IoT and AI Driving Memory Architecture Changes

Flash Memory, IoT and AI - Bringing it All Together

EMBD 302B-1: PANEL DISCUSSION

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Demanding **IIoT** Environment

- High reliability: temperature, endurance

- 5-10 years service life and availability

- Rigorous qualification testing

- Lower power / low/high-capacity

- Security / encryption

- Rugged form factors

-40°C

+85°C

Industrial Automation
SSD Requirements

- Robotics
- Warehouse automation
- Test systems
- Optical inspection
- Vision / diagnostics
- Sense / detect
- Materials analysis
- Test / measurement
- Security / surveillance

Transportation
SSD Requirements

- In-vehicle computing
- Fleet tracking
- Telematics
- Control units
- Motion sense/detect
- Incident recording
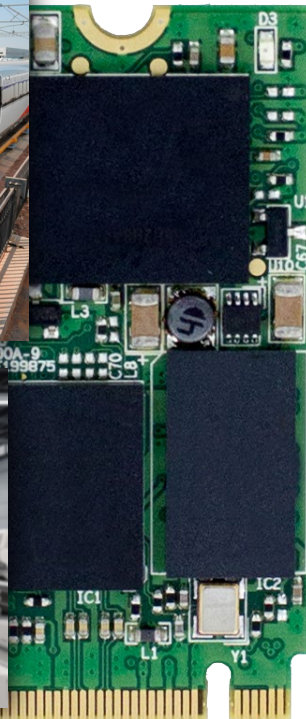- Equipment monitoring
- Video surveillance

New Technologies for Industrial SSDs
Industrial Automation and Transportation

Industrial SSDs with iTemp, shock and power-fail, have additional new technologies:

- Advanced Security: AES256 Encryption, Key Management and secure read/write

- 3D iTemp NAND SSDs with advanced firmware tweaks and over-provisioning

- M.2 2242 NVMe (2-lane) for SWaP conscious designs

- Ultra-rugged 2.5" designs: R-SATA connector and conformal coating

- Advanced Industrial SSD Software
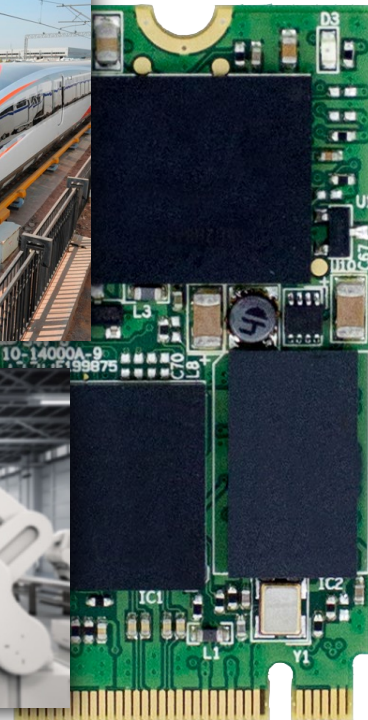
Case Studies for Industrial SSDs
Industrial Automation and Transportation

Industrial Automation

- High-performance SSD - low power at 1 watt
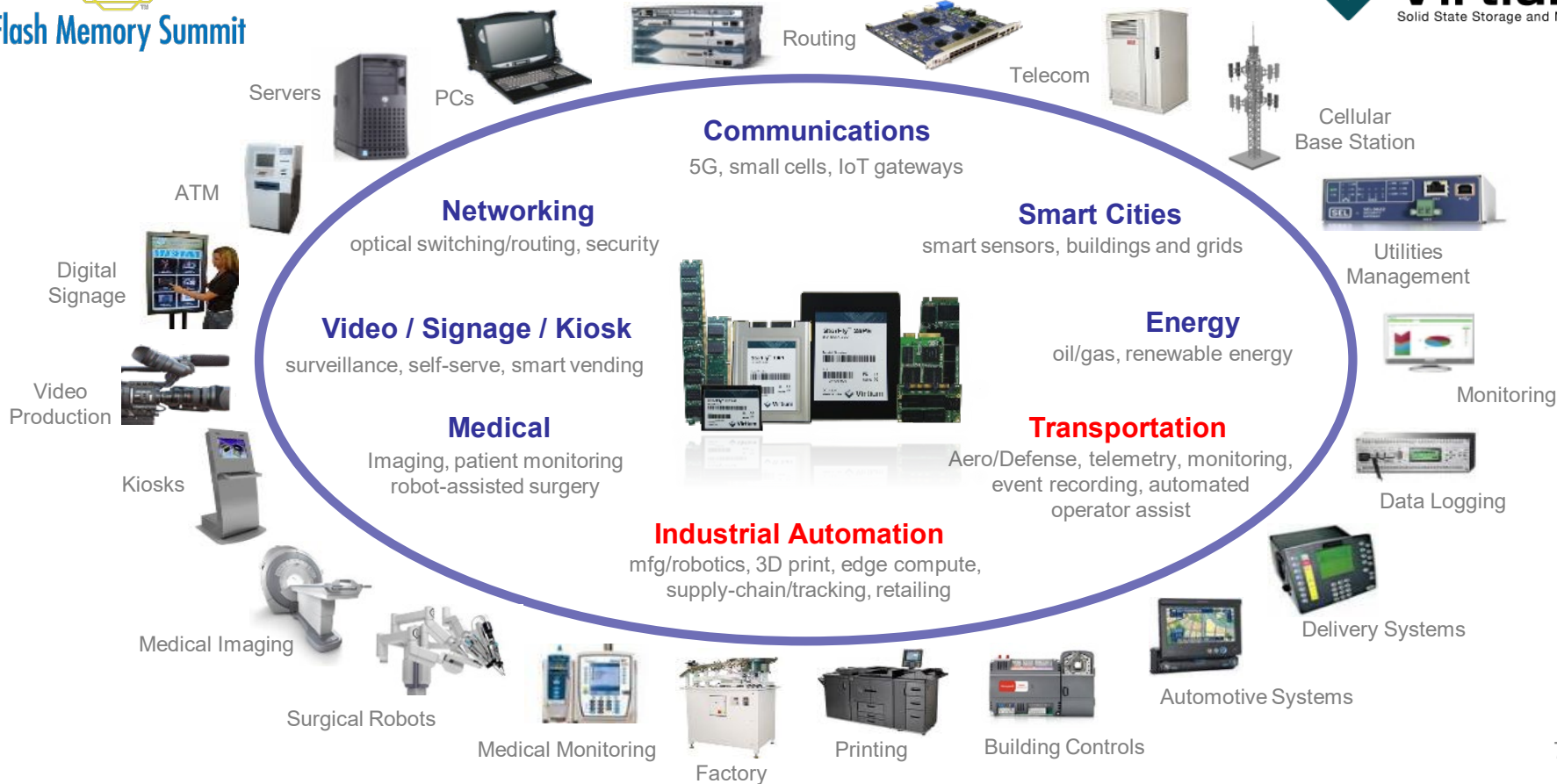
- SLC substitutes for long life and low cost

Transportation

- Low-capacity USB 40-year lifecycle

- vtGuard for ultra high power-fail standards

Virtium-Supported Industrial IoT Ecosystem

Flash Memory Summit

Virtium Solid State Storage and Memory

Servers

PCs

Routing

Telecom

Cellular Base Station

ATM

Communications
5G, small cells, IoT gateways

Utilities Management

Digital Signage

Networking
optical switching/routing, security

Smart Cities
smart sensors, buildings and grids

Video / Signage / Kiosk
surveillance, self-serve, smart vending

Energy
oil/gas, renewable energy

Monitoring

Video Production

Medical
Imaging, patient monitoring
robot-assisted surgery

Transportation
Aero/Defense, telemetry, monitoring,
event recording, automated
operator assist

Data Logging

Kiosks

Industrial Automation
mfg/robotics, 3D print, edge compute,
supply-chain/tracking, retailing

Medical Imaging

Surgical Robots

Medical Monitoring

Factory

Printing

Building Controls

Automotive Systems

Delivery Systems

Product Portfolio

SSD Software

vtGuard vtSecure vtView vtTools

Diversified Industrial Hardware Solutions

M.2 SATA & NMVe	2.5" 1.8"	mSATA SlimSATA CFast	SD CF	eUSB USB Key	DDRx Low Profile

Thank You!