Greatly Improved SQL Index Performance for Oracle Berkeley Database, Version 6.2
Introduction
The just released version of the Oracle Berkeley Database (BDB) has increased performance for SQL Index based queries.

Description
Oracle Berkeley Database 12.1.6.2 includes greatly improved performance of index based SQL queries. Index based queries are now up to 4 times faster in BDB 6.2 compared to BDB 6.1. The charts below show times it took to execute each SELECT statement 100,000 times. The queries executed were:

» 1. SELECT rowid FROM STOREINFO WHERE rowid=?
» 2. SELECT storeid FROM STOREINFO WHERE storeid=?
» 3. SELECT lat FROM STOREINFO WHERE lat=?
» 4. SELECT longi FROM STOREINFO WHERE longi > ? AND longi < ?

Results
The following chart shows the results comparing the previous version of the Oracle Berkeley Database (BDB), 6.1 with the updated version 6.2.

100,000 Single-Threaded Indexed Read Queries
BDB 6.2 Execution Time is Smaller and Better than BDB 6.1
The columns storeid, lat, and longi each had a dedicated index. The first table shows the performance when using a single thread, and the second (following) shows the performance when using five threads. The test machine contained four Intel Xeon 2.70 GHz CPUs, had 16 GB memory, and ran Oracle Linux Server release 6.4.

### 100000 Multi-Threaded Indexed Read Queries

BDB 6.2 Execution Time is Smaller and Better than BDB 6.1
Integrated Cloud Applications & Platform Services

Copyright © 2016, Oracle and/or its affiliates. All rights reserved. This document is provided for information purposes only, and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document, and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group. 0116

Oracle Berkeley Database (BDB) SQL Performance
April 2016
Author: Lauren Foutz
Contributing Authors: Michael A. Schulman