



7 Kasım 2012 - Çırağan Palace Kempinski

IBM Connected 2012 Istanbul

Learn. Collaborate. Innovate.

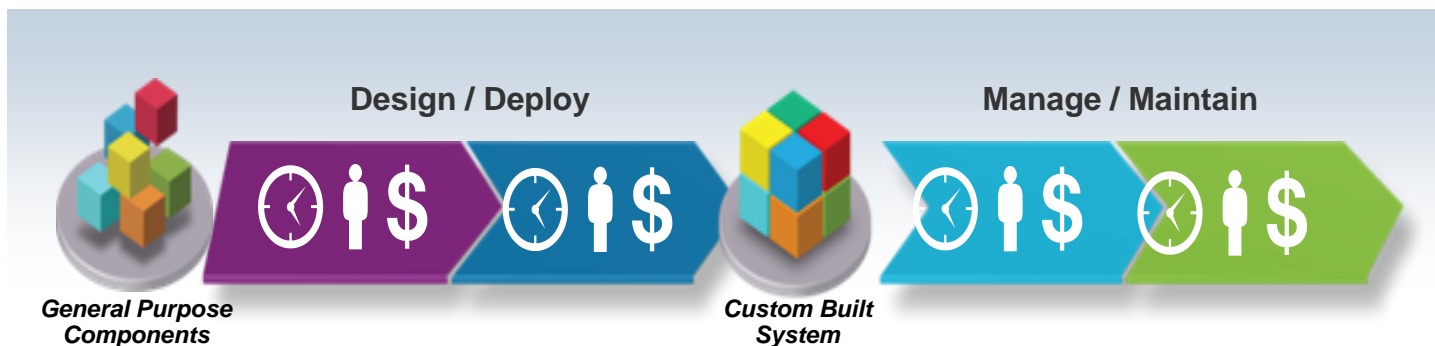
Addressing the Data Challenge with IBM's PureSystems

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PureSystems deliver greater simplicity, speed & lower cost

Today's problem: *Time and effort is spent tuning general purpose components*



The PureSystems solution: *simplifies the entire IT project lifecycle*



IBM PureSystems Family

*How much flexibility, integration and workload optimization do you want **out of the box**?*

PureFlex

Infrastructure

Integrated and optimized infrastructure with flexibility

Runs your choice of applications and middleware



- Delivering IT infrastructure services

PureApplication

Application Platform

Integrated and optimized application platform

Built on IBM middleware to accelerate deployment of your choice of applications



- Delivering application platform services

PureData

Data Platform

Integrated and optimized data platform

Delivers high performance data services to transactional and analytics applications



- New PureSystem with models optimized exclusively for data workloads

IBM PureData System: Optimized exclusively for data services

Optimized for data services:

- Transactional
- Analytics

Expert integrated:

- Data platform
- Infrastructure
- Unified platform management
- Built-in expertise

PureData



Data Platform

Delivering Data Services

Workload optimized performance







Data load ready in hours

Integrated management

Single point of support

Automated maintenance in hours, not days

Different types of workloads require different data services

 E-commerce	 Customer Analysis	 Real Time Fraud Detection
<p>Transaction Processing</p> <p>Random reads & random updates</p> <div data-bbox="112 648 600 801" style="border: 1px solid #ccc; padding: 10px; text-align: center;">  </div> <p>Scalable Transactional Database</p>	<p>Reporting and Analytics</p> <p>Sequential reads & sequential data loads</p> <div data-bbox="716 648 1205 801" style="border: 1px solid #ccc; padding: 10px; text-align: center;">  </div> <p>Analytics Data Warehouse</p>	<p>Operational Analytics</p> <p>Random and sequential reads & data loads + continuous ingest</p> <div data-bbox="1327 648 1816 801" style="border: 1px solid #ccc; padding: 10px; text-align: center;">  </div> <p>Operational Data Warehouse</p>
<p>Random reads & random updates</p>	<p>Sequential reads & sequential data loads</p>	<p>Random and sequential reads & data loads + continuous ingest</p>
<p>Many transactions with narrow data scope accessing the same database</p>	<p>Analytics with broad data scope, split into many parts across data partitions to run in parallel</p>	<p>Analytics split into many parts and narrow scope operations, all running in parallel</p>
<p>Shared access to all data</p>	<p>Partitioned data access</p>	<p>Partitioned data access</p>

Different data workloads have different characteristics

Meeting Big Data Challenges – Fast and Easy!



PureData *System for Transactions*

Database services that handle large volumes of transactions with high availability, scalability and integrity

PureData *System for Analytics* *powered by Netezza technology*

Data Warehouse services for complex analytics and reporting on data up to petabyte scale - with minimal administration

PureData *System for Operational Analytics*

Operational Warehouse services for continuous ingest of operational data, complex analytics, and a large volume of concurrent operational queries

IBM PureData System is unique

*Different models pre-optimized exclusively for different data workloads
saving clients time, effort and cost to tune on their own*



PureData System for Transactions

- **Pattern based database deployment in minutes, not hours¹**
- **Handles more than 100 databases on 1 system²**

PureData System for Analytics *powered by Netezza technology*

- **10-100x faster than traditional custom systems⁴**
- **20x greater concurrency and throughput for tactical queries than previous Netezza technology⁵**

PureData System for Operational Analytics

- **Continuous ingest of operation data**
- **Designed to handle 1000+ concurrent operational queries³**
- **Up to 10x storage savings with active compression⁶**

¹ Based on IBM internal tests and system design for normal operations under expected typical workload. Individual results may vary.

² Based on one large configuration

³ Based on IBM internal tests of prior generation system, and on system design for normal operations under expected typical workload. Individual results may vary.

⁴ Based on IBM customers' reported results. "Traditional custom systems" refers to systems that are not professionally pre-built, pre-tested and optimized. Individual results may vary.

⁵ Based on IBM internal performance benchmarking

⁶ Based on client testing in the DB2 10 Early Access Program

IBM PureData System for Transactions highlights

Optimized exclusively for transactional data workloads

PureData System for Transactions

*Delivering data services
for transactions*



Speed

- Industry leading DB2 performance
- Database node recovery in seconds¹

Simplicity

- Database deployment in minutes, not hours¹
- Capable of running multiple database software versions
- Handles more than 100 databases on 1 system²
- No planned system downtime for firmware / OS upgrades¹

Scalability

- Scaling up to 30x³
- Designed to expand from small to medium & medium to large configuration with no planned system downtime required

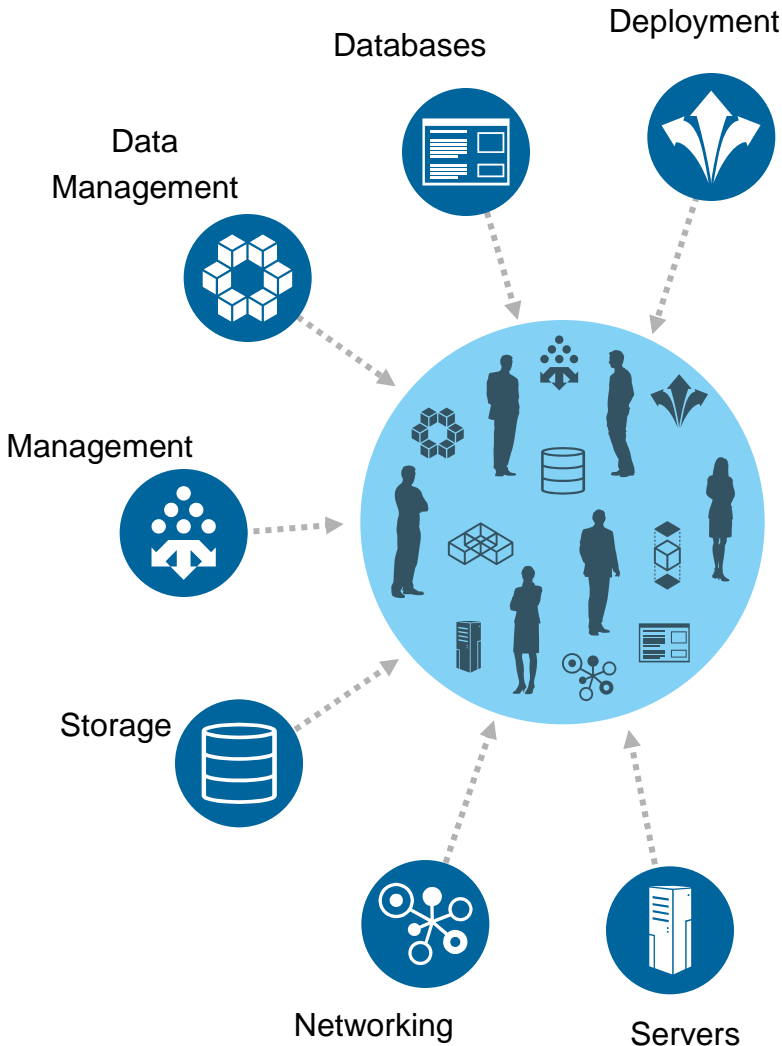
Smart

- Supports Oracle Database apps with minimal change; supports DB2 applications unchanged
- Clients have experienced cases of 10x storage space savings via Adaptive Compression⁴

Footnotes:

1. Based on IBM internal tests and system design for normal operation under expected typical workload. Individual results may vary.
2. Based on one large configuration.
3. Based on the designed minimum and maximum processor and memory resources required for a single database.
4. Based on client testing in the DB2 10 Early Access Program.

Reduce your system integration costs



Optimized solution stack

- **Factory integrated and optimized**
 - *Server, storage, networking and software*
- **High data availability**
 - *Automatic failure detection and online recovery*
- **Solid State exploitation**
 - *Automatic management of hot, warm and cold data for faster performance*
- **Optimized database patterns**
 - *Database patterns pre-tuned and pre-configured for performance*
- **Integrated fixes**
 - *Zero down time for system maintenance*

Simplified deployment with high availability

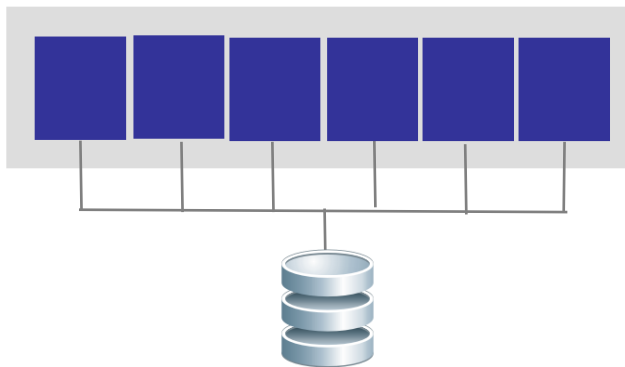
Uninterrupted access to data with consistent performance

Traditional systems - **build it yourself**

Over several days/weeks:

1. Define High Availability topology
2. Configure HW/SW/Network
3. Set up storage pools
4. Install multiple operating systems
5. Install database instances
6. Set up primary and secondary management systems
7. Set up database members
8. Set up backup processes
9. Test, tune, reconfigure...

6-node
database cluster instance



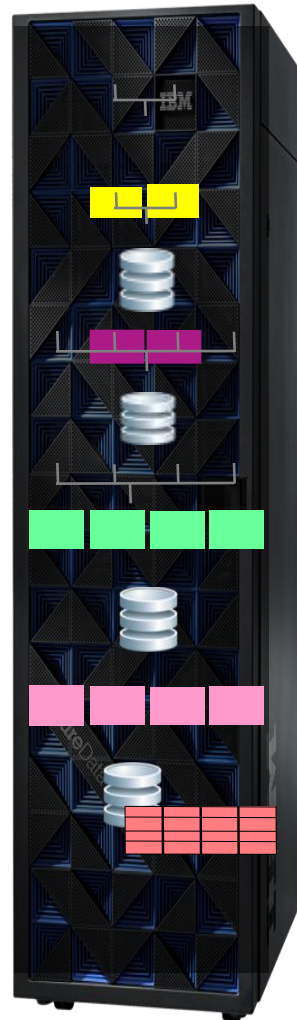
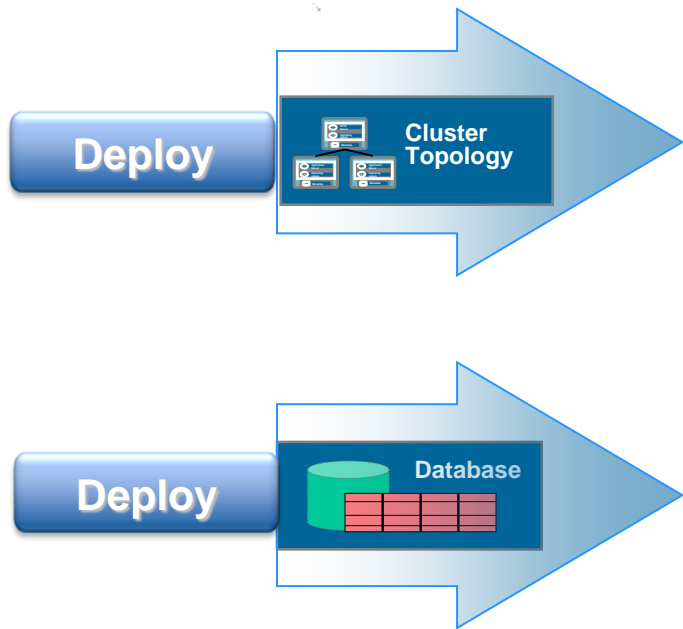
PureData System for Transactions - **built-in**

In minutes,

1. Just specify cluster name, description and topology pattern

Simplified, pattern based database deployment

Captures your expertise in patterns for consistent, reliable deployment of critical databases as a service



Consolidate

100s of database servers to a single system for optimal resource efficiency and easier administration

Optimize

storage resources for up to 10x storage space savings

Innovate

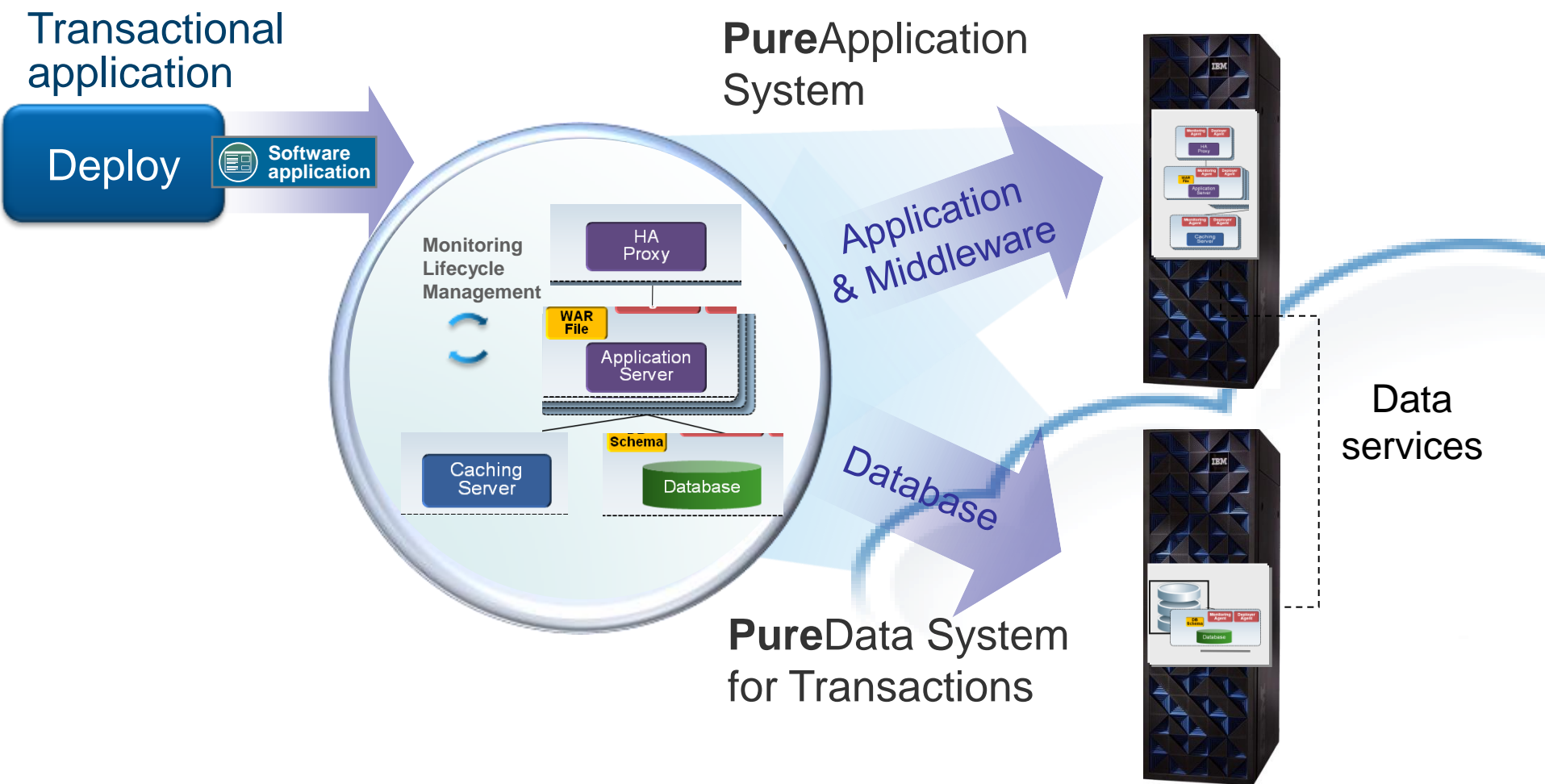
faster by deploying new databases in minutes

Accelerate

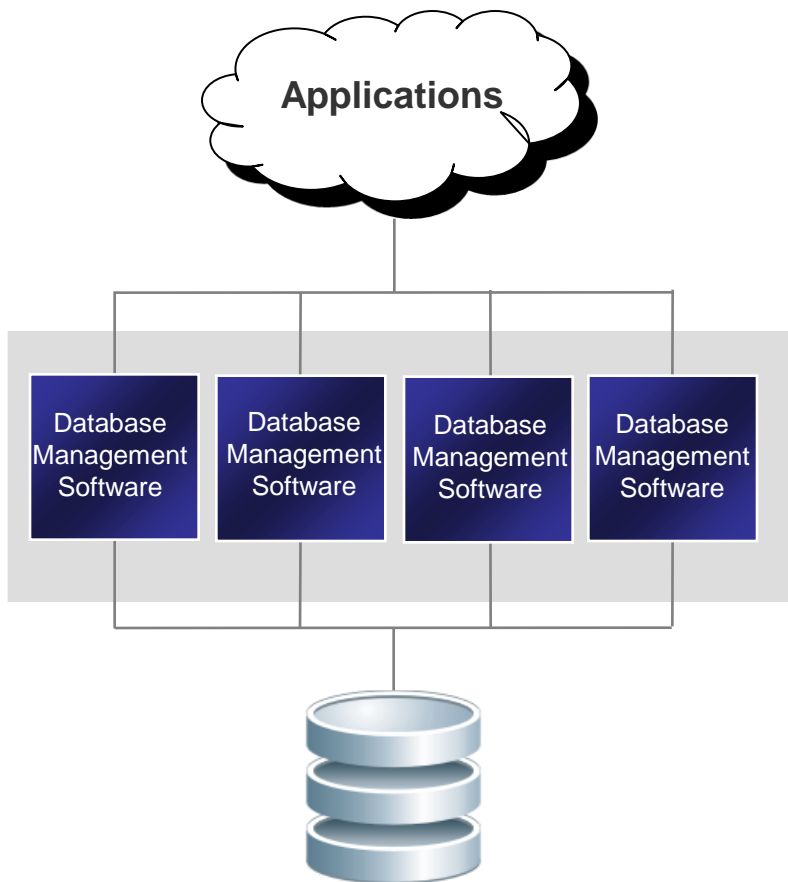
deployment of new database services in cloud environments using patterns of expertise

Simplified deployment across PureSystems

An application pattern can automatically deploy a new database to the PureData System



Simplified Application Development



- **Higher scalability** provided by adding more nodes with no application changes required
- **Dev/Test/Staging/Production database** repeatability through database patterns
- **Integrated data movement tools** to speed creation of test databases
- **Built-in Oracle compatibility** mode for minimal to no application changes
- **Higher utilization and lower costs** provided through shared resource management

Simplified database administration

Self-balancing

Data access requests automatically load balanced for optimal performance

Self-tuning

Memory management dynamically balances resources

Self-optimizing

Best data placement and access automatically selected based on usage statistics for optimal performance

Self-monitoring

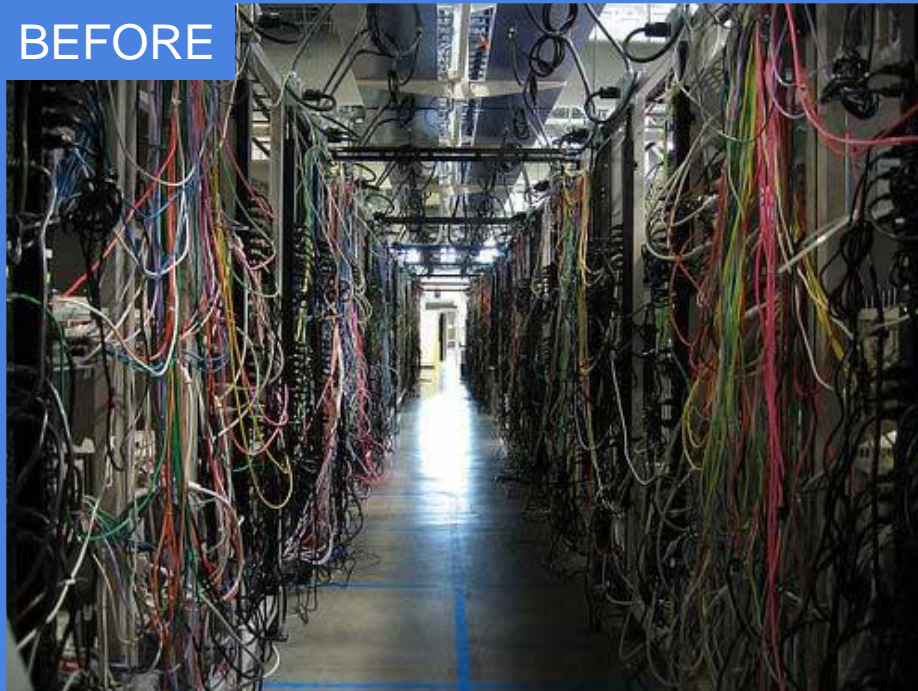
Based on thresholds and alerts, system will monitor and automatically make changes as needed to improve performance

Self-healing

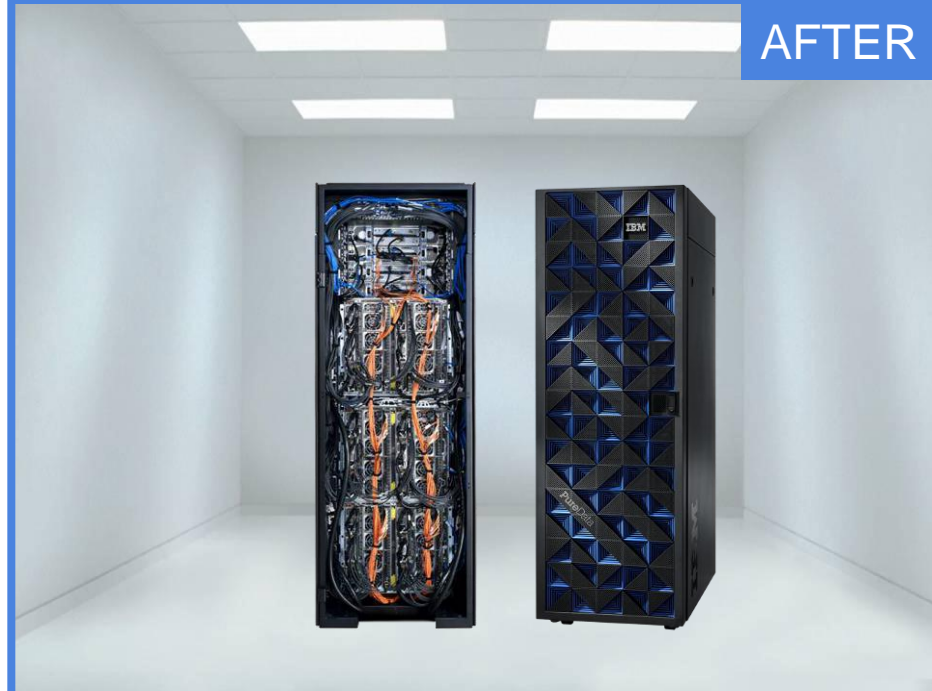
Failed database nodes are isolated and recovered automatically

Before and after IBM PureSystems

BEFORE



AFTER



- Siloed compute, storage, networking racks manually cabled together
- Under utilized - wastes energy & space
- Complex, siloed monitoring and operations
- Maintenance across 100s of independent components
- Slow to provision, configure, and change

- Pre-integrated infrastructure (compute, storage, networking)
- High density - reduces energy and space costs
- Integrated monitoring and operations
- Simplified rack level maintenance
- Provisioned, configured, changed in minutes

Our PureExperience invitation to you

Let us prove it *at no charge*:

1. On-site installation of PureData System and guided demonstration of business value
2. No charge execution of a 10 day *PureStart* on-site service engagement
3. Continued use of the PureData System for 30 days, inclusive of *PureStart*
4. Access to a lab advocate for usage questions and advice
5. Single line of IBM support and maintenance



Thank you