Honey authenticity: proof of concept

Dashboard services

Contained's BlueRing supply chain coordination system provides a switchboard and a dashboard for users to enable interoperability and visualisation of their data sharing activities. The proof of concept is focused on developing a solution for the use case of someone wishing to a submit a sample of honey for testing.

The BlueRing system allows registered users to coordinate supply chains from their perspective by creating order manifests and adding and managing data associated with a batch of goods. This has been
expanded to incorporate the case of a sample from this order being sent for testing.

The data trust framework solution is technology platform agnostic. Contained's BlueRing system is used here as an example to show how the protocols and agreements can be implemented.

A system for the honey sector

This has involved creating new 'actor types' to prepare the system for the honey sector. Beyond the proof of concept, the next stage is to tailor these to specific roles from the sector and iteratively co-create new interoperability services. These can subsequently be adopted for testing regimes in other sectors.

Work is ongoing on developing these services. The proof of concept enables a request to be made to a test centre, a sample to be submitted and then the resultant Certificate of Analysis can be viewed online together with details of the component tests.

The secure configuration of the system allows the data owners to give access to regulatory bodies and others, if permissioned, and access certain parameters of the test results.

Enabling secure analysis

This allows an independent body to be given access to the test results but also, importantly, the approach in conducting the test and interpretation of the results. In cases where there is a dispute or a confirmation check needed, the test process can be securely analysed and ratified.

The aim is that this platform will enable and support the discourse among the community. This will be facilitated through a trust framework implementation assembled from the participants in this research activity who have indicated an interest in taking this further forward. Once the initiative is established, others will be welcome to join.

The Containd.io development team has created processes to enable use cases, as an exemplar of how the system could work:

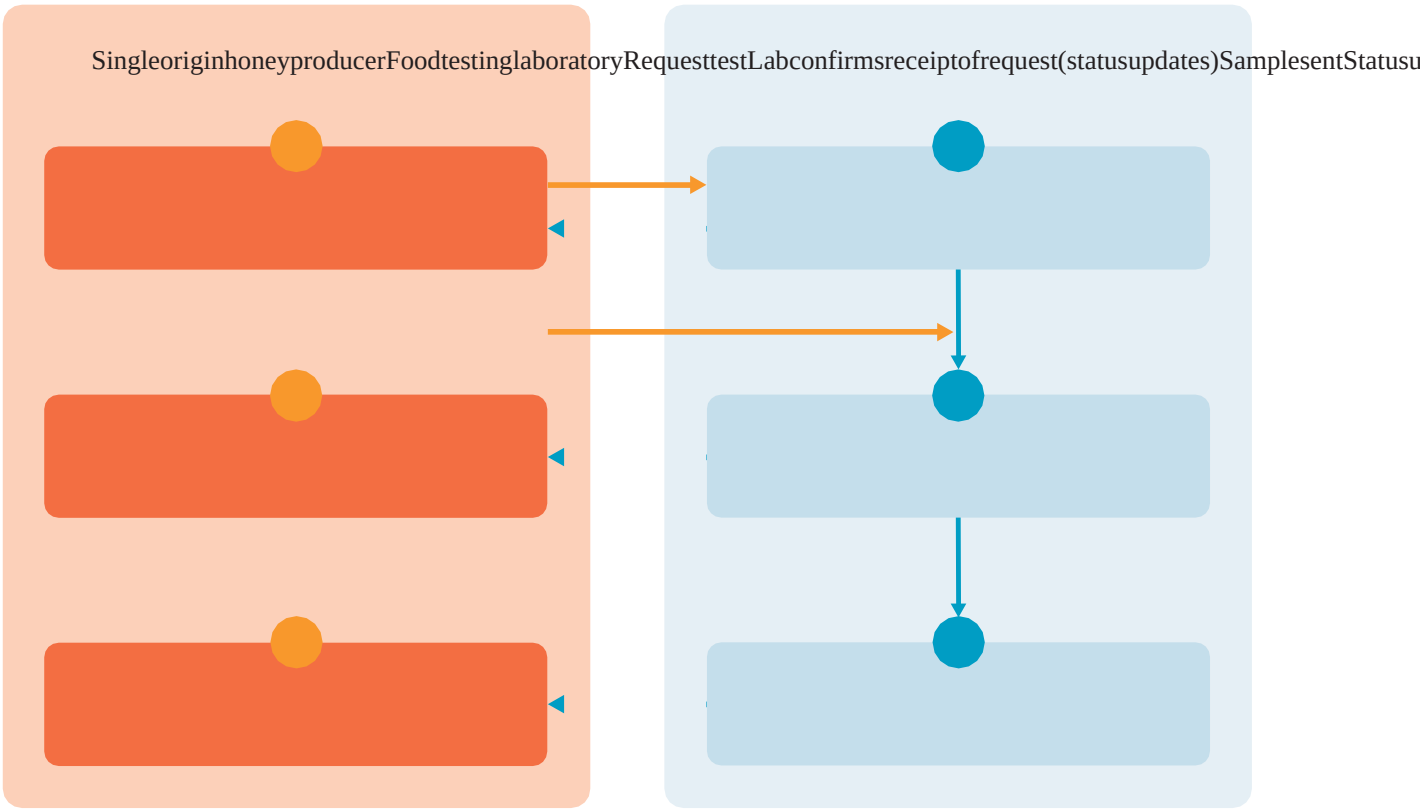
- Key stakeholder roles can be represented: commercial test lab, producer, lab test requester

- Lab test can be requested
- Commercial certificate of analysis can be uploaded can be uploaded
- Certificate can be accessed by requester
- Further analysis of use case to add granularity to steps is ongoing, including second step to NMR lab, and interrelationship with FSA as regulator with oversight of NMR databases

Commercial honey test service process flow

High level description of the commercial honey test service for the single origin UK-based honey producer. The BlueRing system demonstrates how data-sharing can enhance the process.

1. **Single origin honey producer:** Request test
2. **Food testing laboratory:** Lab confirms receipt of request (status updates)
3. Sample sent
4. **Single origin honey producer:** Status update
5. **Food testing laboratory:** Lab confirms sample receipt (status updates)
6. **Food testing laboratory:** Lab submits results (status update
7. **Single origin honey producer:** Commercial certificate of analysis



Commercial honey test request service

Contained.io's BlueRing system as an example of a data exchange between a single origin honey producer and a commercial laboratory.

1. Honey Producer adds and submits new order request.
2. Lab Analyst receives notification of order and sends acknowledgement of order request
3. Honey Producer receives confirmation or order and sends sample.
4. Honey producer receives results (order is completed)
5. Lab Analyst receives sample and sends receipt confirmation and performs test(s)
6. Lab Analyst sends results (order is completed).

“This approach to honey testing not only makes good Health and Safety sense, but also good Honey sense.” – Honey Producer

Implementing the data sharing governance ecosystem

Further work is being conducted on how to design and implement a sustainable solution that could persist beyond the project. This involves working with a small study group drawn from a coalition of the willing who are interested in exploring how permissioned access to certain test data can help develop a consensus within the community around honey authenticity assurance. Other bodies involved with test data analysis and food product certification may wish to participate in this activity.

The need is to implement a data trust framework that supports the secure and specific data sharing services needed by this community to address the concerns regarding testing and authenticity in the honey sector.

The framework will enable the community to agree on the data sharing services they need. These formal agreements would be available to enable them to share and access data securely in the honey production supply chain.

Any such solution will require a governance system to enable the community to build trust among the data sharing users as well as agree definitions of rules and roles. This approach will enable the integration of the technical data sharing mechanisms developed as a proof of concept with existing services from regulators, trade bodies and other stakeholders.

There will be a minimalist start to this process with a basic data sharing agreement to further test this approach. However, the goal is to move towards a more ambitious governance model similar to the approaches we have previously explored.

Two tier governance structure for data exchange collaborations

The two-tier structure is designed to optimise the balance between federated input from the participating stakeholders and an efficient delivery executive that satisfies the agreed needs of the community.

- Sponsor(s) appoints the Supervisory Board who supervises the Executive Board
- The Supervisory Board appoints the Members Council who advises the Executive Board
- The Supervisory Board also appoints the Experts Group Advisory Board (technical, ethical, legal) who advise on the scheme management and adoption.