

Sociomantic & D(u)

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sociomantic

Introduction

- € D's history
- € Sociomantic's D-related history
- € My Sociomantic & D-related history
- € The now
- € The future!

The Big Bang

€ Dec 8, 2001: **D 0.00**

€ First public release of D / DMD

€ Changelog:

New/Changed Features

* Initial release

€ Yes, not even 0.01

€ Yes, only 2 digits after the dot

€ We are close to D's 15th birthday!

The Beast Crawls Out Of The Ocean

€ Jan 2002 **D 0.15**

€ *"I've finally got packages implemented"*

€ Apr 2002 **D 0.29**

€ *"Released the front and compiler source"*

€ Sep 2002 **D 0.40**

€ *"Implemented templates"*

€ May 2003 **D 0.63**

€ *"Added linux version"*

The Dinosaurs

€ Sep 2003 **D 0.71**

€ *"Added foreach statement"*

€ May 2004 **D 0.89**

€ *"Mixins added"*

€ Sometime between 2004 and 2005

€ **Me Me Me!** This is more or less when I discovered D

€ May 2005 **D 0.124**

€ *"Added static if and iftype" (iftype???)*

The Meteorite is Approaching...

€ Mar 2006 **D 0.149** *"Changed on_scope_XXX to scope(XXX)"*

€ Sociomantic founders (to be) start PhD project

€ May 2006 **D 0.157** *"Partial Dwarf symbol debug info for Linux"*

€ First commits to Tango (in stealth-mode)

€ Jul 2006 **D 0.163** *"Added static, renamed and selective imports"*

€ A little buggy, but finally fixed 10 years later

€ Dec 2006 **D 0.178** *Last 0.xxx release*

€ Andrei's back

The Short Story of D1

€ Jan 2007 **D 1.00!!!**

- € No interesting changelog, arbitrary tag

- € Tango announced publicly a few days after this release

€ Feb 2007 **D 1.006** *"Compile time execution of functions"*

€ Apr 2007 **D 1.011** *"Added keywords ref and macro"*

- € First Tango release (0.97 RC1)

€ Jun 2007 **D 2.000** forked *"Added const, invariant, and final"*

- € Major and controversial breaking change

- € D1 feature freeze (only small and mostly non-breaking changes)

Controversial Times

- € Mid 2007 - late 2008 a dark time for D
- € The rise of the Phobos vs. Tango battles
- € Some people didn't like the new *const-system*
- € A D1-derived language without *const* was even started (Amber)

Time for Choices

- € Aug 2008 **D 1.034 / 2.018** First Tango/D Conference (in Poland)
- € First question from Sociomantic founder asked in Tango forums
- € I start working on my thesis (CDGC)

D2 + Phobos

- € No version-control
- € Mostly still a one-man show
- € Hard to contribute
- € Focused on new features and experimentation

D1 + Tango

- € Version-control in Dsource
- € Community-driven
- € Easy to contribute
- € Focused on stability and usability

Sociomantic Era Begins

€ Feb 2009 **D 1.040 / 2.025**

€ First issue opened in Tango by Sociomantic's founders

€ Apr 2009 **D 1.044 / 2.029**

€ **Sociomantic Labs is founded**

€ May 2009 **D 1.045 / 2.030** *"global storage now defaults to TLS"*

€ First patch submitted to Tango by Sociomantic's founders

€ Aug 2009 **D 1.046 / 2.031**

€ First Sociomantic employee: D developer (to be)

Opening Roads

€ Sep 2008 **D 2.020**

€ *"First version using Druntime"*

€ Mar 2009 **D 1.041 / 2.026**

€ *"Added buildable dmd source"*

€ Oct 2009 **D 2.033**

€ *"Phobos is now using the Boost 1.0 license"*

€ Dec 2009 **D 1.050 / 2.035**

€ *First releases from SVN / dsource*

CDGC's 15 Minutes

€ Sep 2010 **D 1.064 / 2.049**

€ CDGC is finished

€ Oct 2010 **D 1.065 / 2.050**

€ Submitted CDGC Tango integration patches

€ Nov 2010

€ Sean Kelly's publishes experimental CDGC branch in Druntime

€ Jan 2011 **D 1.066 / 2.051**

€ *DMD project moves to GitHub*

€ CDGC merged to Tango

Sociomantic and Me

€ Apr 2011 **D 1.067 / 2.052**

€ Sociomantic starts playing with CDGC. freenode #d.tango:

```
Apr28 13:04| Suprano: luca_, I am using  
your cdgc right now :)
```

€ May 2011 **D 1.068 / 2.053**

€ First formal contact with Sociomantic

€ Oct 2011 **D 1.070 / 2.055**

€ I start working for Sociomantic

€ 4th D developer, ~15th employee overall in the company

64bit Migration

€ Dec 2011 **D 1.072 / 2.057**

- € D1 announced to be discontinued in 1 year

- € We start migrating to 64bit (*"first 64bit, then D2"*)

- € First 64bit commit in DMD only 1.5 years ago

- € First (supposedly) working 64bit compiler for Linux only 8 months ago

- € Probably the first serious users of the 64bit compiler

€ Jan 2012 Don Clugston joins Sociomantic (5th D developer)

The Horror

€ Feb 2012 **D 1.073 / 2.058**

€ The term DBOTD becomes popular

€ Don's lists of 64bit bugs become popular too. Real example:

```
8060 (involves mixing ints+floats)
8091: (involves nested ? : expressions)
7478: (memory corruption, affects xfbuild)
8078: (Luca's out contract regression)
7546: (64bit, 0.0 != -0.0)
5809: (wrong code for *p == 0 with 64 bit)
8095: horrific optimizer bug, see below
partial fix of 5570, 64bit extern(C) ABI
```

64bit Migration Finished

€ Completed in Jun 2012 **D 1.074 / 2.059**

€ More than 6 months of work

€ No language changes, only adding `-m64` when compiling

€ Most 64bit bugs involve bad code generation and/or corruption

€ Lots of pain, but we pushed for a reliable 64bit DMD compiler

(we contributed our beta-testing suffering to the community)

The End, The Beginning

€ Dec 2012 **D 1.076** *Last D1 release. RIP D1... or not?*

€ Feb 2013 **D 1.076+++** *First informal internal D1 "release":*

David asked me for this but might be also useful for other people. I compiled the more recent DMD1 with the additional Don's merge for the fix to the regression Ben found (http://d.puremagic.com/issues/show_bug.cgi?id=9568).

You can download it from here:

<http://192.168.2.152/dmd-v1.077-devel-6c4ef55>

Of course it was a 64bit bug: Issue 9568 - [64bit] wrong code for scope(exit)

2013 Miscellaneous

€ May 2013 **D 2.063**

- € First global D Conference: DConf2013

- € Two Sociomantic speakers

- € First real analysis of D2 migration at Sociomantic (after DConf)

€ Jun 2013 Mihails (*dicebot*) joins Sociomantic (10th D developer)

€ Dec 2013 **D 1.076+git20130909.c8427d6+sociomantic1**

- € First internal DMD release via deb repository

D1's Not Dead

€ Feb 2014 **D 1.076.s1 / 2.065**

- € First formal internal DMD release

- € 17 internal releases since then (every ~1.5 months in average)

- € Lately more like one release every 3 months

€ May 2014

- € DConf2014

- € Two Sociomantic speakers again

- € We manage to talk about D1 in a D2 conference again

But the Assassination is Planned...

€ Mar 2014

- € Serious plan to migrate to D2 started

- € We can't afford to stop development or to fork our codebase

- € Code must work with both D1 and D2 as a transitional step

€ Jun 2014 **D 1.076.s3** *"add -v2 switch"*

- € Official plan (dicebot is tricked into being the main executor)

€ Oct 2014 **D 1.077.s7 / 2.066** *"-v2 warns on const storage class"*

- € Mihails' experimental port of CDGC to D2

- € d1to2fix tool created

- € Internal Tango migration starts

D2 Migration Starts Rolling

€ Mar 2015 **D 2.067** (we stick internally to **2.066** for stability)

- € Migration of our big internal base library (Ocean) starts

- € Iain Buclaw joins Sociomantic (not a D developer... **TRAITOR!**)

- € DIP75: Release Process is created

€ Apr 2015 **D 1.077.s13 / D 2.066.1**

- € First official DMD point (stable) release

€ May 2015

- € Tango migration finished

- € DConf2015: Two speakers again, one talk about D2 migration

And It Keeps Rolling

€ Jul 2015 **2.066.1.s1**

- € First internal DMD2 bugfix release

- € Since then we've done 5 internal DMD2 releases

€ Sep 2015 **D 1.077.s16 / 2.068.1**

- € Ocean migration complete

€ Nov 2015 **D 2.069.0**

- € DMD has been ported to D

- € Bad for D1 bugfix backporting (still in C++ , of course)

Life On Mars

€ Jan 2016 **D 2.070.0 / 2.066.s3**

- € Two applications fully ported to D2

- € Sociomantic and D Foundation talks start

- € Mathias Lang (geod) to contribute to DMD2 via Tsunami

€ Feb 2016 **D 2.070.1 / 2.070.1.s1**

- € Move to D **2.070** (some breaking changes need code updates)

- € Work started on a Buffer replacement for D1 stomping arrays

TangOcean

€ Mar 2016 **D 2.070.2**

€ We merge Tango user library into Ocean

€ We only use Tango runtime as the Druntime for D1

€ Easier to port having a user library separate from the runtime

€ Runtime D1-only, the user library is both D1 and D2 compatible

It's ALIVE

Apr 2016 (last month) **D 2.071.0 / 2.070.s2**

- € 2 more applications fully ported (4 in total)

- € 2 applications compiled with D2 running instances **LIVE!**

- € Some applications have performance regressions

- € One performs better and use less memory

The Now

- € We are at DConf2016

- € First DConf co-organized by Sociomantic

- € First DConf held in Europe

- € 2 Sociomantic speakers again (+ 1 + 6 + 1)

- € D2 Migration summary

- € 3 years since we started thinking about D2 migration

- € 2 years since we have a D2 migration plan

- € 1 + + years since we started the serious migration work

- € CI to ensure projects that are moved to D2, stays D2

- € ~30 D developers (and still growing...)

The Future

€ Still a **long road** to go

- € 4 from 5 core libraries ported (80%)

- € 3 from 6 utility libraries ported (50%)

- € 4 from 30+ + applications ported (10~15%), the simplest ones

- € And we are only talking about the transition phase

€ We need to address the performance regressions

€ We'll probably need to work on the GC for the real-time processes

€ More D(2) developers: **YOU** join Sociomantic

(we are hiring! <https://careers.sociomantic.com/>)

Pull Request

- € We want to merge back to D's community
- € Ocean open source release! (Tsunami)
 - € Scheduled for June
 - € Bits from Tango must stay BSD
 - € Dual license for our code: BSD + Boost (Phobos-friendly)
- € More collaboration with D community and D Foundation
 - € We are having monthly meetings with Martin Nowak
 - € More people contributing to the community (Tsunami)
 - € More open sourcing (Tsunami)

The End... Of This Talk

Thank you! Questions???

NO?

REALLY?

Next talk...