



# All Flash Arrays in Healthcare

Flash Memory Summit 2015

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## Electronic Records

- Strong incentives to go electronic
- Coordinate between multiple locations or offices
- Manage costs

## Virtual Desktops

- Consistent experience
- Office, rounds, clinic, mobile, desktop, etc.
- Manage security
- Manage costs



# Healthcare Information System



## Challenges

- Major upgrade to HCIS in virtualized environment
- No room in existing data centers
- Streamline clinical workflows with smartphones and tablets

## Solution

- Violin All Flash Array

## Applications

- MEDITECH
- VMware VDI

## Results

- Triple Upgrade (MEDITECH, virtualization, cloud)
- Improved application performance in virtualized environment, VDI on mobile devices
- HIPPA, HITECH, and ARRA resiliency



“We have made a significant investment in Violin Memory’s All Flash Arrays and their new 7300 Flash Storage Platform based on our initial experience with them during our MEDITECH deployment. With fast, reliable product and great customer care Violin has helped us move in the direction of our HCIS goals – the fastest possible MEDITECH environment, Mobile and VDI implementations, and a robust hybrid cloud with significant DR/BC capabilities,” Carey said. “We are well positioned for the future.”

**Eric Carey, Valley Health CIO, April 2015**



# 400M patient scans in 60 seconds versus 1 hour



## Challenges

- Patient record indexing and response times were too slow
- Infrastructure to maintain SLAs was becoming very expensive
- Impacting service levels to patients and NHS Foundation Trust staff

## Solution

- Violin All Flash Array

## Applications

- Oracle
- Microsoft SQL

## Results

- Reduced scans to 60 seconds from from 1 hour
- Patients can be seen more quickly, consultants have more time to treat patients
- The Trust saves money, grows business

“Violin Memory’s flash arrays surpassed all the other vendors we evaluated. Disk-based storage just couldn’t achieve the indexing and response times required on this scale – and it was expensive. With Violin Memory, we’re now completing very large table scans, which used to take over an hour, in less than one minute.”

Scott Summerville, Group IT Director



# McKesson Healthcare Applications



## Challenges

- McKesson gained a contract with the UK National Health Service of a major analytics solution
- Necessity to manage large volume of datasets
- McKesson needed a high performance solution to manage their new Oracle Business Analytics platform

## Solution

- Violin All Flash Array

## Applications

- Oracle Business Analytics
- Oracle 11g R2

## Results

- Reduced latency
- Reduced operational expenses



## Challenges

- Ramsay's primary application, Cosmic provided by Cambio, is a PAS (Patient Administration System) database running on SQL.
- Cosmic has grown over the last 4 years from 700GB to >3TB, increasing IO load on their Oracle Pillar Axiom Disk storage platform and their virtualization platform.
- Data center space was limiting Ramsay's option in considering disk to address performance and latency issues.

## Solution

- Violin All Flash Arrays

## Applications

- Cosmic SQL database (production)
- SQL Data Warehouse
- JD Edwards Oracle database
- Virtualized environment

## Results

- Increased performance and reduced latency of applications means Ramsay can meet patient SLAs
- Can now complete crucial firmware updates to virtualization layer
- 3U form factor of Violin Array addressed performance/latency issues without disrupting their infrastructure and reduced operational costs (space/cooling/power)

# Flash helps Ramsay meet patient SLAs





# 3x improvement in virtual desktop boot times



## Challenges

- Growth in patient community required an infrastructure that could accommodate and meet growing SLAs
- Scale VDI deployments
- Increase data access (storage performance)

## Solution

- Violin All Flash Array

## Applications

- McKesson healthcare application
- Microsoft SQL Server

## Results

- Run time reduced to less than 1 hour versus 6 hours
- Faster access to patient data
- Reduce operational expenses: overall database licensing costs
- Reduce server room footprint through system consolidation
- Achieve critical milestones associated with “meaningful use” regulations for Medicare and Medicaid Services

“Our community is growing, and we needed to accommodate an increase in patients and staff. Violin’s flash memory array has allowed us to massively expand our virtual desktops and increase performance at the same time. It turned out to be less expensive and a better solution than adding more disk and hoping for the best.”

Mike Russell, Assistant Director

# Conclusion: Disk is Dead



- All active data belongs on flash
- Violin benefits:
  - Switchable data reduction to manage costs
  - Full suite of enterprise data services for availability
  - Optimized flash platform for higher performance and resiliency
  - Professional Services for seamless path to all flash primary storage for health care

Thank You!

See IDC's paper

<http://www.violin-memory.com/idc-report-architecture-matters/>

Article on Healthcare in a Flash

<http://healthcaretechoutlook.com/magazines/july15/healthcare/>