

Perspectives on CI

IS IT TECHNICAL, CULTURAL, OR BOTH?

Michael Zentner, Purdue University

Director HUBzero Platform

Analytics Lead nanoHUB.org

Science Gateways Community Institute Incubator Lead

Entrepreneur in Residence

Why this is a cultural issue...

- Leaders cannot possibly remain on top of
 - All CI advancements
 - Their core science
 - Marketing / outreach
 - etc...
- Team members must help with all aspects of CI discovery, evaluation, integration, ...

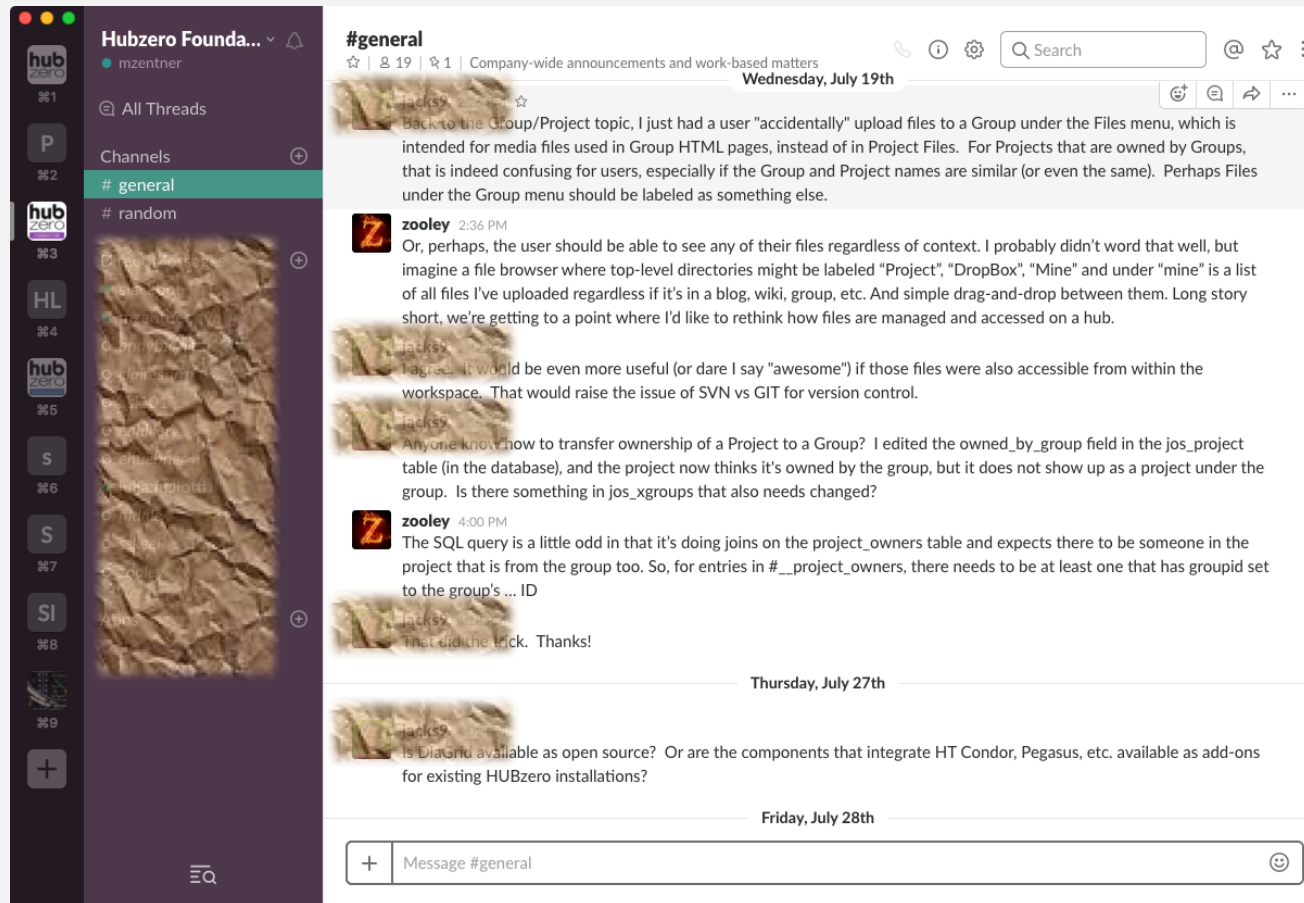
Why this is a cultural issue...

- But team members view these issues through their own possibly biased lens
 - Does this make my job obsolete?
 - I cannot learn new technologies fast enough.
 - But I've always done it this way.
 - I can do it better.

Sources of Discovery

- Conferences / Workshops (CI focus)
- Bodies of Expertise Where People of Like Minds Congregate
 - Science Gateway Community Institute
 - Center for Trustworthy Scientific Cyberinfrastructure
- Our Users & Customers
- Inspiration / Emulation

Sources of Discovery: Inspiration



Culturally:

Can be viewed as criticism

Can be viewed as motivation

Evaluations of Discovery

- Do our users want it (or what it can enable)?
 - Will it gain more users?
 - Will it increase the engagement of existing users?
 - How much time do we have to meet this need?
- Will it be supported in the future?
 - Source code availability
 - Size of supporting team
 - Size of user community
- Does it reduce our costs?
 - Future development
 - Operational
- Will someone pay for it?

Evaluations of Discovery: Cultural

- Does it move us further up the value chain?
(Does it improve science to the maximum of our ability?)

Many others can do this

Few can do this

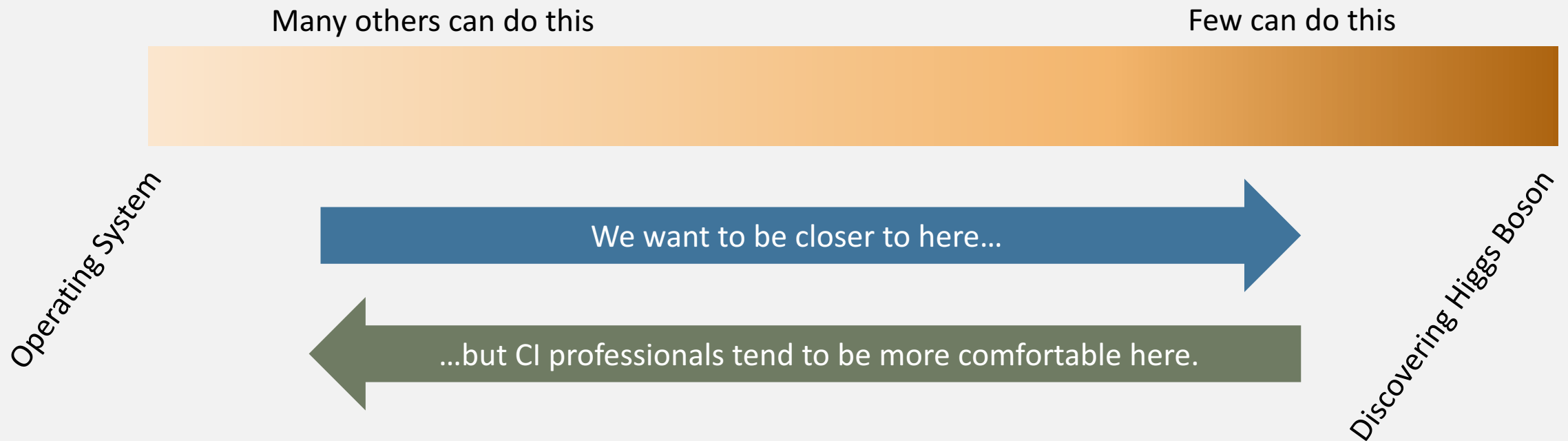


Operating System

Discovering Higgs Boson

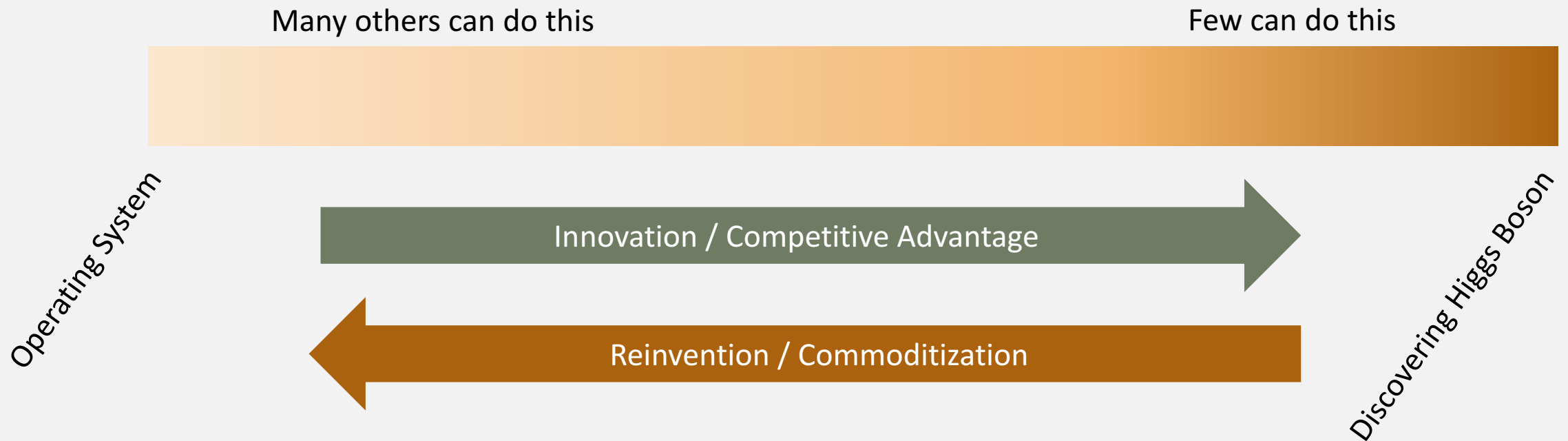
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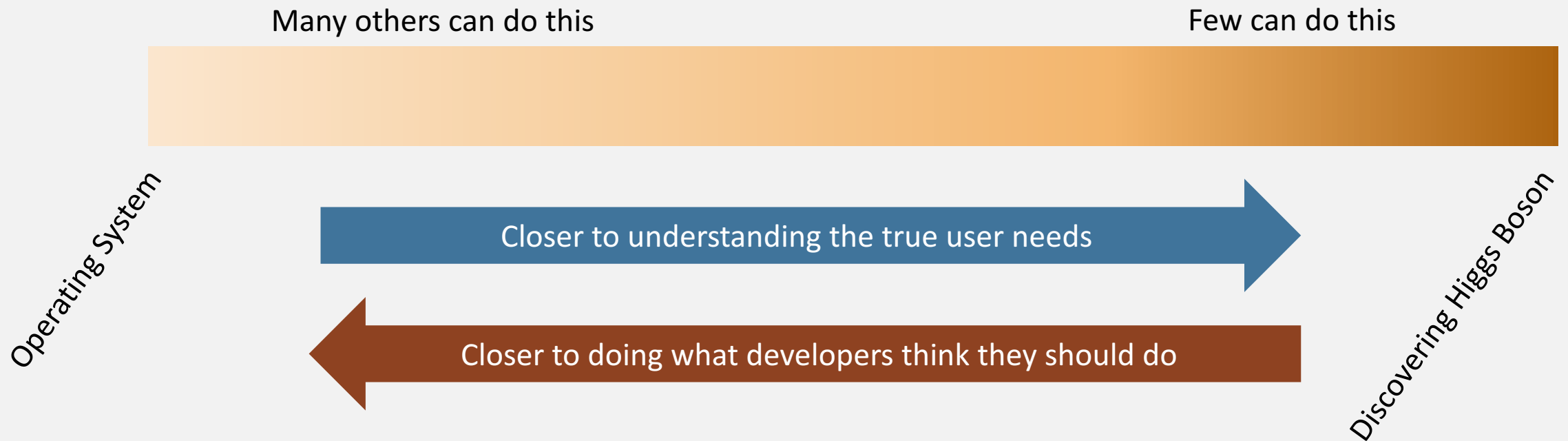
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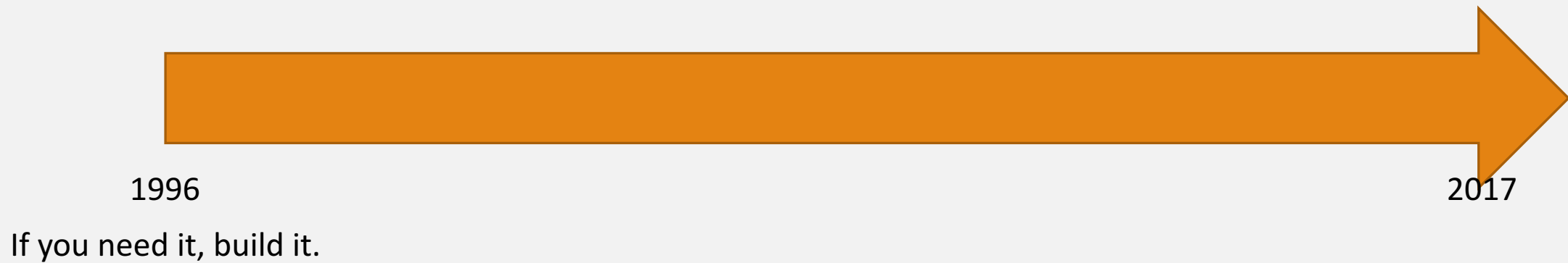


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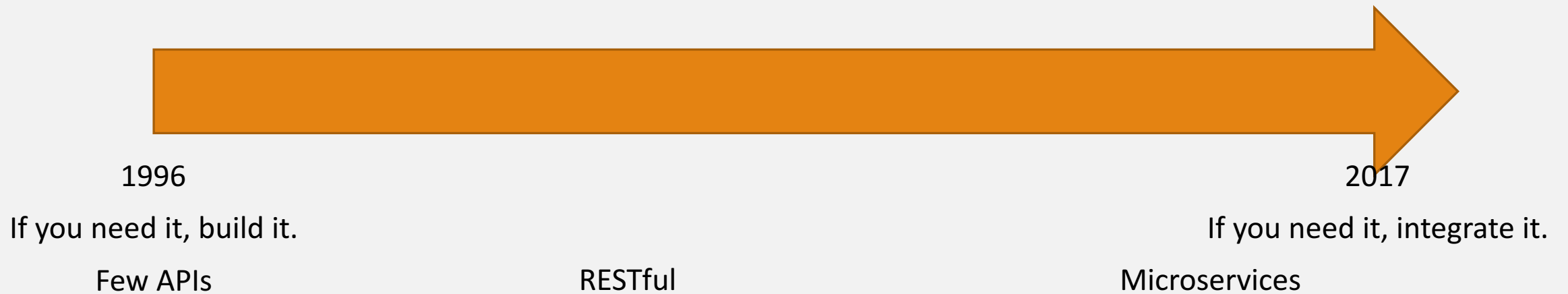
Changing Availability of CI



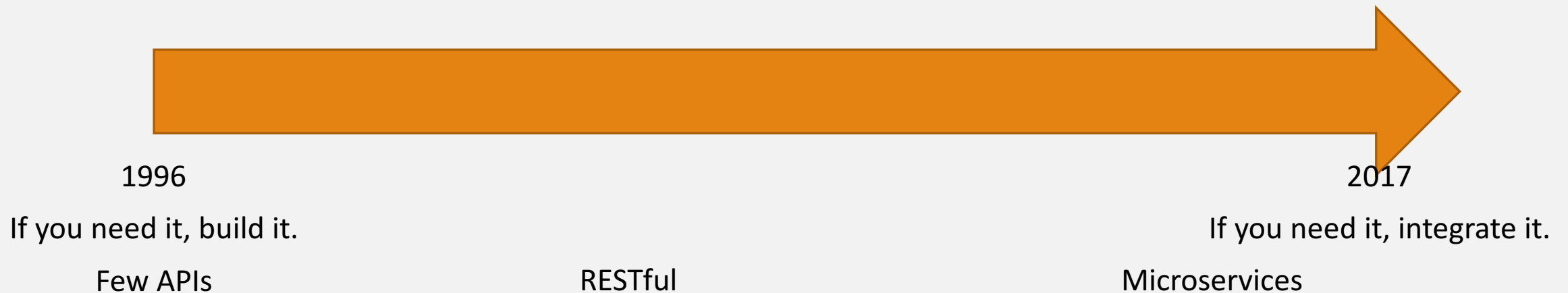
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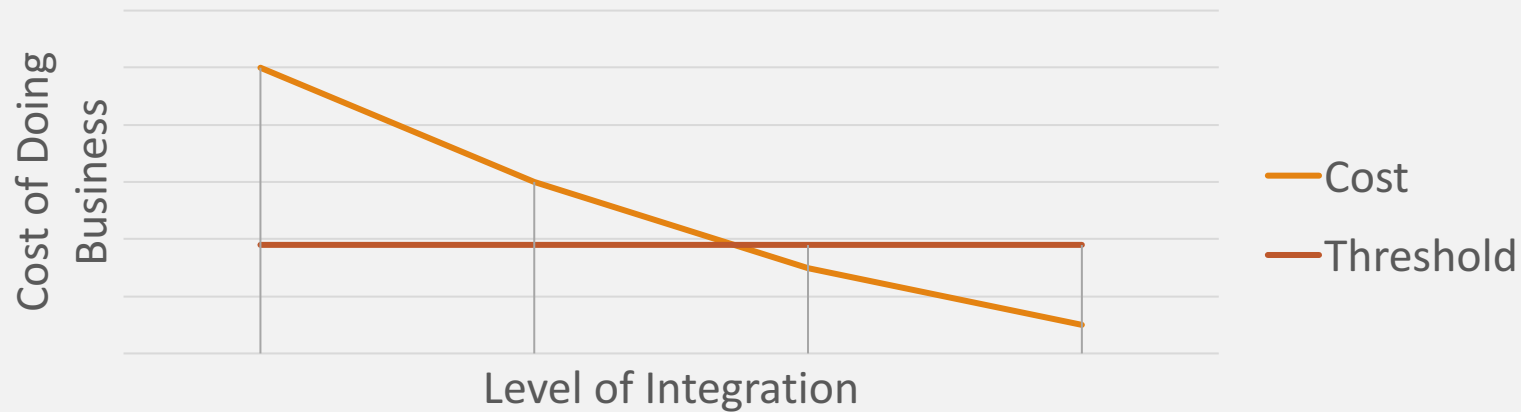


Cultural Lesson: Make yourself such that you can be integrated by others.

There is no shame in people using your “web site” without knowing that is what they are doing.

Does Increased Awareness/Reuse Increase Interoperability?

- Increased reuse has the potential to do so but...



- ...more important is the “business reason” for doing so:
 - Potential synergy in generating results
 - Limitations on funds (pooling)
 - (enforceable) Programmatic mandates

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CULTURAL LESSON:

We are both a research group and something like a business.

Most Critical CI Gaps To Address

- Technological
 - Availability of Services
 - [Meaningful] Discoverability of Services
 - Machine Learning – The Same Types of Technology that Drive Us to Purchase Products Should Ideally Drive Us to be More Scientifically Creative, Collaborative, and Productive
- Cultural
 - Incentives to make your CI accessible and discoverable
 - Incentives for specific multi-institution collaborations of substance
 - Leverage to proposals that contemplate the re-use of existing solutions from a CI perspective – build upon before building anew
 - Reasons to grow by consolidation rather than reinvention