



## IMS Tools Migration - Been there, done that!

*Helmut Englert, SE-Consulting GmbH*

### SEC

SE-Consulting GmbH (SEC) is an IBM business partner located in Germany.

We focus on independent software vendor (ISV) tools migrations to IBM solutions. In this article, we will share the method we used to help one of our customers successfully migrate several ISV tools to IBM tools over a 24-month time frame. Highlighting tasks from planning through production, our migration roadmap can also help to ease your migration from third party tools to IBM IMS Tools.

SEC has a long record of success in helping customers migrate to IBM tools. We have led several projects in which IMS and DB2 tools replaced tools from BMC Software, Computer Associates, and Compuware. SEC starts with a strong focus on technical project management. We analyze precisely how the customer's existing products are being used, and we determine how and whether the customer's environment (for example, exits and user modules) must adapt to the migration. Every detail of how the customer manages their technical workflow must be assessed. SEC's project plans cover everything from installation and customization to end-user training, quality assurance, and production deployment.

#### Customer Profile

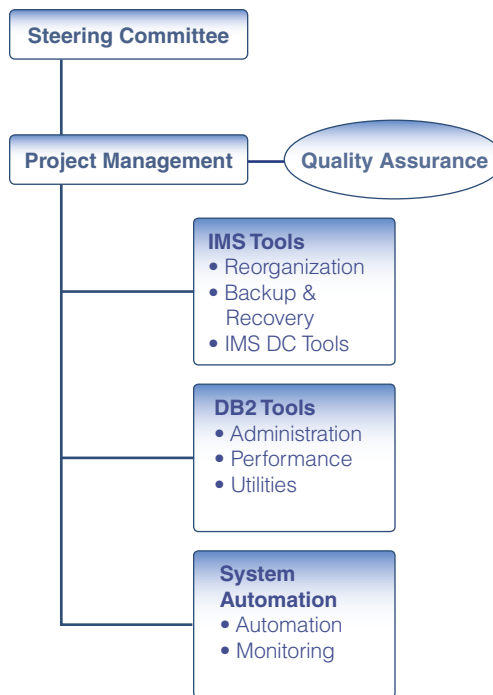
Let's begin with some facts about the customer we would be supporting: T-Systems. In addition to being the largest SAP installation and having the largest overall network in all of Europe, T-Systems has:

- 32 data processing centers with high bandwidth backbone
- 31,365 open system servers
- Workflow and services for over 97,000 workstations
- Over 50 international outsourcing customers, including Deutsche Telekom, Airbus, BLG, DaimlerChrysler, EADS, Henkel, Schufa, TechData, Unilever, and many more.

Our mission was to replace all BMC products in all data centers in Germany in 24 months. T-Systems' total MIPS output in Europe was just under 112,000. Germany represented nearly 77% of that – 85,841 MIPS. Swapping the BMC products for IBM tools would not only lead to a reduction in software costs, it would also provide specific solutions for T-Systems regarding IMS Accounting and Reporting and DB2® Recovery for SAP.

#### Project Management Structure

For the project management structure, we started with a steering committee that would have overall project responsibility. The project manager reported to the steering committee and led three different teams that were responsible for IMS Tools, DB2 Tools, and system automation.



We relied on comprehensive project documentation throughout the migration:

- Detailed implementation checklists
- Test plans
- Test scenarios
- Benchmark results
- SLAs and acceptance criteria
- Details of technical problems
- Change management

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# IMS NEWSLETTER

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In the first quarter of our 2-year cycle, we provided IMS Tools and DB2 Tools education to 150 T-Systems employees. By the end of the fourth quarter, we had successfully migrated 150 IMS LPARs. This was closely followed by the DB2 Version 8 ESP, during which their support for System Recovery was fully tested and implemented, replacing BMC's "Smart Recover for SAP."

By the middle of the 7th quarter, May of 2005, we had migrated 3 sysplexes from BMC MainView Automation to Tivoli® SA. The end of the 2-year cycle saw the migration of 190 of 250 DB2 LPARs, together with some customizing work to ensure that the same functionality was available on all systems.

## Tools Migration

Table 1 lists the IBM IMS Tools that replaced the BMC products:

IBM IMS Tools	Replaced BMC Tools
<b>IMS DC/IMS TM</b>	
IBM IMS HD Compression Extended	Data Packer IMS
IBM IMS Queue Control Facility	Message Advisor for IMS
IBM IMS Network Compression Facility	Ultraopt/IMS
IBM IMS Library Integrity Utilities	Database Integrity Plus
IBM IMS Extended Terminal Option	Support Extended Terminal Assist Plus Delta IMS/Virtual Terminal
IBM IMS Command Control Facility IBM IMS High Performance Sysgen Utilities	Delta IMS DB/DC DeltaPlex
<b>IMS Database Reorganization</b>	
IBM IMS Parallel Reorganization	Fast Reorg Facility/EP
IBM IMS High Performance Unload	Unload Plus/EP for IMS
IBM IMS High Performance Load	Load Plus/EP for IMS
IBM IMS Index Builder	Secondary Index Utility
<b>IMS Backup and Recovery</b>	
IBM IMS Image Copy Extensions	Image Copy Plus Recovery Plus for IMS
IBM IMS High Performance Pointer Checker	Pointer Checker Plus
IBM IMS High Performance Change Accumulation	Change Accumulation Plus

**Table 1: BMC Tools replaced by IBM IMS Tools**

## Lessons Learned

Naturally, over the course of a 2-year migration schedule, we would learn a number of lessons along the way.

### Benchmarks

It was critical to the success of the benchmark study to have a static runtime environment. We often had to adjust the default settings in the products to get comparable results. Besides the resource consumption, it was important that the outcome of the tools was identical. In this area, the BMC reorganization tools presented some challenges. BMC's Reorg Plus did not set the bitmap according to IMS rules. So the performance of the reorganized database was not optimal because IMS had to adjust the bitmap during every update.

### Image Copy Compatibility

Special considerations had to be made to handle compressed image copy data sets. If an image copy was compressed by BMC Image Copy Plus, then only BMC's Recovery Plus could be used to restore the database. This restriction would provide some challenges during the transition period. The decision to use SMS compression was made. This compression is transparent to the IMS tools. Both IBM's and BMC's recovery tools could use the SMS-compressed image copies.

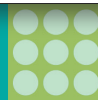
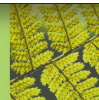
### User Exits

T-Systems used BMC's unload/reload user exits to restructure databases. These user exits were an essential part of the application. T-Systems required the existing BMC exits to also work in the IBM tools environment. SEC therefore developed an exit for IBM's HP Unload and HP Load which served as a bridge between the IBM tools environment and the BMC exits. These bridge exits provided the BMC interface to the exits on entry, and the IBM interface on return. The BMC exits could then be used without requiring any changes in the IBM tools environment.

### User-defined Unload Formats

In addition to the user exits described above, T-Systems used variable unload record formats. BMC Unload Plus wrote unload records with a user-defined header. These unload files were manipulated by home-grown application programs. Afterwards, they were reloaded into the database by BMC's Load Plus. SEC developed exits for IBM's HP Unload/Load tool to provide these variable user headers to the IBM tools. T-Systems applications also changed the key fields in the user-defined unload files. It was necessary to develop a sort program that sorted the unload files into physical key sequence.

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## An Interview with Beverly Tyrrell

In this edition, our Letter to Customers comes in the form of an interview conducted with Beverly Tyrrell. Bev manages the teams that develop and test IMS DB, IMS TM, IMS Connect, Fast Path, and IMS On Demand Integration Solutions. We caught up with Bev recently to ask her what she thought was the most important message she could convey to our customers. That question led to a very animated dialogue!

**IMS Newsletter:** If there was one message you wanted to convey to IMS customers right now, what would that message be?

**Beverly Tyrrell:** I'd start by asking them if they are wondering, "What's with all this SOA stuff?" (Service-oriented architecture). This is a very timely subject, for all of us. We know that our customers think about the future of IMS, about its life span and what role IMS will have in their overall SOA strategy. I'm happy to say that IMS is thriving! Our organization has grown this year, and we have plans for new development releases as far into the future as we can see! Much of our development focus is being driven by SOA. It's a very exciting time for us right now! SOA is something that will change the way we think about IT.

**IMSNL:** That's a pretty bold statement! Tell me what you mean by that.

**Bev:** Sure. SOA will change the way we think about IT because of two critical elements. First, it's how our customers can preserve their investments in their data and application logic. Second, it will help offset the challenge our customers face in finding or growing skills to maintain their legacy applications.

**IMSNL:** Tell me first about the investment preservation.

**Bev:** IMS has been helping customers run their businesses for nearly 40 years. In that time, the technology associated with our mutual businesses has undergone incredible evolution. Factors such as growth of the Internet, global businesses, mergers and acquisitions, and business-to-business relationships are fueling the need for new applications. SOA provides a plug-and-play way for customers to create new web-based applications, or to reuse their current applications, in a cost-effective way.

**IMSNL:** How will they go about that?

**Bev:** With SOA, customers can reuse their existing business logic by encapsulating pieces of existing programs and presenting them as web services. So they can preserve the investment they have in traditional COBOL or PL/I or MFS programs without having to rewrite their applications from scratch. This also

preserves the tremendous investment they have made in their IMS databases. It's not a radical departure - it's simple plug-and-play componentization. By building on what they already have, they save money and preserve their investments.

**IMSNL:** OK. Let's go back to your comment about the IMS knowledge base. How will that change?

**Bev:** We've seen for a number of years the challenges associated with maintaining IMS expertise in our shops. COBOL and PL/I aren't considered modern programming languages. New college graduates come to us with expertise and enthusiasm in Java, web services, XML, and more. When you think about it, it's the perfect combination: connecting the new skills required for IMS with the historical skill set; maintaining the superior performance of IMS and taking advantage of the ease-of-use that comes with componentization and reuse.

**IMSNL:** Is there anything else you'd add?

**Bev:** Yes! Obviously, this kind of shift in IT will impact how financial decisions are made. Historically, DBAs and system programmers were integral in making IT infrastructure decisions. With the focus on new web-based application development, the applications architects have been playing a key role in making those technology decisions. SOA presents the opportunity for the best of both worlds. Applications architects can develop their new applications while still preserving the existing IT and technology investments. Our challenge in IMS is that we need to find ways to reach out to this audience, to educate them on how IMS is playing in the SOA world and to ensure we are listening to their requirements. SOA will change not only how our customers develop applications, but also how we do development here in IMS!



## Autonomic Enhancements in IMS Version 9

With Version 9, IMS again exemplifies IBM's commitment to autonomic computing. Building upon the autonomic advances made in previous releases of IMS, IMS Version 9 is more self-managing than ever.

IMS is IBM's premier transaction and hierarchical database management software. Even after more than 35 years, IMS development continues to incorporate the latest technological advances into IMS. IMS is still the product of choice for critical online operational applications and data where support for high availability, performance, capacity, integrity, and low cost are key factors.

Autonomics is frequently divided into four categories:

- Self-configuring (able to adapt to changes in the system)
- Self-healing (able to recover from mistakes)
- Self-optimizing (able to improve performance)
- Self-protecting (able to anticipate and cure intrusions)

### Self-configuring

IMS Version 9 introduces several features that fall into the self-configuring category.

#### **Requires no operator intervention for status changes of an FDBR-tracked system**

An IMS Version 9 Fast Database Recovery (FDBR) system, with the help of the MVS™ Cross-System Coupling Facility (XCF) Group exit routine, can now respond appropriately when the IMS system that the FDBR system is tracking changes from inactive to active or from active to inactive. In previous versions of IMS, FDBR required operator intervention when the status of the IMS system it was tracking changed.

#### **Simplifies installation**

IMS Version 9 dynamically installs its Resource Manager cleanup routine. Users do not need to install the DFSMRCL0 module as part of the IMS installation. The IMS Resource Manager cleanup routine is automatically registered with the operating system during IMS startup.

### Self-healing

IMS Version 9 introduces several features that fall into the self-healing category.

#### **Identifies indoubt data in DB2 after IMS failures**

When an IMS system is connected to DB2 or another subsystem through the IMS External Subsystem Attach Facility (ESAF), IMS or an IMS Fast Database Recovery (FDBR) region can identify the IMS units of work (UOW) associated with DB2 data that might be indoubt as the result of a failure. During the FDBR recovery process or the IMS emergency restart, the identity of an indoubt UOW is passed to an exit routine, which allows the user to resolve the indoubt data in DB2 prior to completing the restart of IMS.

#### **Accesses and identifies online logs in the event of errors**

IMS Version 9 can access the online log data set (OLDS) and determine which online log it should read during a restart, even when the OLDS has been closed to IMS due to an error. IMS cannot run if it does not have access to an online log in the OLDS.

#### **Monitors the opened and closed status of Fast Path DEDB areas**

IMS Version 9 monitors the opened and closed status of Fast Path DEDB areas so that during an emergency restart, IMS can reopen only those DEDB areas that were open when IMS failed. This ensures that DEDB areas that are defined as preopen or preload are not automatically opened if they were closed for maintenance when IMS failed.

IMS Version 9 performs a similar service for IRLM failures. During IRLM reconnect, IMS can restart only those DEDB areas that were started when IRLM failed.

Additionally, IMS Version 9 can optimize emergency restart processing by opening DEDB areas independently from both the restart process and the resumption of application program processing. That is, the restart process can complete, and application programs can access DEDB areas without having to wait for IMS to first open all areas classified as preopen or preload. If an application program needs access to an area that is not yet open, IMS opens the needed area and then resumes opening the remaining preopen or preload areas.

#### **Detects and manages internal IMS Connect message errors**

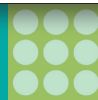
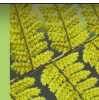
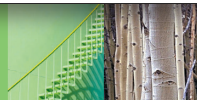
The integrated IMS Connect function of IMS Version 9 can detect errors in the user data prefix of messages that are returned from IMS. Instead of abending, IMS Connect rejects the incorrect message, and then IMS stores the message in a dead letter queue defined by IMS Connect.

### Self-optimizing

IMS Version 9 introduces several features that fall into the self-optimizing category.

#### **Reorganizes HALDB databases online**

The integrated HALDB Online Reorganization (OLR) function of IMS Version 9 reorganizes HALDB PHDAM and PHIDAM partitions without requiring the user to stop access to the partition and then unload and reload the partition. This greatly reduces the amount of time required for planned maintenance outages. HALDB Online Reorganization provides continuous availability for the largest IMS databases.



**Uses less common storage area**

IMS Version 9 uses less common storage area (CSA) by moving two DBRC load modules (DSPCINT1 and DSPURX00) into private and common storage above the 16 MB line.

**Communicates directly with other IMS systems in shared-queues environments**

IMS Version 9 front-end systems communicate directly with back-end IMS systems in an APPC/OTMA shared-queues environment, allowing the back-end IMS systems to respond immediately when a front-end IMS system abends. The back-end shared queues systems can then quickly clear the dependent regions that are in an RRS-PC wait status.

**Self-protecting**

IMS Version 9 can now protect itself from message flood conditions.

**Protects from a flood of input messages from OTMA clients**

IMS Version 9 can monitor the flow of incoming messages from an OTMA client, such as IMS Connect or WebSphere® MQSeries®, to prevent a flood of messages from exhausting system resources. After the user defines a maximum number of active OTMA input messages allowable from the OTMA client, OTMA monitors the input messages. As the number of input messages approaches the maximum number, IMS issues warning messages. If the maximum number is reached, IMS rejects any subsequent input message from the OTMA client until the flood condition is relieved.

**Autonomic IMS: now and in the future**

IMS Version 9 exhibits the commitment of IMS development to autonomic computing. IMS development will continue to rigorously adhere to the principles of autonomic computing, endeavoring to make more features and functions that are self-diagnosing, self-healing, self-optimizing, and self-protecting.

**Ben Johnson**

*IMS User Technology*

**Jack Yuan**

*IMS Development*

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**Add-ons**

During this and other migration projects we developed some add-ons that eased the migration process.

**ETA/DELTA TSS converter**

Converts BMC's dynamic terminal definitions to IBM's ETO Support.

**Mainview Rules Analyzer**

Converting IMS tools requires that the system automation be checked to determine whether dependencies exist, and which ISV messages are used as triggers to automation. Our Rules Analyzer reads the Mainview definitions and shows these dependencies.

**SMF Record Analyzer**

SEC's SMF record analyzer recognizes every BMC utility by analyzing the SMF data. This tool is used before the migration to estimate the number of jobs that are running BMC utilities. After the migration, this tool identifies jobs that still need to migrate.

**IMS Pointer Checker Extension**

T-Systems used BMC's PDX to monitor databases. They set thresholds for every database and got the feedback from BMC pointer checker when those thresholds were exceeded. The DBA used this information to trigger the database reorganization. IBM's pointer checker does not support this function, so SEC developed an ISPF application that provides this IBM pointer check function.

**In Conclusion**

We hope that this description of our project plans for a migration of this size provides you with helpful information to plan your own migration projects!



**Helmut Englert**

*SE-Consulting GmbH*



## Hierarchical Direct Access Methods Evaluation

### Comparing OSAM to VSAM

In this article, we will share the performance characteristics that were observed comparing the IMS Overflow Sequential Access Method (OSAM) and the Virtual Storage Access Method (VSAM). Our comparison was done within specific IMS workload scenarios and with the hierarchical database implementations, Hierarchical Direct Access Method (HDAM) and Hierarchical Index Direct Access Method (HIDAM). The measurement results are not intended to be used as a set of performance benchmarks, but rather as a set of measurements demonstrating points of consideration. The results support a widely known fact that there are integrally designed performance benefits expected from using OSAM rather than VSAM when storing and accessing IMS data under certain situations. Significant gains in online Internal Throughput Rate (ITR) and significant reductions in BMP total elapsed time were observed and documented. The focus for the set of measurements remained within HDAM and HIDAM databases and within a single system, non-sysplex environment. We will consider further measurements of HALDB partition databases (PHDAM & PHIDAM), Parallel Sysplex®, and VSAM Hiperspace buffers as time permits.

### Environment and workload scenarios

The IBM® Silicon Valley IMS performance laboratory has designed its hardware environment around the goal of providing a controlled environment capable of producing accurate and repeatable results. During this evaluation, the measurements were conducted on configurations of the hardware environment shown in Table 1. Several scenarios were used to provide a sense of how the HD access methods perform under different conditions. Both an online IMS DB/DC scenario and an IMS BMP workload scenario were used, and all of the comparable workload scenarios used the same OSAM and VSAM buffer pool definitions.

<b>Processor</b>	IBM eServer™ zSeries® 2084 Model 322 (zSeries 990 C24)
<b>Disk Storage</b>	IBM TotalStorage® Enterprise Storage Server® (ESS) 2105 Model M800: 4 FICON® channels, 16 LSS, Volume configuration = 3390-9, 3 PAVs per real volume
<b>Operating Systems</b>	z/OS® DFSMS V1R7, IMS V9.1

Table 1: Hardware and software environment

### Online workload

The online workload environment included a set of isolated transactions designed to run only OSAM or VSAM databases. The workload performed sample industry transactions (such as hotel and inventory transactions), driven by TPNS, to approximately 70% average processor utilization. Keep in mind of course that the HIDAM databases had VSAM indexes in all cases. The environment is shown in Table 2.

<b>Hardware Configuration</b>	2 LPARs • 1 LPAR with 4 processors running TPNS • 2nd LPAR with 3 processors running 1 IMS image
<b>IMS Configuration</b>	1 IMS image, 200 MPP regions 70 total databases (10 HDAM DBs, 60 HIDAM DBs)

Table 2: Online hardware and software environment

### BMP workloads

We varied the BMP workload scenarios to demonstrate the performance characteristics inherently involved with individually running VSAM databases, OSAM databases, and OSAM databases accessed sequentially with OSAM Sequential Buffering (OSAM SB).

A) The BMP set 1 measurements used a number of qualified GHN calls; however, the data access algorithm was not highly sequential. Table 3 shows the BMP set 1 environment.

<b>Hardware Configuration</b>	1 LPAR with 2 processors
<b>IMS Configuration</b>	3 BMP regions. Each executes 2 million total DB calls
<b>(DB Calls)</b>	• 10 qualified GHU calls • 1 million qualified GHN calls • 1 million REPL calls
	10 total HIDAM databases

Table 3: BMP set 1 hardware and software environment

B) The BMP set 2 measurements used a program designed to access the databases in more of a sequential manner than the BMP set 1. Table 4 shows the BMP set 2 environment.

<b>Hardware Configuration</b>	1 LPAR with 3 processors
<b>IMS Configuration</b>	3 BMP regions. Each executes 4.5 million total DB calls
<b>(DB Calls)</b>	• 1 qualified GHU call • 1000 qualified GHN calls • 1000 REPL calls • 4 million GN calls
	10 total HIDAM databases

Table 4: BMP set 2 hardware and software environment

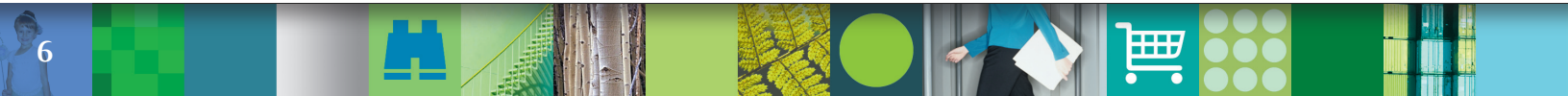
### Results

In this section, we'll document the results of the performance tests.

### Online workload results

An effective way of comparing two IMS workload environments that remain with a constant hardware environment is to compare the Internal Throughput Rate (ITR) of the two workloads. ITR is the number of units of work accomplished per unit of processor busy time; therefore,  $ITR = \text{units of work} / \text{processor busy time}$ . The ITR comparison gives us a sense of which software environment is best suited to perform on a given machine as it is currently configured. The results of the OSAM vs. VSAM online measurement demonstrate a significant ITR increase, 8%, observed when utilizing OSAM databases. We observed that in this particular environment, with this particular IMS workload, more CPU processing power is required to process the same amount of work using VSAM databases than it is using OSAM databases. Table 5 shows the results of the three online tests:

1. VSAM-only databases with a total ITR of 932.94
2. An OSAM-only measurement with an ITR of 1015.37
3. An OSAM with sequential buffering turned on with a ITR of 1012.51



Note that the workload programs used for these three measurements were not accessing the databases in true sequential manner. This adds the overhead of OSAM SB to the third measurement without realizing the benefits, resulting in a slightly lower ITR than running OSAM without OSAM SB.

Type	ETR trans/sec	RMF CPU busy %	ITR	Delta (ITR)
VSAM	687.86	73.73%	932.94	
OSAM	688.93	67.85%	1015.37	+8.83% ITR gain!
OSAM SB	690.32	68.17%	1012.51	+8.53% ITR gain!

Table 5: Online workload measurement results

### BMP workload results

The BMP measurement results demonstrated a reduction in total elapsed time, but at a slightly greater CPU cost than that shown in set 1 of Table 6. One major factor to consider in the CPU and elapsed time costs when using OSAM SB is how well the program steps through the database, which correlates to the number of sequenced access calls involved. OSAM SB is designed to improve the I/O read time by reading multiple consecutive blocks instead of one block per read operation. Therefore, programs that sequentially traverse through their databases can significantly take advantage of OSAM SB as observed in our final BMP measurement results, set 2 in Table 6. A 78% reduction in total elapsed time was observed for this measurement; however, the overall CPU usage increased while these jobs were running, which is to be expected because we are not waiting for I/O service nearly as much. In the first set of BMP measurements, the BMP program calls did not sequentially access the databases, thereby not truly taking advantage of OSAM SB. These measurements results demonstrate the significant performance improvements gained in switching to OSAM from VSAM, and from using OSAM SB properly. There are many factors to consider: the number and sizes of the OSAM and VSAM buffers involved, the number of jobs running, and the number and types of processors available. By making the program call algorithm more sequential and adjusting the number of processors available, a greater reduction in total elapsed time was achieved.

BMP:	Type	RMF CPU %	Average total task CPU time	Total elapsed time	Delta (total elapsed time)
Set 1	VSAM	50.33%	168 seconds	8 minutes 43 seconds	
	OSAM	51.87%	136 seconds	6 minutes 19 seconds	27.53% reduction!
	OSAM SB	54.58%	138 seconds	6 minutes 20 seconds	27.34% reduction!
BMP Sequential:	Type	RMF CPU %	Average total task CPU time	Total elapsed time	Delta (total elapsed time)
Set 2	VSAM	29.86%	98 seconds	5 minutes 27 seconds	
	OSAM	27.00%	57 seconds	3 minutes 30 seconds	35.78% reduction!
	OSAM SB	78.62%	61 seconds	1 minute 10 seconds	78.59% reduction!

Table 6: BMP workload measurement results

### Summary

This set of measurements demonstrates that there are significant performance gains in an OSAM environment, and potentially an even greater performance gain when using OSAM SB. These results are by no means an exhaustive set of measurements; they should not be taken as a rule of thumb or as a guarantee across any environment. In all of the test case scenarios, significant gains in ITR or a reduction in total elapsed time occurred when using OSAM hierarchical databases instead of VSAM. The performance characteristics also depend on other factors such as program access algorithms and the time frame of the work being done. The current recommendation is not to use OSAM SB for real storage-constrained environments.

The performance data was obtained in a controlled environment based on the use of specific data. Results obtained in other operating environments could vary significantly. Users of this information should verify the applicable data in their specific environment. The test scenarios (hardware configuration and workloads) used to generate performance data are not considered “best performance case” scenarios. Performance might be better or worse depending on the hardware configuration, data set types and sizes, and the overall workload on the system.

Hiram K Neal

Contributor: Cedric Chen  
IMS Performance Specialists



## IMS and IMS Tools at the Information On Demand Conference

### IBM Information On Demand 2006

October 15 - 20, 2006  
Anaheim, California

Join us in Anaheim, California, October 15-20, for IBM's premier information management global conference, IBM Information On Demand 2006.

### One event, more value

IBM Information On Demand 2006 incorporates six previous Information Management conferences: IMS Technical Conference, DB2 Information Management Technical Conference, Content Management Technical Conference, Business Intelligence Customer Solutions Summit, Information Integration Live!, and the Master Data Management Conference. You will receive the same education and experience you received at these past events, plus much more, including a Business Leadership program with many industry-specific sessions.

### Conference Highlights

- 4-1/2 day technical track with over 650 technical sessions
- 2-1/2 day Business Leadership program for business and IT managers and executives
- Huge expo hall with over 100 exhibitors showing the latest demos and solutions
- Advanced Technology showcase from IBM Research and product teams
- Free professional certification testing on IBM Software
- Developer Den lounge featuring daily themes and tutorials for application developers
- Usability Sandbox where you can get an inside glimpse of things to come
- Many other hands-on lab sessions to test drive products and build your skills.
- Birds of a Feather sessions for lively networking discussions
- One-on-one rooms for meetings with IBM executives and technical experts

### Technical Skill Building Program (4-1/2 days, Monday-Friday)

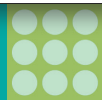
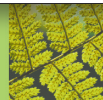
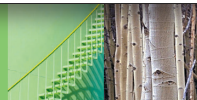
IBM technical conferences have a history of excellence, and IBM Information On Demand 2006 continues that tradition. The 4-1/2 day technical program includes more than 650 sessions on DB2, Informix, IMS, content management and discovery, U2, information integration, master data management, business analytics, entity analytics and much more.

The specially designed educational roadmaps will help you pick and choose topics and skill areas that interest you or fit your job role or industry. All Information On Demand conference attendees can mix and match from sessions offered in either the Technical Skill Building program or Business Leadership program.

### Technical Skill Building track for IMS

The list below is a subset of all sessions related to IMS and IMS Tools.

- IMS: Trends and directions
- IMS V9: What's new since general availability
- Exploiting the power of the mainframe - the latest news from System z
- Optimizing IMS workloads using specialty processors
- IMS High Availability Large Database (HALDB) implementation and administration
- Architecting access to IMS for the new world of SOA
- Connecting the dots - IMS web applications, zWAS, IMS Connector for Java, IMS Connect
- IMS ODBA, JDBC, zWAS – Soup to nuts setup for IMS Java/zWAS transactions for data access
- XML and IMS – Partners in data
- IMS security
- IMS and SOA – Building On Demand services
- IMS SOAP Gateway overview and update
- IMS Connect problem determination
- IMS Tools - State of the technology
- IMS in a Sysplex – Making it manageable
- IMS Tools Migration – Been there, done that
- IMS Tools – What are your hot buttons with IMS reorganization?
- IMS database reorganization – Quicker and easier than ever before
- IMS Tools - Data encryption for IMS databases
- IMS health check process
- IMS continuous availability considerations
- IMS Follow-on
- IMS Connect and IMS Connect client implementation and administration
- IMS XQuery support
- Maximizing IMS database availability
- IMS installation considerations
- Resolving IMS system, TM, and DB problems quickly





**Business Leadership Program (2-1/2 days, Monday-Wednesday)**

The Business Leadership program is an intensive, 2-1/2 day curriculum designed specifically for corporate executives, line of business and IT managers, and key decision makers. The nearly 180 sessions in this program feature innovative ideas and successful strategies in information management to show you how to grow your business, improve customer service, reduce costs and manage risk. Many of the sessions are industry-specific and are illustrated by real-life stories told by the executives who made it happen — how they took back control and transformed their businesses.

- Tracks in the Business Leadership area include:
- Create the On Demand Enterprise
- Manage Risk and Streamline Compliance
- Gain Customer Insight
- Manage Information Complexity
- Leverage Information for Business Innovation
- Gain Control of Master Data
- Mitigate Threat, Fraud and Abuse
- Technology Futures

**Registration information**

Registration fee is US\$1895. Please visit our website at [ibm.com/events/InformationOnDemand](http://ibm.com/events/InformationOnDemand) to register and to get information on all track details and star speakers.

**We look forward to seeing you in October!**

**Amiet Goldman**

*Marketing Manager, IBM Training*

**IBM Information**  
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Bill Hunyh joined IBM, and IMS, in 1998, straight out of his collegiate career at UCLA. Since that time, he has made his mark on many aspects of IMS. After starting as a Tester in Fast Path, Bill joined Development and worked on Operations Manager, IMS Control Center, IMS Data Propagator™, and IMS Connect. Bill appreciated “the chance to find my niche,” and continues to call IMS Connect his home base. IMS Connect “is the gateway to distributed technology,”



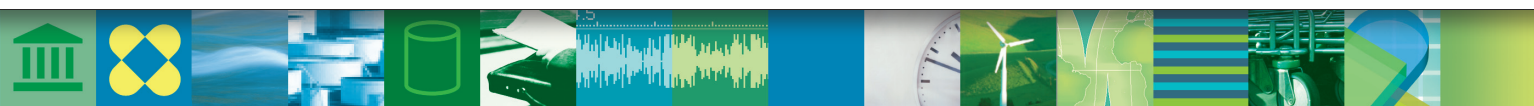
**Bill Hunyh**

Bill remarked. “It is opening IMS to new customers.” He sees “lots of interesting things to do in IMS Connect, lots of potential.” When Bill takes a break from IMS, he turns his attention to local sports. He grew up in Oakland, California, and enjoys the Oakland A’s, Golden State Warriors, and San Francisco 49ers!

Whether she is training for a marathon or mentoring her team, Angela Migliaccio is committed to achieving her goals. Angela completes her first year as the IMS On Demand Integration Solutions Development manager in September. She and her team develop IMS MFS, IMS Connector for Java, IMS Connect, IMS XML, JDBC, and more. “I love IMS,” Angela shared. “I truly feel like it’s a family.” Angela loves the coaching and mentoring aspects of her management job. She values the personal interaction with her team. After several years in DB2 as a Level 2 technical lead and manager, Angela made the move to IMS. “The approach and attitude here make a big difference,” she says. Although she wasn’t really looking for a change, she knew immediately that IMS was the right move for her—just like her move from IBM Italy, in Rome, to Silicon Valley Lab. Her family and her IBM Italy team were reluctant to see her go, but Angela found a new family in the camaraderie of IMS and in the foothills surrounding the lab. Her passion for running those hills led to new friendships which led to marriage! “Achieving your goals,” says Angela, “makes you feel good.”



**Angela Migliaccio**



## The Latest in IMS Redbooks from the ITSO

The following Redbook was published February 2006:

*IMS Connectivity in the On Demand Environment: A Practical Guide to IMS Connectivity*, SG24-6794-00. This book builds upon and replaces the Redbook *IMS e-business Connectivity: A Guide to IMS Connectors*, SG24-6514-00.

This Redbook provides an overview of the IMS Open Transaction Manager Access (OTMA) function and IMS SOAP Gateway. The Redbook also provides extensive information about IMS Connect and its usage, including IMS Connect Extensions and how to enhance the IMS Connect operating environment using IMS Connect Extensions. The Redbook also provides examples of how to develop Java connectors, and how to use Open Database Access (ODBA) with stored procedures and with IMS Remote Database Services.

The following Residency was announced on June 16, 2006, and will run August 28 to October 6, 2006:

**SD-6H22-R01, IMS V9 Performance Monitoring and Tuning Guide**

This Residency will produce a Redbook that focuses on the performance functions of IMS Version 9. It will be a major update of the previous IMS performance Redbook SG24-6404, which was at the IMS Version 7 level. The Redbook will provide a performance monitoring and tuning overview, and then show the relevant IMS system parameters and implementation options. It will provide advice on how to best monitor the IMS environment and quickly identify performance issues. System and application tuning options will be analyzed. Finally, database design for performance and best practices for recovery options will be investigated. Additional considerations for e-business performance, DB2 for z/OS, and WebSphere MQ will be provided.

Do not miss the series of ITSO workshops:

**IBM ITSO zSeries SW Forum - Powering SOA with IBM Software on System z**

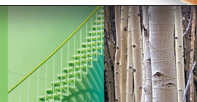
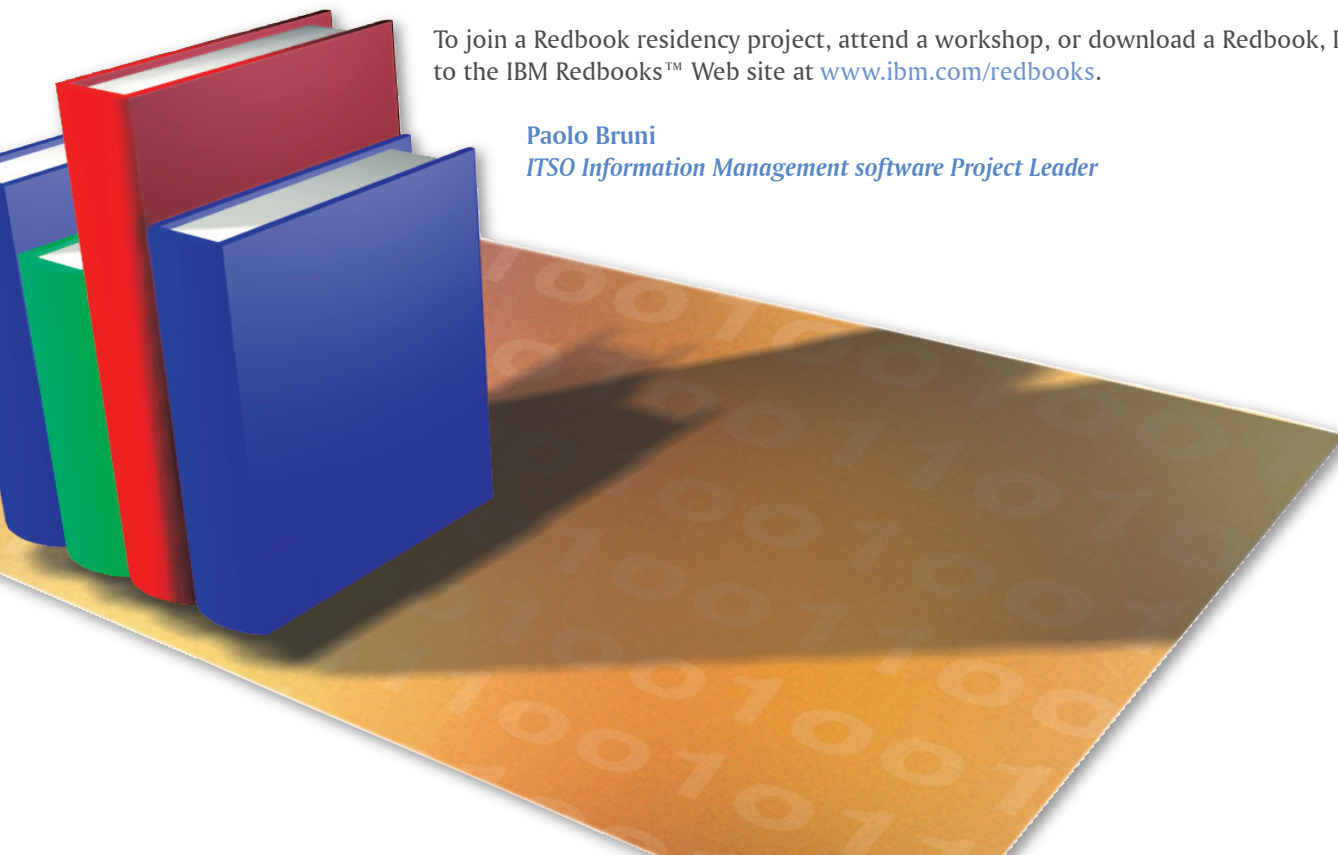
This forum consists of several technical training events offering technical break-out sessions on System z software solutions enabling Service Oriented Architecture (SOA). The forum includes parallel tracks with break-out sessions, presented by an expert panel from ITSO, development labs and other areas. The tracks will focus on:

- WebSphere application and process integration
- WebSphere Foundation
- CICS
- IMS
- DB2

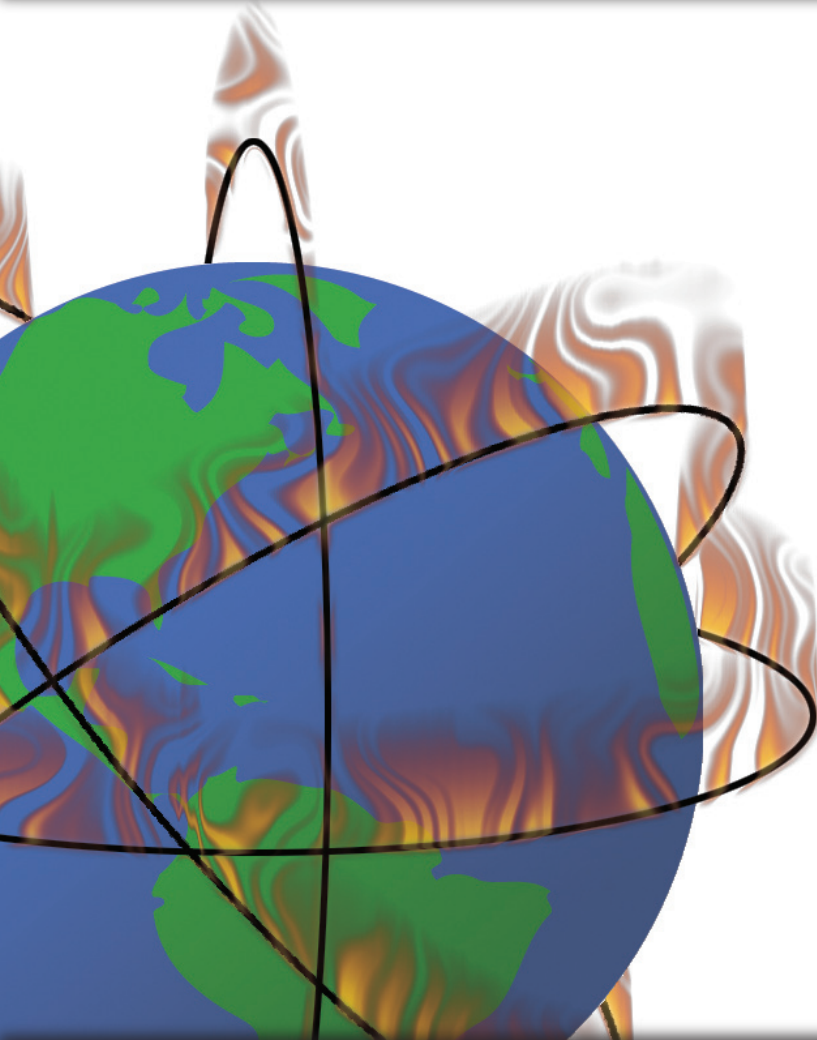
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**Paolo Bruni**

*ITSO Information Management software Project Leader*



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## The IMS Newsletter

**Summer 2006**

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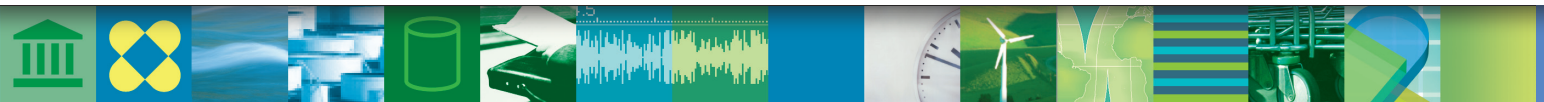
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## They Must Be In Here Somewhere

Once again you can find my children's pictures hidden somewhere in this issue. We will send an IBM IMS pin to every person who can correctly find the two pictures of my children in this issue of the IMS Newsletter. If you would like to receive an IBM IMS pin, please e-mail your external postal address and the picture locations of my children to: [imsmkt@us.ibm.com](mailto:imsmkt@us.ibm.com)

While you're at it, tell us what you think of the IMS Newsletter!

**Glenn N. Galler**  
*Editor-in-Chief*

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