News From the OTP TEAM

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Outline

– Community Interaction
– Planned Releases
– Details of 18.3
– Details of 19.0
– Longer term
Community

› Working together with IEUG
   – Issue tracker
   – Include PM in OTP
   – Open backlog
   – ...

› bugs.erlang.org
   – live since October 2015
   – Replaces the erlang-bugs mailing list
   – Comments from other users appreciated
PM included and integrated makes it easier to reuse Erlang packages

Rebar3 is a good solution

Coop with the Rebar3 maintainers to develop it further

Find and get packages from Hex (Elixir)

Step 1: Move Rebar3 to Erlang on Github

Step 2: Integrate Rebar3 and OTP further.

Step 3 (OTP 20) building OTP applications with Rebar3

More about Rebar3 at 14.10 today.
Planned Releases

› 1 major release per year (18.0, 19.0, …)
› 3 planned “correction packages” like 18.1, 18.2, 18.3
› Emergency packages as needed (18.2.3)
› Maint branch = 18.X
› Master branch = next major = 19

- OTP 18.2 Dec 2015
- OTP 18.3 March 16
- OTP 19.0 rc1 May 12
- OTP 19.0 June 22
- OTP 19.1 September
- OTP 19.2 December
Maint Track

› new statistics about runnable and active processes & ports

› Time warp improvements
  – `dbg:p/2` and `erlang:trace/3` with `monotonic_timestamp` | `strict_monotonic`...

› Validation callback for `heart`

› module `overload` deprecated

› ~90 contributions since 18.2

- OTP 18.0 June 24, 2015
- OTP 18.1 Sept XX 2015
- OTP 18.2 Dec 14, 2015
- OTP 18.3 March 16, 2016
Master potential incompatibilities

- **Test_server** removed
- **code path cache** removed
- Record fields with type declaration but without initializer 'undefined' is not automatically inserted
  - `record(rec, {f1 :: float()},...`
  - `record(rec, {f1 :: float() | 'undefined'
- SSL: DES cipher suites not on by default
- **random** module deprecated. Use `rand`.

OTP 19.0-rc1 May 12, 2016

June 22, 2016
Master some highlights 1

- Preprocessor macros \( \text{FUNCTION\_NAME} \) and \( \text{FUNCTION\_ARITY} \).
- \text{gen\_statem} a new state machine behavior.
- \text{mnesia\_ext}, plug in of external storage solutions.

- Crypto: Faster
  - uses the EVP interface in OpenSSL. HW acceleration
  - 192-bit keys for the aes\_cbc and aes\_ecb ciphers.
Master some highlights 2

› `erlang:open_port(spawn, ...) 3-5 times faster`
› **Tracing** (scalability, speed, ”match specs” on messages)
› ”Dirty Schedulers” robust and less ”experimental”
› Config `message_queue` handling per process
› Fast loading of multiple modules, 4 new functions in code
Master some highlights 3

› Ssh: optimizations
› binary:split optimized
› Sharing preserving copying
› os:perf_counter/1
› garbage_collection_info from process_info

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Longer term

› JIT (based on LLVM)
› Distribution
  – (100 nodes)
  – Heterogenous
  – Distributed Hash Table (as alternative to Global)
› Split OTP
› DTLS (TLS over UDP and SCTP)
› Build support
› Documentation
› Virtualization