



Data Mobility and Legacy Infrastructure Virtualisation

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IBM Software

PCTY2010



Pulse Comes to You

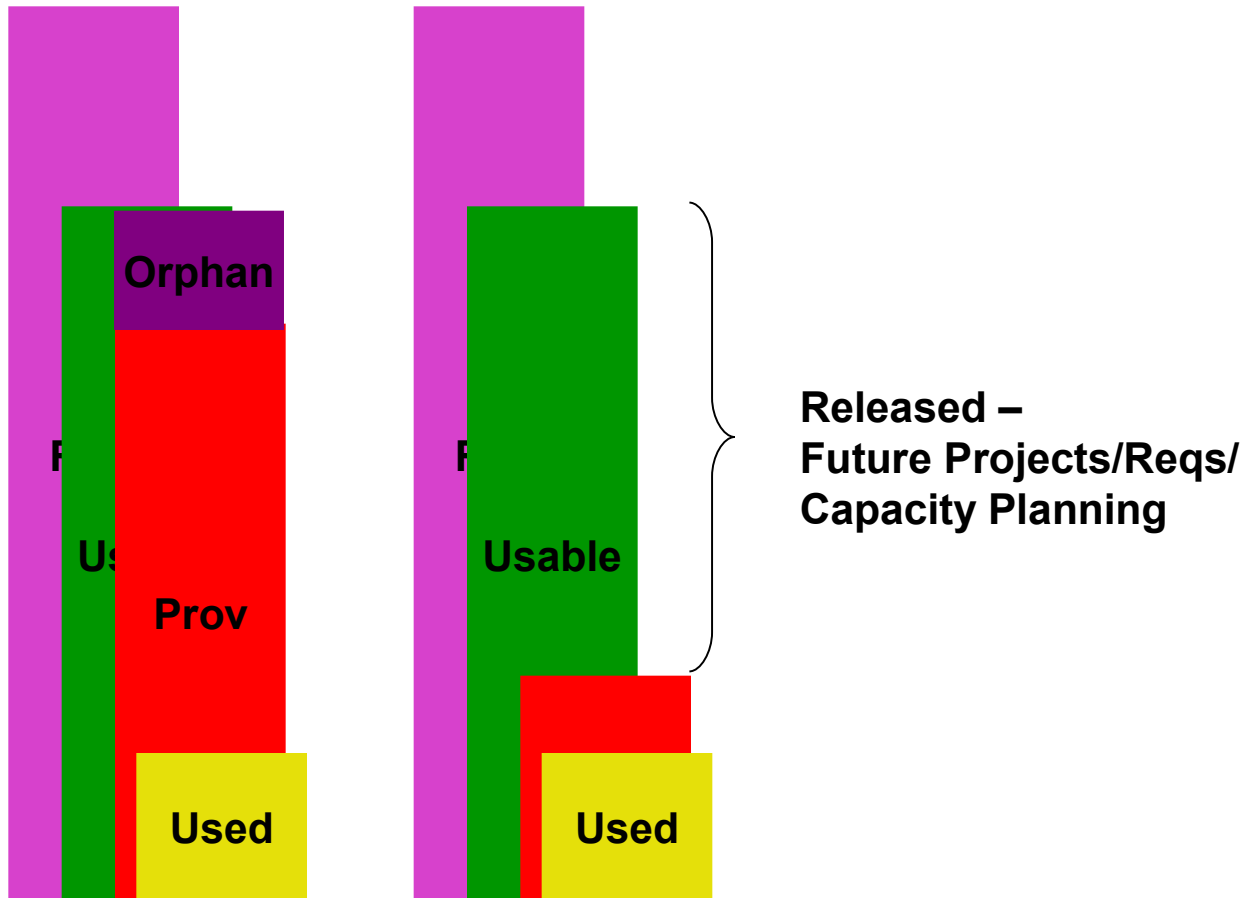
Optimising the World's Infrastructure

[27 May, London]

Utilisation

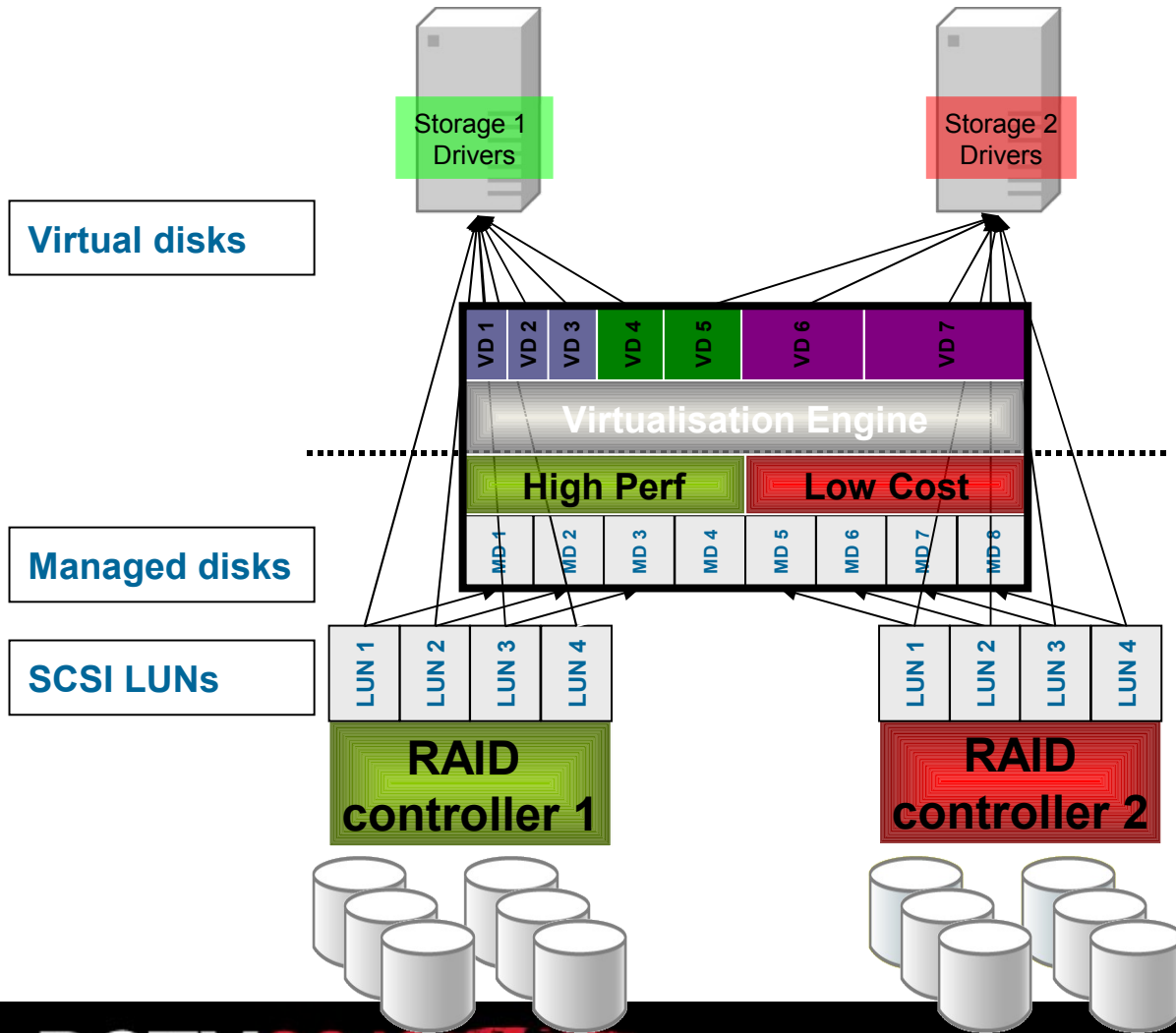
Existing

Virtualised

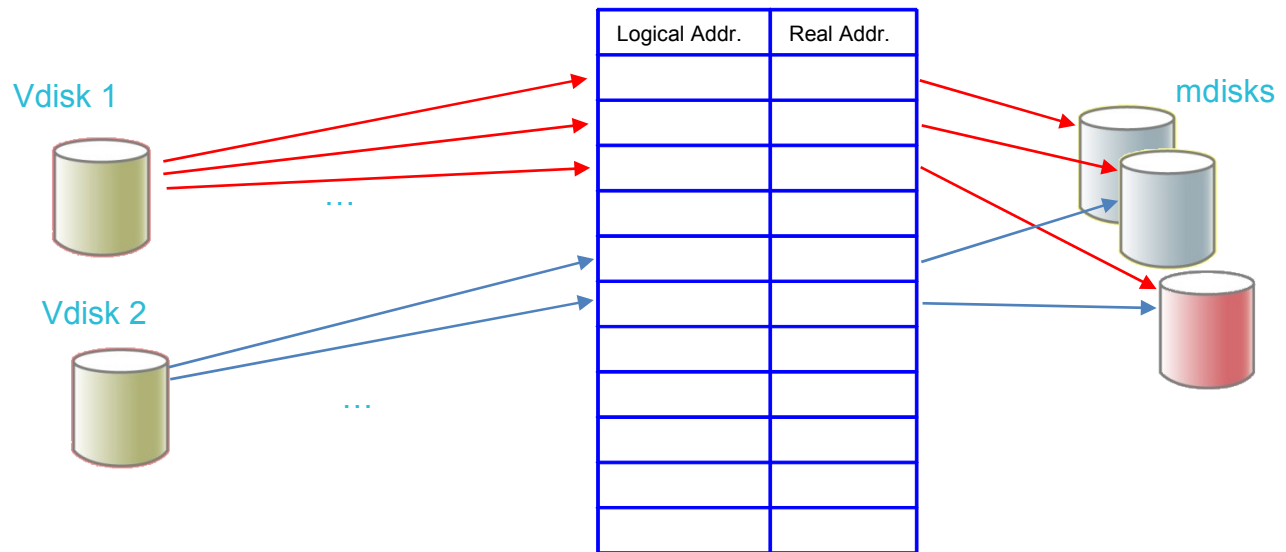


This is based upon what we have observed over a long period of time.

Storage Virtualisation Concepts



What is San Volume Controller doing?





SVC Function

- Migration
 - Use cases: Tiering, Adding / Replacing storage, Disruptive maintenance, Striping...
- Thin Provisioning
 - Use cases: Over-allocation, Virtual environments, Thick – to Thin migration...
- Copy Services – Flash Copy (consistency)
 - Use cases: Checkpointing, Development / Test, Back-up, Archive...
- Copy Services – Metro Mirror (consistency)
 - Use cases: Disaster Recovery, Geo-migration...
- Copy Services – RAID1
 - Use cases: High Availability, Extending life of old storage arrays...
- Performance Measurements
 - Use cases: Debug, Hot spot Management, Trend Analysis, Forecasting...

SVC: Availability, Scalability and Performance



It's resilient
and highly available

- We designed and built SVC with the resiliency of a storage controller
- SVC supports *non-disruptive* firmware updates and *hardware* maintenance on the disk arrays to further increase its availability
- SVC has over seven years' experience with customer implementations

It scales to manage
large environments

- SVC scales from very small configurations (a few TB) to very large enterprises (several PB).
- SVC now installed in over 6000 production environments

It has the *fastest* performance
benchmark of any controller

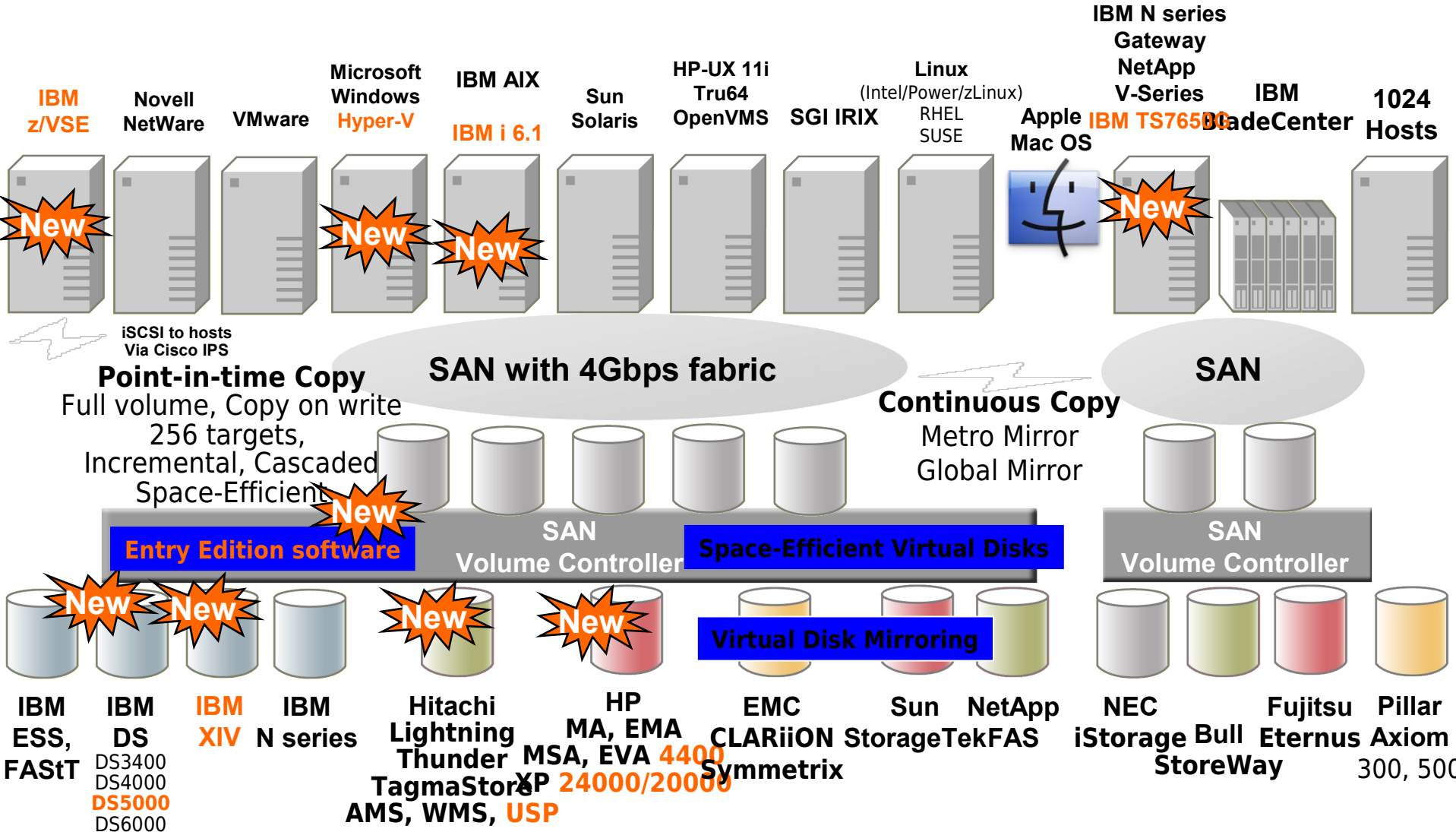
- SVC has the *fastest* SPC-1 benchmark EVER submitted
- SVC has the *fastest* SPC-2 benchmark EVER submitted
- Many references quote significant performance improvements



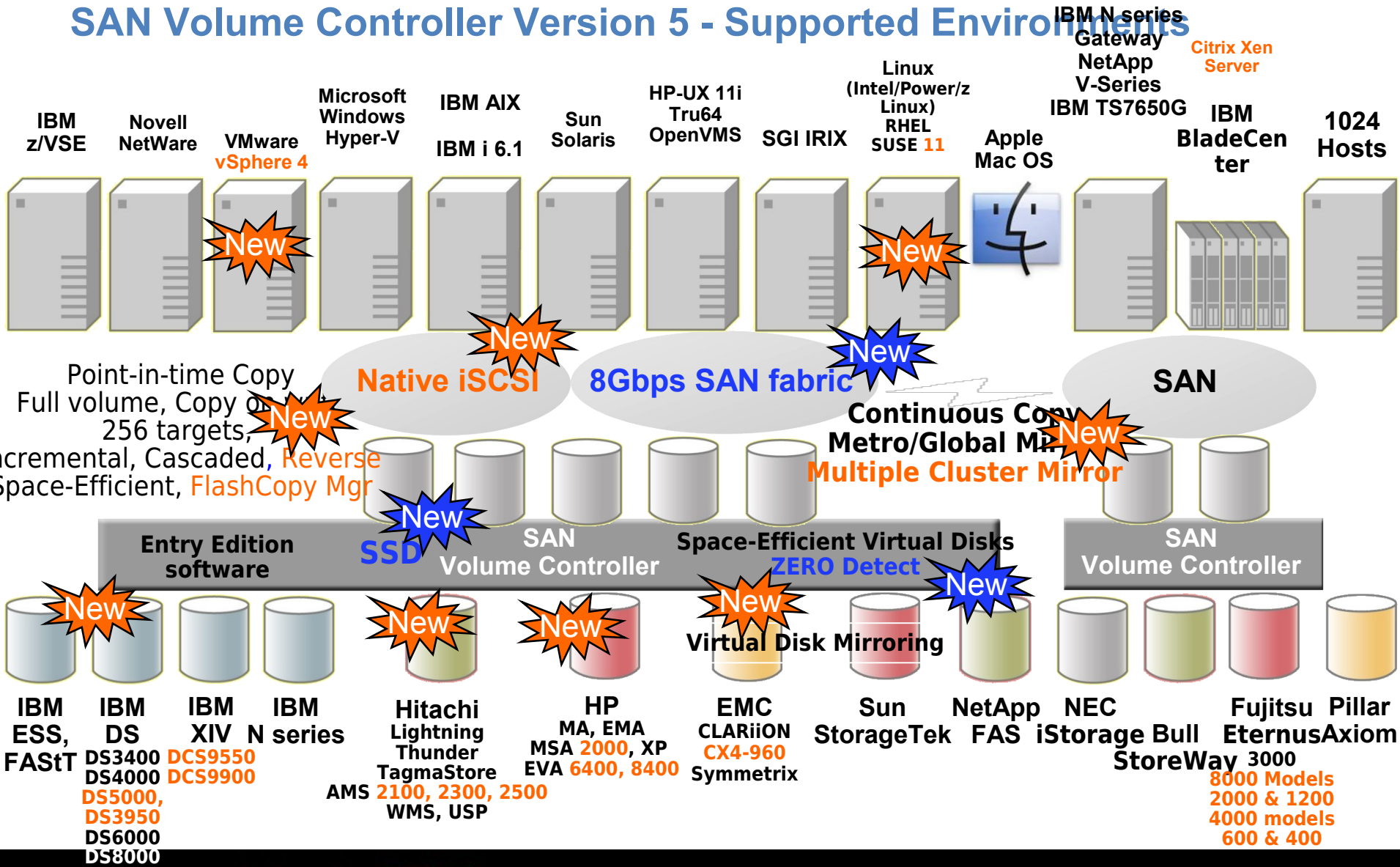
Why Virtualise, Why IBM SVC ?

- Service Benefits
 - Dynamic Flexibility
 - Volume reconfiguration, migration and replication
 - Improved Utilisation
 - Common framework across heterogeneous multi-tiered environment
 - Management
 - Replication services
 - Improved asset ROI, reduced operational cost
 - Improved performance
- SVC Benefits
 - Market leader
 - Highest level of interoperability
 - Highest levels of functionality
 - Simple to commission (or to decommission)
 - Established

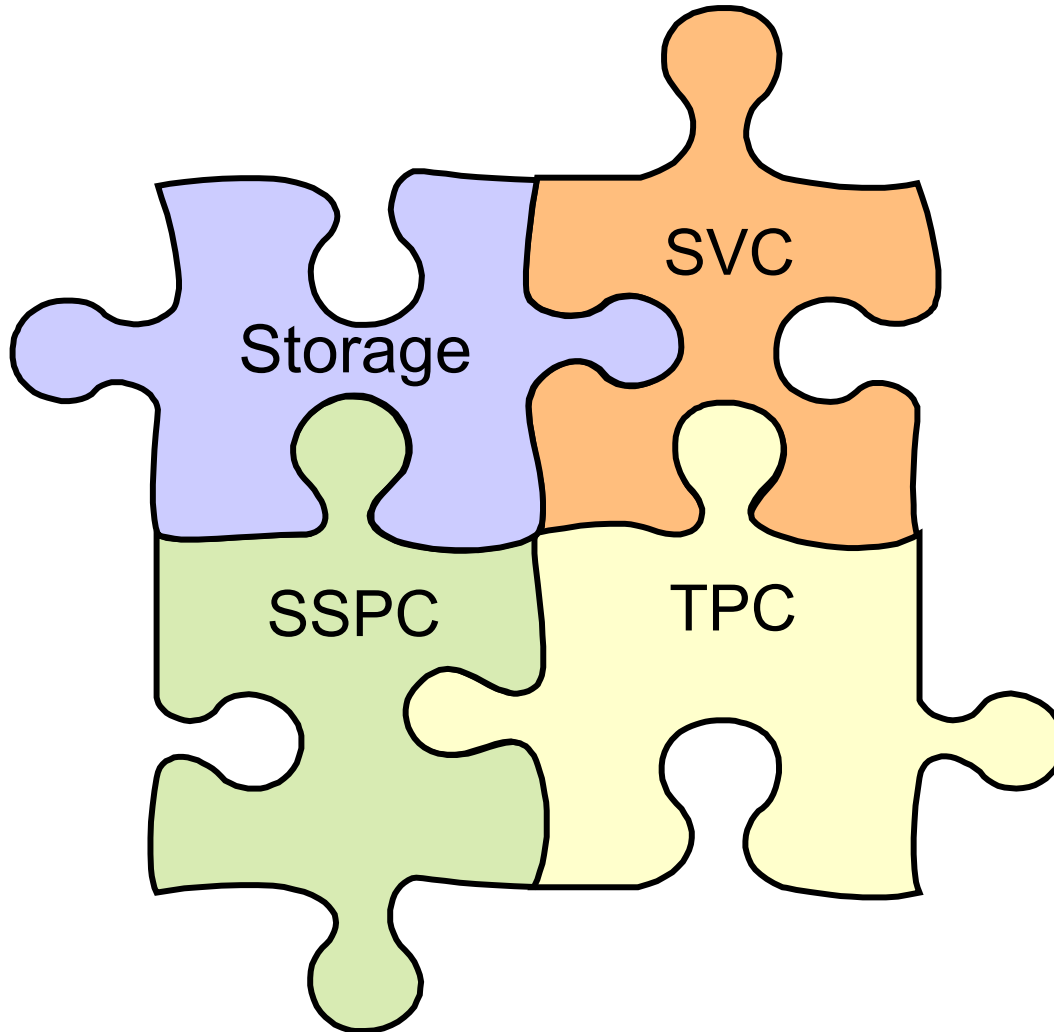
SAN Volume Controller Version 4.3.1 - Supported Environments



SAN Volume Controller Version 5 - Supported Environments



VDS – Packaging SVC and Storage



SAN Volume Controller

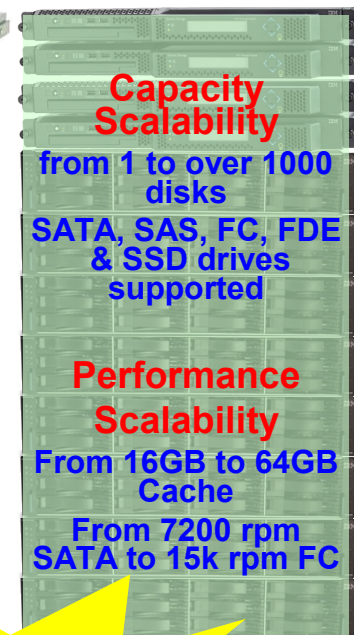
- Virtualisation
- Caching
- Copy services
- Storage management

- Proven
- Robust
- Reliable
- High Performance

IBM Virtualised Disk Solution

Enterprise-class mid-range storage virtualisation

- **Drive Efficiency**
 - Manage disk storage more efficiently
- **Control Costs**
 - Increase storage utilisation by up to 80%
- **Improve Flexibility**
 - Enable a tiered storage environment in which the cost of storage can be better matched to the value of data
- **Simplify Management**
 - Automation to improve storage administrator productivity
 - Improve application availability
- **Maximise value**
 - Improved Return on Investment



Capacity Scalability

from 1 to over 1000 disks
SATA, SAS, FC, FDE & SSD drives supported

Performance Scalability

From 16GB to 64GB Cache
From 7200 rpm SATA to 15k rpm FC

Flexibility
Scale performance & capacity

SVC Storage Software Roadmap

V6.1

2010

PERFORMANCE:
MANAGEABILITY:
NEW Browser launch GUI
SCALABILITY:
RAS/SUPPORT:
HARDWARE:
INTEROPERABILITY

V6.1.1

2011

BUSINESS CONTINUITY:
CONNECTIVITY:
INTEROPERABILITY:

Futures

REPLICATION:
VOLUME MANAGEMENT:
CLUSTER:
SCALABILITY:
HARDWARE ENHANCEMENTS:
RAS/SUPPORT:
INTEROPERABILITY:



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