National Freight Data Hub

Submission by 1-Stop Connections
1-Stop is pleased to submit this discussion paper for the National Freight Hub. While the paper template has provided pre-empted questions, 1-Stop has the history and experience in the Australian Port Community to prove that we are a trusted partner and have the knowledge to provide evidence-based information to ensure the National Freight Hub is implemented successfully.

The three main success criteria of the National Freight Hub resonate with why 1-Stop was formed. Where 1-Stop is today and also moving into the future; supporting the entire supply chain with state of the art technology and solutions to move cargo from point A to point B in the most efficient, productive and cost effective way while providing the cargo owner with an update at each significant milestone that is important to them.

Everybody wants visibility, and the way 1-Stop has structured our solutions in the past and future is around what data do you need, how will it benefit you and how can we get your cargo from A to B in the most efficient and productive way.

We know 1-Stop isn’t the only company providing data to assist with the overall efficiency of the supply chain. There are many established organisations like 1-Stop providing the industry (including bulk, air, road and rail) with trustworthy and beneficial information to help import and export goods. We are suggesting that there is an overarching hierarchy. This is to be dependent on the data source. With a hierarchy to provide guidance and policies around data sharing to ensure the data is trustworthy, safe and used in the correct manor.

We do recommend that the governance remains with a Government agency or body. We are willing to work with all trusted partners to form the data network to move Australia.

Throughout our submission we will take you through:
- Why 1-Stop is the leader in the movement of containerised cargo
- Supply Chain productivity: The data picture
- Framework and Governance
- Models for Data Sharing
- Our Aim and Alignment
- Response to the standard questions

**Why 1-Stop is the leader in the movement of containerised cargo**

The journey to capture data at key milestones of a container started in 2002 with significant improvements immediately seen for the Port Community. With digitisation; standardisation and automation are areas that have come along way. Data is captured and shared with the wider supply chain community for improved productivity for all. With increased visibility, predictability, performance and efficiency at the port gates allowing the community to improve.

1-Stop acts as the facilitator by connecting parties in the community who are willing to share their data functionalities to other interested parties.

We are the only provider in the industry that can take, give and accept all data methods dependent on the requirements of the end user. These include: CSV, EDI, API, push notifications, FWF and a simple web interface catering to those less mature companies.

Right from the beginning, we have had a unique position with a holistic view of how data is used throughout the supply chain. Different industry bodies and key companies in the supply chain lean on us as being the ‘SUPPLY CHAIN INTELLIGENCE’ to help them improve how they operate. NOT just as a solution provider.

This means the conversation around the data has become different.

It’s not just about getting data but understanding ‘why’ and ‘how’ it needs to be used at a grassroot level, to make an impact.
We’ve been looking at how that data impacts business operations and which means really understanding the nuts and bolts of the operations of each person in the supply chain. The latent potential of that data and how it connects various users and processes of the entire supply chain to the big picture.

In our nearly 20 years in the industry 1-Stop continues to connect to the whole supply chain (per below image). Each year we send over 190 million different data messages in Australia alone connecting the entire supply chain community.

To prove that we have the history and knowledge, we have broken up our solutions to fit under 5 major pillars; a short example of each is below with examples of different data messages which can be sent depending on the requirements.

**MESSAGING AND MESSAGE BROKERING**
The interface between Truckers and the Container Terminal was inefficient, potentially inaccurate, and that could lead to wasted trips resulting in lost time and money for all parties in the supply chain. One product that was quickly introduced was to turn paper information that was brought to the gate and make it electronic. The results were immediate with the following effects taking place.

Customers coming into the Terminal had a faster entry point as information was no longer entered upon arrival and further to this, as this was in electronic form, the data could now be validated and rejected if criteria were not met. That meant that there would be a guarantee entry into the Terminal and the worry of incorrect information and being turned away was a thing of the past.

What we now see today is the removal of additional gates at the terminal (sometime known as pre-gates), very few rejections, and a significant increase with speed of entry.

Since then, the product suite has grown to encompass various paperless information that is validated or facilitating B2B connectivity with the aim of fast, secure, validated and accurate transmission of messages between participants in the supply chain.

**INFORMATION AND VISIBILITY**
Container Ports have often been a black hole of information for participants in the supply chain. When is my Container arriving at the port? Is the Container available to be picked up? Has my trucker picked up the container from the port yet? There are three Container Terminals in the Port and I have so many to collect, which Terminal is my Container going to? When does my vessel arrive?
This significant product introduced container visibility across the entire port for both those interacting with the port such as Trucks and those interested in containers such as customers who had hired Trucks and were the ultimate owner of the container.

Whilst in previous years, often phone calls or emails were sent on the update or status of containers between many participants, this was soon replaced with self-serve functionality that removed hours of wasted time per day on information updates. Importantly, two methods were also provided to users in the community depending on the needs. For those interacting on a small volume basis, self-serve tools and lookups through a simple web-interface were provided. For the large volume enquiries, a 'push' mechanism was provided which allowed customers to receive this information directly to the current management tools or associated software that were utilised. This ensured that they did not have to search outside their system for this information.

Today, we have all but eliminated calls for information updates. The Port Community have access to this information whether it be through looking it up in the 1-Stop system or through a system of their own where the information has been pushed into. With this information now at hand, better planning has also resulted through certainty, ensuring a more efficient and less wasteful supply chain.

**PORT LOGISTICS AND OPERATIONS**

At the very heart of Port Logistics and Operations is the physical movements of goods and the continuous aim to make this more cost efficient and timely.

A key issue that Australia and indeed many countries face is Port Congestion. Whilst we helped the gate entry situation with paperless documentation, several issues remained for the Port. Specifically, the influx of demand at the gate at any hour regardless of the resources available to the Terminal. To help balance this and ensure the trucks received a consistent and faster services, the 1-Stop flagship product known as the Vehicle Booking System (VBS) was created.

Since its creation over a decade ago, we have invested in the product every year to ensure it has become a feature rich, configurable, and usable landside capacity management system for any container terminal to interface with the landside (Trucks). Customers that used to queue at the port for 3 hours can now expect to enter the terminal at their respective booked hourly timeslot. Further, as the capacity is now set based on numerous factors including the resources of the terminal, the time taken to service the customer is at record lows which has reduced continuously over the last decade as the Australian government has reported publicly.

Further to the VBS, we have focused on key supply chain products aimed ease congestion and increase the information around key players. This includes Port and Logistics products in Empty Parks and Depots and the Transport industry.

**eCOMMERCE**

The confirmation of payment and receipt of funds is critical in the flow of goods. A decade ago, the use of 'runners' were pivotal in the supply chain. The inefficiencies were clear. Along with individuals running from terminal to terminal, carrying large sums of cash only to wait in a long line and then clear goods before coming to a terminal, resulted in significant delays.

To remedy these issues a Community Payment System (ComPay) was developed and integrated into the local banking system to ensure several issues were solved.

1. Payments could now be made online. This resulted in less cash in the system and reducing the required administration and auditing that accompanies cash payments
2. Online payments would now be treated as instantaneous. As a result, mechanisms were installed to ensure that default could not occur and provide the safe release of goods
3. Payment confirmations were also automated reducing the paper receipts and now electronically stored.

Over time, the on-flow effects of this system have also been expanded for the user base. Customers are now able to pay any invoice through the system and pay customers by name rather than having all the banking details required. The majority of payments are between freight forwarders, Shipping lines, transport operators and terminals to allow cargo to move quickly. Finally, the system has been integrated into other 1-Stop and 3rd Party software providers to allow more effective rules and workflow which again elevates the supply chain productivity.

**eLEARNING & SECURITY**
Security is paramount to many ports due to their critical role in the movement of goods in and out of the country. Alongside security, safety is essential as well especially due to the heavy machinery associated with the port supply chain.

With a higher emphasis now placed on who enters a port by government, a security card was established. However, an opportunity arose to utilise a security card and integrate this within the supply chain as an access card as well.

Firstly, individual facilities attached inductions which required the online training before entering a facility. This included the ability to ensure that this training was undertaken on a frequent basis. Finally, the security access card was integrated within the gate system of a port and the 1-Stop VBS. This meant that a driver was able to ‘tap’ their security access card upon entry at a terminal gate, effectively providing a validation check that the driver was at the terminal, at the right time, and with all the correct information required. This included all the relevant inductions required for the terminal and it effectively closed the loop on the landside interface transaction as a final validation point.

Today, this has been further integrated into the fully automated Container Terminals as both a security measure, a safety measure, and an efficiency measure for smooth access to a port.

**Supply Chain Productivity: The data picture**

For Supply Chain Productivity relies on relevant data and what you do with that data to make better decisions. Data for the supply chain can be viewed in the following manner;

Our view is that the greatest productivity for the supply chain will come from digitisation, standardisation and connectivity for moving cargo. Below is how we integrate our solutions to the greater supply chain and their systems. Information flows and is shared between our customers and stakeholders to build a trusted network where data is validated and used for planning and executing their daily jobs.
Moving Cargo: Solutions above aim to complete the data picture for landside movements.

Framework and Governance of the National Freight Hub

Instead of trying to build a single data hub that attempts to control everything, choosing the best established players in each market (container, bulk, air, road, rail etc.) and providing a framework that the industry can use to work with these entities will ensure success and buy-in from all.

In our experience, people will pay for the data that they need. This needs to be taken into consideration while the National Freight Hub is being built. Who will pay for the data? Parties will only pay for data that they require. Is the data trustworthy and who owns what piece of data in the beginning? This all needs to be considered by the governing party.

Other considerations of the governing body include:

- **Quality** - data accuracy and validation
- **Modelling** - use of standardised datasets
- **Integration** - ensure consistency and alignment between various data sources
- **Storage** - secure and reliable storage of data
- **Operation** - reliable and timely access to the data
- **Security** - secure methods for data collection and handling, and the definition of this data to ensure commercially sensitive information is kept private to only those parties specified by the data owner

Models for Data Sharing

At 1-Stop we believe there are 3 models to sharing data; Buy, Trade or make publicly available.

1. **Buy** - 1-Stop currently purchases data from supply chain stakeholders to facilitate the visibility of information within the industry. This information is kept securely on 1-Stop systems, typically enriched using data from various sources, and is made available to customers via 1-Stop products. This is to be expanded to procure missing data to further increase visibility within the supply chain.

2. **Trade** - To facilitate the sharing of data between parties, 1-Stop is expanding its data sharing platform to allow information owners to securely provide data to consumers who require the information for their daily operations. Information owners will control which parties have to their data, and data can either be kept securely on 1-Stop systems or transferred between parties outside of the data sharing platform.

3. **Public** - To simplify access to data, public data can be offered from the 1-Stop platform to allow all publicly available freight data to be hosted at a single site.
As mentioned in our opening, a trusted network is paramount to ensure the success of the Hub. Without this the industry will not listen, move to participate or pay. ‘Rubbish’ data will infiltrate the supply chain and create further inefficiencies. The trusted network must be regulated by the governing bodies with a tiered concept recommended based on history with the supply chain, where the information is coming from and how current that data is.

**Our Aim and Alignment**

We are continually reinvesting into our products, methods and finding new and improved ways to improve the supply chain. Along with other businesses we are moving forward in a positive way to ensure the way data is used is the correct way.

Our recent announcement regarding our open API Programme to 3rd parties to exchange data and to help those who require it, is one way we are moving ahead in the future. For example, container location is one piece of data that seems to be a missing link to those that require it. Why do people need this piece data? It is to fill a gap to reduce manual entry and the associated costs with either incorrect information being handled or having that inefficiency inside the business. Opening our exchange API, we will be able to see what data is available, what is missing and working with our customers to make sense of what is available.

We are helping with the unknown aspect and bringing new information to light that will make businesses and Australia more productive.

For those that do not have access to API connections, 1-Stop has already created solutions for those companies that are not as mature or do not require extensive IT systems, but still require information. Push notifications are sent through a single window solution to alert the user of various important touch points to them i.e. container movements inside the yard, vessel delays and reminders for demurrage.

Having various data formats and access models is crucial to the National Freight Hub’s success.

Trusted partners on the governing bodies framework will ensure the integrity of the system and having experienced gate keepers to filter out the ‘bad’ data will be required for the end user to continue to pay for data that ultimately drives efficiencies in the supply chain.

For example, the data source must be labelled, list where the data is coming from, i.e. the vessel schedule is coming from x terminal and the information is updated every 2 hours. This is providing current information to assist with planning and resourcing. While other sources providing the data, may be from x exporter and the vessel schedule is only updated once a day, providing possibility out of date information. While on the other hand, this information could possibly be out of date, with planning and resourcing mismatched to when the vessel arrives.

A classification of data sources is required to ensure the market isn't flooded with ‘rubbish’.

In closing and aligning with the iMove report, 1-Stop is eager to provide further information on our data sources, technology and the way we use data to ensure Australia’s containerised cargo is moved in the most efficient and productive way.

With our almost 20 years in the supply chain 1-Stop has built the trust and technology to make the containerised supply chain move efficient each day. There is no need to change what is already working, but to build on 1-Stop’s architecture and knowledge to further optimise the missing data that to optimise productivity.
We look forward to working with the wider supply chain and all industries to bring the National Freight Hub to life and continue to build the importing and exporting world with all the information required to be the most productive supply chain in the world.

Appendix – Answer to standard report survey

**National Freight Data Hub: Discussion Paper #1 Response Template**

**Respondent details**

<table>
<thead>
<tr>
<th>Organisation name</th>
<th>1-Stop Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact details (to whom any correspondence in relation to this submission can be addressed)</td>
<td></td>
</tr>
</tbody>
</table>

**Question 1**

**Of the following, what are the most important purposes of the Hub?**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Importance rank (High/Medium/Low)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support operational decisions</td>
<td>High</td>
</tr>
<tr>
<td>Improve investment decisions</td>
<td>High</td>
</tr>
<tr>
<td>Performance measurement and benchmarking</td>
<td>High/Medium</td>
</tr>
</tbody>
</table>

**What other purposes should the Hub have?**

At 1-Stop, the journey to capture data at key milestones of a container started in 2002 with significant progress made at the port community. With digitisation, standardisation and automation are areas that have come along way with data being captured and shared with the wider supply chain community for the improved productivity of the supply chain. Better visibility, predictability, performance and efficiency at the port gates allowing the community to improve.

Whilst we have come a long way, there is a lot more to do.

The ability to capture data across the supply chain can be split into 3 sections;

1. Terminal Productivity
2. Port precinct productivity
3. Hinterland Productivity

Whist there is more that can be improved in point 1, the next stages of digitisation fall mostly in point 2 and 3 above.

The journey to achieve a complete “picture” of visibility from port to customer and vice versa) can be summarised as;

1) Data already captured – operators that have milestone data of the container that is in digital form, and they normally use that information internally and/or with partners.
   a) Usually large to medium businesses
2) Data not captured –
a) Some member of the supply chain who generally fall into the small to medium category in some cases are still operating on “pen and paper” and therefore haven’t digitised yet to share data
b) Have systems to help them with their operations although aren’t sharing or connected to the wider supply chain

3) From terminal to customer (importer or exporter) and every intermediately point in between (e.g. depots, intermodals, staging) is a journey of both digitalisation, standardisation and connectivity. For the containerised market, we can help share the data

Question 2
For each purpose, what are the most critical things to include in the Hub?
(List all elements and data sources that you see as important)

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Data element</th>
<th>Current/new data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support operational decisions</td>
<td>Real-time container milestone / location</td>
<td>Current: Vessel, discharge, load, gate-in, gate-out, pre-advice, customs, port pickup, drop-off (planned and actual): already available through 1-Stop and the community. In progress: planned and actual delivery, de-hire, staging, date/time. Some of these are available today although not all of it is digital yet.</td>
</tr>
<tr>
<td>Improve investment decisions</td>
<td>Volumes, capacity at terminal, depot facilities and capacity on trains and transport: These data elements are important for these operators to maximise their asset investments</td>
<td></td>
</tr>
<tr>
<td>Performance measurement and benchmarking</td>
<td>Container dwell time, detention and time between each milestone will be possible</td>
<td></td>
</tr>
<tr>
<td>Other purposes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are there other critical data elements that should be included in the Hub?

From both an operational and strategic perspective, the visibility of planned vs actual port to customer (incl. intermediary stops – intermodal, depot, staging and vice versa) of containers being
moved are the key elements that will help with operational management and by default help the strategic perspective of creating a heat map of the cargo movements around Australia for future infrastructure planning.

1-Stop’s focus – with opportunities to use the data to provide optimization services to the supply chain around routing, backloading etc.
Question 3
What are the barriers to sharing data? (Please provide examples in the table below)
How could these barriers be overcome?
What are the benefits of greater data sharing?

<table>
<thead>
<tr>
<th>Barrier to sharing</th>
<th>How to address?</th>
<th>Potential benefit?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untrusted companies providing data to benefit from a monetary level</td>
<td>Have a governing body to overlook the program, to ensure trusted companies are providing the data that is pre-validated.</td>
<td>Provide trust and a reputable hub.</td>
</tr>
<tr>
<td>No monetary value in providing the data to other parties</td>
<td>Either provide a trade system or ‘number of points’ tiered system for all companies wanted the data.</td>
<td>All companies will want to participate if it provides a revenue stream for them along with having access to further data to increase productivity for them.</td>
</tr>
</tbody>
</table>
Question 4

What products are required? (Please provide examples in the table below)

What is the best way for Hub products to be made available?
How frequently should data be updated?

<table>
<thead>
<tr>
<th>Product</th>
<th>Method of reporting</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current 1-Stop products</td>
<td>Push or pull notification for the container milestone and status at the port and depot.</td>
<td>The frequency of data to be updated is dependent on the piece of information and how time sensitive it is to the greater supply chain.</td>
</tr>
<tr>
<td>(Comtrac and APIs)</td>
<td>In the future – container milestone data on the landside will also be available</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Push or pull</td>
<td></td>
</tr>
</tbody>
</table>