# Communication between Tribes

## A story of silos, Devops and Government

Gareth Rushgrove

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@garethr

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# The shortest path
# to better software.

# Backstory

The very abridged version

GOV.UK 100 days

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# GDS

Government Digital Service

Gareth Rushgrove

Cabinet Office

Gareth Rushgrove
Technical Architect
Government Digital Service
@garethr

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I'm no longer a civil servant.
Thank you to everyone who is.

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I learned the importance of
communication first hand;
from successes, failures
and relentless observation

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- **Stories** from Government

- The importance of **language**

- The power of **stereotypes**

- A few Tips

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# Different Languages

One for each silo

# Appreciating you're a silo

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Agile, lean, scrum, containers, iteration, stack, hypervisor, nosql, serverless, cloud, velocity…

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Agile, lean, scrum
iteration
serve
Developer silo
rs,
sor, nosql,
velocity...

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Incident, event, problem, COBIT, configuration management, capacity management, CAB…

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Incident, event, problem, COBIT, configuration management, capacity management, CAB…

**IT silo**

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APT, threat model, risk, cyber, mitigation, control, kill chain, threat intelligence, opsec

APT, assume ... , threat model ... tion, control

Security silo

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SPAD, MCO, GPG, CESG, CERT, GDS, IDP, DTO, 18F, USDS, IL3, OCTO, EUD

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SPAD, MCO ... , CERT,
GDS, ... , USDS

**Government silo**

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**lingo**

*noun*

plural noun: lingoes

the language and speech, especially the jargon, slang or argot, of a particular field, group or individual

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# Language acts as a barrier to entry to different communities

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# Language differences reinforce organisational silos

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Identify words in your organisation that are only in use in certain groups or teams

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# The New Service Management

Talking ITIL and agile

At GDS we talked a lot about Design, User Research, Agile and Open Source because they were fairly new to Government

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# We talked a lot about discovery and alpha because people started there
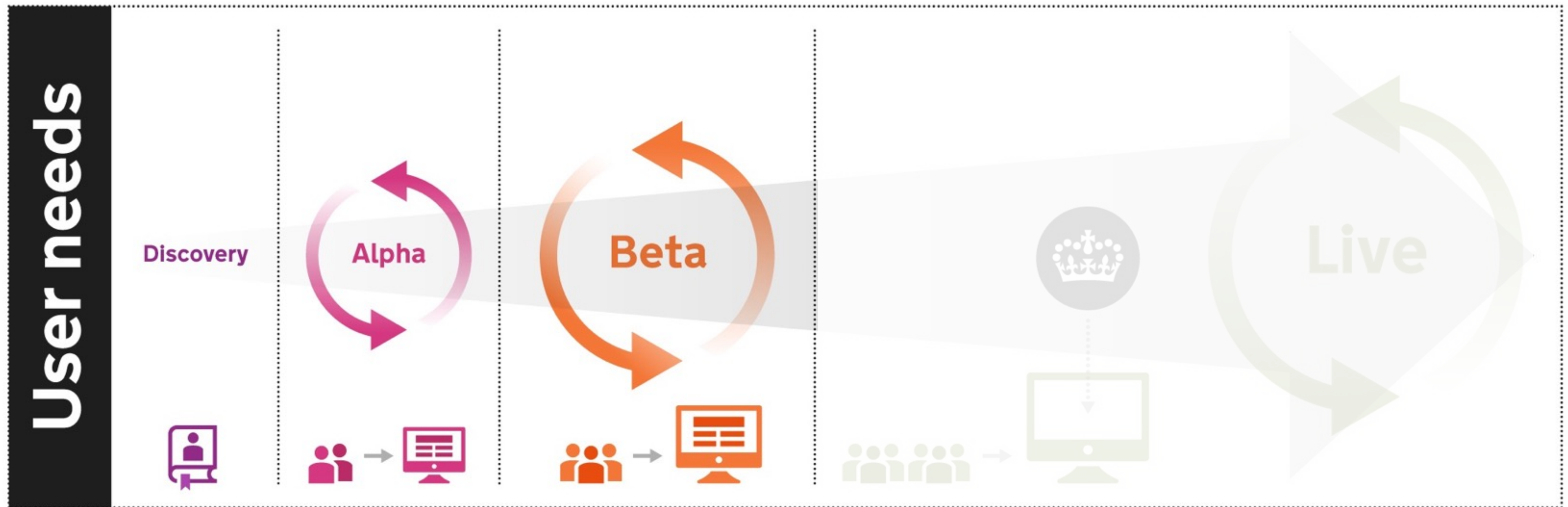
# We hired a lot of software developers because Government had very few

# We didn't talk enough about operations

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We didn't talk enough about operations (to begin with because we weren't running anything)

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Don't take things for granted, communicate about **everything** you care about

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Words often carry the weight of past experiences and other organisations

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" **Will the release really work?**
"

Paraphrasing one of my colleagues from 2012

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"
# Yes. We've done it more than 1000 times. I'm confident it works **now**
"

Paraphrasing me

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Early members of GDS were mainly from media, startup and technology backgrounds

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# The formal language of Service Management* was unfamiliar to most

*Ironically, ITIL was a creation of CCTA, a UK Government agency

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But practices like automation, developers on-call, configuration management, continuous deployment, and automated testing were second nature

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Transformation often means new types of people. They will bring their own language and assumptions

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"We cancelled one configuration management effort because we couldn't keep the spreadsheet up to date"

Remembering one conversation with an Government department

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# "The recommendation was to move from quarterly releases to one release every 6 months "

Remembering one conversation with an Government department

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# Oh, we use an open source configuration management tool which reports state every 30 minutes for every device

Remembering one conversation with an Government department

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Overlapping words from different tribes are often a great place to start collaborating

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# Stereotypes

Understanding what people think of you

A lack of personal relationships, sometimes caused by the inability to communicate, leads to stereotypes

**stereotype**

*noun*

plural noun: stereotypes

# a widely held but fixed and oversimplified image or idea of a particular type of person or thing.

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|  |  |
|---|---|
| What grade are you? | Shiny new technology! |
| No | We need bimodal IT |

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What grade are you?

**Developer**

Shiny new technology!

No

We need bimodal IT

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What grade
are you?

Shiny new
technology!

No

We need
bimodal IT

IT

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What grade
are you?

Shiny new
technology!

No

Security

We need
bimodal IT

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# Some silos are organisational

# Many silos are personal

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**BOFH**

*Bastard Operator from Hell*

a *fictional* rogue systems administrator who takes out his anger on users and others who pester him with computer problems

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# Subverting stereotypes as a way to build relationships

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# Security Says No?

Experts, intermediaries and end users

**Rob Reynolds**
@pressedontech

@randybias @simoncrosby in my experience infosec teams say "no" and not why or suggesting alternatives. Not helping. Just slowing change

RETWEET  LIKE
1        1

12:35 PM - 2 Jun 2016

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Scaling finite expertise is often done with stacks of paper policy

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# Making use of stacks of paper policy often involves middlemen

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# Having direct access to real domain experts* is awesome

*Unfairly in my case that mean  GCHQ

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" I think you'll find you can't do that because of my interpretation of this wording in GPG13 „

Unfairly paraphrasing countless conversations with intermediaries

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# "Let's just ring Richard from GCHQ and see what he thinks "

Unfairly paraphrasing countless conversations with intermediaries

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"

...!

"

Paraphrasing countless conversations with intermediaries

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**Tip**

Don't let scarcity of expertise lead to unapproachable stereotypes

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# Code as a Communication Medium

Bridging policy and practice

# The dreaded incident severity conversation

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# Critical, Major, Minor, P1, Sev2

**Stage 1**
Everyone thinks
everything is critical

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**Stage 2**
Everyone thinks all incidents for there own service are critical

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# GOV.UK Smoke Tests

```gherkin
    And I force a varnish cache miss
    When I search for "tax" using unified search
    Then I should see some search results

@normal
Scenario: check organisation filtering on unified search
    Given I am testing through the full stack
    And I force a varnish cache miss
    When I search for "policy" using unified search
    Then I should see organisations in the unified organisation filter

@normal
Scenario: check sitemap
    Given I am testing through the full stack
    And I force a varnish cache miss
    When I get the sitemap index
    Then It should contain a link to at least one sitemap file
    And I should be able to get all the referenced sitemap files
```

Feature: Search

@high
Scenario: check search resu
Given I am testing throug
And I force a varnish cac
When I search for "tax" u
Then I should see some se

# The ambiguous nature of the written word

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# Lots of opportunities for policy as code

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# CDN Acceptance Tests

```go
// Should cache responses for the period defined in a `Cache-Control:
// max-age=n` response header.
func TestCacheCacheControlMaxAge(t *testing.T) {
	ResetBackends(backendsByPriority)

	const cacheDuration = time.Duration(5 * time.Second)
	headerValue := fmt.Sprintf("max-age=%.0f", cacheDuration.Seconds())

	handler := func(w http.ResponseWriter) {
		w.Header().Set("Cache-Control", headerValue)
	}

	req := NewUniqueEdgeGET(t)
	testRequestsCachedDuration(t, req, handler, cacheDuration)
}
```

# BDD Security

```
Scenario: The application should not contain SQL injection vulnerabilities
Meta: @id scan_sql_injection @cwe-89
Given a scanner with all policies disabled
And the SQL-Injection policy is enabled
And the attack strength is set to High
And the alert threshold is set to Low
When the scanner is run
And the XML report is written to the file sql_injection.xml
Then no Medium or higher risk vulnerabilities should be present
```

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```
package { 'openssh':
  ensure => latest
}
```

**Tip**

# Where possible combine policy with implementation

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# Conclusions

If all you remember is…

# Share language as much as possible

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# Because sharing language makes shared tooling and process easier

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And learning the language of another tribe is a fantastic way of breaking down silos

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# What I Don't Know How to Do

Devops Enterprise Ask

# What macro organisational structures limit the emergence of silos?

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