



IBM System Storage™

Storwize V7000 Overview

Information Infrastructure for the World's Most Demanding Customers



IBM System Storage™

- IBM V7000 Overview



Modularidade e funções avançadas

- Gavetas contendo até 12 discos de 3.5" ou 24 discos de 2.5" em 2U
- Escalabilidade de 240 discos por gaveta controladora.
- Gaveta Controladora: **dual active-active** controllers e discos
- Gavetas de Expansão: somente discos
- Até nove gavetas de expansão de discos atachada em uma controladora
- Até 2 gavetas controladoras em cluster, dobrando memória, processamento e escalabilidade trabalhando como 1 unico storage.
- Mix de capacidade de discos e **HDD/SSD na mesma gaveta**
- **8 portas de 8Gbps FC** + 4 portas de 1Gbps iSCSI por par de controladora
- **16GB cache liquidos** por par de controladora

Modular Hardware Building Blocks in 2U



Funcionalidades do V7000

SEM CUSTO !!!

- **Easy Tier** (gerenciamento dinâmico de HDD/SSD)
- **FlashCopy** Copias instantaneas de volumes via hardware
- **Thin provisioning**
- **Real time Performance Monitor**
- RAID 0, 1, 5, 6, 10 **utilizando virtualização interna organizando os arrays em pools melhorando o nivel de utilização de todos os discos e prevenindo hot spots.**
- Non-disruptive data migration
- VAAI –Plugin para Integração com VMWare
- Global & Metro Mirror (**mesmo algoritmo do High End DS8000**)
- **Storage virtualization** (internal and external disks) - **Similar ao SVC !!!**

Começa pequeno e escala facilmente !!

Drives a sua escolha:

- **2.5-inch (SFF)**
 - 300GB **10K RPM SAS**
 - 450GB **10K RPM SAS**
 - 600GB **10K RPM SAS**
- **3.5-inch (LFF)**
 - 2TB 7,200 RPM **NL-SAS**
- **Solid-State (SFF)**
 - **300GB SAS**

Começa pequeno

Uma gaveta controladora de 24-bay



Grow Big



Scale Up

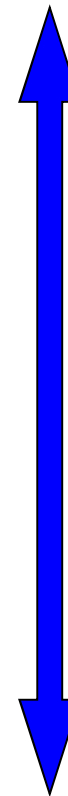
Facilmente até 9 gavetas

Expande capacidade interna de até 240TB



Drives de diferentes capacidades podem ser misturados na mesma gaveta

Gavetas de expansão de 12- e 24-bays podem ser instalados no mesmo sistema



20 U = 1 M

Virtualização de Storage

- **Todo o IBM Storwize V7000 storage é virtualizado !!**
 - Provisionamento flexível e mudanças de **configuração simples**
 - **Movimento de dados entre tiers** de storage não-disruptivo, incluindo Easy Tier
 - **Aumento de performance** colocando o dado certo, no local certo com a performance certa

- **Storwize V7000 também virtualiza storages externos !!**
 - **Single user interface** to para gerenciar todos os Storages de outros vendedores : aumenta a produtividade no minimo em 2 x
 - Aplica todas as funcionalides aos storages virtualizados : **FlashCopy, Easy Tier, e thin provisioning**
 - **Aumenta a utilização** dos Storages existentes
 - **Migra os dados** de Storages externos para dentro do novo IBM V7000
 - Suporta storage systems da IBM, **EMC, HP**, Sun/Oracle, Hitachi, NetApp, Fujitsu, Bull, Compellent, NEC, Pillar, e muitos outros



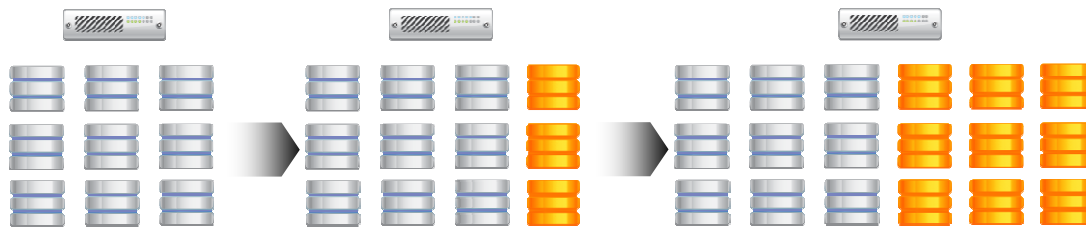
Para clientes que precisam de funcionalidades avançadas e escalabilidade

Escala dinamicamente ...



SCALABILITY

... capacidade

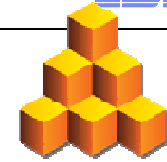


- ✓ Para aplicações de alta capacidade como Archive, adicionando capacidade dinamicamente adicionando gavetas de disco.
- ✓ ... ou mix com performance adicional

... features

- ✓ **FlashCopy**
- ✓ SAN Visualization
- ✓ Performance management
- ✓ Metro Mirror
- ✓ Global Mirror
- ✓ Practice DR recovery
- ✓ Automated failover / fail-back
- ✓ **Thin Provisioning**
- ✓ **Performance optimization**
- ✓ Virtualization
- ✓ Muitos features estão inclusos
- ✓ O Software é pré-instalado para fácil setup
- ✓ Premium features já estão instalados.

Para clientes que precisam de eficiência



EFFICIENCY

Thin provisioning



Sem Thin provisioning, o espaço pré-alocado é reservado mesmo a aplicação não usando.



Crescimento dinâmico

Com thin Provisioning, as aplicações podem crescer dinamicamente, mas somente consumir espaço que realmente estão utilizando.

- ✓ Uso mais produtivo da capacidade disponível do storage
- ✓ Suportado para todas as plataformas de Servidores
- ✓ Aumenta a utilização do Storage

Performance optimization



Hot-spots em consequência do pobre Lay out dos dados e distribuição

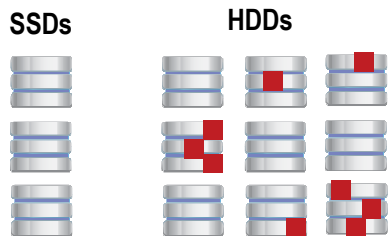
Reorganização Transparente



Performance otimizada e throughput.

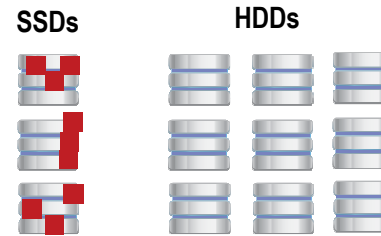
- ✓ Analiza a performance e throughput.
- ✓ Re-arranja de forma transparente os dados para eliminar hot-spots e utilização balanceada de todos os componentes.

IBM Easy Tier SSD Management



Hot-spots em consequência do pobre Lay out dos dados e distribuição

Automatic Relocation



Performance otimizada e throughput.

- ✓ Os "extents" mais acessados são identificados e automaticamente recolocados para alta performance nos discos SSD

Provisionamento de Storage eficiente



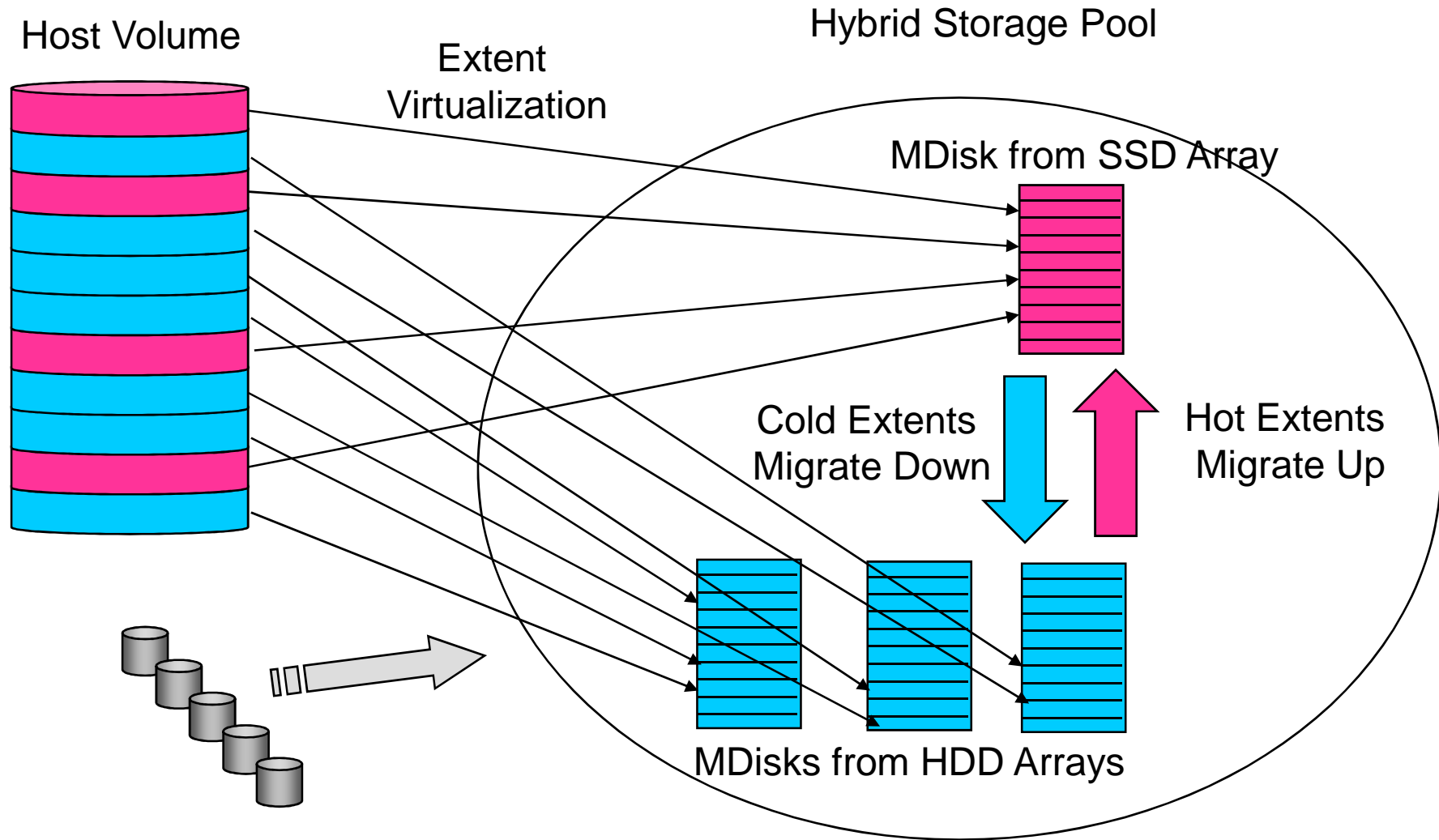
- **100% do Storage é virtualizado** entregando provisionamento flexível de um pool de Storage central
- High-performance **thin provisioning** libera espaço pré-alocado
- Múltiplas opções de **internal mirroring** – RAID levels – aumenta flexibilidade

Tuning eficiente

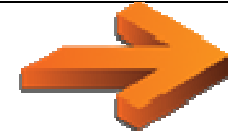


- **IBM Easy Tier** otimiza o uso de discos SSDs
- **Aumento de performance** enquanto **reduz os custos por transação** com o uso eficiente dos SSDs
- **Set up simples** – basta ligar e executar automaticamente
- **Elimina hotspots de performance** com a ajuda do IBM Tivoli Storage Productivity Center

Easy Tier – Automated Data Relocation

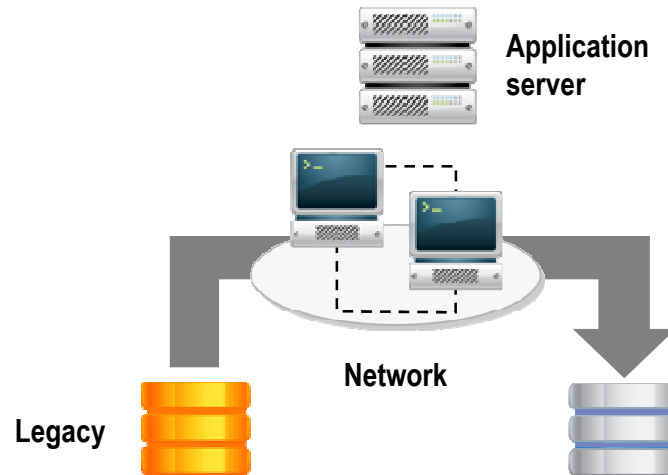


Para clientes que precisam de migração e alta disponibilidade



MIGRATION

Transparent data movement



- ✓ Movimentação transparente de dados de aplicações de Storages legados para o novo IBM V7000
- ✓ Reduz o tempo de migração de semanas ou meses para dias

Local Mirror



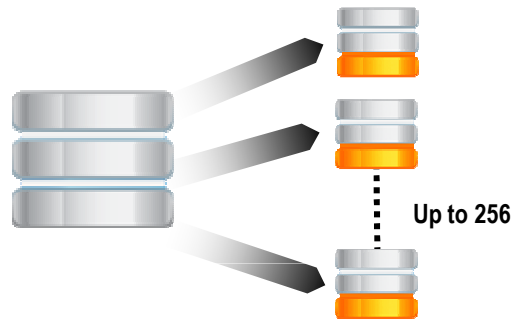
- ✓ Para aplicações que requerem ultra-high disponibilidade, possibilidade de mirror entre gavetas distintas no mesmo subsistema
- ✓ Conversão de volumes de "thick to thin"

Para clientes que precisam de disponibilidade



AVAILABILITY

FlashCopy



- ✓ Criação instantanea de cópias para backup ou teste de aplicação.
- ✓ Melhor uso do espaço com incremental (somente blocos modificados) ou space-efficient (thin provisioned) snapshots.
- ✓ Reduz o espaço requerido apra as cópias em 75% ou mais

FlashCopy Manager

ORACLE®

DB2®

SAP®

Microsoft SQL Server®

Microsoft Exchange Server®



- ✓ Integração de cópia instantânea para aplicações críticas
- ✓ Virtualização elimina as janelas de backup
- ✓ Rapidamente cria clone para testes de aplicações
- ✓ Overview de todas as cópias e restores

Proteção de dados eficiente



- **Space-efficient FlashCopy™** (snapshots) gera proteção dos dados rápida e eficiente
- Reverse FlashCopy cria **restores em minutos**
- Replicação Opcional **Metro e Global Mirror** gera rápido e confiável DR para outro SITE

New Easy-to-Use Graphical User Interface Hides Complexity

The screenshot displays a graphical user interface for IBM System Storage. On the left, a vertical sidebar contains various function icons. The main content area is titled 'Getting Started' and features a 'Recommended Actions' dropdown menu. A central diagram illustrates a task flow: 24 Internal Drives and 2 External Storage Systems lead to 9 MDisks, which are then grouped into 4 Pools. These pools are further organized into 20 Volumes, which are then distributed across 3 Fibre-Channel Hosts and 2 iSCSI Hosts. Below this diagram, an 'Overview' section includes a 'Watch eLearning: Overview' link and a 'Visit the Information Center' link. At the bottom, a status bar shows 'Connectivity' (with a warning icon), '0%' progress, and '1 Running Tasks'.

Function Icons

Getting Started

System recommendations

Visual task flow guidance

Integrated video instruction

Link to more information if needed

System status always available

Para clientes que precisam de gerenciamento FÁCIL

IBM System Storage Family Overview



▪ User interface

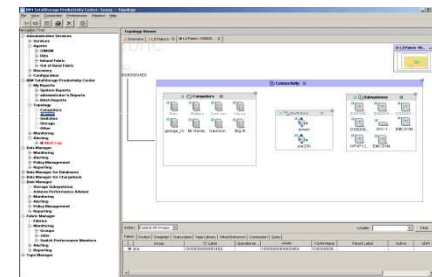
- Adotado do **easy-to-use XIV GUI**
- Para clientes onde Storwize V7000 “é” a infraestrutura



Easy-to-use management GUI

▪ Enterprise Management

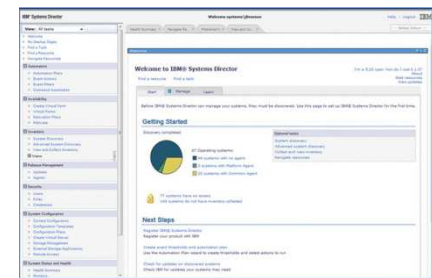
- Gerenciamento integrado com uma perspectiva SAN-wide



(Tivoli Storage Productivity Center)
Integrated SAN-wide management

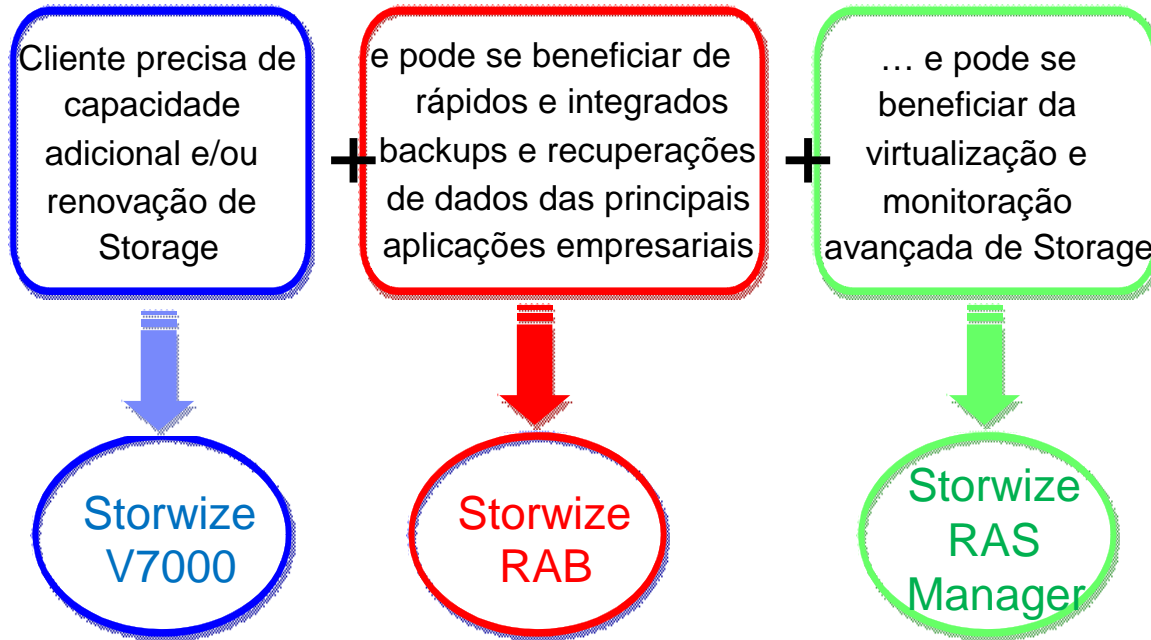
▪ Server and Storage Management

- Gerenciamento integrado com perspectiva de servidores e storage
- Para clientes com IBM servers e storage



(Systems Director Storage Control)
Integrated IBM server and storage mgmt

Ofertas Storwize



Storage com funcionalidades High-end, mas com preços midrange

- Consolidação
- Virtualização ext.e int.
- Alto desempenho e capacidade
- Renovação de DS4k/5k
- Compete com EMC VNX, HP EVA ou 3PAR, Dell Compellent e HDS AMS

Sinergia com os principais aplicativos empresariais:

- Proteção integrada de cópias instantâneas
- Recuperação de dados de aplicações em seg/min
- Aumento de uptime das aplicações

- Virtualização ponta a ponta, complementando a virtualização de servidores, e oferecendo benefícios similares à infraestrutura de Storage
- Virtualização de Storages IBM e de várias outras marcas (mais de 120 diferentes Storages da HP, Dell, EMC, etc)
- Monitoramento da infraestrutura de Storage, com infos de desempenho, capacidade e disponibilidade, inclusive análises históricas, etc

Analyst Quote

"This announcement is most complete, most interesting, and potentially most disruptive thing to come out of **IBM's storage group in the past twenty years**. I can't wait to see the IBM Storwize V7000 take shape in the market."

Steve Duplessie, Founder and Senior Analyst, ESG"

Maximize the **value**
of your storage resources



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