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SAS on SPARC T4

Maureen Chew, maureen.chew@oracle.com

Gary Granito, gary.granito@oracle.com

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SAS & T4 Performance

- Historically, SPARC CMT (T1, T2, T3) *not* recommended for SAS workspace/backend services
 - Well suited, sized and recommended for SAS mid-tier for Java Application Services
- T4 announced on 9/26/11 and changes landscape for SAS applications on CMT

SAS & T4 Performance

- Spoiler Alert
 - Excellent results
 - Bests current SPARC64 VII+
- Testing permutations:
 - SAS 9.2 / 9.3
 - Solaris 11, 10, Solaris 10 Branded Zone on Solaris 11

What SAS Tests Were Run?

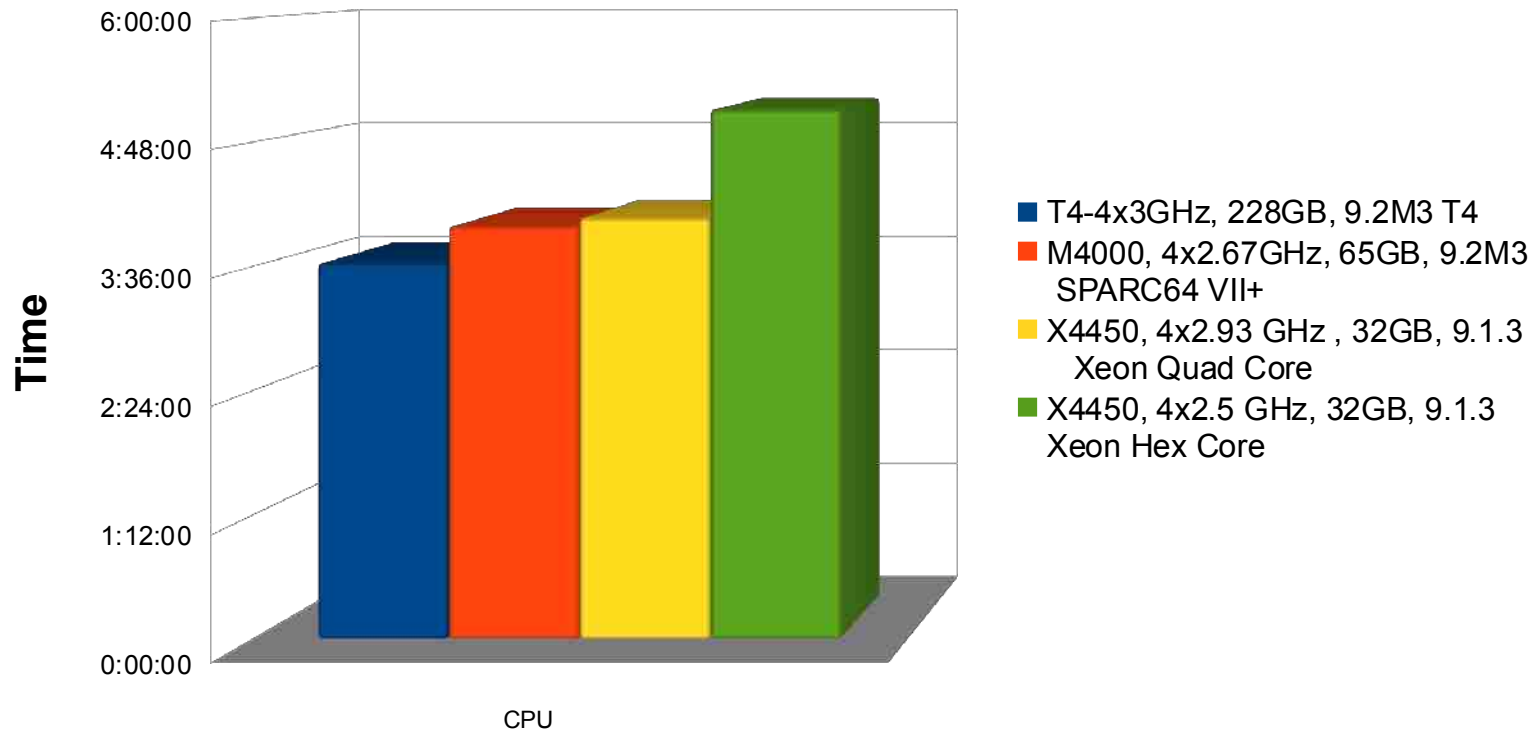
- BOST Tests – Bunch of SAS Tests
 - Rhymes with post – “run the tests so we can BOST the results”
 - Some ~40 tests – vanilla, bread and butter SAS tests; real world BASE/STAT/EM stuff
 - Utilizes DATA step (of course!), SORT, index creation, REG, LOGISTIC, MIXED, GLM, PHREG, NEURAL, DMDB, DMREG, SQL, SUMMARY, FREQ, MEANS and others
- LOGISTIC showcase (H.sas)

System Configurations

- Server Details
 - SPARC T4 – 4x3GHz SPARC-T4, 228GB RAM
 - M4000 – 4x2.67GHz SPARC64-VII+, 65GB RAM
 - X4450 – 4 way Xeon, 32GB RAM (9.1.3) – included for reference point
- I/O
 - Some tests were I/O intensive
 - No high end I/O configuration – whatever was in the box; ZFS filesystem utilized
- SAS CPUCOUNT=4 in all BOST tests

BOST Results - Total Time

BOST Total Time Summary



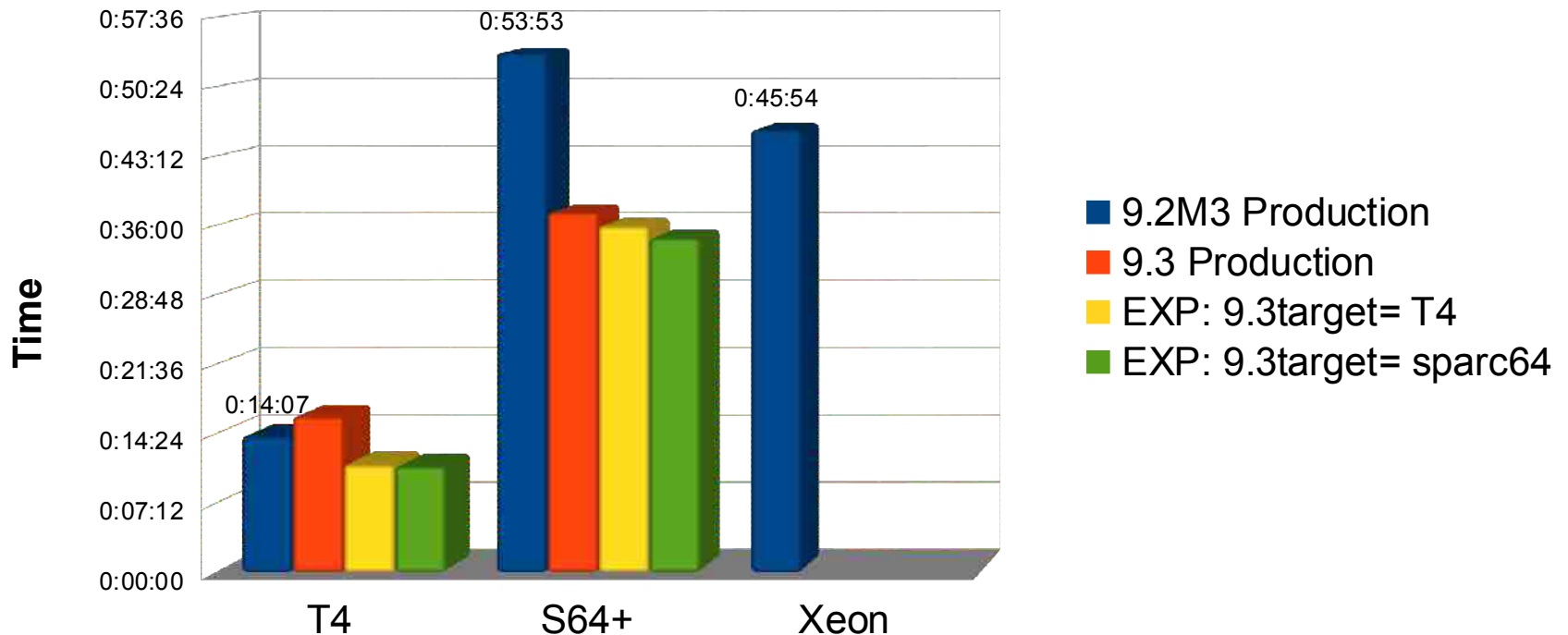
SAS / Oracle Engineering Collaboration

- Experimental SAS 9.3 builds with Solaris Studio 12.3 compiler
 - Results include for matter of interest
 - Collaboration exercise
 - Validation or SAS N+1 compiler usage, compiler flags

LOGISTIC Showcase - "H" Test

T4: ~14 min, SPARC64 VII+: ~53 min

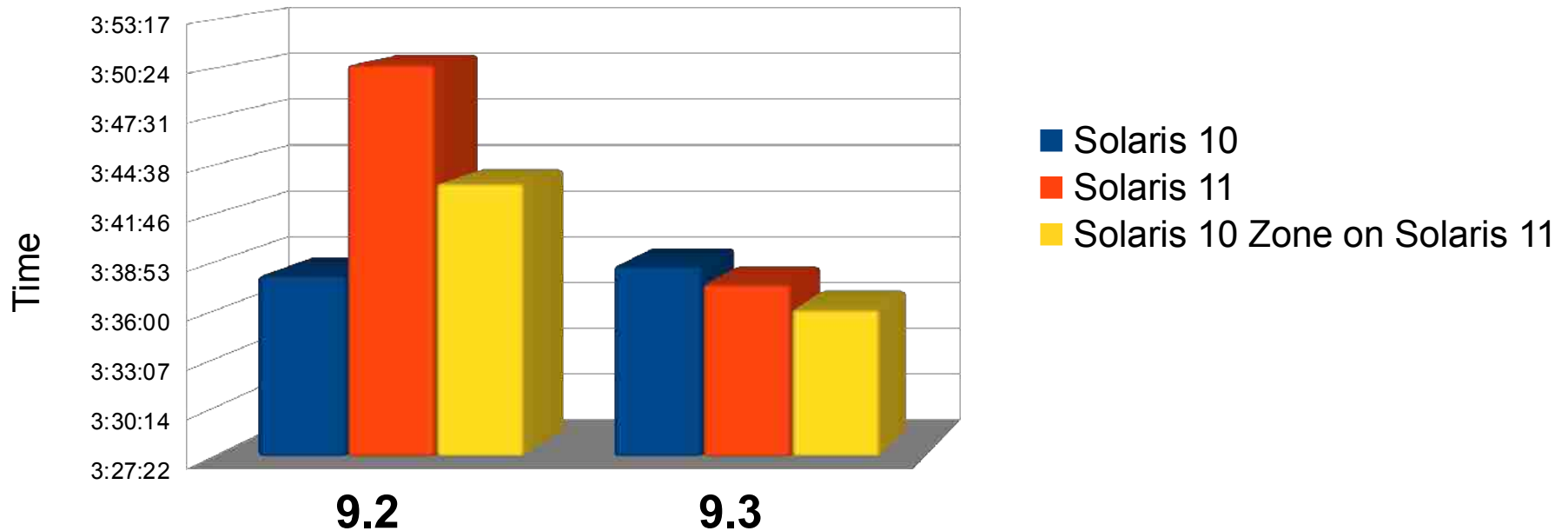
"H" - LOGISTIC, Production and Experimental Compiler Flag



Solaris 11/10, SAS 9.3/9.2 for SAS BOST

Solaris 11 / Solaris 10

No performance penalty for Solaris 10 Zone



Solaris Tuning Optimizations

- Kernel Modifications

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Solaris Tuning Optimizations

- Previous slide intentionally left blank
 - No kernel variables were neutered, altered or harmed in the running of our tests
 - No /etc/system changes for Solaris 11, Solaris 10 or Solaris 10 Branded Zone
- It's Solaris... it just works out of the box

SAS Leadership Thoughts

“SAS Business Analytics enables faster, more accurate data-driven decisions. Whether it is risk analysis, fraud detection or complex optimization mathematics, implementing SAS Business Analytics on SPARC T4 solves critical business issues in transformational ways. SPARC has long been a proven platform for SAS applications; T4 delivers SPARC performance at its best”

Paul Kent, SAS Vice President of Platform Research and Development.



Summary

- T4 – Proven performance for SAS applications
- Solaris 11, Solaris 10 or both
 - Choice, agility, Enterprise ready
 - Leading UNIX platform for SAS deployments
- Engineering collaboration

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