Customer Case Study
Real Application Testing Usage at Nationwide
Real Application Testing

Tom Robertson
Database Technology Architect
Infrastructure and Operations
September, 2010
### Overview

**Challenges**
- Applications and systems close to maximum utilization OR due for hardware refresh
- Complexity: reporting instances, increased storage costs and capacity, information not available in timely manner
- Can Real Application Testing provide a method to validate new commodity hardware, platform strategy?
- Can commodity platforms handle high OLTP and mixed workloads?

**Solution Approach**
- Use Database Replay to capture batch and OLTP workloads for peak periods
- Use Database Replay to execute workload on new systems, measure system performance, resource utilization, and any SQL regression

**Benefit**
- Replay workload on new systems: 2x to 12x production volumes
- Process performance improvements noted: 2x to 10x
- Validated new features – up to 67x reduction in space through Advanced Compression*
- Validated new hardware handles peak workload with excess capacity and dramatically improved performance
Use Case and Load Testing Results

System and Workload

Packaged Application and Custom Reporting Databases

Oracle Database 9.2.0.8 Release: 2 unique databases and Instances

Moving to RAC Platform, x86, database upgrade 11g: single database with multiple instances

Validated that migrated system can handle peak/mixed workload at 20% utilization, obtained range of 2x - 10x DB time improvement for various databases

x86 and RAC platforms here generate an average savings on hardware of 85% and 25%+ for software

Legacy Server Model - Capture
RISC CPUs: 8 x 2 @2150 MHz
Memory: 64 Gb

Replacement Server Model - Replay
CISC CPUs: Intel Xeon 2.27 Ghz 2 x 4
Memory: 72 Gb RAM
Compression Results

Compression Advisor used to evaluate various compression techniques – OLTP, Archive
High on key tables
Able to reduce disk footprint by up to 67x*
Performance overhead was negligible for OLTP compression

* Maximum compression achieved (67x) based on Exadata testing,