



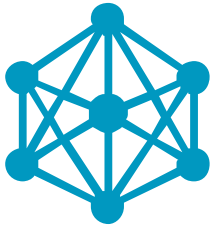
Keep Pace in the Cognitive Era™
Flash Memory Summit August 9, 2016

Michael Kuhn, Vice President
IBM Storage Systems
[@MichaelKuhnIBM](#)



Industry perspective on the new era of computing

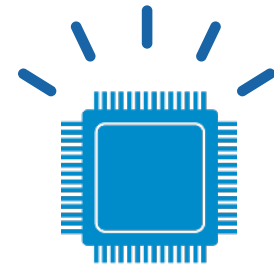
A new era in technology, a new era in business



**Data is transforming
industries and
professions**



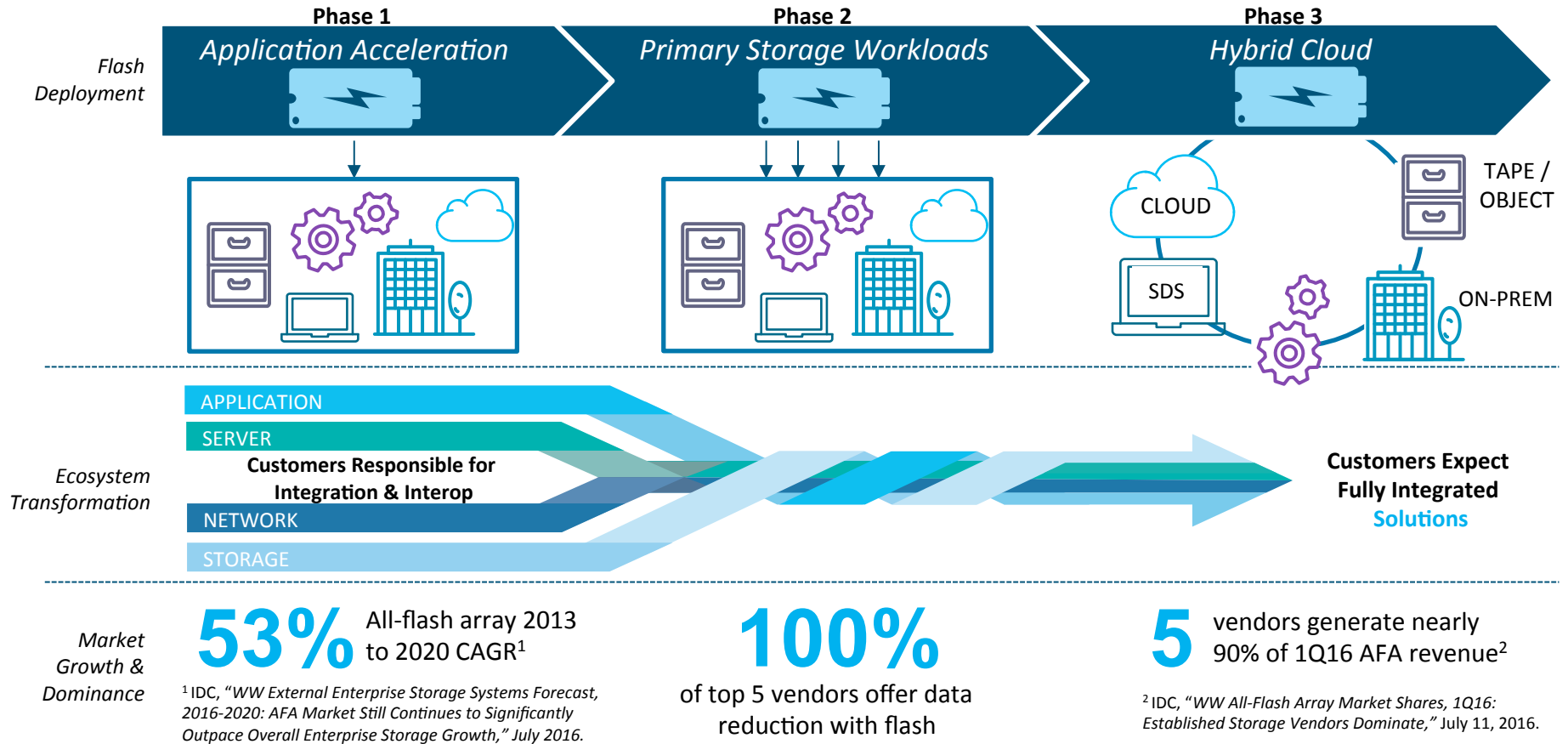
**The world is being
reinvented in code**



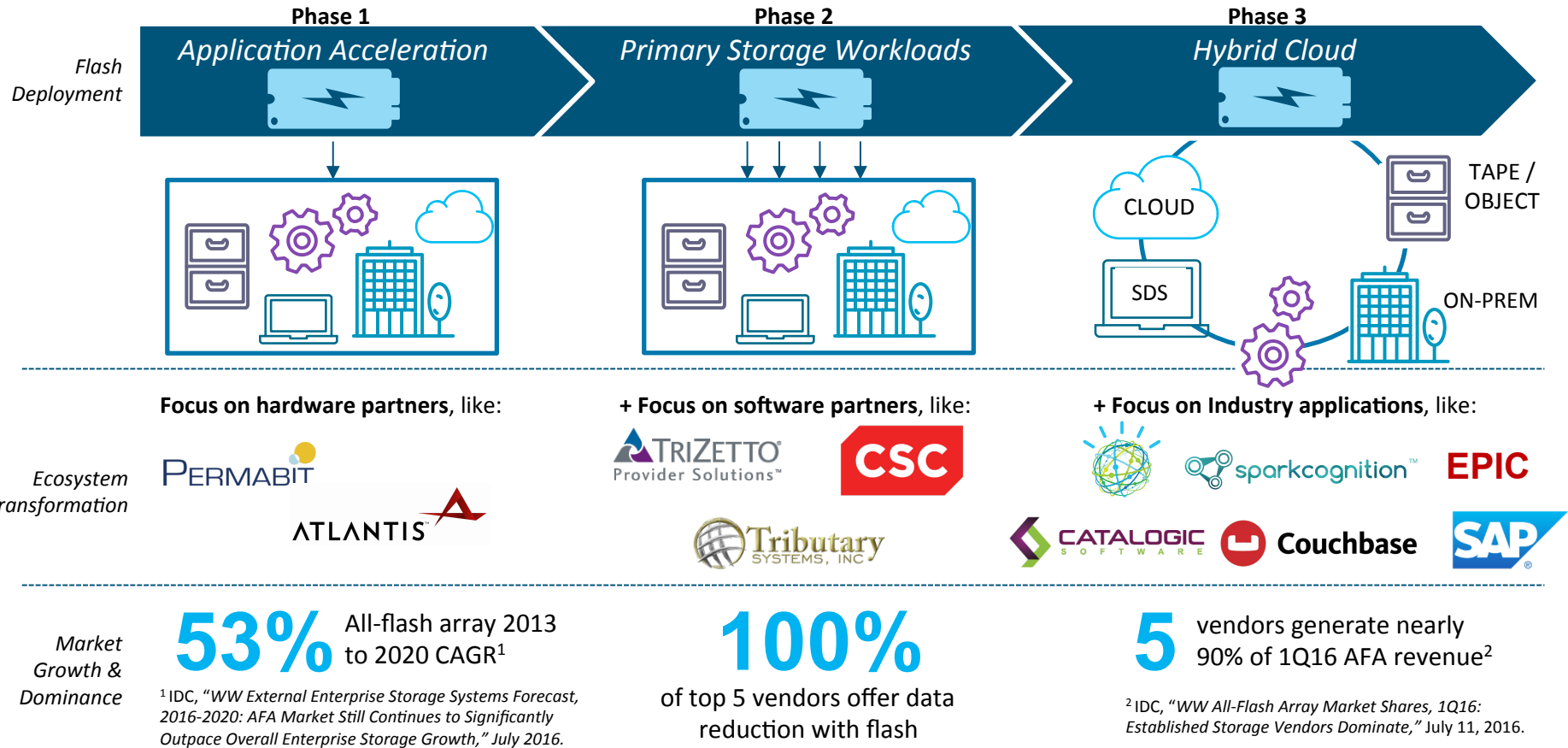
**Computing is
entering a new
Cognitive Era**

Where code goes, where data flows, **cognition will follow.**

Market evolution - 3 phases of flash adoption



Market evolution - 3 phases of flash adoption



Hybrid cloud is emerging as the springboard in this new era



75% of enterprises in the US plan to increase cloud investment¹

64% of cloud adopters are using some form of hybrid cloud²

“The best thing about having a hybrid environment is that all of our business plans become reality in one environment”
- IT Director, Consumer Products³

¹ IBM Center for Applied Insights, “Global Tech Hot Spots: A country-level look at big data & analytics, cloud, mobile and social.”² IDC, “Don’t Get Left Behind - The Business Benefits of Achieving Greater Cloud Adoption.”³ IBM Center for Applied Insights, “Growing up hybrid: Accelerating digital transformation.”

Sharp HealthCare

Clinical and patient reports available at the speed of flash



- Not-for-profit
- Hospitals, medical groups, health plan
- San Diego, CA
- 3,600 physicians
- >16K employees
- Operates four acute-care hospitals, three specialty hospitals, two affiliated medical groups and a health plan



Sharp HealthCare

Business challenge



- Performance of traditional storage not optimal for providing the best possible services and care
- Relying solely on cloud computing to deliver required performance for very large databases was challenging
- Requirement to integrate and connect its hospitals with regional hospitals, clinics and patients
- Solution needed to address multiple mission-critical applications such as Cerner EHR, business applications, revenue management, financial systems and data warehouse

Sharp HealthCare

Solution



- IBM FlashSystem 900
- 20x faster in I/O processing than previous storage system
- Clinical, financial and other reports usually taking eight to 10 hours to complete now take five to 10 minutes
- Reduced number of hardware racks from 15 to two and a half, resulting in greater power and cooling efficiencies
- No interruptions, downtime or outages during transition to flash
- Now embracing a hybrid cloud model

[Link to Case Study](#)

Henry Mayo Newhall Hospital

Optimizing use of physicians' time to enrich patient care



- Not-for-profit
- 238-bed hospital
- Valencia, CA
- 500 medical staff
- 2,200 employees



- Maternity, cancer treatment, stroke, cardiology, wide range of inpatient & outpatient services
- Business Partner: Key Information Systems

Henry Mayo Newhall Hospital

Business challenge



- Over-stretched hospital staff
- Demand outstripping hospital capacity
- Needed to reduce time spent accessing electronic health records
- Every minute counts at a patient's bedside
- High-performance required for MEDITECH
- High security
- Competitive TCO and low management burden

Henry Mayo Newhall Hospital

Solution



- *VersaStack by IBM & Cisco with virtualization capabilities to implement a software-defined environment and manage existing IBM Storwize V7000*
- *IBM FlashSystem V9000 with integrated data compression and encryption*
- *Up to 3x data reduction without affecting performance*
- *Reduced response times for better patient care*
- *Optimized infrastructure management*
- *MEDITECH “The FlashSystem V9000 produced one of the highest performance results for MEDITECH, assuring us we had chosen wisely.” –
Cindy Peterson, CIO & VP, Henry Mayo Newhall Hospital*

[Link to Case Study](#)

Ctac



Driving competitive advantage with real-time applications

- IT services
- SAP VAR
- The Netherlands, Belgium & France
- 486 employees
- Business consultancy, cloud services, software development, mobility, in-memory computing



Ctac

Business challenge



- Customer demand for real-time insights and analytics and flexible, faster business processes
- Avoid high up-front investments in new infrastructure
- Outstanding performance required
- Ability to scale in capacity and performance as more customers adopted the solution

- IBM Power Systems POWER8 servers *for collocation of SAP systems*
- IBM FlashSystem 900 *for high performance requirements*
- IBM Spectrum Virtualize (Storwize V7000/V5000) *for integrated management and optimization with Easy Tier*
- IBM Spectrum Protect *for central backup solution*
- SAP, SAP HANA *creates new business opportunities*
- Up to 1000x faster performance for analytics
- 95% faster deployment of in-memory platform
- Reduced costs through virtualization and capacity utilization

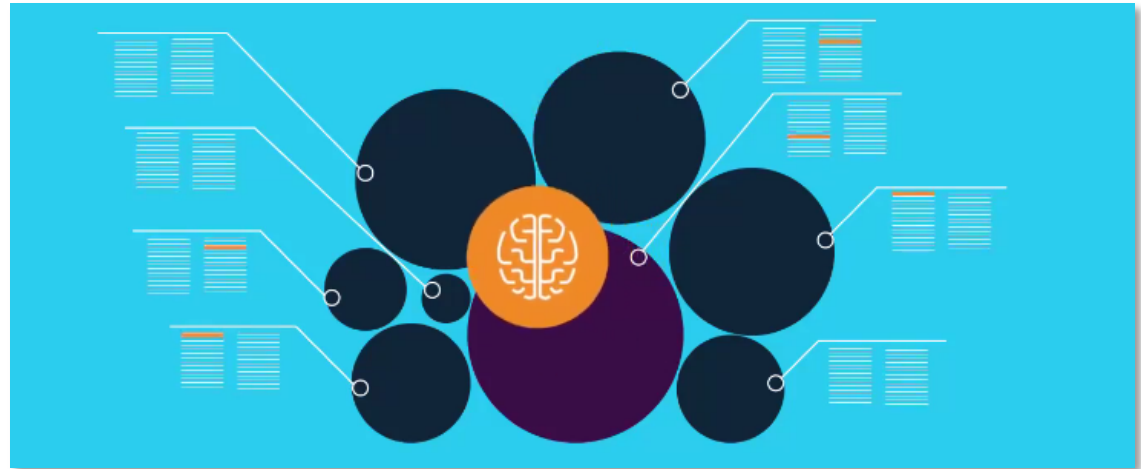
[Link to Case Study](#)

SparkCognition



Flash accelerates cognitive applications and AI

- Artificial intelligence and cyber security
- IBM Watson applications
- Austin, TX
- SparkSecure, SparkPredict - cognitive and AI applications for cyber security and system monitoring
- Cognitive and analytics solutions for a growing customer base in Energy, Oil & Gas, Financial Services and Retail



- Every microsecond counts with cyber threats
- Over 45,000 zero-day attacks occur every day
- Traditional methods of threat research and remediation are overwhelmed
- Traditional methods of system monitoring (e.g. MTBF) are no longer effective at predicting events in time to make a difference
- Billions of devices and sensors require cognitive and AI approaches for management and protection

SparkCognition

Solution



- IBM FlashSystem 900 *for faster, more accurate data processing*
- IBM Power Systems POWER8 servers
- IBM Watson *providing in-context advisory to assist with advanced machine learning pipelines and natural language processing*
- 95% reduction in time to process reports – 2 hours to 6 minutes
- 72% reduction in threat identification query speed
- Faster hardware enables execution of queries more quickly over larger data sets which lowers risk for clients

[Link to Case Study](#)












Targeted Industries for Flash



All-Flash Across the Portfolio

Flash for all primary storage workloads



<p>FlashSystem A9000</p>  <p>Cloud service providers</p> <ul style="list-style-type: none"> • Full time data reduction • Workloads: Cloud, VDI, VMware 	<p>FlashSystem A9000R</p>  <p>Large deployments</p> <ul style="list-style-type: none"> • Full time data reduction • Workloads: Mixed and cloud 	<p>FlashSystem V9000</p>  <p>Virtualizing the DC</p> <ul style="list-style-type: none"> • Enterprise class heterogeneous data services and selectable data reduction 	<p>Storwize V7000F</p>  <p>Mid-Range</p> <ul style="list-style-type: none"> • Enterprise class heterogeneous data services and selectable data reduction 	<p>Storwize V5000F</p>  <p>Entry / Mid-Range</p> <ul style="list-style-type: none"> • Enterprise class heterogeneous data services and selectable data reduction 	<p>DeepFlash 150</p>  <p>Big Data</p> <ul style="list-style-type: none"> • High capacity • High density 	<p>DS8888</p>  <p>High End Server</p> <ul style="list-style-type: none"> • Mainframe • Power
<p>FlashSystem 900 Application acceleration</p>  <ul style="list-style-type: none"> • Extreme performance • Targeting database acceleration & Spectrum Storage booster 			<p>SVC</p> 			
<p>IBM FlashCore™ Technology Optimized</p>						

Social media resources

Website: ibm.com/storage/flash/

More about FlashSystem on these **YouTube channels** - click here:
[IBM FlashSystem](#) & [IBM FlashSystem customer references](#)

IBM FlashSystem Product & Solutions Pages

- Resources: ibm.com/storage/flash/resources
- Compression Estimator Tool:
<http://www-304.ibm.com/webapp/set2/sas/f/comprestimator/home.html>
- Workload Estimator Tool:
<http://www.ibm.com/systems/support/tools/estimator>
- Energy Estimator Tool:
<http://www.ibm.com/systems/support/tools/estimator/energy>

Featured Case Studies

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- [Sharp HealthCare](#)
- [CTAC](#)
- [SparkCognition](#)

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