

Summary of Database Performance Comparison

By KLAS Enterprises – January 2004

In January 2004, KLAS Enterprises published a report entitled “Database Performance: A Comparison of Applications Based on Caché- and Oracle-Based Applications”. The aim of this study was to collect real-world information about the performance of leading database management systems in large-scale healthcare applications.

In Summary

“There is sufficient independent data to validate a significant variance between Caché and Oracle in several significant areas, especially with respect to the care and feeding of the database system. Overall, Caché leads in all five of the specific performance measurements. The following area stands out in the clinical area:”

- InterSystems' database products outperformed Oracle's by more than 1.3:1 in hardware required and 1.4:1 in DBAs required.

How the Data Was Collected

KLAS is a research and consulting firm that specializes in monitoring the performance of healthcare IT vendors. It regularly surveys executives and clinicians from more than 4,500 healthcare facilities to get their real-world perspective on 500+ different products from 300+ vendors.

For this study, KLAS contacted 100 organizations that use four well-known applications, two based on InterSystems' database products and two based on Oracle's database products. For an enterprise-wide perspective, KLAS surveyed users of two electronic medical records applications. For a departmental perspective, KLAS surveyed users of two laboratory applications.

Respondents were asked a combination of satisfaction questions (e.g., "On a scale of 1 to 9, how satisfied are you with the reliability of the database used for this application?") as well as more specific quantitative questions (e.g., "How many DBAs do you have?")

What Users Reported about End User & Administrative Response Times

When looking at the overall results we note that **Caché leads in all five of the specific performance measurements**. In the performance rating areas, those revolving around uptime, response time, reliability, and speed and scalability, Oracle also lagged behind Caché in all areas. These areas were all measured on a scale of 1-9, with 9 being high.

- The biggest differentiators were uptime and end-user/administrative response time.
- Both databases/applications had the lowest satisfaction score in the same area: administrative response time. (Leading area denoted with a ✓)

Criterion	Caché	Oracle
Response times by database type:		
■ end user	7.93 ✓	7.24
■ administrative (scale of 1 - 9)	7.93 ✓	7.19

Criterion	Caché	Oracle
Satisfaction with the reliability of the database system for this application (scale of 1 - 9)	8.30 ✓	8.18

What Users Reported about Performance and Scalability

KLAS asked users to rate their satisfaction with the speed and scalability of the database used for their healthcare applications. Caché scored higher.

Criterion	Caché	Oracle
Satisfaction with speed and scalability of database (scale of 1 - 9)	7.95 ✓	7.63

The true measure of a database is its performance in live operation. As we continue to measure and collect real data, we are able to cut through all the hype about technology, state-of-the-art solutions, object oriented systems, relational databases, and client/server. In doing so, we continue to see that **Caché serves the healthcare community as a core component in the best-rated systems in the market**. This also holds true with the uptime of the system.

Criterion	Caché	Oracle
Satisfaction with uptime (scale of 1 - 9)	8.29 ✓	7.82

User Reported: Length of Longest Unscheduled Downtime

Criterion	Caché	Oracle
Duration of Longest Unscheduled Downtime		
1-2 hrs	24%✓	12%
3-6 hrs	33%✓	16%
7-12 hrs	17%✓	23%
13-24 hrs	13%✓	42%

User Reported: Number of Scheduled Downtimes in the Past Year

Criterion	Caché	Oracle
Number of Scheduled Downtimes in Past Year		
None	2%✓	2%✓
1	13%✓	4%
2-3	42%✓	13%
4-6	19%✓	30%
Over 6	25%✓	50%

What Users Reported on Database Administrators (DBAs) Needed to Manage the Database

Criterion	Caché	Oracle
Average number of DBAs	1.13✓	1.63

Bottom Line

KLAS summarized the results as follows:

“When looking at the overall results (all Caché-based products vs. all Oracle-based products) we note that Caché leads in all five of the specific performance measurements. The largest variation was found between the two databases in administrative response times”.

