ERLANG/OTP LATEST NEWS

ERLANG USER CONFERENCE 2010

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SOME HIGHLIGHTS FROM THE R14B RELEASE

- New optimized implementation of rwlocks in the Erlang VM
- New auto imported BIFs
- The new SSL implementation is now the default (since R14A), A number of bugfixes and improvements have been made thanks to feedback from Open Source users.
- All together quite a lot of new things in R14A + B
- R14B was the first release we made directly from GIT (no Clearcase involved from now on).

OPTIMIZED RWLOCKS

- New optimized implementation of rwlocks in the Erlang VM
- There is one variant of rwlocks which is ”reader optimized” and which gives huge performance improvements when the parallel read operations are dominating. Examples are:
  - When sending messages using a registered name
  - When having many multiple readers of an ets-table (the new table option ’read_concurrency’ must be used when creating the table),
    A simple benchmark with many parallel readers of an ets-table on a 2 x quad-core machine showed a speedup factor of 5.
- There also a variant that is neutral (i.e not ”reader optimized”).
- Both variants interleaves readers and writers during contention as opposed to NPTL (Linux Thread Library) which uses a reader/writer preferred strategy which can cause starvation.

NEW AUTO IMPORTED BIFS

- In R14A the semantics changed so that local functions will override auto imported BIFs
- A change to what it should have been from the beginning
- The change makes it possible to auto import more functions without introducing incompatibilities.
- We have now made a number of BIFs from the erlang module auto imported.
- `monitor/2, monitor/3, demonitor/2, demonitor/3, error/1, error/2, integer_to_list/2, list_to_integer/2.`

THE NEW SSL IS NOW THE DEFAULT

- The new SSL is now the default.
- All communication is written in Erlang using gen_tcp (earlier there was a separate port program written in C built on top of the OpenSSL code) and using the crypto module built on libcrypto from OpenSSL.
- Advantages with the new solution:
  - Can use Erlangs SMP support for parallel execution
  - Support for upgrade and downgrade from TCP to TLS and vice versa.
  - Uses less number of ports and file descriptors
  - Efficiency
  - Easier to maintain

RELEASE PLANS

Prelminary

› R14B01 to be released on December 8:th

Very Preliminary

› R14B02 in March 2011

› R15B in Q3-Q4 2011

WHATS COOKING FOR R14B01

› New function `inet:getifaddrs` which returns all network interfaces and their addresses

› All test suites converted to CommonTest format.

› Compression flag for ets-tables (ets:new(...,[compressed,..]) , compression ratio depends on data. But 50% or more for complex data. Of course there is a performance penalty for this.
`erl +ec` , will compress all ets-tables.

POSITIVE STATISTICS

- 155 approved contributions from R13B03 until beginning of Nov (roughly a year)
- From 52 different contributors
- 7 contributors with more than 5 contributions
- The activity in the Erlang community is really increasing, a great help in making the Erlang/OTP distribution even better

WIDESPREAD INCREASING INTEREST