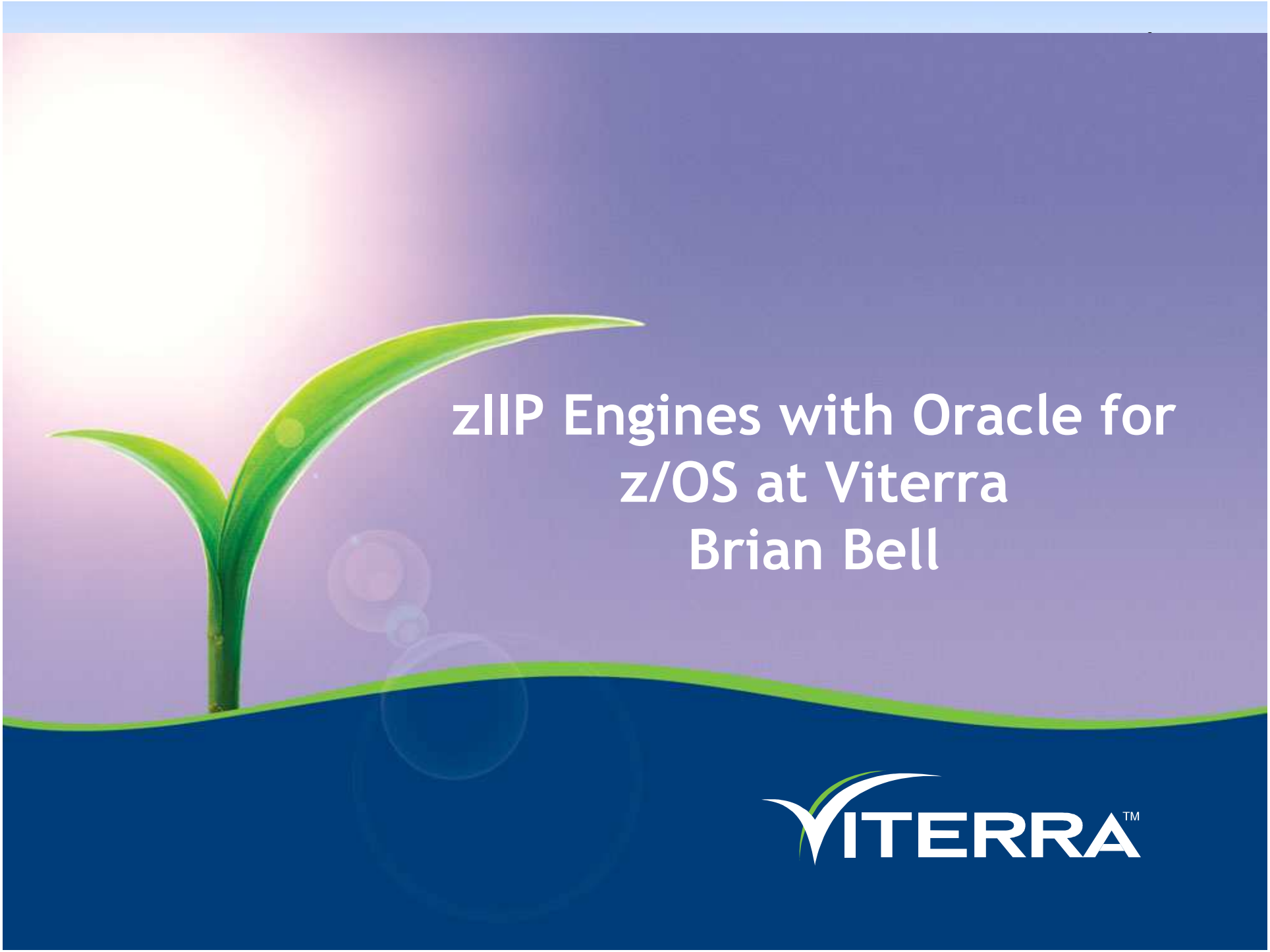

zIIP Engines with Oracle for
z/OS at Viterra
Brian Bell
VITERRA™

April 2007 -- Last Year's News:

The New Pool.

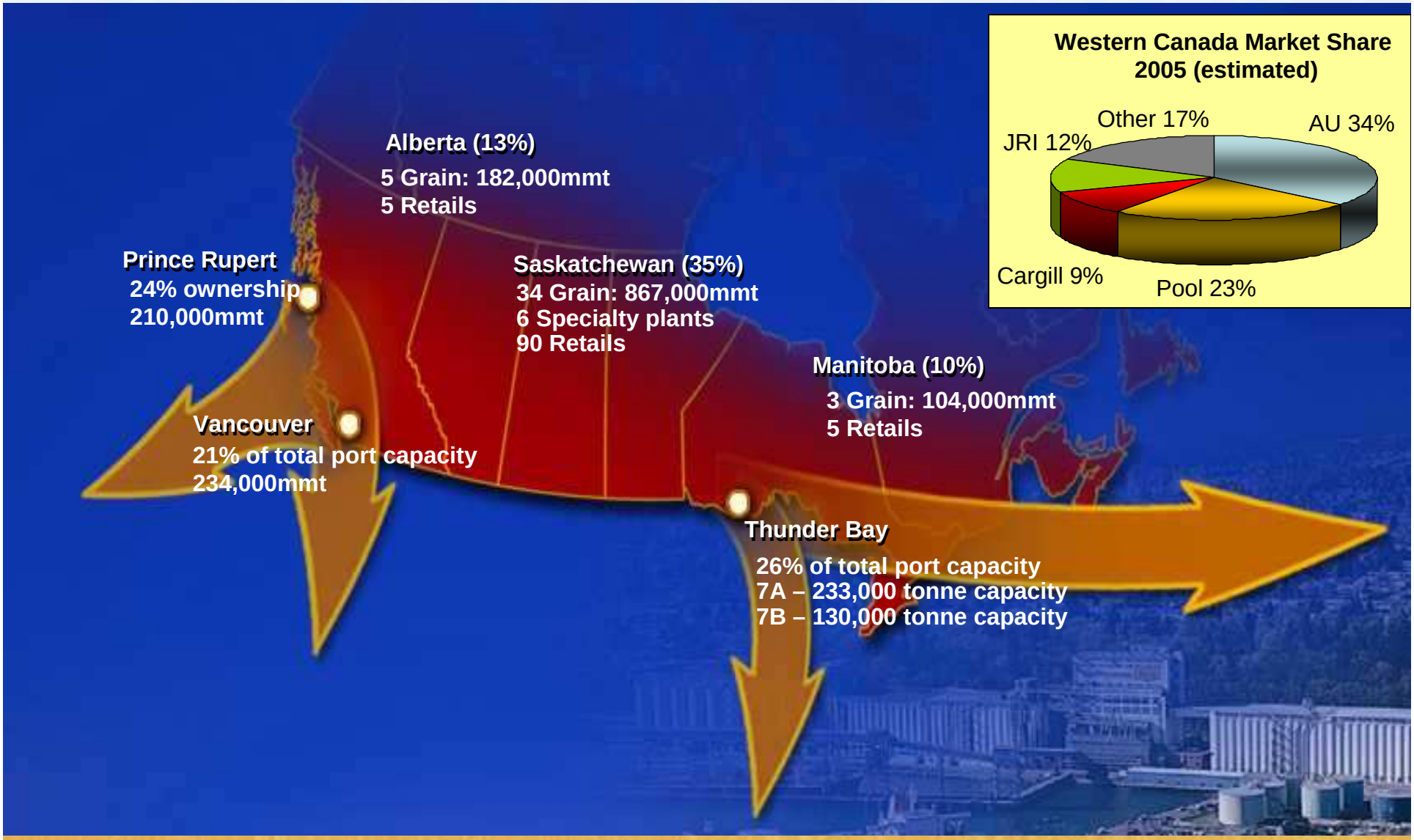
Beyond Tomorrow.

POOL™

Saskatchewan Wheat Pool


Extending Our Reach
VITERRA™

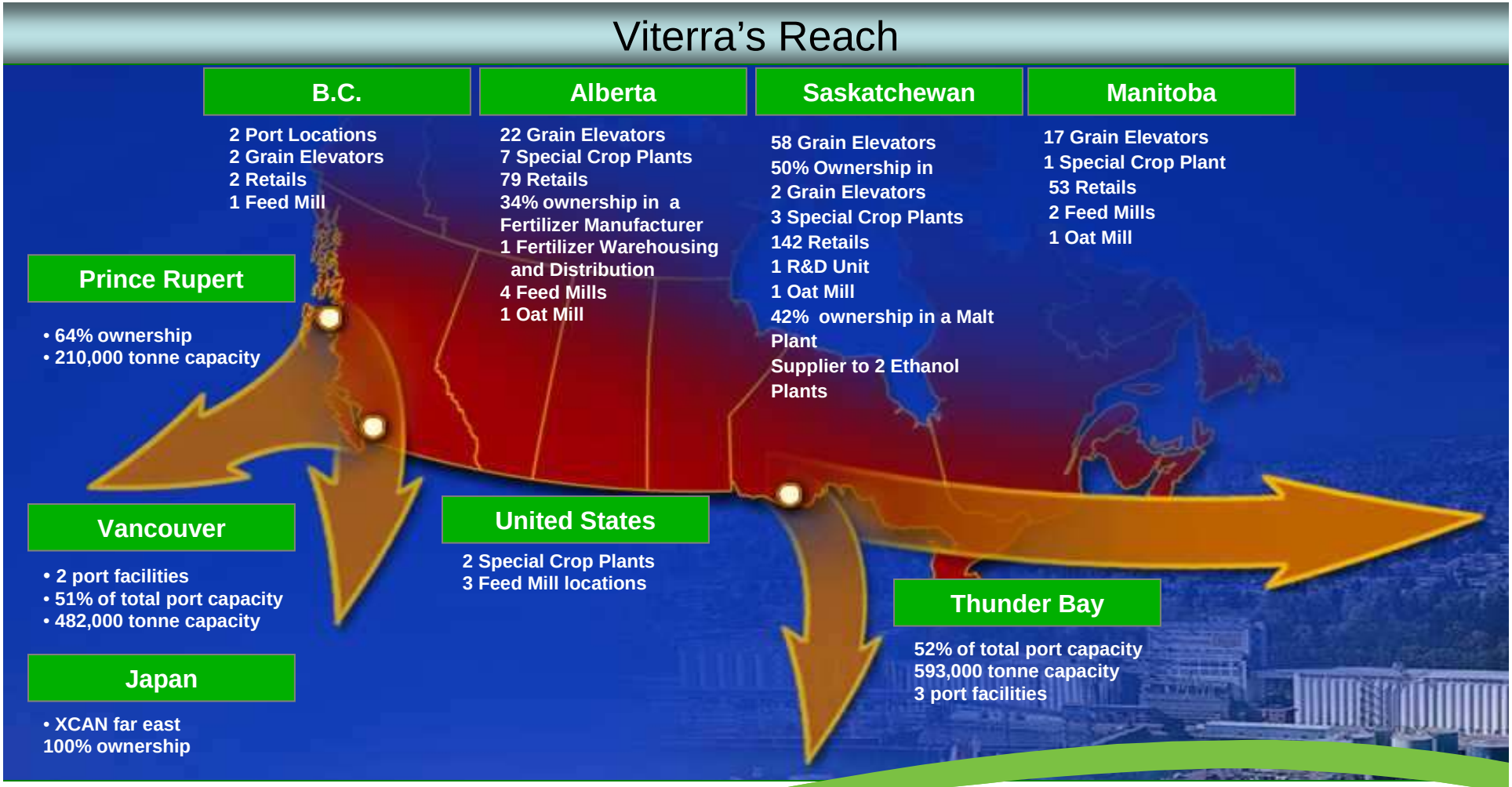
The Pool's Integrated Pipeline [4]



Destination customers access Canadian grains and oilseeds through the Pool's integrated supply chain distribution model

Company Profile

Viterra's Reach



Integration Project

- Goal – Complete Integration in One Year
- Eliminate Winnipeg Data Centre
- All sites running one set of Apps
- Due to size of Agricore United
  - size of apps expected to more than double
  - major upgrade to mainframe required
  - many other infrastructure upgrades beyond scope of this presentation

Pre-Integration Mainframe

- z890 Model 250
  - 2 CPs – 320 MIPS for z/OS
    - primarily Oracle databases
  - 1 IFL for Websphere Portal workloads
    - considering adding another
  - CoD upgrade available for Spring Peak
    - never used

Timely News from Last Year's SIG!

- Oracle announces it would exploit zIIP processors on z9
- zIIP processors are much cheaper than CPs
- zIIPs are 480 MIPS (much more than our previous capacity)
- Almost all of our Oracle workload fits the requirements
  - Running in an OSDI service class
  - Not XM, AM4CICS, AM4IMS
  - Not parallel query slaves

Software Upgrades

- Installed required PTFs
  - For z/OS 1.7 FMID JBB772S
  - Included in later releases
- Oracle 10g Net required
  - Call support, open a TAR
  - BUG 5878590
  - Concatenate new Authload in NET proc
  - Will work with 8i or 9i database

Initial Concerns

- Difference in processor speed CP vs zIIP:
  - CPU-per-call to enforce tuning requirements.

    With processors running at different speeds?
  - Capacity planning and performance baselines using Oracle SMF data.
    - Will numbers vary from run to run?
    - NO, all figures are rationalized to CP speed

Post-Integration Mainframe

- z9BC Model O02
  - 2 CPs – 250 MIPS
  - 1 zIIP – 480 MIPS
  - 2 IFLs for Websphere Portal workloads
  - CoD upgrade available for Spring Peak
    - 1 additional zIIP – just for insurance
  - Hardware Lease virtually unchanged!

Good News / Bad News

- Sept 24
  - New z9 shipped
  - Easy upgrade compared to other infrastructure work
    - Core databases and zLinux guests all upgraded in a couple hours
- Oct 16
  - Oracle announces de-support of z/OS

Reporting zIIP CPU Usage

- From Farooq's Presenation Last Year:
  - Beta zIIP support Released 03/2007.
  - Plan to provide zIIP and zIIP-on-CP time in SMFDTAI and SMFDTAO fields
  - I Modified Oracle's Standard SMF Report to include these new fields

Results

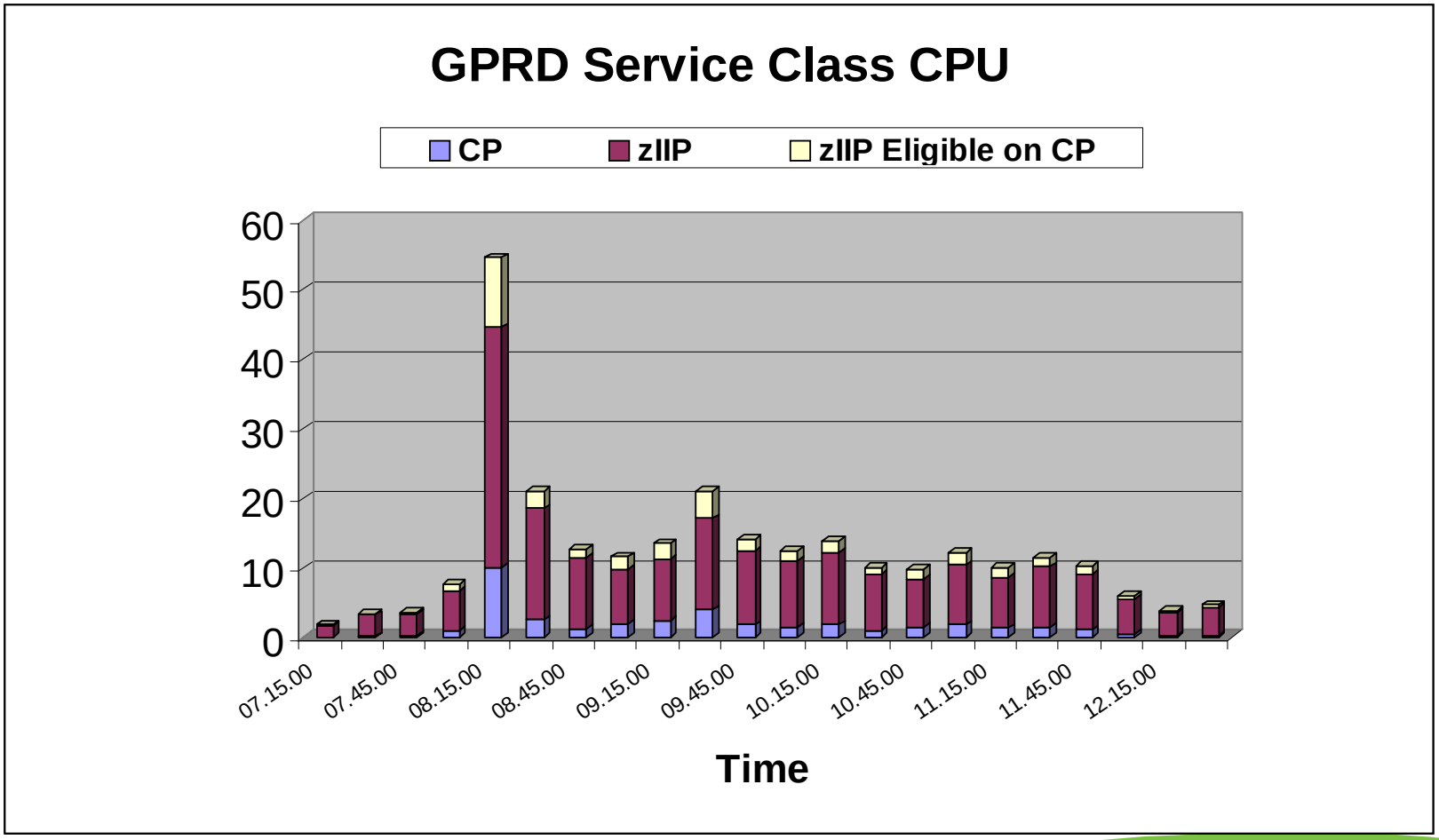
One Day CPU Stats from GPRD Service Class

Total CPU: 4 hr 25 min 32 sec

On zIIP: 3 hr 55 min 45 sec (88.8%) (really ~1 hr)
zIIP-on-CP: 13 min 59 sec (5.3%)
On CP: 15 min 48 sec (5.9%)

VITERRA™

RMF Data


GPRD Service Class CPU
CP
zIIP
zIIP Eligible on CP
60
50
40
30
20
10
0
07.15.00
07.45.00
08.15.00
08.45.00
09.15.00
09.45.00
10.15.00
10.45.00
11.15.00
11.45.00
12.15.00
Time

One Issue

- Resource Group Capping
  - Had been used to throttle misbehaving Test DBs
  - Does NOT apply to zIIPs

  - Will use relative importance in WLM
    - More Discretionary Workloads
  - If z/OS support was continuing
    would move Test DBs to a separate LPAR

Summary

- Results are Outstanding
  - Huge amount of work offloaded to much cheaper processors
  - z/OS software cost reduced – zIIP MIPS don't count
- Oracle's Decision to drop support of z/OS was a HUGE Disappointment
  - PLEASE RECONSIDER
  - Bring back z/OS Support!

Questions

- For more information
  - brian.bell@viterra.ca
  - contact@zseriesoraclesig.org


Extending Our Reach
VITERRA™