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Power Systems (IBM i) Storage Solutions Overview

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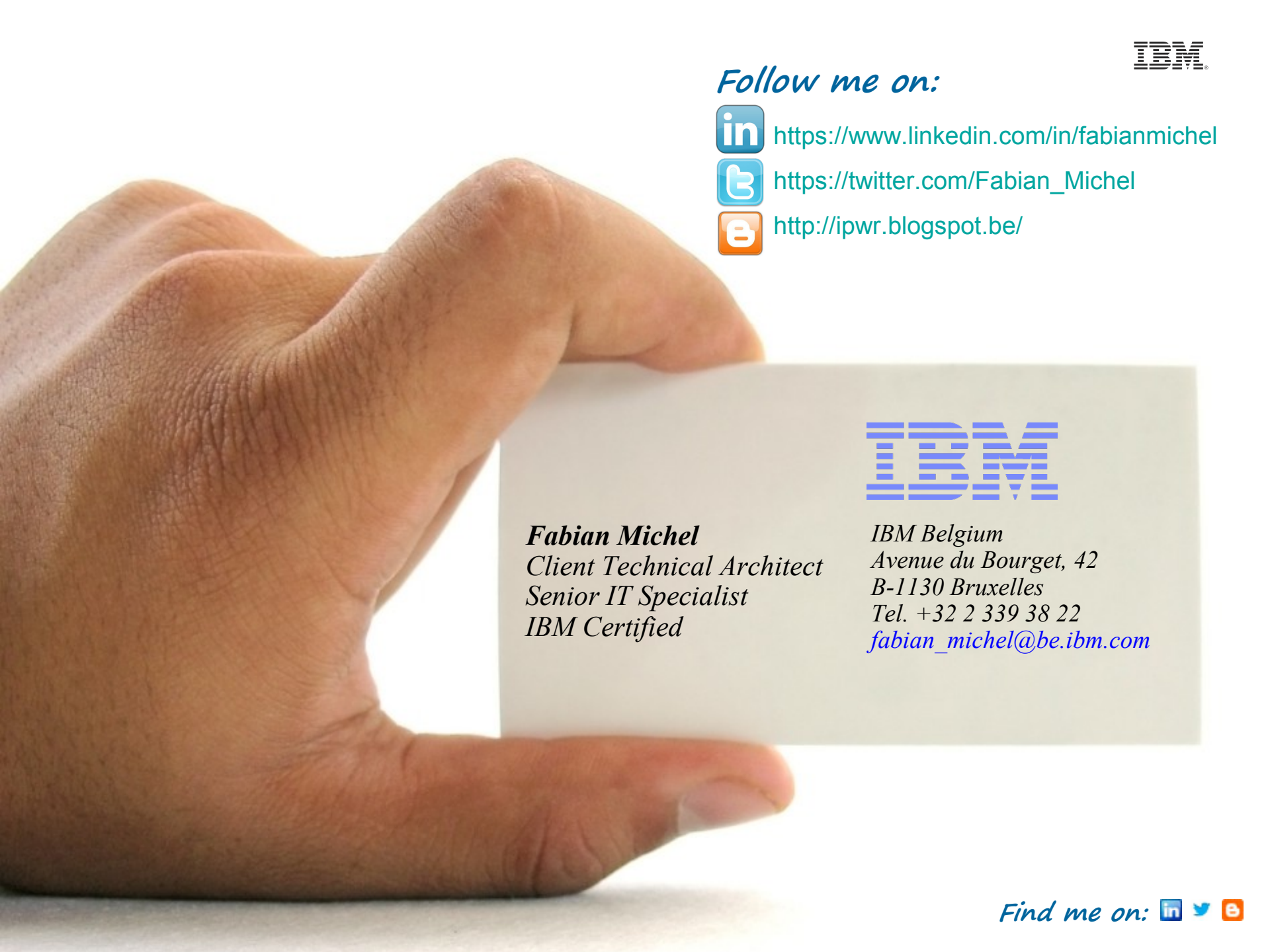
IBM



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Agenda

- Introduction
- External Storage Solutions Portfolio Overview
  - External Storage Solutions
- Internal Storage Evolution
  - Internal Storage Updates for COMMON
- IBM FlashSystems
  - IBM FlashSystems with IBM i
- Virtual Tapes (if enough time)
  - ProtecTIER on IBM i Overview
- Additional information
- Open Q&A

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Comparing the Storwize Family

	Storwize V3700	Storwize V5000	Storwize V7000
Management SW	Storwize V3700 machine code	IBM Storwize Family Software for Storwize V5000	IBM Storwize Family Software for Storwize V7000
Capacity	Up to 120 drives per control enclosure (up to 4 expansions)	Up to 168 drives per control enclosure (up to 6 expansions); 336 per clustered system (two-way clustering)	Up to 240 drives per control enclosure; 960 per clustered system (four clusters)
Standard Host Ports	1Gb iSCSI, 6Gb SAS	1Gb iSCSI, 6Gb SAS, 8Gb FC or 10Gb iSCSI/FCoE	1Gb iSCSI, 8Gb FC
Optional Host Ports	iSCSI 10Gbps, FC, FCoE	N/A	iSCSI 10Gbps, FCoE
Cache (dual ctl)	8GB upgradeable to 16GB	16GB per dual controller, to 32GB per clustered system (two-way clustered)	16GB per dual controller, up to 64GB per clustered system (four clusters)
Integrated Features	FlashCopy (64 images per system), Internal virtualization, Thin provisioning, Data Migration	Internal virtualization, Thin Provisioning, Data Migration, System Clustering	FlashCopy (4,096 images), Internal virtualization, Thin provisioning, Data Migration, Easy Tier, System Clustering
Optional Features	FlashCopy (2040 images) Remote Mirroring, Easy Tier, Turbo Performance	FlashCopy (4,096 images) Easy Tier, Remote Mirroring, External Virtualization	Remote Mirroring, Real Time Compression, External Virtualization
External Virtualization	No	Yes, Optional	Yes, Optional
Unified Support	No	No	NAS connectivity with Storwize V7000 Unified; IBM Active Cloud Engine integrated

Storwize models scalability

	V3700	V5000	V7000
Maximum cache (GB)	16	32	64
	CTL 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives	CTL 24 drives CTL 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives Exp 24 drives	CTL 24 drives CTL 24 drives CTL 24 drives CTL 24 drives Exp 24 drives
Maximum drives	120	336	960

Storwize & IBM i

http://www-03.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP102305

Hints and Tips: V7000 in an IBM i Environment

Document Author: Alison Pate
Additional Author(s): Jana Jamsek
Document ID: **WP102305**

Doc. Organization: Advanced Technical Sales
Document Revised: 08/29/2013

Product(s) covered: IBM Storwize V3700; IBM Storwize V7000

Abstract: This document provides Hints and Tips when planning to install Storwize V7000 (or V3700) with IBM i.

Hints and Tips V7000 in an IBM i environment V2 .doc

http://w3-03.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/TD106021

Evaluating IBM® Storwize® V7000 V6.4 Real-time Compression with IBM i Workload

Document Author: Ingo Dimmer
Additional Author(s): Thomas Vogel
Document ID: **TD106021**

Doc. Organization: Advanced Technical Sales
Document Revised: 09/23/2012

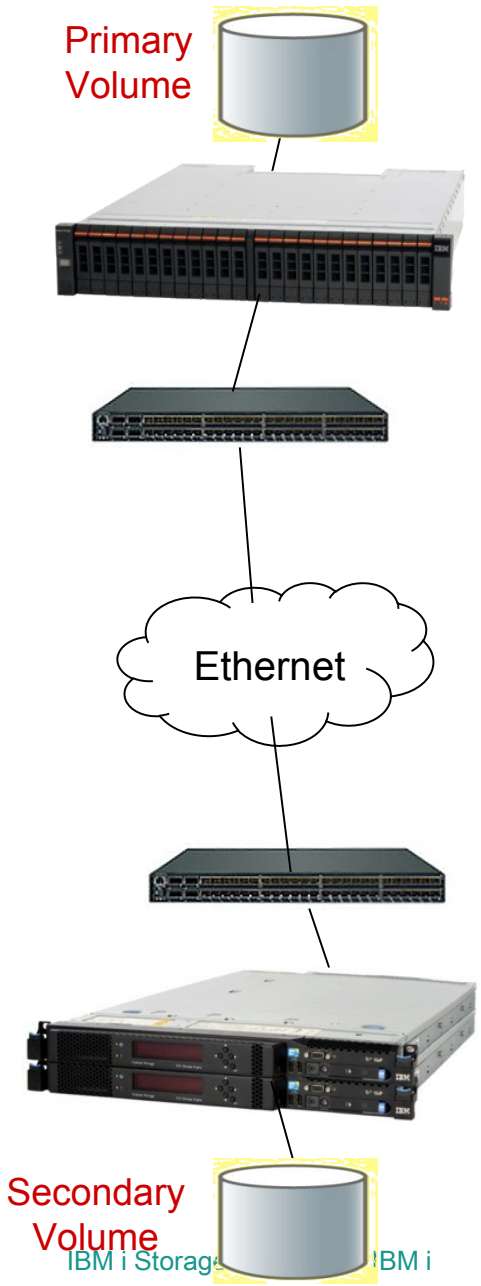
Product(s) covered: # 2076; # 2145

Abstract: This technical document shows an implementation example for using IBM Storwize V7000 real-time compression with IBM i data to evaluate its efficiency and performance. It is intended to help IBM technical sales and business partners to demonstrate the potential benefits of using SVC/Storwize real-time compression for IBM i workload.

Evaluating V7000 RtC with IBM i Workload.pdf

Native IP Remote Copy

- Enables transparent use of 1Gbit or 10Gbit Ethernet connections without FCIP routers for replication
  - Supports all remote copy modes – MM, GM, and GMwCV
  - GM with Change Volumes preferred mode
  - Covered by normal remote copy license
  - Available for all SVC / Storwize products with 7.2 code
- Includes Bridgeworks SANSlide network optimization technology in V7.2 virtualization software
- Currently:
  - Can not switch speeds anywhere in end to end link
  - Can not non-disruptive change port group configuration
- Configuration:
  - Configure one Ethernet port for replication on each node using remote copy port groups
  - CHAP-based authentication supported
  - RTT limit of 80ms still applies



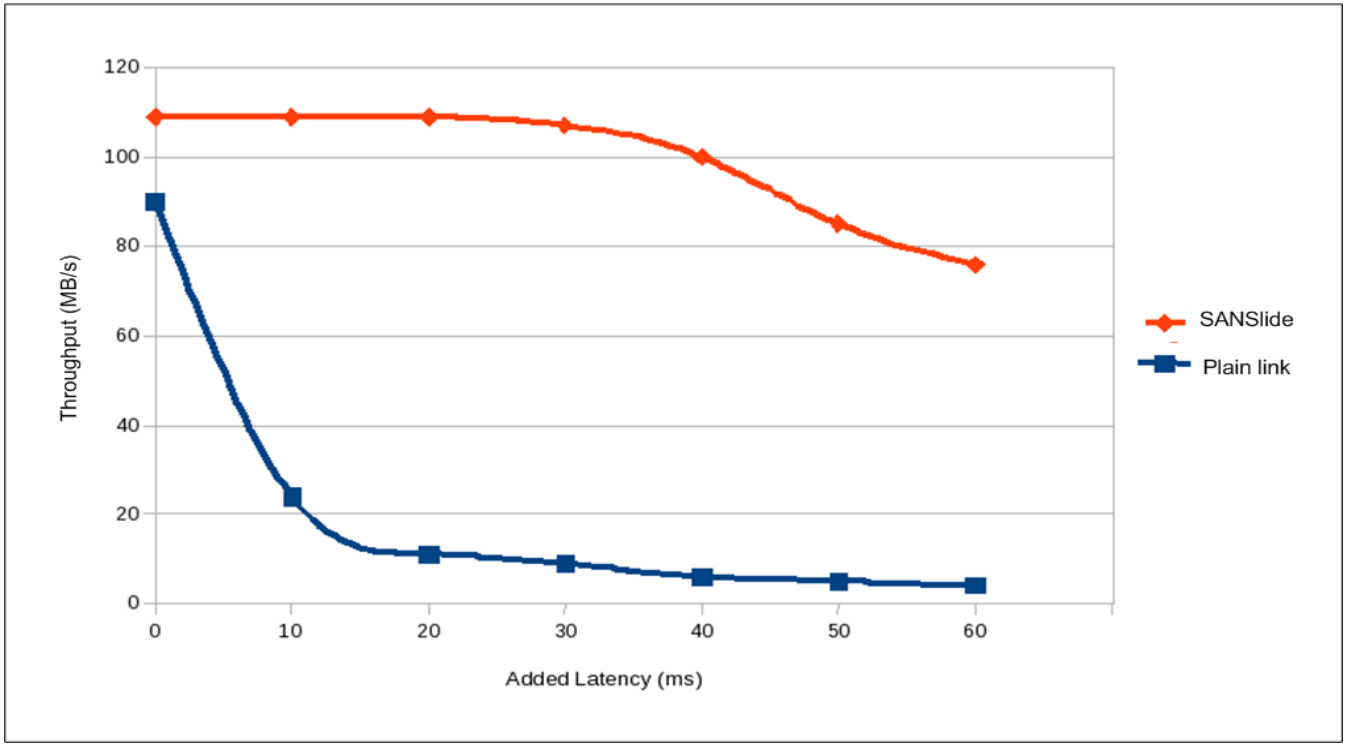
Bridgeworks SANSlide Optimization

Latency in IP network:

depends on the routing infrastructure

depends on distance

Latency = Round Trip Time (RTT) for a single packet set



Source: IBM Redpaper REDP5023

Storwize Family IP Replication

http://www-03.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/PRS5233

Accelerate with ATS: SVC/Storwize Family IP Replication

Document Author: Robert Deutsch
Document ID: **PRS5233**
Doc. Organization: Advanced Technical Sales
Document Revised: 03/04/2014
Product(s) covered: SAN Volume Controller

Abstract: This session will provide details about the new IP replication using native Ethernet ports introduced in V7.2 of the Storwize Family Software, including a demonstration of how to configure the IP partnership, create remote copy relationships and consistency groups, and easily move between the three flavors of replication: synchronous, asynchronous and asynchronous using change volumes. Configuration guidelines, restrictions, and best practices will be covered as well as the basics of what the integrated SANslide function provides. Come join in to learn about this exciting new capability of the SVC and Storwize family of virtual storage systems.

ATS Customer Webinar - SVC-Storwize IP Replication - Slide Deck - Mar 2014.doc

http://www-03.ibm.com/support/techdocs/atsmastr.nsf/WebIndex/WP102403

Storwize V7000 replication over TCP/IP with IBM i

Document Author: Jana Jamsek
Additional Author(s): Jens Liebetrau
Document ID: **WP102403**
Doc. Organization: Advanced Technical Sales
Document Revised: 01/13/2014
Product(s) covered: # 2076; IBM i; PowerHA SystemMirror

Abstract: For this Whitepaper we tested and described the implementations for IBM i, using Storwize V7000 Remote Copy over TCP/IP links.

Storwize V7000 replication over TCPIP with IBM i Version 1.pdf

Quick Poll results