



SAP Standard Application Benchmark Publication Process

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Introduction

The purpose of this document is to capture the establishment and maintenance of a set of fair and competitive practices for the publication of information for SAP Standard Application Benchmarks. The set of rules are geared to drive the SAP Standard Application Benchmarks and technology to a higher standard in the industry and will be maintained by a workgroup, which acts on behalf of the SAP Benchmark Council. Each of the workgroup members involved in the development of these rules will strive to support the defined environment for benchmark publications.

This document was created by the workgroup on a volunteer basis through the participation of the following companies: Compaq Computer Corp., Fujitsu Siemens Computers GmbH, Hewlett-Packard Company, IBM Corp., Intel Corp., Microsoft Corp., Oracle Corp., SAP AG, SUN Microsystems, Inc.. The document is based on an initiative at the SAP Benchmark Council meeting in December 2000. The workgroup held their initial meeting on February 1, 2001. A total of ten conference calls were held during which a base framework for this SAP benchmark policy for publications was built. On the 23rd of May 2001 the policy got empowered by the SAP benchmark workgroup, and on June 6, 2001 it got empowered by the SAP Benchmark Council.

In this document the word workgroup stands for "SAP Benchmark Council workgroup".

The following information is contained in this document:

- Definition of a minimum set of data that must be contained in any publication and/or comparison of certified benchmark results.
- Description of the common web site for certified SAP Standard Application Benchmarks.
- Guidelines for publishing and/or comparing certified benchmark results.
- Definition of the challenge process to allow partners to contest or defend publication of SAP Standard Application Benchmark results.
- Terms for the workgroup to a benchmark result withdrawn from the common web site.
- Description of the logistics of the workgroup and conference calls.
- Rules for company representation.
- Copyright request handling.
- Openness Statement.

1 Minimum Required Data for Publication of Benchmark Results

For publications or references to SAP Standard Application Benchmark results, the following data is required:

1. mySAP business solution component and release (SAP R/3 4.6 C, mySAP CRM 2.0 C, SAP APO, ...).
2. Configuration (2-tier with central server name or 3-tier with database server name), RDBMS, and operating system.
3. Only the number of tested benchmark users for dialog/user-based benchmarks.
4. Achieved throughput in business numbers such as “processed order line items or accounts balanced”

Benchmark	Number of Benchmark Users	Throughput per Hour
SD	X	-
ATO	-	Number of assembly orders
BW	-	Load Phase: No. of rows
BW	-	Realignment: Number of balanced accounts
BW	-	Query Phase: No. of navigation steps
Retail (POS inbound)	-	Number of sales data line items
Retail (Replenishment)	-	Number of replenished stores
ISU-CCS	-	Utility Reference Customers Created meter reading orders
APO DP	-	Number of characteristic combinations
APO PP-DS	-	Number of transport & production orders
APO SNP	-	Number of transport & production orders
BCA	-	Day: Number of postings to account
BCA	-	Night: Number of balanced accounts
HR	-	Number of processed periods
CATS	-	Number of activity reports
FI	X	-
MM	X	-
PP	X	-
WM	-	Number of stock movements
PS	-	Number of projects

5. Certification number and a link directing the reader to the public Web page (for example, "For more details see <http://www.sap.com/benchmark>).

2 Definition of Two-Tier and Three-Tier Benchmarks

In general, benchmarks are run as two-tier or three-tier benchmarks. In the following, 2-tier and 3-tier benchmarks are defined.

2.1 Definition of 2-tier benchmark

An SAP Standard Application Benchmark can be termed a 2-tier benchmark if it is:

- Executed on one system
- Capable of running under ONE operating system

The actual configuration of the server system during the benchmark run may be different as long as no hardware reconfiguration is necessary to run the system under one operating system.

Detailed definition of a 2-tier benchmark

One operating system must be capable of distributing a mySAP solution component instance such as an SAP R/3 instance with its dispatcher and all work processes across all controlled CPUs of the whole server system.

Several servers, such as Numa-Q, for example, are considered as 2-tier if there is also one physical box and only "one" operating system can be run on this box.

Multiple nodes or Massive Parallel Processing (MPP) systems do not satisfy this requirement and therefore are considered as 3-tier.

2.2 Examples of 2-tier setups

- Separate boxes with separate operating systems controlled by one cluster operating system that is able to distribute a SAP solution component instance like an SAP R/3 instance across all controlled CPUs.
- A single box split into several partitions where an OS is running on each partition, if it is possible to run the same box with only one OS.
- A system with NUMA architecture running one OS, using process binding, processor sets, and so on.
- An SMP system running one OS.

2.3 Definition of 3-tier benchmark

A 3-tier configuration includes separate operating systems on separate physical machines. Also, a single system with separate operating systems when it is not possible to run one operating system on the whole system is considered 3-tier.

2.4 Examples of 3-tier setups

- Separate boxes with separate operating systems connected by a LAN connection.
- Separate boxes with separate operating systems connected by a high speed cluster interconnect.
- Separate boxes with separate operating systems controlled by a cluster manager (this cluster manager may be able to start processes anywhere on the cluster).
- A single system with separate operating systems when it is not possible to run one operating system on the whole system.

2.5 Definition of "one server"

The servers shown in the benchmark certificate will be defined according to the definition of 2-tier: One server is defined as the complete physical hardware (the maximum number of processors, memory and disks that can be addressed and used with one operating system), no matter whether it is being used or not. This one server would be capable of running under ONE operation system (see definition 2.1). The actual configuration during the benchmark may be different.

2.6 Examples for "one server"

- A 16-way system that is partitioned into two 8-way systems will be a "16-processor SMP". Even if one partition will not be used (but is physically present), it still would be a 16-way SMP.
- An MPP cluster will be viewed as separate servers, because it is not possible to run ONE operating system on all of them.

3 Web Page Dedicated to SAP Benchmarks

All available certified benchmarks are listed at <http://www.sap.com/benchmark>. The web page is maintained by the SAP Performance, Data Management & Scalability group in cooperation with SAP Marketing and is available to the public. The web page will be updated within two working days after a certification has been issued. The sort order for the first version of the web page: The results will be sorted by certification date on the web page and by throughput in the white paper. The SAP benchmark web page makes the SAP benchmark policy publicly accessible. It also contains a list of all rule violations and benchmark withdrawals.

4 Publications Rules and Benchmark Requirements

The following requirements must be fulfilled for any publication that mentions SAP Standard Application Benchmarks.

1. Publication definition

A publication in the SAP Application Benchmark environment is defined as any document published by SAP or SAP partners that:

- a) contains reference to certified benchmark results
- b) or the word "benchmark" in an SAP context,
- c) or could be confused with SAP benchmarks.

All these publications must be reviewed and approved by SAP AG. SAP reserves the right to discuss certain partner publications in a bilateral method due to legal contracts.

2. All of the minimum data (specified in section 1) for each of the certified benchmarks represented must be included in the publication.
3. The publication may only compare certified benchmarks of the same type (such as ATO or SD)
4. Any publication may only include numbers that refer to actually published benchmark results. It is not allowed to adjust any published number, or to make estimates.
5. Publications may compare certified benchmarks across all SAP release versions for each type, however each version (as specified in the minimum data requirements) must be prominently visible on the publication.
6. Statements on the publication must be accurate and can only refer to certified benchmark data that is presented in the publication. For example, when comparing two 2-tier benchmarks, you may state 'highest 2-tier SD results', if it is true, but not the generic phrase 'highest SD benchmark result'.
7. The partner company which had to withdraw a benchmark result and all partners which refer to the withdrawn result (see chapter 6) are asked to remove the related publication from their web page and other sources under their control within 10 business days.
8. It is not permitted to release and/or compare any price information of hardware, software and service in conjunction with a SAP Standard Application Benchmark result including those specified under 4.1. A price reference based on other benchmark organizations (i.e. TPC, SPEC,...) is permitted as long as price is part of the benchmark metric and the benchmark disclosure is publicly available.
9. Price/performance is not a metric of the certified SAP Standard Application Benchmark.
10. Compare means:
 - a) To set side by side in order to show differences and likenesses. Compare is an aim of showing relative values or excellences by bringing out characteristic qualities whether similar or divergent.
 - b) It is permitted to point out that there is no certified benchmark result available from a particular SAP Technology Partner for a certain SAP benchmark.

11. In a publication it is allowed to have so called fence claims. Segmentation is permitted for the following categories:

- 2-tier, 3-tier
- Number of CPUs as reported in the SAP Standard Benchmark Certification Report Document (2-tier entire system under test, 3-tier as reported for the database). For instance: 2-way, 8-way, and so on.
- Operating system platforms as follows:
 - Linux
 - OS/400
 - Unix
 - Windows
 - z/OS

Any combination of the above categories combined with the SAP Standard Application Benchmark is permitted in a fence claim. The leadership statement refers to the number of tested benchmark users for dialog/user-based benchmarks and achieved throughput in business numbers for batch benchmarks (see table in chapter 1). For benchmarks with more than one throughput number (as of today BW and BCA) the leadership statement has to be specified in case the publicized benchmark is not leading in all areas (BW Load, BW Realign, BW Query, BCA Day processing, BCA Night processing).

For a fence claim, it is mandatory to have an "As-Of-Date", SAP Standard benchmark (e.g. SD, ATO, MM, ...) and the 2-/3-tier classification.

An "As-Of-Date" indicates the date when a certain fence-claim statement made in a publication is valid. The "As-Of-Date" has to be explicitly written in the publication. An implicit date like "date of publication" etc. is not sufficient. The exact wording is not defined, but it must be clearly identifiable as an "As-Of-Date".

It is also allowed to use common wording like "record", "world record", and so on in case this is true statement at time of the "As-Of-Date".

This means, it is specifically allowed to write such as:

- "Best 32-way SD 3-tier result on Windows"
- "Best 24-way BW Load 2-tier result on Unix"
- "Best 72-way ATO 2-tier Unix as of July 14, 2003"
- "Best in class up to 16-way SD 2-tier"
- "Best 4-way BCA Day processing 2-tier result"
- "Best 3-tier MM result on Windows"
- "4-way Performance leader on ATO 2-tier"

12. The type and number of processing units and other system configuration options is defined by the publicly available system description and is the responsibility of the vendor.

5 Challenge Process

Any technology partner can challenge any publication referring to SAP benchmark results and initiate a review process. A reason for this challenge may be that a partner believes that the publication is not in line with the publication rules defined in this document.

1. Submitting a challenge

The partner submits the following data via email to the chair of the workgroup and the challenged party. The email is to include:

- a) A description of the violation
- b) A reference or document which the violation refers to
- c) Email address and phone number of the submitting party
- d) The "sent date" of the challenge email from the challenger to the challenged party and the chairperson is the start date of the challenge. The challenged party has 5 days from the "SENT DATE" to respond to the initial challenge.
- e) Challenge Response: Within 5 days the challenged party provides a resolution. The "SENT DATE" on the resolution plan (indicated by RESOLUTION in the email Subject) is the start date. The team has 2 days from that date to approve the final resolution.

2. Simple agreement

The simple agreement gives the challenger and the challenged party under the observation of the chairperson the opportunity to find an agreement to resolve the issue within a maximum of five business days. The challenge starts with an email from the challenger to the challenged party and the chairperson.

Within five business days the challenged party can contact the challenging partner and the chairperson in order to find an agreement. If the two parties (with or without the chairperson) reach an agreement within five business days after the start date, the challenge will be closed and the chairperson needs to be notified by email by both the challenging and challenged parties within the challenge period.

In case the challenged party proposes a solution to the challenger and/or the chairperson via email within the five business days and the challenging party does not oppose or confirm the agreement within the following next two business days the challenge is closed or the chairperson is notified by email by both the challenging and challenged parties within the challenge period. - The challenged party will execute the proposed plan and the challenge will not go to the workgroup. An opposed challenge will be automatically passed on to the workgroup.

The total duration for the challenge in the simple agreement process cannot exceed seven business days (5 days + 2 days response).

In the case there was no plan provided to resolve the challenge by the challenged party within five business days after the challenge start date, the challenge will be passed on to the workgroup and will be handled in the next upcoming conference call.

If the partners do not find an agreement to close the challenge, the challenge will be passed on to the workgroup.

The challenging company must send an email to the current chairperson of the workgroup and to the challenged company's representative at least one business week before the conference call.

3. Possible challenge at the SAP Benchmark Council meeting

Ideally, all challenges will be settled by the workgroup.

If the challenge is intended to be presented at the SAP Benchmark Council meeting, the case will be discussed in the monthly workgroup conference call. Both partners will receive a maximum time allowance of 10 minutes to present the case. The workgroup settles the challenge by means of a vote. If the challenge cannot be settled within the framework of the workgroup, it will be presented at the SAP Benchmark Council meeting.

4. The SAP Benchmark Council confirms violation

If the SAP Benchmark Council meeting confirms that a company violated a benchmark rule, the violation will be posted on the benchmark web page. The entry in the violation list will be available on the web page within two working days after the ruling of the SAP Benchmark Council. The violation list is to include:

- a) Date of workgroup decision
- b) Company name
- c) Description of the violation, what, where, when
- d) Correction actions for the company (if applicable)
- e) Clarification of the workgroup

6 Withdrawal of a Certified Benchmark Result

The workgroup has the right to withdraw a certified benchmark result if e.g. the 6-months rule was violated. After the workgroup has withdrawn a result, it will be removed from the benchmark list on the SAP benchmark web page (within two working days) and the benchmark white paper (next revision latest 8 weeks after the incident).

In addition, an entry on the SAP benchmark violation list will be created within two working days after the SAP Benchmark Council has withdrawn the result. The entry in the violation list includes a description of the violation.

7 Temporary De-listing

The de-listing of an SAP certified Benchmark result from the web site may take place in certain circumstances (marketing launch delay, clarification required, partner synchronization...) where the partner needs to limit public exposure to only the Certification Notification email from SAP.

The partner will officially request the de-listing from the web site with SAP, Georg Fischer at ge.fischer@sap.com, including detail justification in an email. The de-listing will last for a maximum of 20 working days from the sent date on the original email to Georg Fischer at which time it will be reposted to the web site at the latest. A de-listing for a certified benchmark can only be requested once.

8 Workgroup Meetings/Conference Calls

1. Workgroup meeting

The workgroup has a phone conference every first Thursday in the month (9:00 AM to 11:00 AM PST). The SAP Benchmark Council Meeting is scheduled for the second Wednesday in the month.

2. Chairperson of the Benchmark Council workgroup conference call

The workgroup's conference call has one chairperson. The chairperson is the company representative. The chairperson is in place for four conference calls. After that, the chairperson will rotate to the next company.

3. Function of the chairperson

The chairperson issues the agenda and conference call dial in information via email no less than one business day prior to the workgroup conference call.

The chairperson writes the meeting minutes and distributes them via email to the workgroup members within five business days of the conference call.

9 Company Representation in the Workgroup

1. Workgroup member companies

The current list of member companies can be found on the benchmark web page, listing the company names in alphabetical order. For more information on member companies and contact information, refer to Georg Fischer, SAP AG (ge.fischer@sap.com).

2. Company representative

Each qualified company may provide up to two representatives for the workgroup.

3. Change of company representative

In case of a change of representative the company must send an email to the current chairperson of the workgroup conference calls.

4. Voting right of the company representative

The representative participates in benchmark conference call meetings and has voting rights in the workgroup for his or her company.

The member company loses the right to vote if the company's representative does not participate in the monthly conference call three times consecutively. This automatically changes the member status of the company from active to passive.

The member company regains the right to vote immediately after participating in two consecutive council conference call meetings. This automatically changes the member status of the company from passive to active.

5. Quorum

At workgroup meetings, 60% of the active member companies must be present to constitute a quorum.

6. Motions

The outcome of a vote concerning a motion will be based on a simple majority. The possible votes are: yes, no, abstention.

Examples:

Yes	No	Abstention	Total	Motion
5	2	3	10	passes
2	5	3	10	does not pass
4	4	2	10	does not pass

10 Copyright Handling of the Benchmark Policy

1. Submitting a copyright request

A copyright request must be submitted to the following workgroup's email address (sapbenchmarkchair@yahoo.com) at least two working days prior to the next conference call meeting (see 7.1).

The request must include:

- All sections and paragraphs that are to be covered by the copyright
- Description and purpose of why the copy is being requested.

2. Approval of a Copyright request

A Copyright request will be presented by the chairperson and will be followed by:

- a) A discussion of the workgroup
- b) A motion to accept a request

Whatever the outcome of the motion will be, the requesting party will be notified of the status of the request.

If the workgroup needs more information about this request they have the right to defer a decision until the next conference call.

Feedback, Comment, Openness Statement

The workgroup invites all interested companies to use and refer all rules and regulations defined and described in this paper. The paper intends to emphasize the openness of the workgroup to evolve application benchmarks and technology to a higher and common standard in the industry.

Comments and feedback are appreciated. Please feel free to contact the workgroup via email.

You may contact the workgroup with email: sapbenchmarkchair@yahoo.com