

ApacheCon NA 2013

Scalability and the Apache Way



THE MANY FACES OF THEO

FUN WITH BEARDS AND HAIR



FUCK IT ALL



VENDETTA



SCARY



DETERMINED



CAREFREE



**NO-FLY
ZONE**

THE MANY FACES OF THEO

FUN WITH BEARDS AND HAIR

Scalable Systems Design

What the hell does that have to do
with the Apache Way?

Turns out: a lot

**As long as Apache produces software
that is leveraged by highly scalable systems**

Technology

There's lots of it

And some of it is pretty awesome

It's so awesome

**that is can be far to easy to lose ourselves
and forget what the real world looks like**

Your code

**is just a tool; it is not a child; it can be ugly;
it can be disposed of; it requires no loyalty**

Engineers

too often focus on the technologies they love
instead of the problems they face

APACHE PROJECTS

Apache projects

can (and often do) suffer from this

Specialization

isn't evil, but unbalanced it
leads to poorly constructed solutions

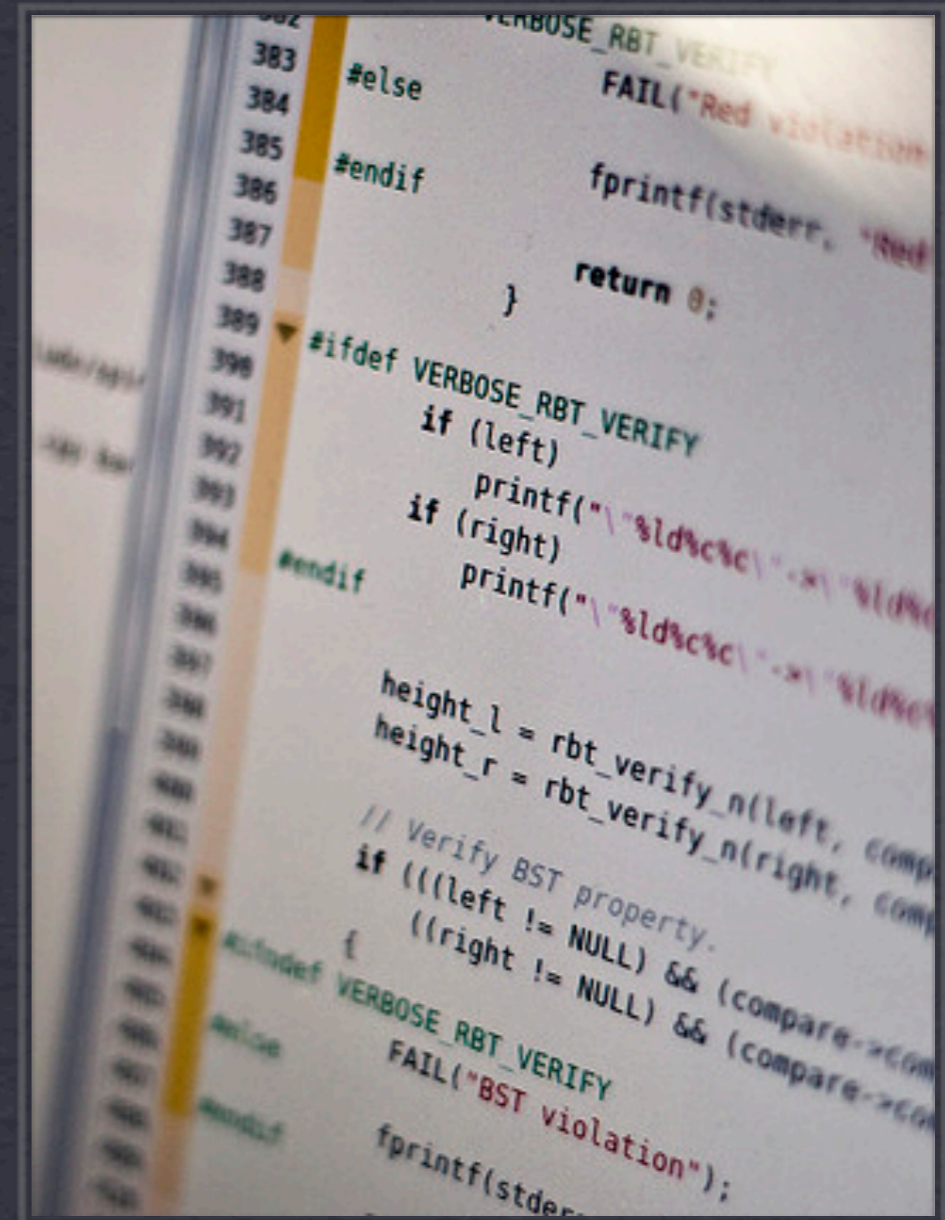


AND THE PRODUCT LOOKS LIKE THIS

THIS IS THE RESULT OF AN IRRATIONAL LOVE AFFAIR WITH A HAMMER

Code

Too much focus is placed on which language and which framework is used.



```
383 #else
384     FAIL("Red violation");
385 #endif
386     fprintf(stderr, "Red violation\n");
387     return 0;
388 }
389 #ifdef VERBOSE_RBT_VERIFY
390     if (left)
391         printf("%d\n", rbt_verify_n(left, compare));
392     if (right)
393         printf("%d\n", rbt_verify_n(right, compare));
394 #endif
395
396     height_l = rbt_verify_n(left, compare);
397     height_r = rbt_verify_n(right, compare);
398
399     // Verify BST property.
400     if (((left != NULL) && (compare->comp(left, right) < 0)) ||
401         ((right != NULL) && (compare->comp(right, left) < 0)))
402     {
403         #ifdef VERBOSE_RBT_VERIFY
404             FAIL("BST violation");
405         #endif
406         fprintf(stderr, "BST violation\n");
407     }
408 }
```

your job:

tell a computer what to do

Our Challenges Are Big

Increasing complexity in the datacenter to cope with scale and performance demands

Just a “Medium” Site

- * 4 database technologies
- * 2 networking vendors
- * 3 server vendors
- * 3 operating systems
- * 6 programming languages
- * 1 svn or 30 git repos
- * 50MM users
- * 30 fixes to open-source (external) projects per month



DELIVERED BY A BIG TEAM

(DESKTOPSUMMIT CONFERENCE)



AND SOMETIMES BY A SMALL TEAM

(HACKATHON NY)

Addicted

to the
technologies & components
they already know.



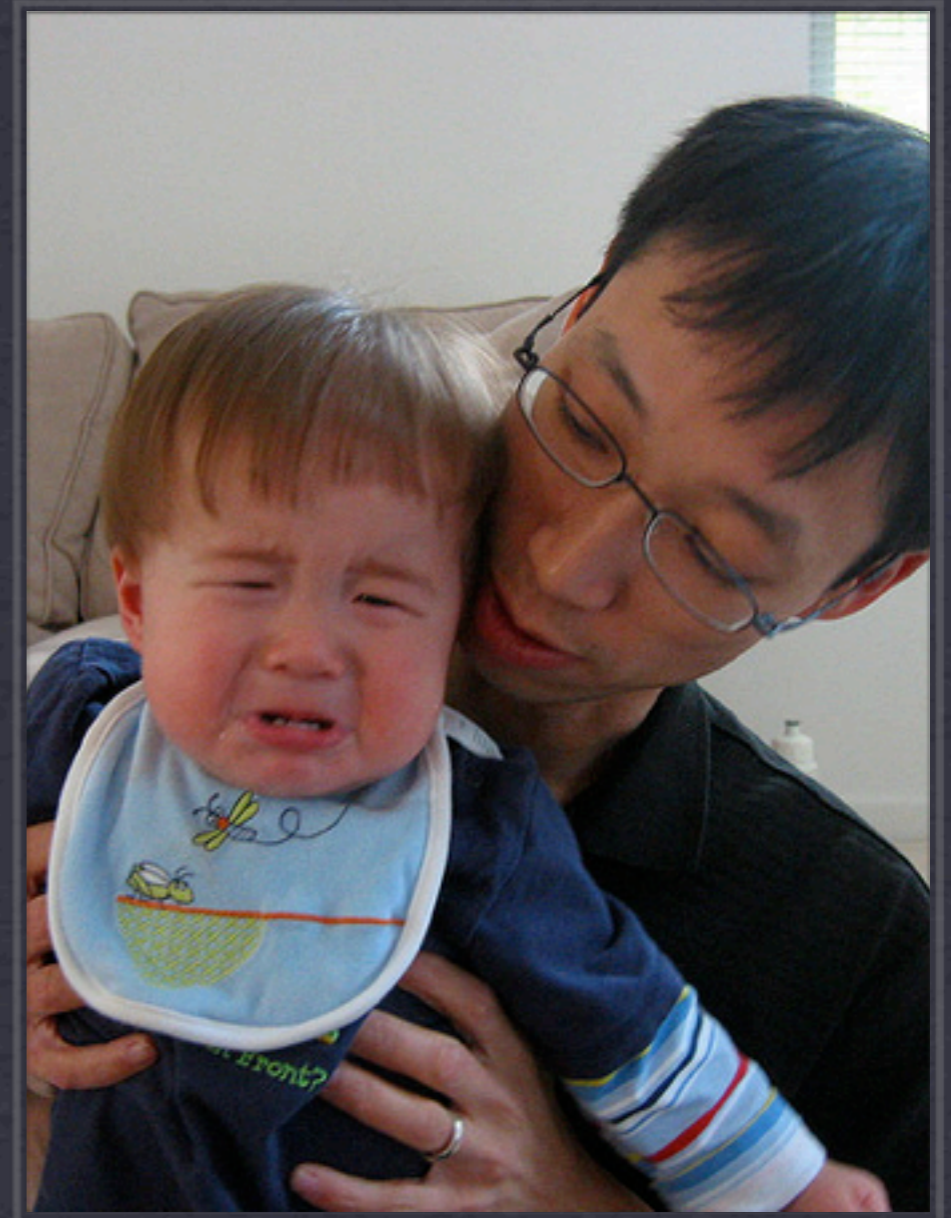


AND (AGAIN) THE PRODUCT LOOKS LIKE THIS

THIS IS (AGAIN) THE (ALL TOO COMMON) RESULT OF AN IRRATIONAL LOVE AFFAIR WITH A HAMMER

Misplaced Focus

Leads to
unhappy customers.



End-User Experience

Needs our focus.



Technological Complexity is evil

**Simplicity is easier to
optimize, maintain and change**

Technological Complexity exists

**as an emergent property of
complex and changing business problems**

detour

relative correctness

Technological Complexity

must be accepted, understood and managed

Technological Complexity

is difficult for specialists to handle



APACHE HAS ITS ISOLATED GROUPS

(COCOON TABLE AT THE HACKATHON)



APACHE HAS ITS WHOLE

(DESKTOPSUMMIT CONFERENCE) (NOT APACHE)

INCORPORATE BOTH

Process

Just enough process

Just enough structure

Isolation

Strong isolation of groups/projects in Apache

ANALYZED

The ASF is dysfunctional
at least slightly
(most highly productive relationship are)

Scalability?

**Specialists don't live on the
high-scale edge of applied computing**

detour

ATS stories: IP and malloc

Pushing the envelope
is the realm of the generalist

Survival

depends on recruiting generalists

Or...

Leveraging the collective of the ASF

The ASF is special

in that the Apache brain trust is

***unparalleled* in the software industry**

How?

I can to ask that question.

Not answer it.

Thank You!

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