

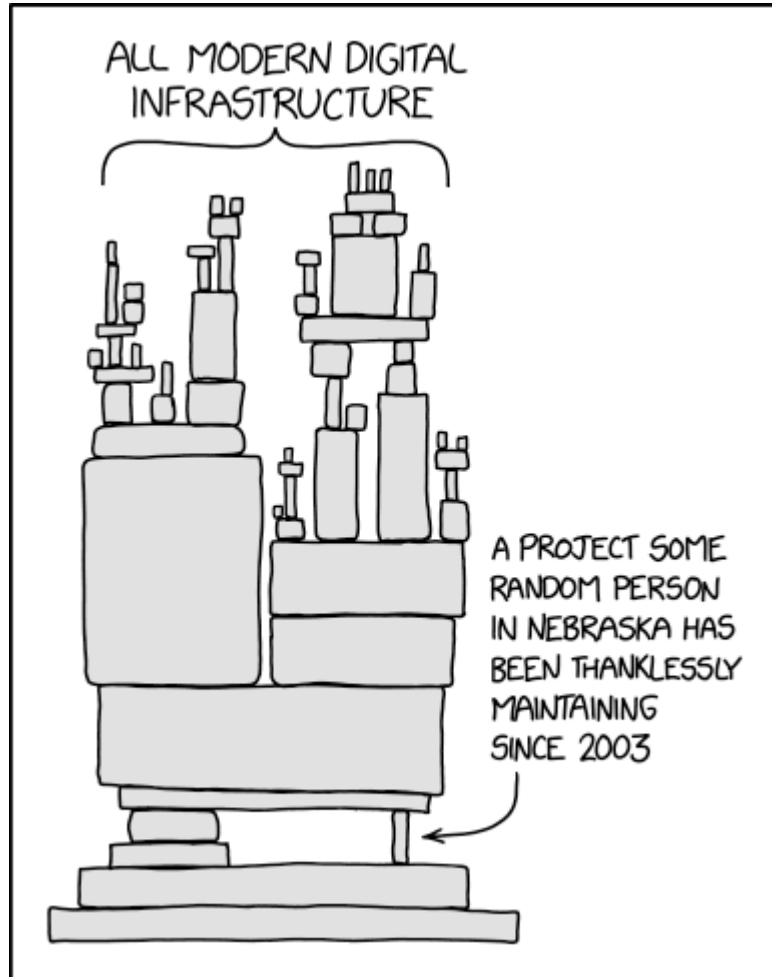
Upstream, How?

Daniel Vetter, Intel SATG
OSP 2023

Recap

- upstream open source = efficient, maximally competitive market
- understand your upstream business case:
 - know which software market to rid of margins&profits
 - have a complementary product to sell

Individual Engineers



- no market value, no salary
- just write proprietary code
- open source, as a hobby
- for the stubborn: this talk
- <https://xkcd.com/2347/>

Individual Engineers

- have a union, for collective bargaining power
 - maybe call it upstream community, foundation, ...
- make sure your union is big enough
 - can be really small in a niche project
- union dues = networking across companies
- union negotiators = upstream maintainers
- so important, companies might found your union for you
 - e.g. Linux Foundation Core Infrastructure Initiative

Upstream Community: Goals

- defend the competitive market
- radical customer orientation
 - radical = it will hurt
- tie-in with upstream business cases
 - or upstream engineers wont earn money
 - this is hard

Community Power Structure

- competitive market = level playing field
- linux kernel biggest employer of contributors: Intel, ~10%
- linux kernel biggest employer of maintainers: RedHat, ~13%
- key people employed by the foundation directly
- no CLA, special rights, controlling or majority votes, ... for special company
- if not: open source R&D becomes a donation to the special company, not a write-off

Community: Barriers to Contribute

- efficient market = no barriers to entry/exit
- clear&accessible contribution process
- ... across all levels, from first bug report/small patch to becoming a maintainer
- public CI, test suites, ..., open everything including planning
- clear decision and escalation structure
- code of conduct and globally welcoming culture
- ...
- if not: R&D cost shouldered by too few players, impossible to achieve the efficient market

Community Leadership

- building a good community is hard work
- and it requires skills&experience
- libraries of books
- entire conferences or conference tracks dedicated to community leadership topics
- personally like unconference style meet-ups
- beware of trying to transfer management skills, the power structure is fundamentally different

Engineering Org

- sell complementary product
- reward sales
 - both direct sales
 - and marketing, brand recognition, goodwill, ...
- do not incentivize production of «valuable IP»
 - open source has no economic value!
- radical customer orientation
 - direct connection to customer's engineering org

Engineering Org: Sunk Cost

- open source has at most zero book value
- downstream forks have less than that: maintenance, support, ...
- many engineering orgs in denial, still reward «valuable IP»
- but upstreaming has immediate additional costs, while downstream fork only costs long term
- employ upstream maintainers&engineers to stay relevant&competitive with evolving upstream code base
 - or can't sell your complementary product anymore
- this is a hard sell, needs all the help from the upstream community

Upstream Engineering Org

- stay relevant with evolving upstream
- protect the upstream business case over the long term
- upstream engineers&maintainers must defend the competitive market, or they become irrelevant themselves
- direct conflict with short term sales departement goals
- maybe fix your conflict of interest policy, e.g. RedHat

Engineering Org Culture

- upstream open source culture shock
 - sales instead of R&D
 - brutally competitive market
 - fundamental conflict of interests
- few years for individual engineers to adapt, if they do
- decade plus for engineering org, if successful
 - e.g. Microsoft
- be first, or you're guaranteed to be too late

Conflict of Interest: The Bad

- downstream first for maximal sales
- upstream eventually
- upstream engineers misincetivized, will walk away
- defacto upstream never
- can last for a very long time due to denial about negative book value of produced software

Conflict of Interest: The Ugly

- upstream first, port to downstream
- downstream features only as tactical exceptions
- downstream features only if **additional** sales beats downstream fork costs
 - adjust your contracts for upstream rejections, require upstream when buying
- reward long term, sustainable sales

Conflict of Interest: The Good

- ...

Summary&Questions

- individual engineer: have a union
- upstream community defends competitive market
 - level playing field and no barriers to contribute
- engineering org: sales departement
 - fix rewards and conflict of interest policies
- business
 - upstream first and be first, or bust
 - upstream business case: destroy a market and sell a complementary product