Fostering Interoperability in Official Statistics: Common Statistical Production Architecture

Common Statistical Production Architecture

An statistical industry architecture will make it easier for each organisation to standardise and combine the components of statistical production, regardless of where the statistical services are built

CSPA Definition

- Common Statistical Production Architecture (CSPA): framework about Statistical Services to create an agreed top level description of the 'system' of producing statistics which is in alignment with the modernization initiative

- CSPA provides a template architecture for official statistics, describing:
  - What the official statistical industry wants to achieve
  - How the industry can achieve this, i.e. principles that guide how statistics are produced
  - What the industry will have to do, compliance with the CSPA

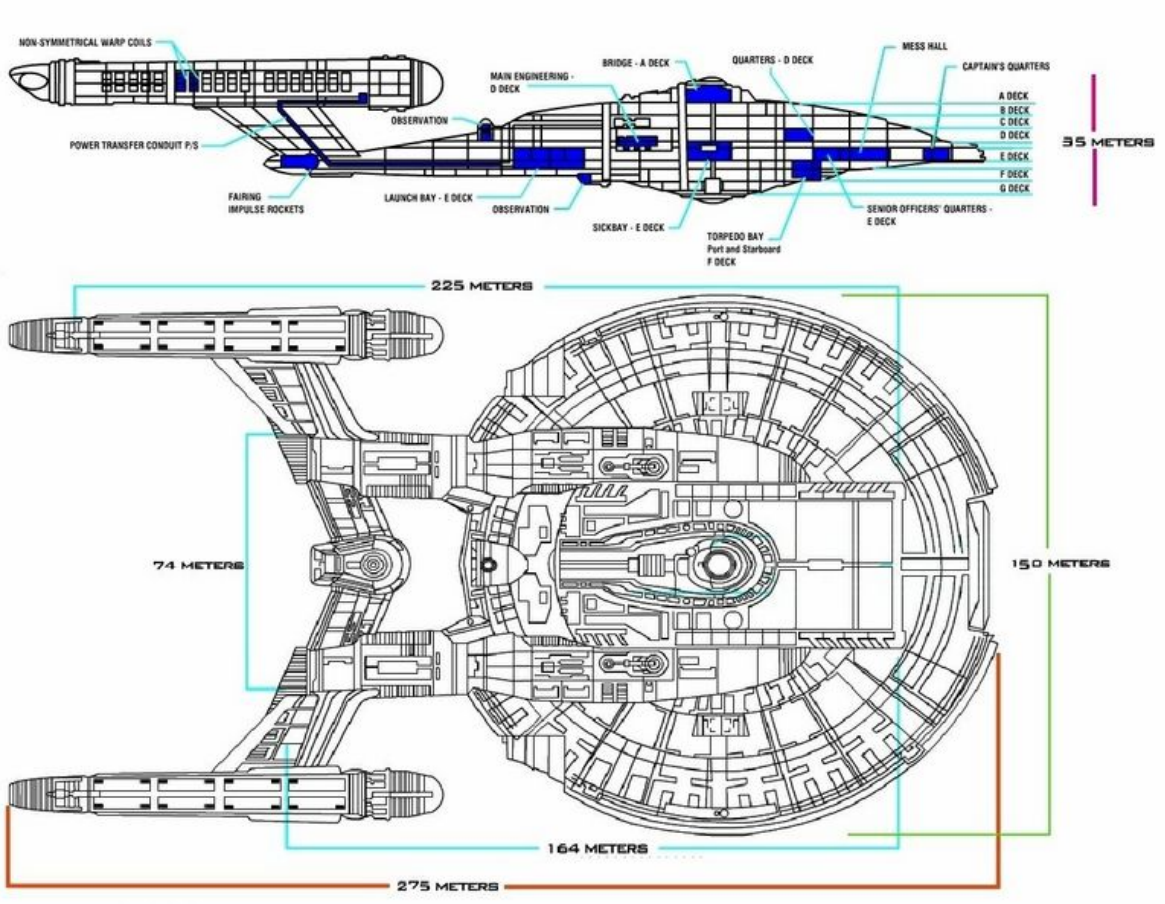
Desired Project Outcomes

Increased:

- interoperability in Official Statistics through the sharing of processes and components
- ability to find real/genuine collaboration opportunities
- ability to make international decisions and investments
- sharing of architectural/design knowledge and practices

2 Strands to the project

Architecture



Proof of Concept

The Architecture

Analogy
business process : "dressing up"

fit for purpose
do not start with the shoes
sense of harmony

A plug and play platform

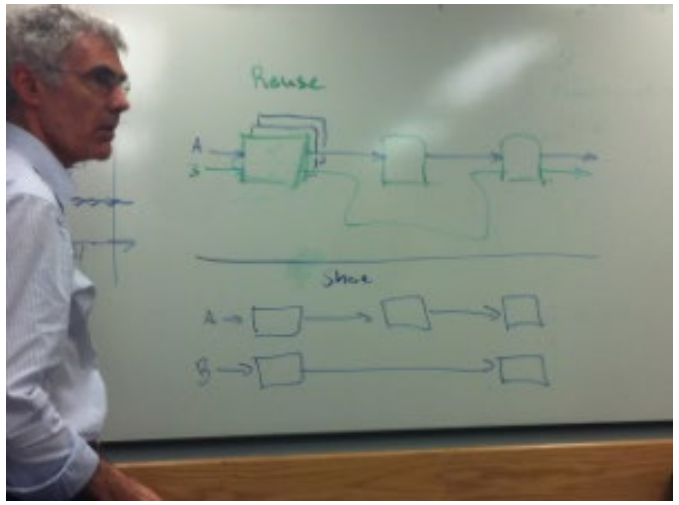
Business outcome

The CSPA provides:

- Support the implementation of the vision and strategy of an industry
- An architecture template for statistical production
- A set of agreed common principles and standards designed to promote interoperability
- A common vocabulary to discuss implementations

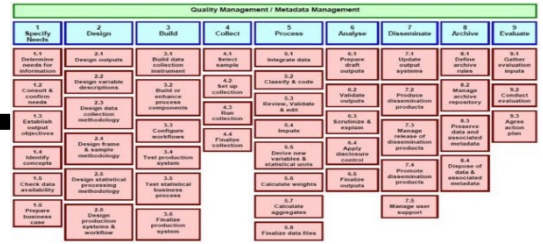
“Sprint” – Ottawa April 2013

- 15 people
- 10 organisations
- 5 days



- Result: The first draft of an “industry architecture” for official statistics

Business Architecture

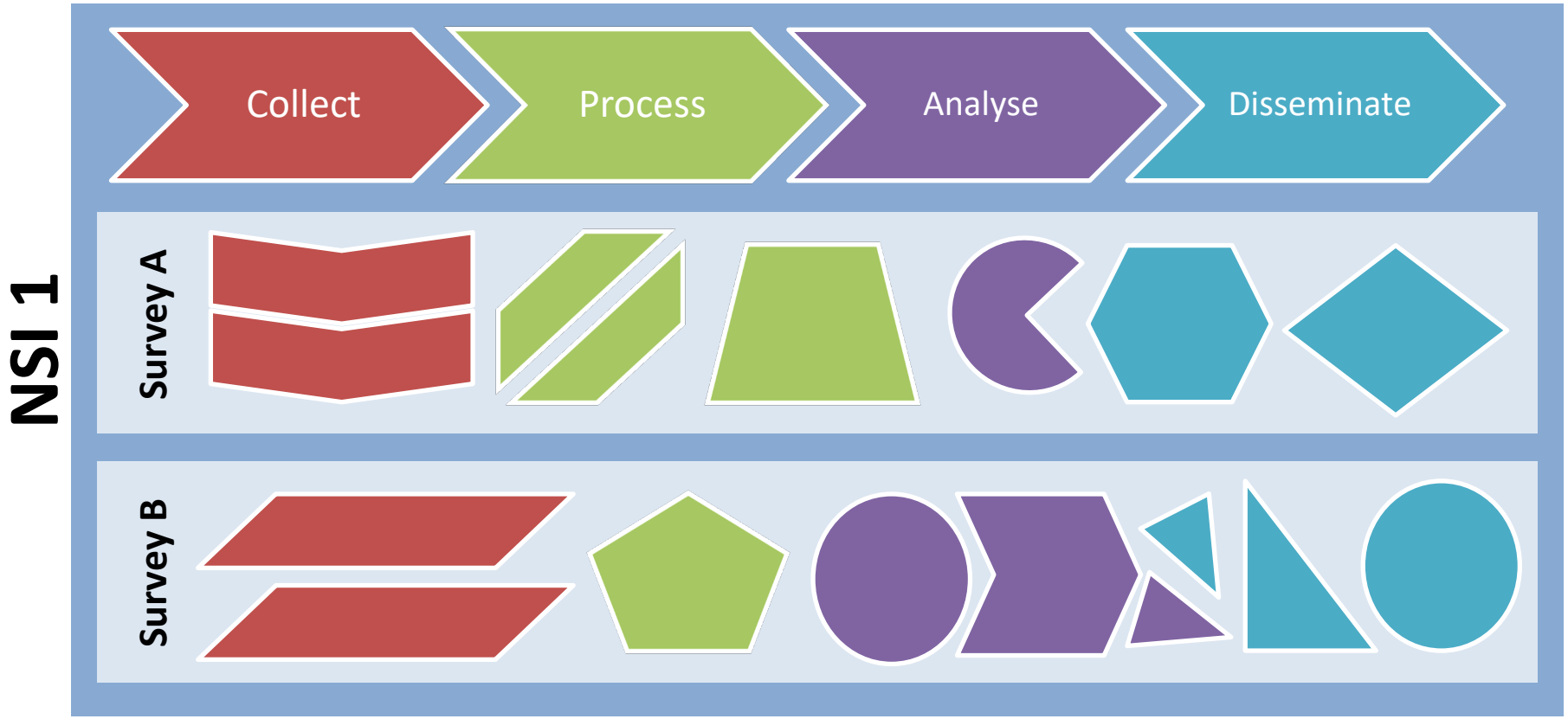


Information Architecture

Application Architecture

Technology Architecture

The problem we are trying to solve

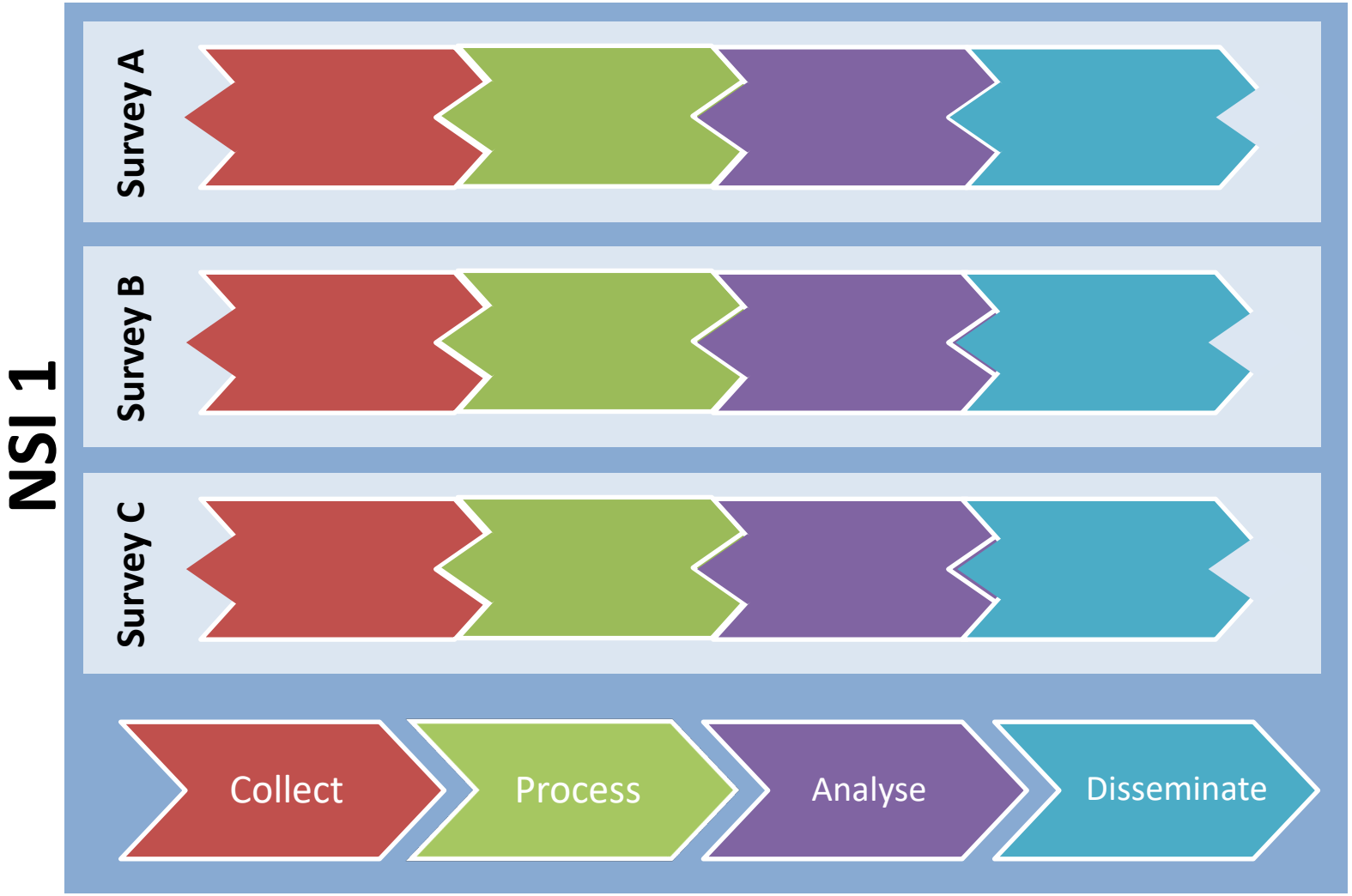


Historically statistical organisations have produced specialised business processes and IT systems

How does Architecture help?

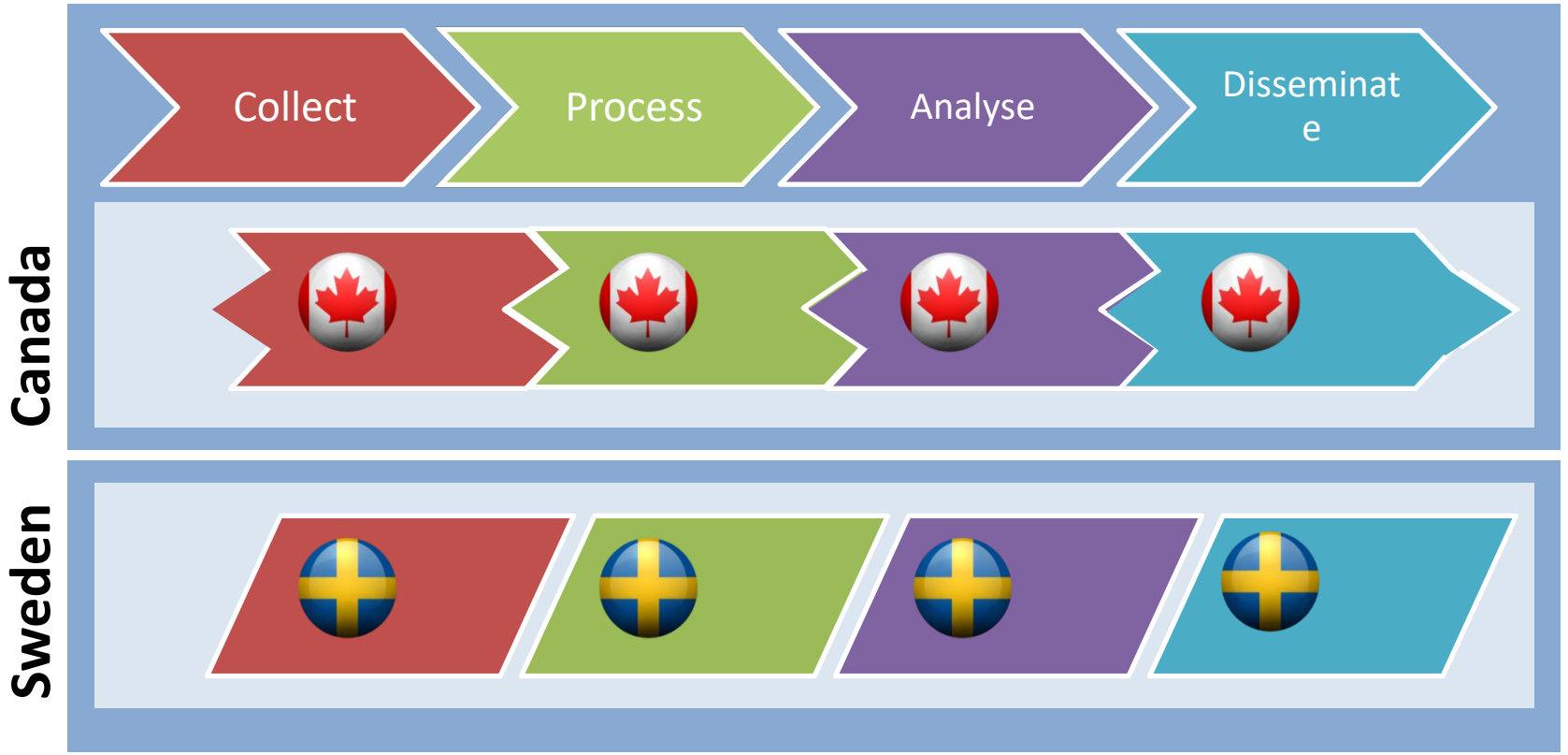
- Many statistical organisations are modernising and transforming using Enterprise Architecture
- Enterprise Architecture shows what the business needs are and where the organisation wants to be, then aligns efforts accordingly
- It can help to remove silos and improve collaboration across an organisation

EA helps you get to this

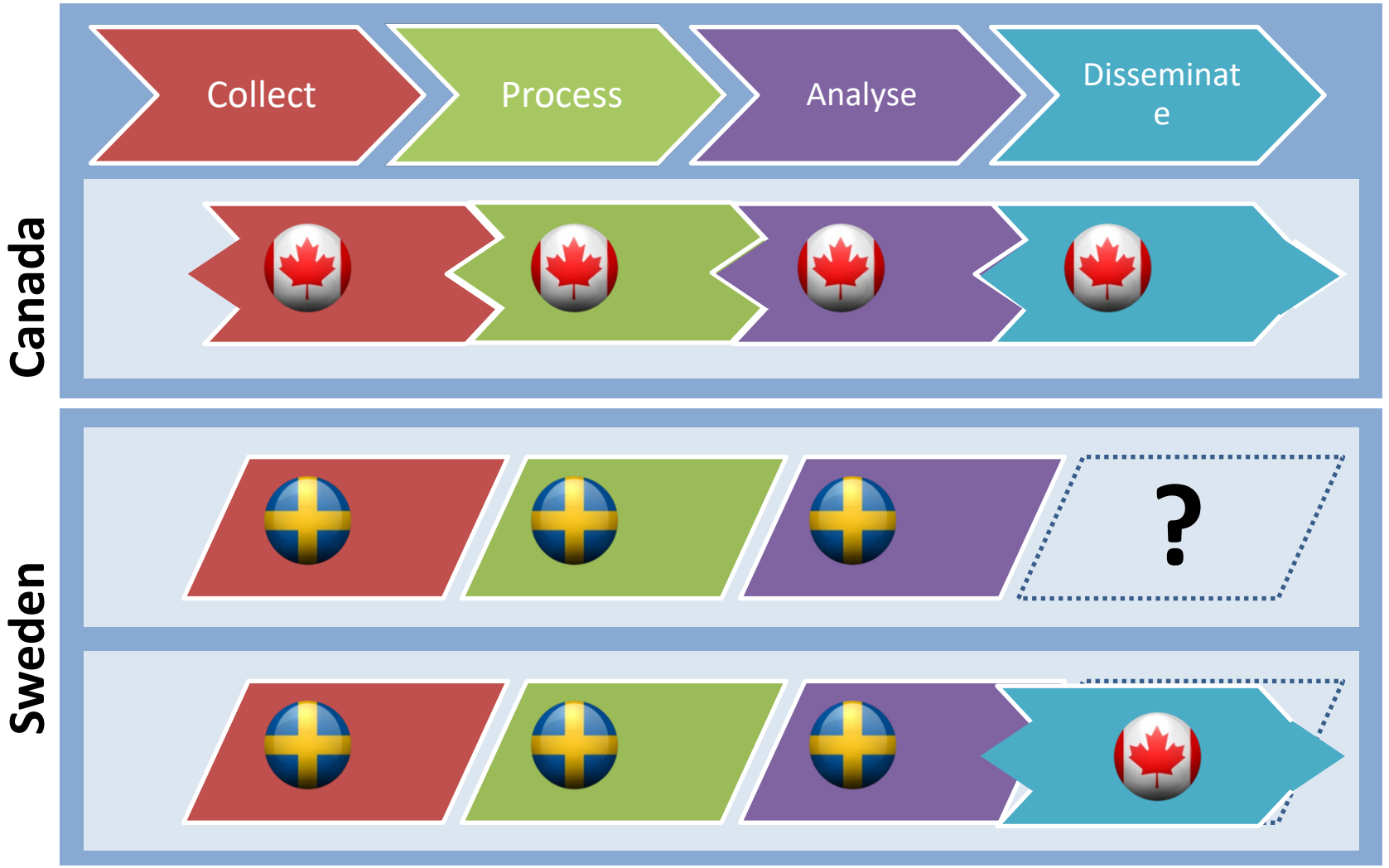


…but if each statistical organisation works by themselves…..

…we get this….

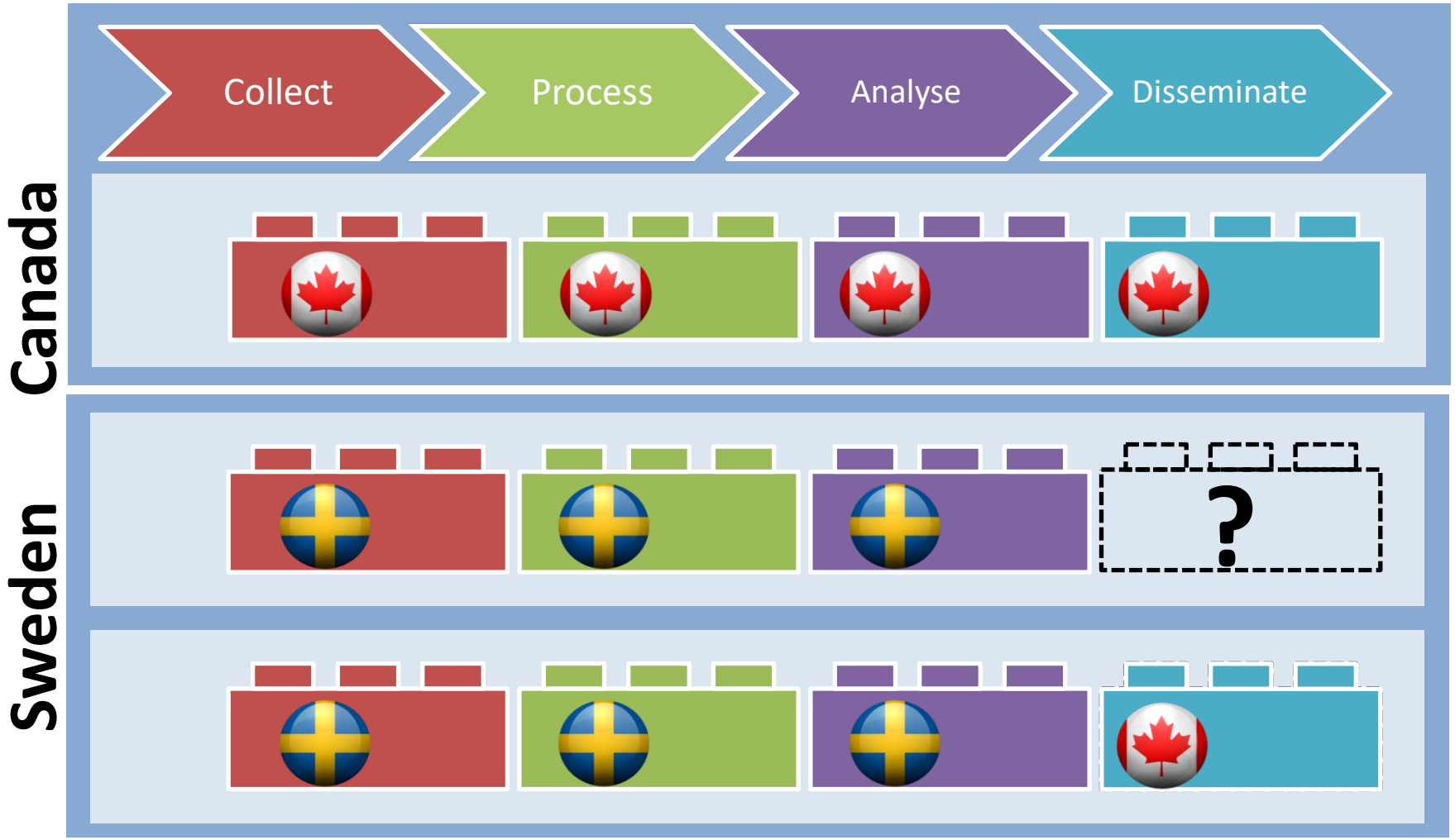


This makes it hard to share and reuse!

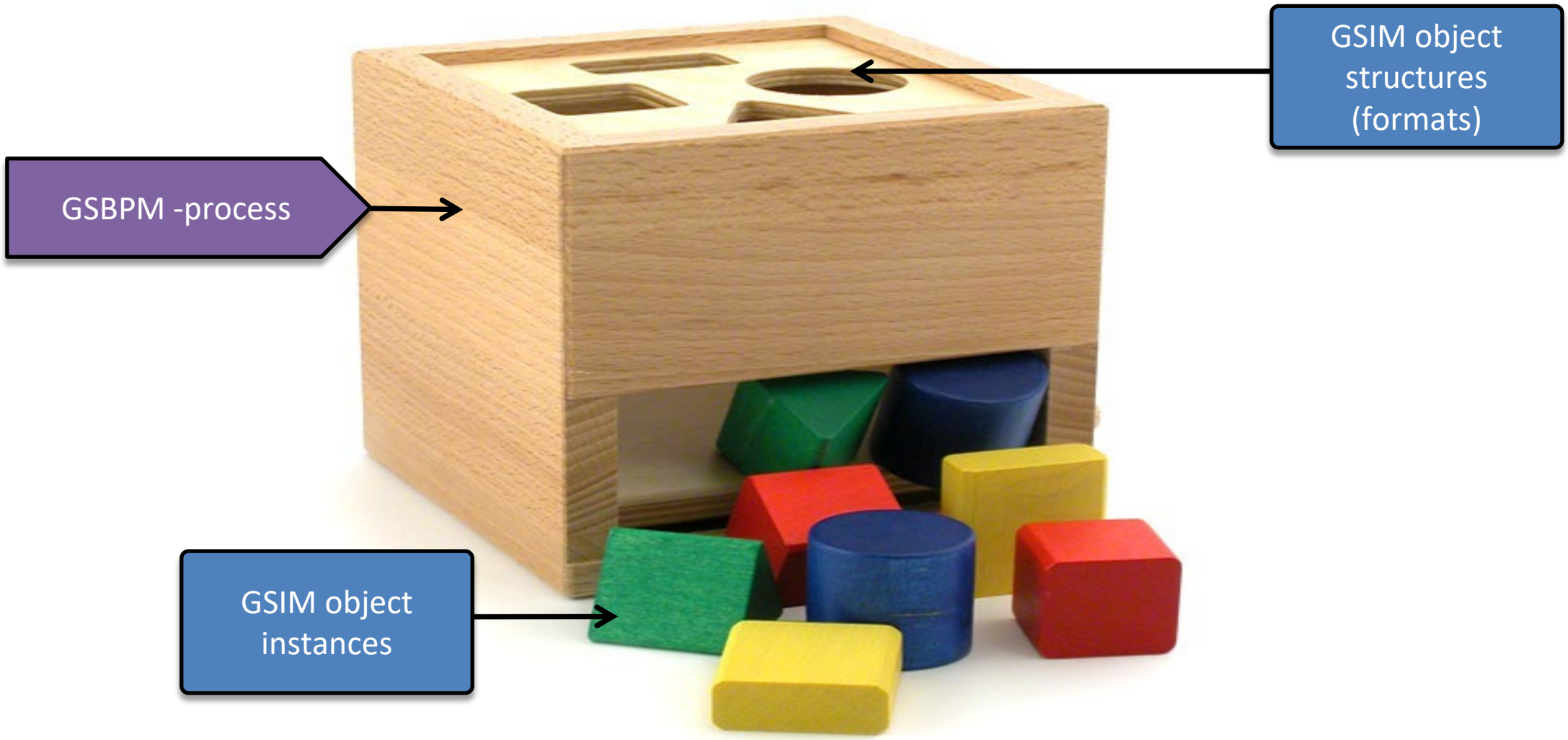


…but if statistical organisations work together?

This makes it easier to share and reuse!



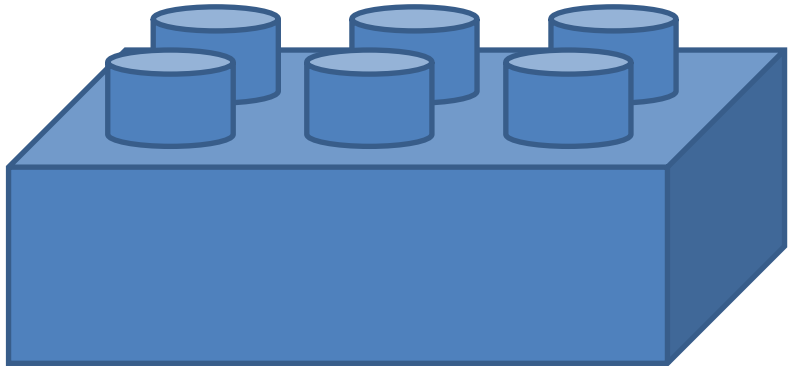
A statistical service



http://www.illeccio.com/page.php?lang=en&product_id=37

The concept of Plug and Play

- Standardised Service:
  - **Standardised** input and output
  - Meet generic nonfunctional **requirements**
  - Can be **easily** used and reused in a number of different processes



Proof of Concept

Aims

- Demonstrate the process of working together
  - Advantages in cooperation

- Demonstrate business viability to senior management
  - There are benefits to pursuing this
  - Show it is feasible
  - Encourage investment

- Prove the value of the Architecture
  - Here is something that we could not do before

Choosing the PoC components

Lego pieces could be:

Brand new

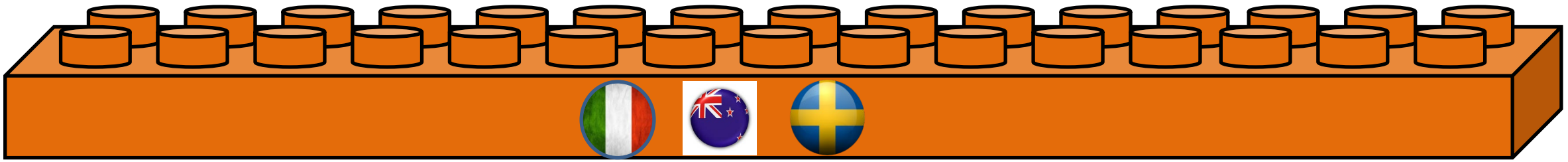
OR

Wrapped legacy/existing

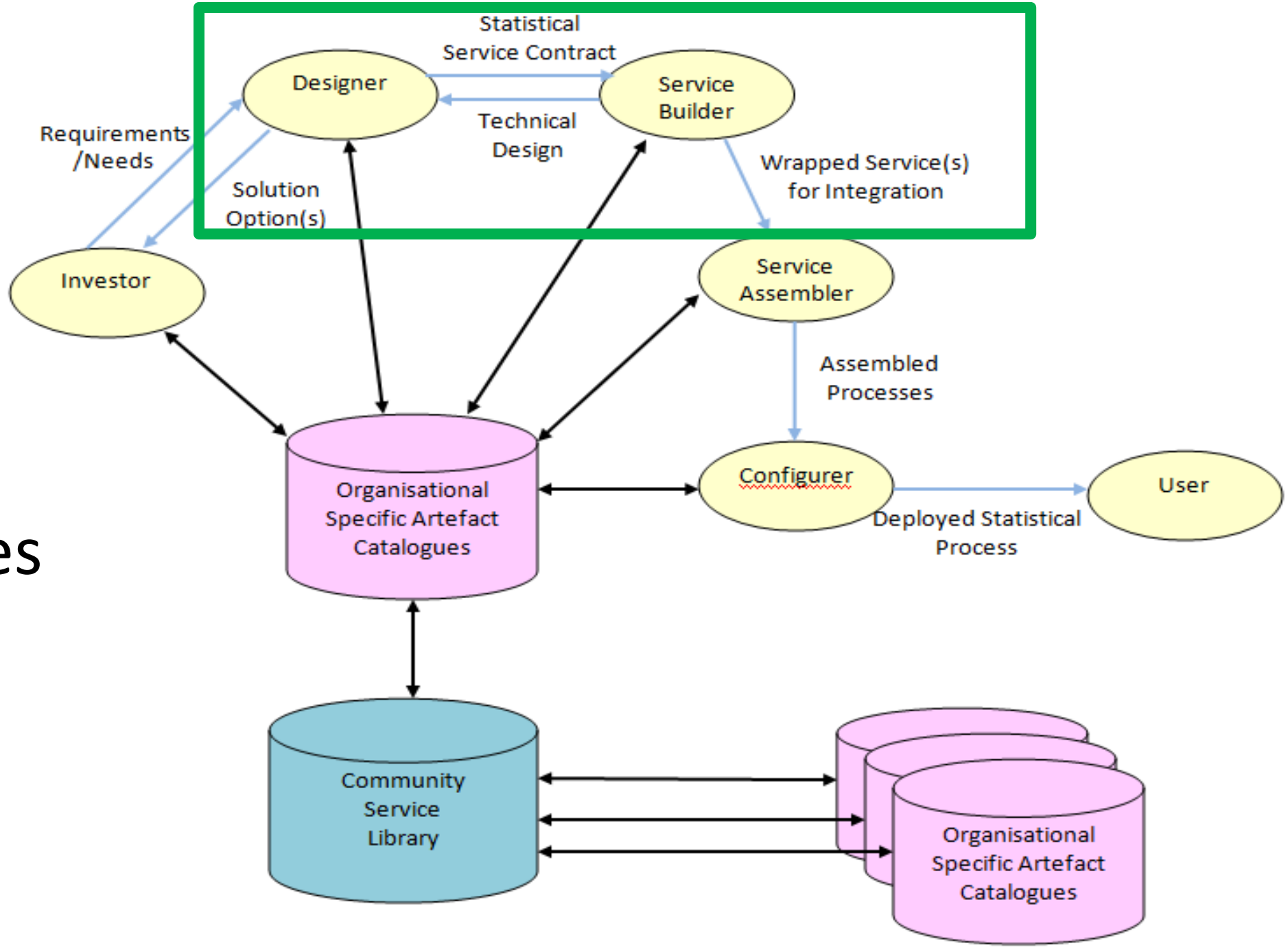
The Proof of Concept

- 5 countries played the role of Builders

- 3 countries played the role of Assemblers



CSPA roles

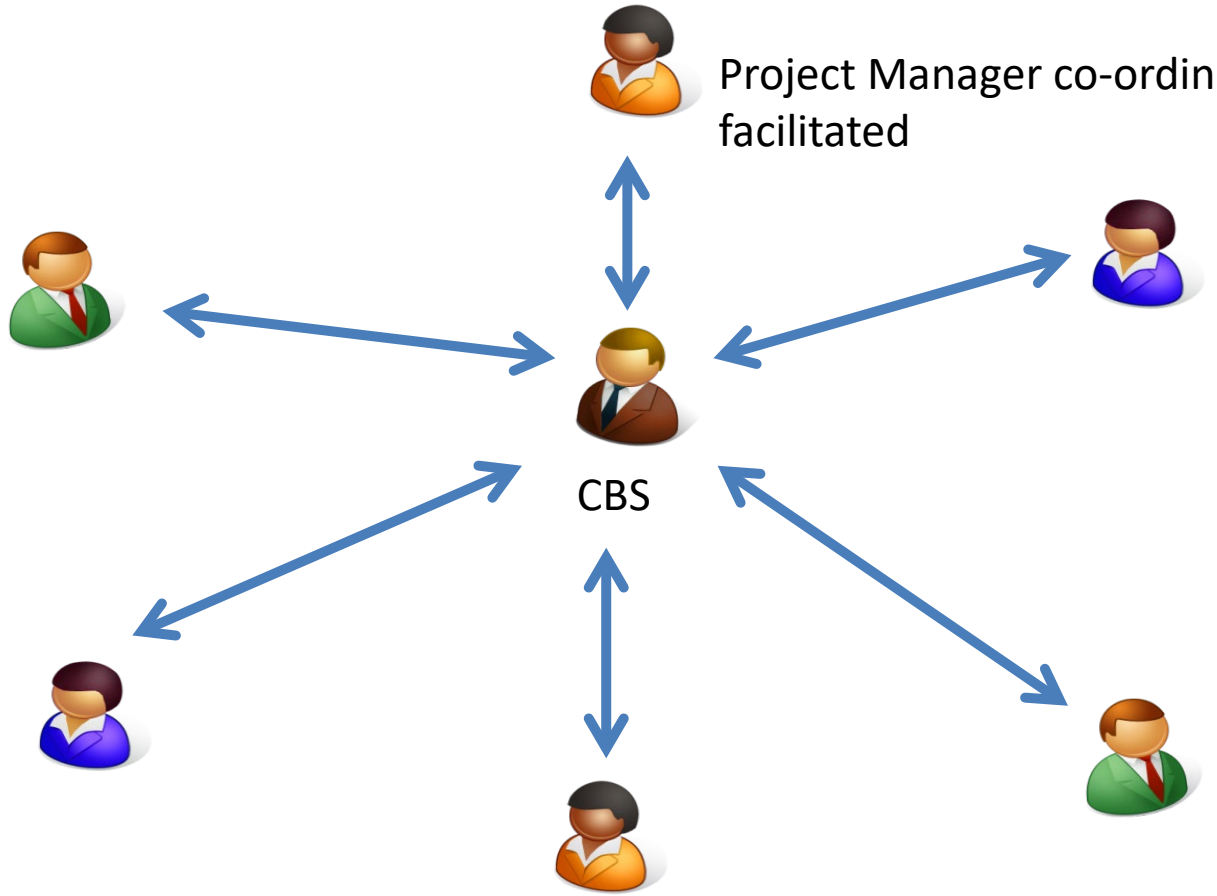

Statistical
Service Contract
Designer
Service
Builder
Technical
Design
Requirements
/Needs
Solution
Option(s)
Wrapped Service(s)
for Integration
Investor
Service
Assembler
Assembled
Processes
Organisational
Specific Artefact
Catalogues
Configurer
User
Deployed Statistical
Process
Community
Service
Library
Organisational
Specific Artefact
Catalogues

“Sprint” – Rome June 2013

- 18 people
- 11 organisations
- 5 days

- Result: Design specifications for the Proof of Concept

What was involved in **building** a service? Autocoding Service 1 as an example



Project Manager co-ordinated and facilitated

Statistics Canada arranged a licence of Gcode for CBS

CBS and Stats NZ worked together to ensure that both Autocoding Services were built to the same definition and specification

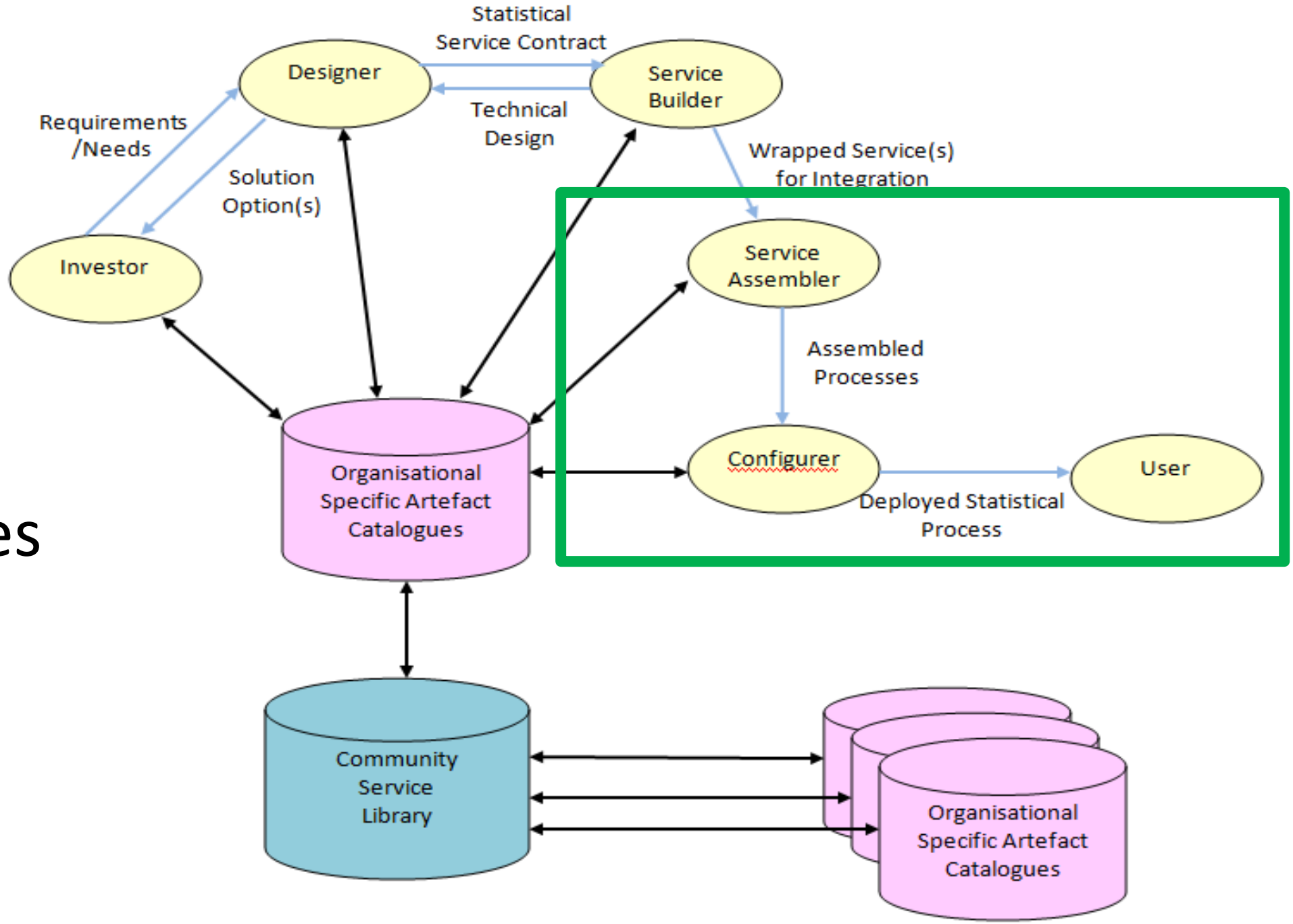
CBS

Information experts reviewed the DDI

Architecture Working Group provided advice

Implementers of the Service were consulted

CSPA roles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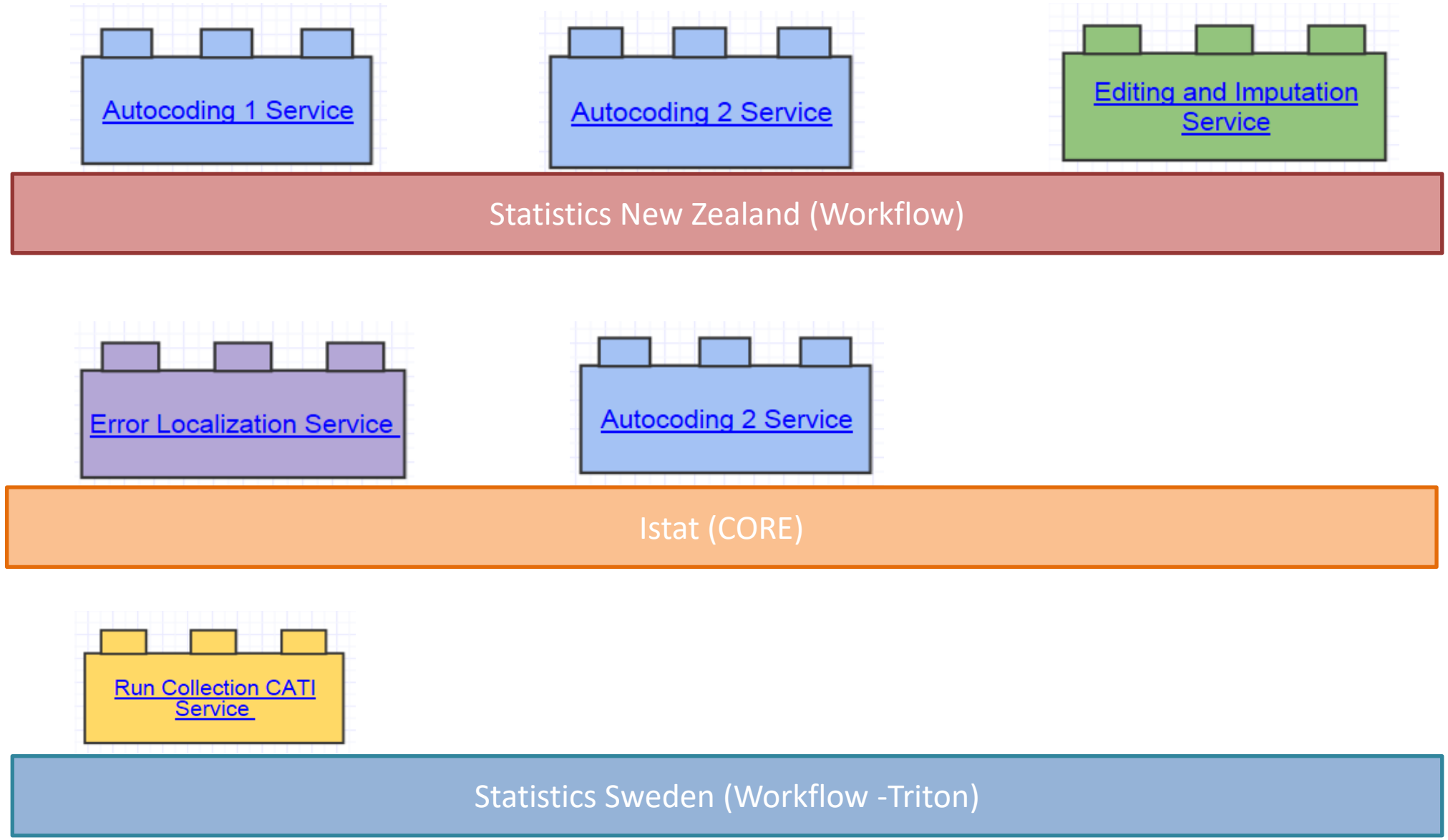
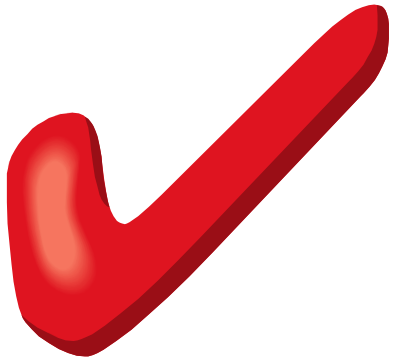
Deployed Statistical
Process
Community
Service
Library
Organisational
Specific Artefact
Catalogues

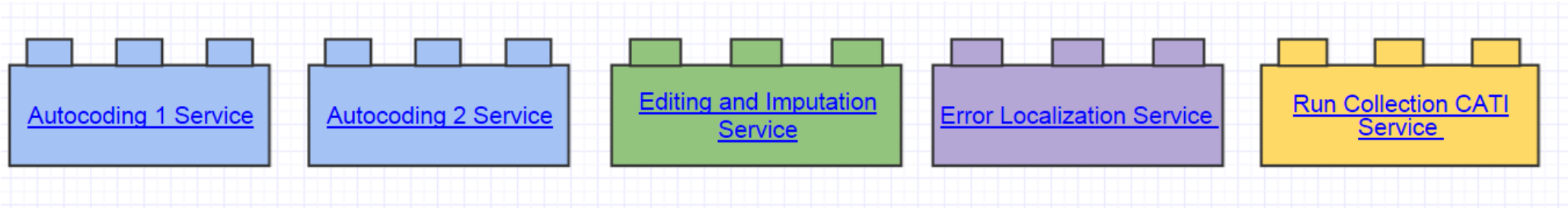
People involved in **Assembly** phase



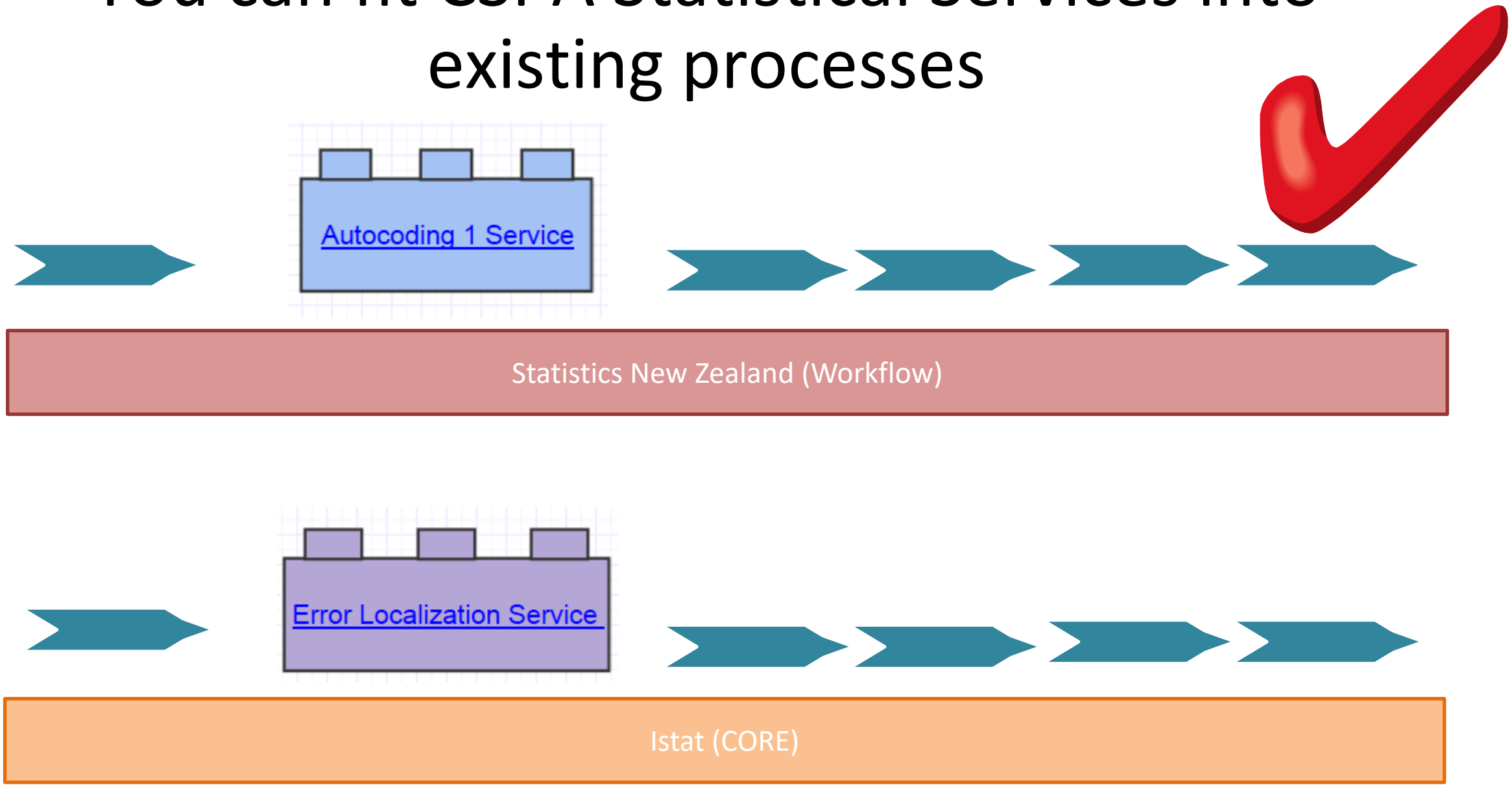
What did we prove?

CSPA is practical and can be implemented by various agencies in a consistent way

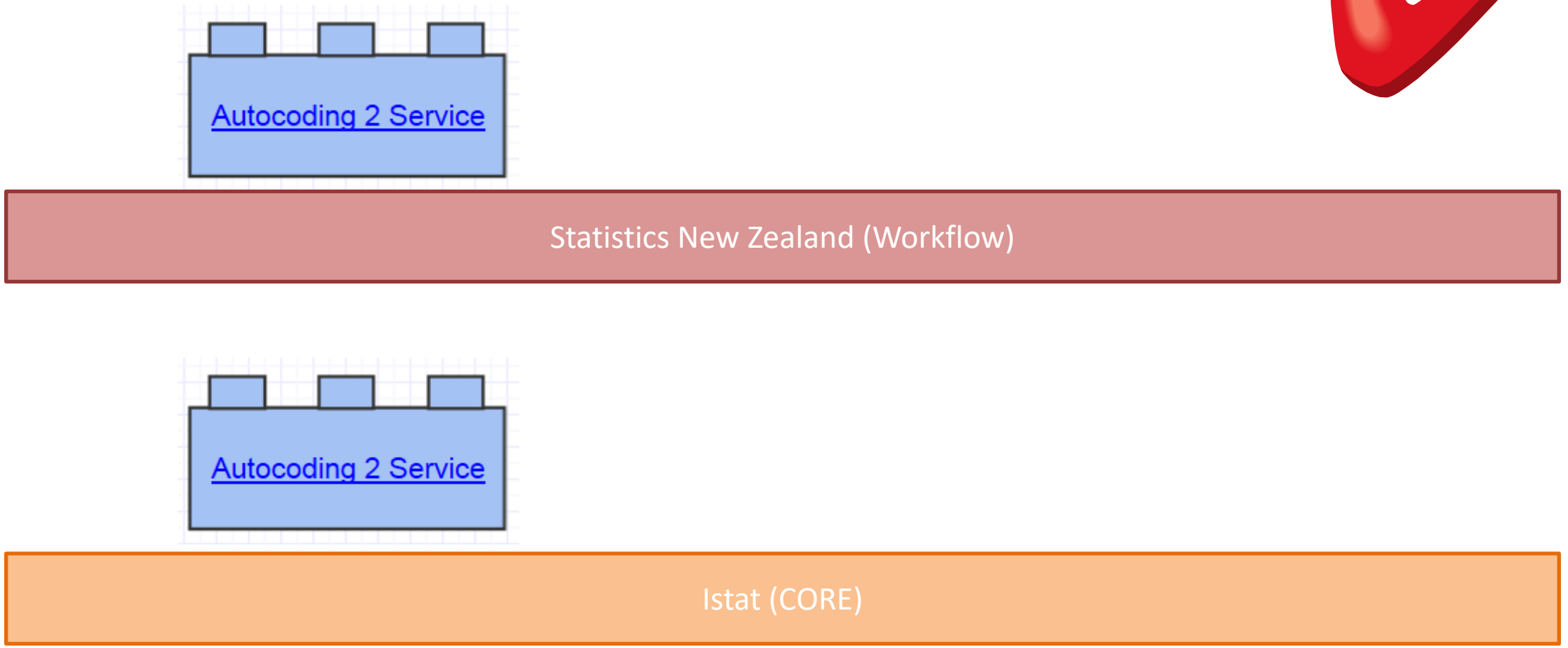




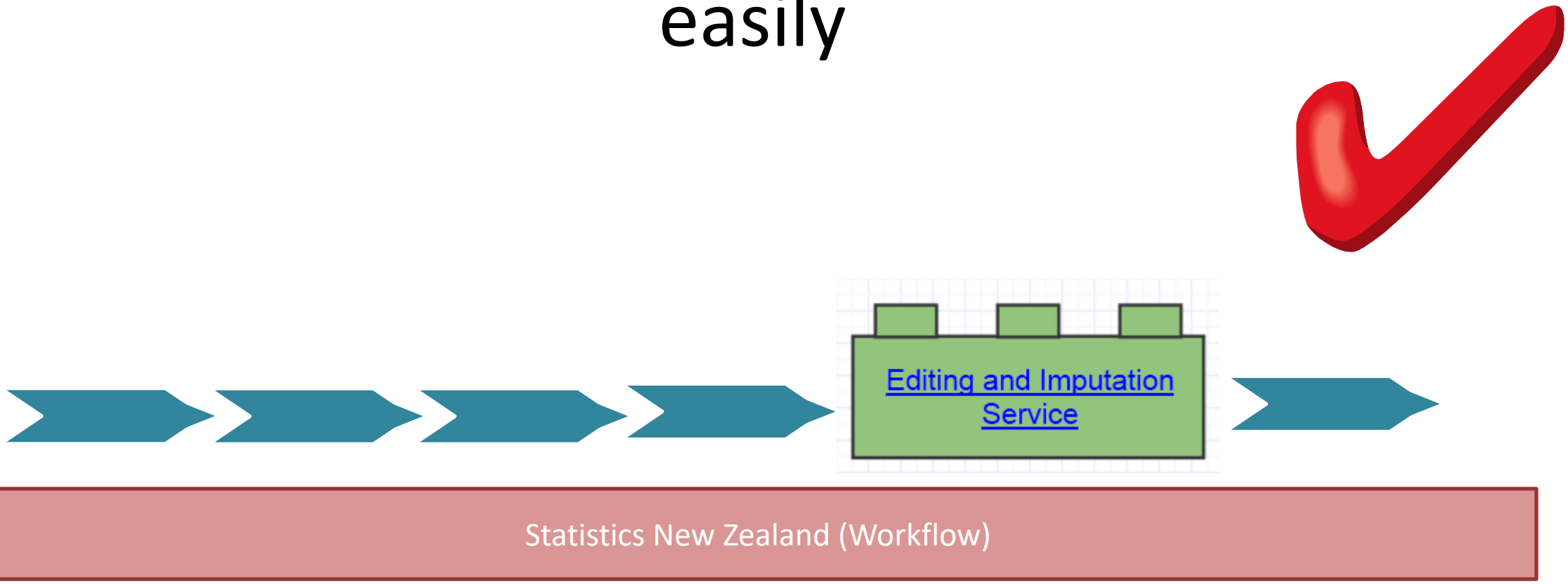
You can fit CSPA Statistical Services into existing processes



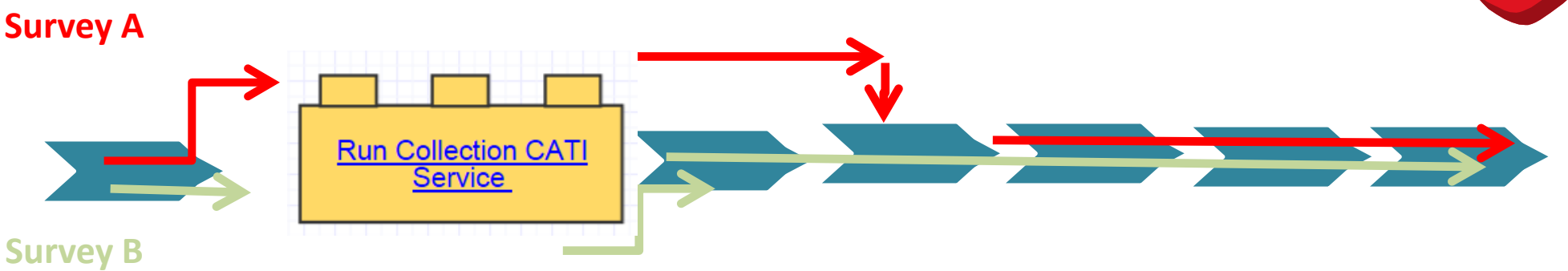
CSPA does not prescribe the technology platform an agency requires



You can swap out CSPA compliant services easily



Reusing the same statistical service by configuration



Statistics Sweden (Workflow -Triton)

What did we learn?

The possibilities!

We now know what some of the real issues are and we can make decisions on what is worth doing and what is not.

“The proof-of-concept form of working with these concepts is in itself very interesting. We can quickly gain insight to both problems and possibilities”

International collaboration is a trade to be mastered

- The on-going contact with colleagues over the globe is stimulating and broadens the understanding
- The PoC discussion forum on the CSPA wiki was useful

BUT…

- The ability to undertake trouble shooting through the installation / configuration period was made difficult by the time zone differences resulting in simple problems often taking a number of days to resolve.

Learning curves

Proof of Concept required knowledge about:

- the tool which was wrapped (CANCEIS, Blaise etc)
- GSIM implementation standards (DDI in this case)

Practical problems with sharing software.

- Licencing issues
- Exchanging software (Import/export) is cumbersome.
- Installation of software not built for you can be tricky and requires support.
- CSPA-service could be applied in production only if support is available

What does CSPA mean for statistical organisations?

Benefits from a business perspective

“I think that this work has great potential. Through CSPA-services it'll be much easier to integrate tools built for different environments, into our environment”

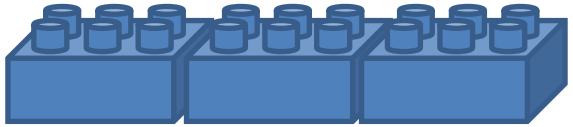
“If this works and more organizations join, it will give us the opportunity to share parts of our own solutions without the need to take everything”

Making the most of the architecture

Statistical community

Organisation specific

CSPA-Services



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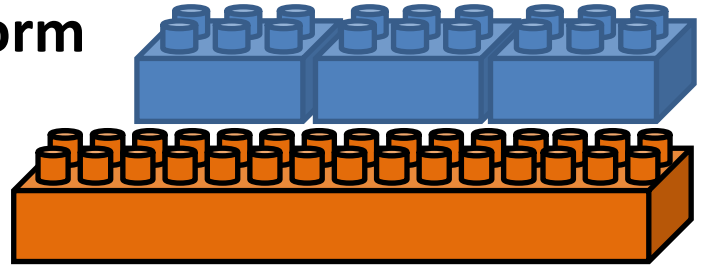
Infrastructure & communication platform



CSPA

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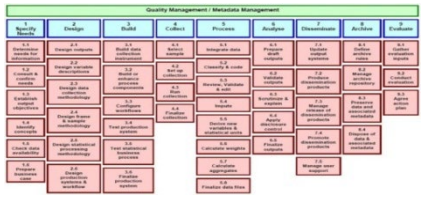
Common Statistical Production Architecture



Culture and knowledge for governance and usage of CSPA-services

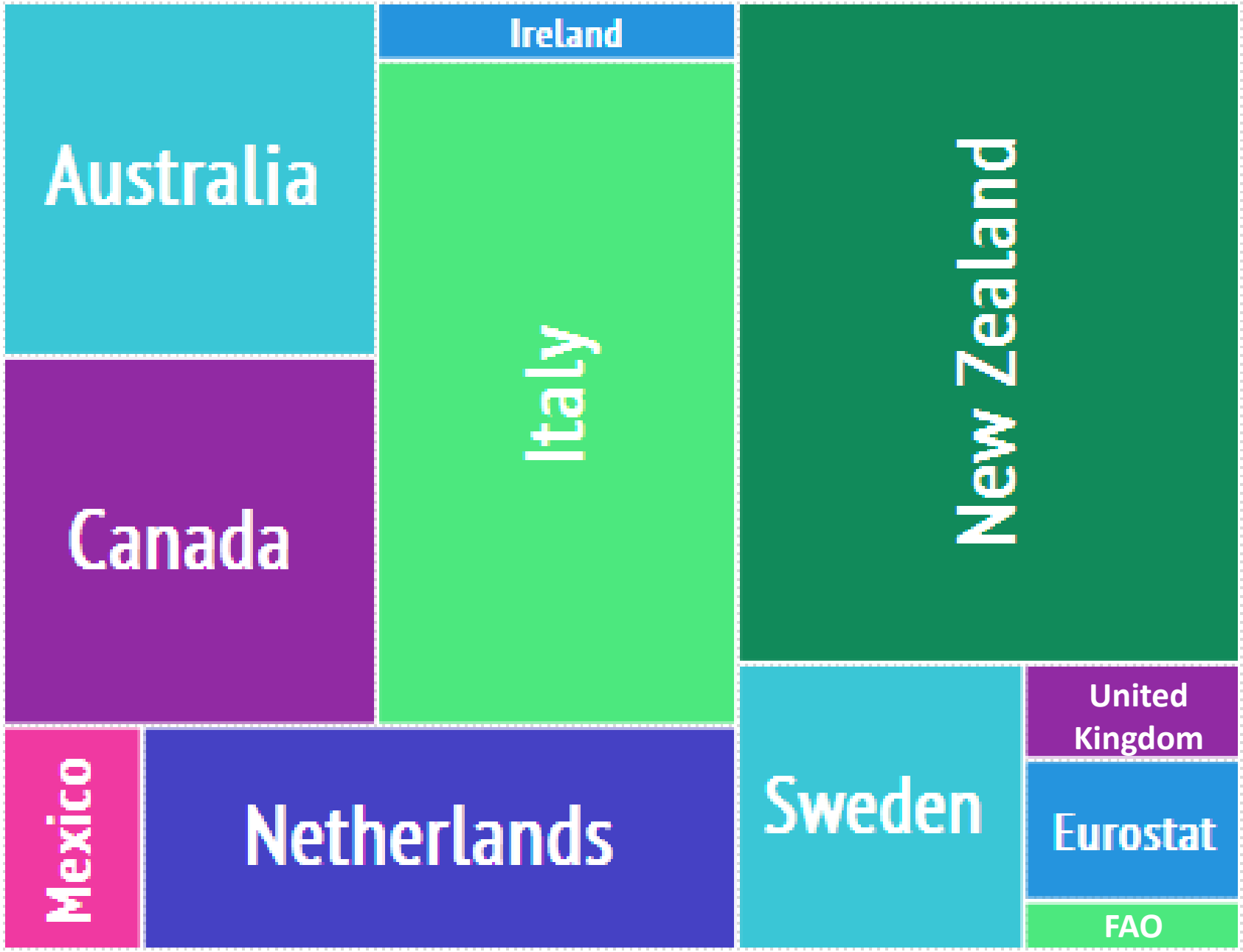
The result from 2013

Outputs

2012

2013

- CSPA v1.0
- Proof of Concept
  - Paper
  - Videos
  - Example services



2 Sprints

5 Build teams

3 Assemble teams

1 Working Group

42 individuals

Thanks!

- If you are interested in seeing the CSPA Proof of Concept Services in action, we have some short videos which will be shown during the lunch break on Tuesday.