Market Requirements Document

Feature Name: Support for Texas Memory Systems Solid State Disk

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Description of the Problem

Objectivity currently runs on disk-based file systems. Some high end users are incorporating non-volatile Solid State Disks [SSD] into their systems. In general, this should be invisible to Objectivity/DB. However, as we have never verified this assumption, we cannot assure potential users of SSD that there will be no problems and that they will see performance or throughput improvements as a result of their investment.

Description of the Requested Feature

We should run a subset of our tests, or at least the high throughput benchmark application, using SSD in at least these configurations:

a) Boot file only.
b) Federated Database file only.
c) Boot file and Federated Database file.
d) Journal files only.
e) Boot file, Federated Database file and journal files.
f) Read-only database file(s) only.
g) New and updated databases only (including deleting a database from SSD).
h) Read-only databases and set e, above.
i) Sets e and g, above.
j) All files.
k) oobackup staging files only.
l) ootidy workfiles only.
m) Data input staging files (buffers between incoming data streams and an Objectivity/DB data ingest application).

Part of an existing feature or does it require another feature, if so, which one?

Performance option.

How is this problem being solved now, and why isn't that acceptable?

We have had telecom customers, such as Alcatal/DSC, use small SSD configurations for their journals to speed up short transactions. The SSD was supplied by Sun and was 100% compatible with the Solaris file system.

We may be lucky and discover that no changes are required to our products.

What languages must support this capability?

- C++
- Java
- SQL++

Which platforms must be supported?

- At least the Tier 1 platforms.

Do any competitors already have this feature?

- HP, IBM and Oracle all have SSD partnerships with Texas Memory Systems.
- Berkeley DB has a partnership with Solid Data (Details).

Customers who require this feature

- Customers with short transactions or high volumes of random updates.
- Texas Memory Systems SSD was considered by NGMS after a recent benchmark in Denver failed to produce a winning bidder.

Revenue at risk, or which could be won

- This will increase our competitiveness, particularly against in-memory databases, such as Times Ten and streaming products, such as Kabira and StreamBase.

When is this required?

- Release 10 (very low priority), but it could also be a background activity for an SE.

Additional Notes

1. We will also need:

- Access to Texas Memory Systems hardware.
- Marketing collateral, including a Press Release.
- Minor updates to technical publications.
- Updates to a Release Note, if any changes are made.
- Extra Quality Assurance Material (unless we can simply use the high throughout benchmark application).