Open source @ scale

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Why open source?

Aspiring to world class is not enough, when everyone else starts there

Engaging @ scale

Lots of ways/reasons to engage

Integrate

Build on an ecosystem

Time to market

Cross-platform

Best practices

Recruiting/retention

Contribute

Forks are expensive

Interoperability

Influence

Recruiting/retention

Release

Create an ecosystem

Enable contributions

Faster feedback

Thought leadership

Recruiting/retention

Microsoft open source context

1,000,000s	100,000s	1,000s
Integrations of open source	Unique components	Teams
18,000	8,500	1,000s
Employees on GitHub	Open source GitHub repos	Community collaborators

Policies and processes

Component registration   GitHub 2FA policy

IP scanning   CLA automation

Repo setup tooling   Code of conduct

Use of private repos   Accessibility

Security   Data/insights

Automated approvals   OSS licensing

Source disclosure   Notice files

Privacy   Export control

Procurement   Marketing

Staff lifecycle   Moonlighting

Can be daunting

Lots of reasons not to

Lots of nay-sayers

A lot to figure out

A lot to do

Engage thoughtfully

Stages of engagement

0 – Denial

1a – Tolerant

1b – Hype

2 – Proficient

3 – Fluent

4 – Mastery

Assess your current stage. Plot a course to the next.

Microsoft today – Approaching proficient

Broad engagement

Guidelines, not rules

Local control, global consistency
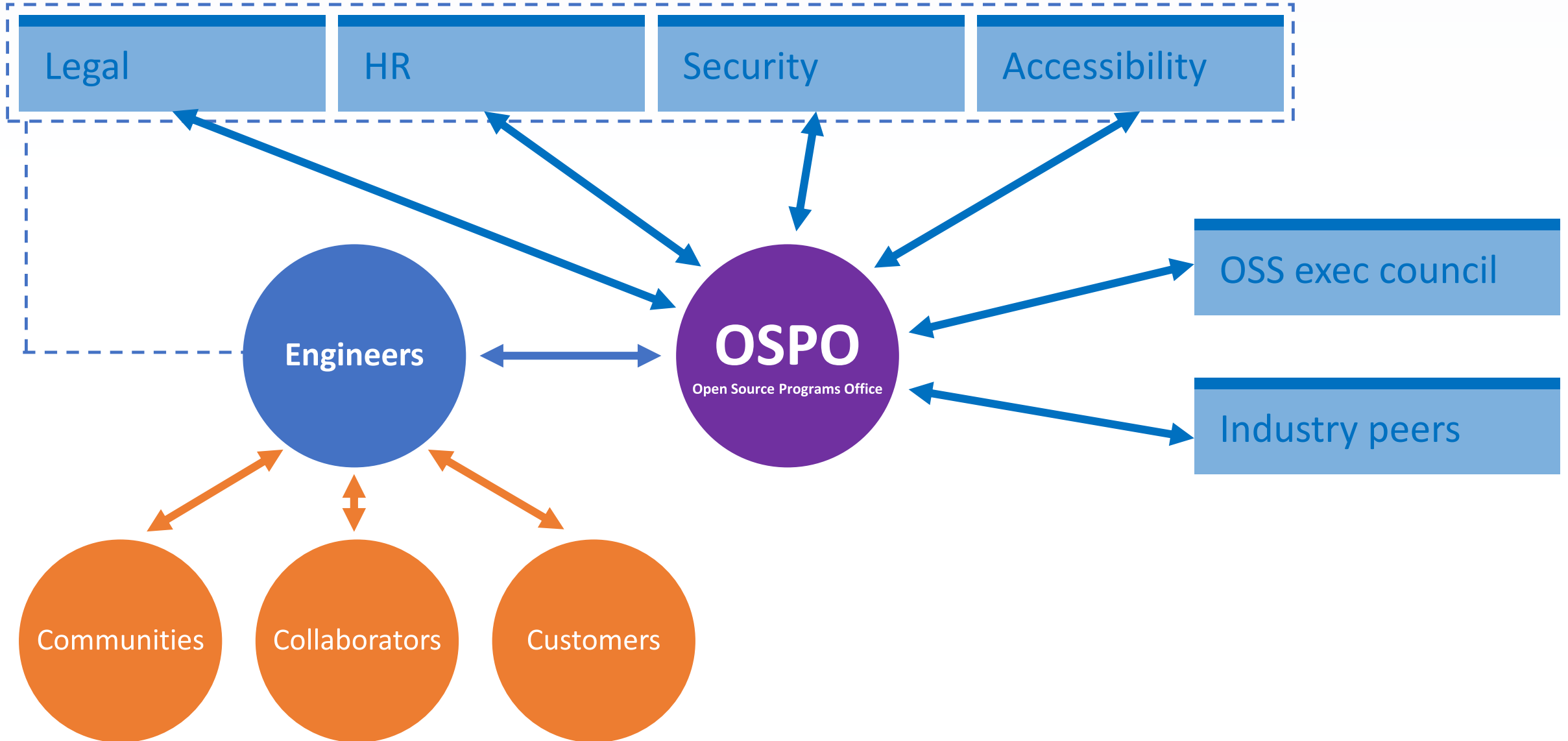
Enablement, not constraint

Just the right amount of friction

None for high volume, low-risk activities
Some for higher risk activities

Loads of automation

Open Source Programs Office

Reduce Friction

Eliminate

Policies, questions, process, steps, ...
Is it really needed/important? Why?

Automate

Policies that enable/empower automation
Tools that do automation
Data that drives automation

Delegate

Enable teams to run with (safety) scissors as fast as they need/want to
Eliminate bottlenecks

Tool early. Tool often.

Detect – Detect open source in builds

Track – Inventory of open source use

Security – Find/track vulnerabilities

IP – Crowd-source management of license data

Reporting – Critical to understanding state

Manage – GitHub can be a wild west

…

Culture

From the top

In 2014, Microsoft CEO Satya Nadella directed all Microsoft engineers to "inner source". Anyone at the company can see, use and contribute to anyone else's code.

Goes hand-in-hand with open source collaboration.

Rewards & motivation

Alignment with rewards and compensation

Integrate with performance reviews

How you are empowering others?
How are you building on the work of others?

Open source is a core competency

Make it official!
Coach managers to motivate and reward

Managing fear

> The oldest and strongest emotion of mankind is fear.
> The oldest and strongest kind of fear is fear of the unknown.
>
> - H. P. Lovecraft

Developers fear losing value

Managers fear losing control

Executives fear losing IP, getting sued, bad PR, …

Closing remarks

Big picture

Massive effort – Start somewhere

Incremental – Do, measure, learn, repeat

Continuous – You won't "finish". Recognize that.

Tools – Generate early success

Culture – Long term gain

Questions?

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Reference material

Some open source tools for open source

Opensource Portal – manage GitHub presence
https://github.com/Microsoft/opensource-portal

GHCrawler – monitor GitHub
https://github.com/Microsoft/ghcrawler

RepoLinter – Keep your repos in good shape
https://github.com/todogroup/repolinter

ClearlyDefined.io – Crowds-source legal/security data
https://clearlydefined.io

Attribution Builder – Generate NOTICES files
https://github.com/amzn/oss-attribution-builder

Sites

TODO Group – Industry OSPOs collaborating
https://todogroup.org

code.gov – US gov open source effort
https://code.gov

18F – US gov helping departments be successful
https://18f.gsa.gov/

gov.uk – UK gov open source effort
https://www.gov.uk/guidance/be-open-and-use-open-source

Maturity model

Level 0 – Denial

Denial
Somehow open source does not apply to your domain or is the wrong approach.

Prevention
Put up technical, legal/process, or regulatory barriers to considering open source.

Countering
Attack open source with FUD

Level 1a – Tolerant

Limited
Use grudgingly allowed in pockets

Experimental
Some early adopters deeply engaged in isolated areas. Some releasing.

Ad hoc
Localized processes and policies. Wild west to locked down. Inconsistent outcomes.

Fearful
Limit risks. Sequester teams. Tightly scope engagements.

Not rewarded
No career incentives. Even disincentives for undertaking "risky" behavior.

Level 1b – Hype

Silver bullet
Open source is going to transform the company

Marketing
All the cool kids are doing it. We're cool too.

Recruit/retain
Emphasis on high profile, high volume "open source" hires

Incoherent
Engagement not coordinated, localized or no policies/processes

Level 2 – Proficient

Systematic
Central policies and processes around legal and security topics

Tooled
Tooling in place to track and guide open source engagement

Broad
All teams are free to engage and understand the "rules of the road"

Engaging
Work with communities, contribute fixes/features

Efficient
Seen as a valuable tool for "time to market"

Level 3 – Fluent

Value
The business understands the value that use/release does and does not bring

Fundamental
Bet on using or releasing open source for core capability

Rationalized
Policies and processes are continually reassessed and automated

Open
Technical and process discussions default to open

Healthy
Engagement health is integral to engineering/business reporting

Rewarded
Open source engagement explicitly recognized as a valued activity

Level 4 – Mastery

Integral
Open source is integral to business model from the beginning

Liberating
Business understands its true value-add and builds on that with open source

Disruption
Open source as a means of disrupting and quantum innovation

Shared control
Foundations, community initiatives, joint projects, "coopetition"

Proactive
Engage broadly to improve quality, security, function as a goal in itself

Inner source
Many open source skills and techniques applied internally