity	High Performance	141TB	71TB	105TB	61TB	29TB
	High Capacity	589TB	295TB	541TB	233TB	114TB

# XTREMSF ADVANTAGES



## Performance

Dramatic improvements in application latency and throughput—up to 1.13 million IOPS



## Flexibility

Broad range of eMLC and SLC capacities for use as local storage or with XtremSW Cache – 2x700GB SLC chosen

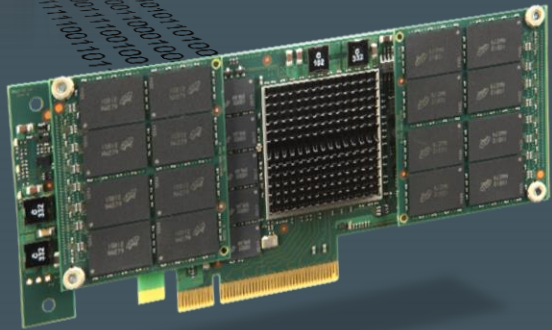


## Efficiency

Best TCO—lowest overhead, highest performance, lowest power consumption, best density

# XTREMSW CACHE: PERFORMANCE WITH PROTECTION

Server Flash Software Coupled With XtremSF



## Performance

Dramatic improvements in latency and throughput



## Intelligence

Extends EMC FAST architecture into the server



## Protection

Backed by intelligent, resilient, highly available storage

✓ Support for Oracle RAC is with XtremSW 2.0.1

# CONCLUSIONS AND NEXT STEPS

## Conclusion

- The Vblock System is an ideal foundation on which to build your Oracle data management and application practices to achieve faster time to value today and in the future
- Transform your operations and drive business value
- Help you open up a world of strategic opportunities with EMC, Cisco and VCE

## Next Steps

- Learn more at <http://www.vce.com/>
- Contact us for more questions – [julianna.delua@vce.com](mailto:julianna.delua@vce.com) or [peter.hammack@vce.com](mailto:peter.hammack@vce.com)
- Contact your EMC or VCE representatives

