NV1600 Flashtec™
NVRAM Drive Family

Preliminary Product Brief



Product Overview

The PMC Flashtec™ NVRAM Drive family provides a PCI Express NV-RAM solution based on the most advanced NVMe Controller on the market. This family provides a new level of performance to the memory/storage hierarchy, ushering Storage System OEMs and Cloud Applications and Service Providers to the era of Storage Class Memory.

Establishes New Storage Tier with Superior Performance

- Non-volatile DRAM-like performance, NAND persistence
- Over 10 million IOPS
- Sub-microsecond latency

Faster Time to Market & Lower Cost of Ownership

- Industry-standard interfaces
- Application friendly for ease of integration
- Zero maintenance green backup
- "Enterprise Class" for Mission Critical Data Center

Applications

- Uncompromising quality and reliability
- Unlimited endurance NVRAM
- Small form factor for high-density rack solutions
- Write Cache for Low-Latency Response Time
- 64-bit Addressable Persistent Metadata Memory Region
- Persistent Shared Memory for Scale-Out Clustered Systems
- High Performance Journaling or Write Ahead Logging
- Persistent Cache for Fast Cache Rebuild
- Performance Tier de-staging to Sequential-Access Capacity Tier

Cloud-Scale Performance & Availability

While SSD solutions continue to replace traditional HDDs in the performance tier of the storage hierarchy, there remains a significant performance gap between the memory tiers and the storage tiers in terms of latency, endurance and high availability. As application demands continue to increase at an ever growing pace to keep up with the growth rate of cloud services, relying on volatile memory to achieve desired performance leaves applications vulnerable to data loss in the event of a system failure.

There is a need for a new tier of memory that would provide mission critical applications the necessary safety net for their data while keeping pace with the application requirements for performance without compromising data protection, reliability and availability.

Flashtec NVRAM Drive products serve exactly that need, and with >10M IOPS and up to 16GB of memory per card, the product family can address the needs of the most demanding applications.

Benefits

Unlimited Endurance

Unlike SSDs, DRAM has practically unlimited endurance, and with up to 16GB of Non Volatile DRAM Memory, it can fit very demanding workloads as well.

High Performance I/O

1 Million IO/s in NVMe Block Mode (4KB); Over 10 Million IO/s in Direct Memory Mode.

Power Failure Protection

Flash-based Backup Unit protects memory content in the event of a power failure.

Higher Availability

A fast Backup and Recovery cycle ensures that Mission Critical Application will have a shorter recovery time across power failure events.

Lower TCO

Eliminating the UPS or BBU frees up rack space and reduces support and maintenance cost without compromising critical system data across power failures.

Features

Host Interface	x8 lane
PCI Express	3.0
Form Factor	Low Profile MD2 PCIe Add-In Card
Access Modes	Block Mode and Direct Memory Mode
Memory Capacity	4/8/16GB Configurations
Backup Store	Flash Module
Data Retention Offline	3 Months
No. of Backup Images	Two Backup Image Banks
Backup Power Supply	Tethered Super Capacitor Module
Auxiliary Power	Optional 5V Input
Operational Lifetime	5 Years
Restore Time	< 15 sec
Backup Time	< 20 sec
Backup Cycles	> 3000
Management Interface	NVMe

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Software Support

Drivers Support	Industry-Standard NVMe Drivers
Application Support	NV-lib for Application Integration
OS Support	RHEL 6.5, CentOS 6.5

Data Protection & Security

Authentication	Optional Host Authentication Sequence

Mechanical & Environmental

Form Factor	MD2 Low Profile PCIe Card
Operating Temperature	0° to 50° C @ 200 LFM
Power Consumption	<20W Typical; 5W Idle

Reliability

Operational Life Time	5 Years
Maintenance	No Maintenance Required

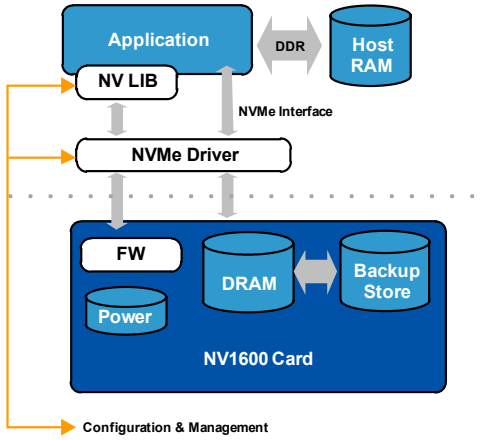
Compliance & Certifications

NVMe.org	Yes
PCIe SIG	Yes

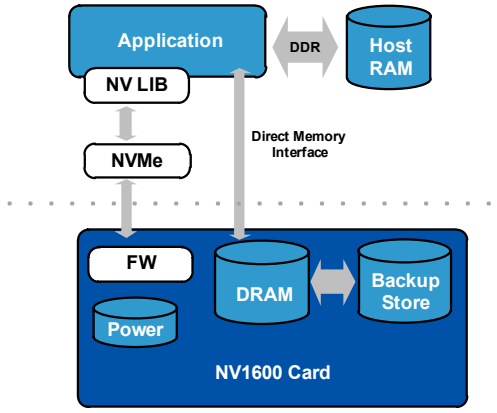
Regulatory & Safety Certifications

CE, FCC, UL, C-tick, VCCI, KCC, CNS

NVMe Interface - Block Mode Access



Direct MemoryAccess



Included in the Kit

- Add-in Card
- SCM-F100 or SCM-F35 Module and Cable

Further Resources

Technology Webpage

www.pmcs.com/flashtec

About PMC

PMC (Nasdaq:PMCS) is the semiconductor and software solutions innovator transforming networks that connect, move and store Big Data. Building on a track record of technology leadership, the company is driving innovation across storage, optical and mobile networks. PMC's highly integrated solutions increase performance and enable next-generation services to accelerate the network transformation. For more information visit www.pmcs.com.

Ordering Information

Model	Description	P/N
NV1616	16GB NVRAM PCIe Drive and SCM-F100 Bulk	2286100-R
NV1608	8GB NVRAM PCIe Drive and SCM-F100 Bulk	2285500-R
NV1604	4GB NVRAM PCIe Drive and SCM-F35 Bulk	2285400-R

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