

EVENT BUILDER STATUS

19 May, 1999

**Stephen Tether
for the
MIT group**

Contents

Hardware

- CPUs
- SCRAMNet
- ATM switch
- PC ATM cards

Software

- ILU ORB porting
- Interface to Trigger Manager
- Scanner Manager control
- Run Control interface

Done & To do

Hardware (1)

MVME2603 CPUs

- Two more purchased – final total is 20
- Five are having Universe II installed
- Two are being used for VxWorks BSP development
- All the rest have Universe II

SCRAMNet

- 20 new VME modules + accessories have been purchased.
- To be used by SCPUs, Scanner Manager, and Trigger Manager.

Hardware (2)

ATM switch upgrade (to 16 x 16)

- Components + spares requisitioned
- Req approved, no P. O. yet
- Will need Fore engineer to install

PC ATM cards

- Had one card fail. It will be repaired under warranty
- 16 more purchased, making 21 in total.
- Due in early June

Software (1)

Expert/monitoring interfaces

- IDL spec ready for Scanner Manager
- Have ported the ILU ORB to VxWorks (see below)
- Can now implement new SM interface as ILU server

Trigger Manager <-> Scanner Manager

- SCRAMNet protocol defined
- Changes to SM made, tested with simple loop playing the role of TM
- Still need minor changes to SCPU code to store trigger data from TM in fragments

Software (2)

ILU under VxWorks (MVME2603)

- Includes only
 - Single server thread
 - C language support
 - IIOP over TCP/IP
- Takes up 496K of system memory + server code & task overhead
- Simple server ran 960 calls/sec using an ILU C client under Linux
- No memory leak under VxWorks after millions of calls
- Ran simple server calls for 48 hours before stopping it manually
- Primer and porting info being written, will appear on MIT EVB web page

Software (3)

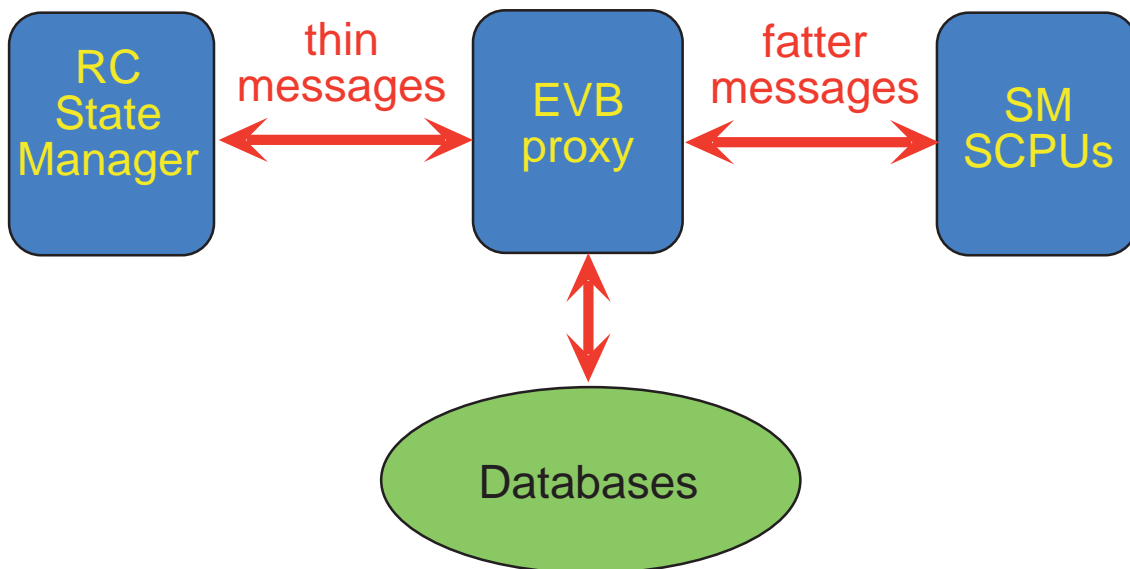
More on ILU

- Inter-Language Unification system
- An freeware ORB from Xerox PARC written in ANSI C.
<ftp://ftp.parc.xerox.com/pub/ilu/ilu.html>
- Language mappings: C, C++ (still prelim), Java (1.1 and 2), Python, Perl, Lisp
- Protocols: IIOP, Sun RPC, HTTP, HTTP-NG
- Can inter-operate with other ORBs using IIOP (we tried ORBacus under Linux)
- Official support for most Unices and Linux
- IDL translators takes most of CORBA 2.0 IDL (no contexts)
- No DII, no interface repository
- Support for secure connections

Software (4)

Mini Run Control

- Prototype RC will be developed for use during CDF integration this summer
- Probably use ROBIN for State Manager messages until SmartSockets becomes generally available
- Preliminary sketch of path to EVB



- Why the intermediate step?
 - At least for now, event builder CPUs are on a private network, so they need a gateway anyhow.
 - Keep DB code off SCPUs

Done

Reqs for hardware expansion

- SCRAMNet
- ATM switch upgrade
- PC ATM cards
- Spare MVME2603s

Port of ILU to VxWorks

IDL design of Scanner Manager control/monitoring

Alteration of SM for communication with Trigger Manager

To do

Install new hardware when it arrives

- Will need Fore engineer for ATM switch upgrade

Implement Scanner Manager expert interface using ILU

Explore other ILU features

- Simple name-binding service
- CosNaming service
- Passing object refs to remote objects

Start designing interface to Run Control state manager

Design expert interface for SCPU

Make our Java Run Control code scriptable

Design GUIs for the above