JUST IN TIME TRANSFORMATION
How Red Hat Modernized RHEL 8 Design, Process, and Culture

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May 2019
“The secret of change is to focus all of your energy, not on fighting the old, but on building the new.”

- Socrates
Announcing
Red Hat® Enterprise Linux® 8.
Tech Objective

2 Process Nightmares

4 Years of Transformation

1200 People
HISTORICAL CONTEXT
**RHEL 8 Began**
- 8 Alpha (F24 Base)
  - Due July 2016
- 8 Beta (F25 Base)
  - Due Feb 2017
- 8 GA
  - Due August 2017

**RHEL.next Began**
- Divide the OS and Apps
- Keep the OS stable, steady, secure
- Update Applications independently
- Add features without changing user experience
WE MADE A HARD STOP
WORKING IN OPEN SOURCE

LINUX DISTRIBUTIONS
Are now over a quarter of a century old.

DISTRIBUTION COMPOSITION
Red Hat Enterprise Linux 8 is composed of over 3000 upstream projects.

CODE STEWARDSHIP
Red Hat’s participation in upstream is as a steward, rather than an owner.
THE BONDS OF SUCCESS

What we had

- Open Source Stewards
- Mature Linux Distributions
- Legacy

What we needed

- New Development Teams
- To Change the Fundamentals
- Reinvention

This Calls for Agile!

Dripping blood bar © https://photobucket.com/gallery/user/possiblelunatic/
WE DID THE USUAL THING

SCRUM

Met with Great Success
& Made Typical Blunders
THE GOOD NEWS

SCRUM TEAMS
Made new technology from scratch instead of maintaining and enhancing existing technology.

CROSS-FUNCTIONAL TEAMWORK
Teams with integrated development, quality engineering, and a product owner benefited from a greater breadth of insight into what was important.

DISTRIBUTION EXPERIMENTATION
Answers on where to draw the line between OS and Application had a far reaching impact.
NOT EVERYTHING WENT WELL

WE DIDN’T ACCEPT FAILURE FAST ENOUGH
BALANCED FUNCTIONS
MISTAKES WERE MADE
Agile only works if you customize it to your organization, its structure, its needs.

WE SCALED

- Classic scrum topped out at 50 people
- Needed to get to 1200 with remote staff
- Formalized Autonomous Subsystem Teams

Subsystems.next

- End-to-End Technology owners - no change!
- Joint responsibility to Plan, Build, Test, Document, Deliver, and Support
- Treated as a cross-functional team without regard to reporting structure
- Plus optional Agile facilitation
MARCH 2017

RHEL 8 Restarted

- 8 Alpha
  Delivered July 2018
- 8 Beta
  Delivered Nov 2018
- 8 GA
  Delivered Yesterday
EMPATHY BETWEEN ROLES

The way we were structured left certain roles in the program disenfranchised.

WATERFALL VS. AGILE

We had a need for both waterfall and agile development methods.

UPDATING OUTMODED TOOLS

We were trying to manage our feature requirements in a tool that was made specifically for bug tracking.
THE FOUNDATION OF OUR CHANGE
Press Start

https://dailylolpics.com/
Let’s ponder this together

How do you change the process of ~1200 people...?
And this...

...who know what they are doing and have been doing it for 20+ years?

Dev Process Start: 1998
Agile Manifesto: 2001
Where did we start?
We started with a tool.
Organizational Abilities
We tended to talk about the how to get things done, vs. the what we need to do. We had many “owners” of technology, instead of folks who empowered their organizations to make decisions.

With an organization of over 1200 people, it is very hard to make decisions via consensus.
We thought it was splitting OS from Apps, but found it was making multiple versions available according to customer need.

When the inputs and outputs are well defined, teams can choose how they work best to succeed.

The opportunity of new tools is new process so don’t squander it: New tools with old process make the tools look unfit for purpose.
SUCCESSES & FUTURE GOALS
The way we were structured left certain roles in the program disenfranchised.

We had a need for both waterfall and agile development methods.

We were trying to manage our feature requirements in a tool that was made specifically for bug tracking.
Empathy Between Roles
EMPATHY BETWEEN ROLES

Everyone has a voice

What we accomplished

- All roles represented on Subsystem Teams
- Made them “real” with Quarterly Planning
- Implemented facilitation norms

What we’re working on

- Greater representation from critical roles
- Better reporting via Jira Portfolio
WATERFALL VS. AGILE

All frameworks are made equal.

What we accomplished

- Updated Program Cycle
- Reimagined Waterfall (not by role, but outcome)

What we’re working on

- Continue to Reimagine Waterfall
- Quarterly Planning
- Consistently Meeting Deadlines
Empathy Between Roles

Waterfall vs. Agile

Updating Outmoded Tools
UPDATING OUTMODED TOOLS

Tools are fit for purpose.

What we accomplished

- All low-level dev work linked to planning
- Raised profile of non-dev work

What we’re working on

- Making better use of planning tools
- Process automation
JUST IN TIME

CONTINUOUS IMPROVEMENT
"This is a journey, not a destination"
- Michael Cawood

EMPATHY FOR OTHERS
We believe that change is only successful when it is built on a foundation of trust and empathy

FREEDOM TO CHOOSE
Technology is opt-in and allows us to change without disrupting existing
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