Objectivity Case History

NOTE: This information is for reference purposes only – Do not reproduce.
Call the Sales Rep prior to any customer contact.

Customer Information

Customer: Foxboro
Status: (X) SOLD ( ) Prospect ( )Integrator
Industry: Process Control
Application Domain: Execution Environment
Status: In Beta
Platform: Solaris/NT 2.5.1
Compiler: VisualWorks 2.5.2
Other Tools:

- VisualKit by ObjectSoft
- GF/ST - by ObjectShare
- Corba

Product Details

6/11/99 Case History Info - Gary Wheeler and Terry Raymond

* What does the application that you are developing do?
The application name is FoxAES - Stands for Agile Execution System.
Basically, it is an intelligent plant-scheduling and shop-floor execution system.
It takes in orders from customers, schedules them based on available resources, and priorities, and tries to optimize the usage of the plant. When it is finished scheduling, it downloads set points and other instructions to shop-floor equipment.

- What aspect of industry does it address?
process control
- Who are the end users?
textile plants, pharmaceutical companies, etc
- Will they sell it or use it in-house?
selling it

* Development environment:
- Objectivity 5.0.1/Smalltalk

- Hardware/operating system:
Ultra Enterprise 2 is the main server which stores the DBs and runs apps
Runs solaris 2.5.1
There are also NT clients (mixed platforms)
- Language/compiler:
Smalltalk
Visualworks 2.5.2
- development tools/3rd party libraries:
VisualKit by ObjectSoft
GF/ST - by ObjectShare
Corba

*Data model:

* How many classes?
  between 100-500

* Is it complex data (or using lots of inheritance)?
  rarely do we get below 5-deep in inheritance

* How much data? (objects, megabytes)?
  Some clients running on the SPARC and others are running on NT
  The solaris box has 2 separate FDs

EWI (Electronic Work Instruction) is the name of one of the App types, as well as the corresponding FD. Has a lot of communication to clients.

AES is the name of the other.

For the AES FD, the basic system starts out at about 30mb, and the customers database has grown to about 120 mb until we did an oogc/ootidy. It should run around 60mb in the average case.

AES FD has 2 or 3 databases

1 DB has several hundred containers, but the other DBs only have a couple of dozen containers.

When someone schedules the plant, the app will create orders. Each order gets its own container, which helps management as well as concurrency. There is a linked list to manage containers, but at a later point they might go to a GC-system.

* What is your physical system architecture? # clients/etc.?

EWI access is through one app only. The app is a single-threaded "server" which talks to other processes via CORBA. No other Objy clients access the EWI FD.

The AES middle-tier server has multiple threads and sessions running on the same host as the FD, and additional Objy clients are accessing the FD with multiple threads/sessions on remote hosts. Lots of journal files on the AES FD. The AES Objectivity/DB clients talk to each other with CORBA.

* What are your concurrency requirements?

approx 100 sessions open at a time, typically. Should never exceed 200.

10 or so processes will run, but no more than 3-4 at a time.

So each process opens 10-20 sessions at the most.

* What is an example of a unit of work of your application - i.e. transaction?

Majority of transactions AES are under 1 second. A few long ones, (at most a half-hour) but they are MROW. At the end of the MROW it does an update on many containers (calculating the schedule).

On the server part, an AES txn at begin time acquires all the container locks it needs for the remainder of the txn to avoid deadlocks.

* What features of the database are most important?

* Objectivity Associations, or VArrays of Refs, or home-brew?
  just using direct references to connect objects

  Composite object support

* Do you use backup/restore?

no. This is a 7x24. no window for us to shut the system down and let it cool. When we want to copy, we use "oocopyfd" which seems to work fine for now.

* indexes?
  no

* schema migration?
  occasionally

* MROW?
  yes

* object versioning?
  no

* PQL?
  no

* Multithreading?
  yes

* Heterogeneous architecture (clients and servers)
  yes

* What are your development goals?
* Expected finish
  Currently in beta.
  3 weeks from now we want to finish the beta. We were hoping to solve this problem SOON.

* What are your deployment goals?
* - Time/Size of Deployment?
  just one beta right now
  no idea what their customer base - I suppose that would be a Richard Sardell question.

* How many developers do you have?
  4 people

Contact Information

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Customer Contact Info:

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