E-CARGO TRACK

Thursday, 15 March
CHAIRMAN’S OPENING REMARKS & WELCOME ADDRESS

Oliver Neerfeld, Head of Commercial Operations Asia pacific, CHAMP Cargosystems

Track Sponsor
Can Data Exchanges Between Shippers and Forwarders Improve Data Quality and Help Increase e-Freight Penetration and Benefits

Shippers View of Data Exchange with Freight Forwarders

» Karl-Heinz Shalück, Sourcing Corporate Spend Global Category Lead Warehouse & Transport, Novartis Pharma AG
IATA World Cargo Symposium 2012

e - CARGO
Karl-Heinz Schalück
Global Category Lead Warehouse & Transport, Novartis Pharma AG
Kuala Lumpur March 14, 2012
Agenda

1. Novartis at a Glance
2. e-Freight at Novartis Pharma
3. Data Exchange with Freight Forwarders
4. QA
Our focus is on patients

Our purpose is to care and cure.

More than 1.1 billion patients around the world were protected or treated by Novartis products in 2011.
Novartis is a world-leading healthcare company

- Leading market position
- One of 35 largest companies by market capitalization
- Among most respected companies globally

### Key facts

<table>
<thead>
<tr>
<th>2011</th>
<th>USD billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>58.5</td>
</tr>
<tr>
<td>Net income</td>
<td>9.2</td>
</tr>
<tr>
<td>R&amp;D investment</td>
<td>9.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Company overview</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
</tr>
<tr>
<td>Countries</td>
</tr>
<tr>
<td>Headquarters</td>
</tr>
</tbody>
</table>
The healthcare industries demand for technology and productivity step change

**Aging population**
The world’s population is aging. More healthcare treatments are needed, also prompting payors to aggressively manage costs.

**Unhealthy lifestyles**
Poor nutritional habits and sedentary lifestyles are increasing the prevalence of chronic diseases.

**Emerging markets**
Economic growth of emerging countries is providing healthcare access.

**Advances in science and technology**
New technological discoveries and trends are enabling the development of innovative medicines while increasing the cost of innovation.
Access-to-medicine programs – in 2011 we delivered to 89 million patients

- **Coartem® delivered without profit**
  More than 80 million malaria patients treated

- **Leprosy medicine donated through WHO**
  Extended donation agreement five years in 2010

- **Tuberculosis medicine donations**
  More than 100,000 treatments delivered

- **Glivec®/Tasigna® patient assistance**
  Provided to 47,000 patients in about 80 countries

- **NITD¹ in Singapore**
  Focus on tuberculosis, dengue fever and malaria

- **NVGH² in Siena, Italy**
  Vaccines research institute for neglected diseases

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2011

Programs and research valued at USD 1.7 bn³

Contributed 3% of net sales

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¹Novartis Institute for Tropical Diseases; ²Novartis Vaccines Institute for Global Health; ³Based on approximate market value
Agenda

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4. QA
Technology and Innovation at Novartis
We seek to constantly innovate

**Focusing on unmet medical needs inspires us to connect science with customer insights to develop new products and drive industry standards**

- Unrivaled pipeline with more than 130 projects in clinical development
- Most US and EU approvals in the industry for new molecular entities since 2007, with 15 major approvals in the US, EU and Japan in 2011
- One of the industry’s biggest investors in research
  - 20% of Pharmaceuticals sales invested in R&D each year since 2007
- Innovation is a key priority across Novartis businesses and functions
Shippers view about Air Cargo Processes: Complex Service & Partner landscape

**Purchasing**
- Road carrier selection
- Air carrier selection

**Shipping documentation & Transport order creation**
- Customer order management
- Customs clearance
- Commercial documents: invoice, L/C, CoO
- Track & trace

**Airfreight handling**
- Airwaybill preparation
- Invoicing from airlines
- Tack & trace
- Envirotainer services (battery/dry ice)
- Reporting & performance analysis

**Airlines/GSA**
- Net rate (incl. airport handling)
- Fuel surcharge
- Security surcharge (incl screening)
- Envirotainer rental
- Ground handling

**Road freight**
- Trucking from site to airport/airport to site
- Transport order management

Different levels of integration of service providers into the Novartis landscape: In-house vs. 4PL models
Novartis Pharma approach: Data is KEY for the Transportation Process

- Dangerous Goods (UN)
- Invoice (Value)
- Packaging list (Temperature)
- Certificate of Analysis (Expiry)
- Special conditions (Narcotics)
- Track & Trace

Consignor

Purchasing

Consignee

Forwarder

Carrier

Agent

Finance
Novartis Pharma approach: Integrated data flow for the Transportation Process

- Consignor
- Forwarder
- Carrier
- Purchasing
- Consignee
- Finance
- Agent

WWW
Agenda

1. Novartis at a Glance
2. e-Freight at Novartis Pharma
3. Data Exchange with Freight Forwarders
4. QA
Global integrated information flow to align and create transparency

- Shipper
- Consignor
- Purchasing
- Finance
- Customs
- Carrier
- Ground Handling
- Freight Forwarder

SHIPPING DATA
e-freight as an ENABLER to manage complexity and transparency

**Business Partnering**
- Network modeling and analytics together with industry partners, e.g. move hub to cargo
- New booking techniques e.g. clearing system for space utilization
- Better space utilization and aircraft efficiency (CO2 reduction) reflected in price schemes
- Share information directly with all involved parties

**Business Integration**
- Implement integrated system landscape by e-Freight
- Build on e-Freight by introducing transparency along the cargo flow (reporting, performance measures)

**Ensure Basics**
Introduce same standards at all airports according to
- GMP/GDP
- IATA chapter 17

Temperature management: e.g. tarmac „fridge“, last in first out (LIFO), thermo blankets, multiusable lightweight temperature protective/foldable ULD's

Standardized Quality Agreements
Globally aligned contracts with service providers
- Logistic companies (LSP)
- Airlines/Ground handling

Transport mode specific agreements: road/air
- Fixed allotments/schedules
- Global reporting/KPI tools
- Paperless document exchange

Novartis
Questions & Answers
Data Exchange
Challenges and Opportunities

- Show Track & Trace dates for goods in transit, to be able to understand transport lead time.

- Improve the transportation invoice control process, which is requested by internal and external audits.

- Reduce administrative work in Finance, Supply Chain, Purchasing and at 3rd parties as well as create transparency for Purchasing (price structure) and Business (KPIs).

- Lost mail containing transport documentation.
Create a Win – Win situation

**Forwarders**
- Less administrative work for manual data entering.
- EDI integration of data into normal working environment possible.
- No monthly Excel reports needed anymore.
- Less disturbance for delivery enquiries.
- Less errors due to electronic data exchange.
- Faster payment of invoices due to electronic data exchange.
- Better relationship with Novartis due to process & data integration.

**Novartis**
- Fast Order Submission (electronic Communication)
- Fast Document Transfer (electronic Communication)
- Track & Trace & Alerting
- Advanced Shipping Notice To 3rd Party
- Electronic Freight Cost Calculation / Posting
- Simplified Invoice Control
- Provide reliable statistical Data to Purchasing Department
- Vendor Performance Management implemented

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Can Data Exchanges Between Shippers and Forwarders Improve Data Quality and Help Increase e-Freight Penetration and Benefits

Benefits of Data Exchange Between Shippers and Forwarders: A Case Study

» Daniel Ng, Head, Aviation Industry, CAAS
e-freight@Singapore
Benefits of Data Exchange Between Shippers & Forwarders

Daniel Ng
Civil Aviation Authority of Singapore
Division Head (Aviation Industry)

IATA World Cargo Symposium
15 March 2012
Presentation Outline

1. e-freight@Singapore
2. Air Freight Process Productivity Study
3. Implementation Plan/Call-for-Collaboration (CFC)
e-freight@Singapore – Introduction

Background
In 2010, CAAS identified e-freight as a means to raise productivity in the air cargo & logistics industry.

What is e-freight@Singapore
e-freight@Singapore aims to capture data at source “data@source” and to re-use the data throughout the supply chain.

✓ Promote business re-engineering efforts and integrate the air cargo and logistics supply chain
✓ 4 programme tracks implemented:
  ▪ Air Cargo Agents’ IT Readiness Survey/BRIDGES Implementation
  ▪ Air Freight Process Productivity Study (AFPPS)
  ▪ Implementation Plan/Call-for-Collaboration (CFC)
  ▪ Industry Outreach & Engagement

Participants & Supporters

[Logos of various supporting organizations]
Presentation Outline

1. e-freight@Singapore

2. Air Freight Process Productivity Study

3. Implementation Plan/Call-for-Collaboration (CFC)
# Air Freight Process Productivity Study

<table>
<thead>
<tr>
<th>Objective</th>
<th>Demonstrate potential cost and benefits gained from adopting e-freight@Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Examined the current air cargo processes and identified the existing gaps and challenges to e-freight@Singapore implementation</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Designed a “to be” e-freight@Singapore process that would eliminate current process inefficiencies. This formed the basis for cost-benefit analysis for the various stakeholders in the supply chain.</td>
</tr>
</tbody>
</table>

**Conducted by** The Logistics Institute-Asia Pacific (TLI-AP)

**Time frame** July 2010 – July 2011

**Methodology**

- **Profile industry**
  - ✓ Desktop scan on air export process,
  - ✓ Review current practices

- **Capture motivation challenge**
  - ✓ Focus group discussions
  - ✓ Site visits & interviews

- **Map ‘as-is’ process**
  - ✓ Identify gaps & opportunities
  - ✓ Benchmark Singapore’s e-freight process development
  - ✓ As-is process validation session

- **BPR export process**
  - ✓ Brainstorm on (data reuse and data@source)
  - ✓ To-be process validation session
  - ✓ CBA analysis
The average time taken for the whole process is 110mins
## “As-Is” Gaps and Opportunities

<table>
<thead>
<tr>
<th>Gap</th>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data / Document</strong></td>
<td>Shippers reluctant to transfer data electronically</td>
</tr>
<tr>
<td></td>
<td>Hard copy document requirement by destination freight forwarder</td>
</tr>
<tr>
<td></td>
<td>Use of physical documents for tax compliance, when electronic files accepted</td>
</tr>
<tr>
<td></td>
<td>Hard copy requirements by controlling agencies</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td>Costs of electronic messaging, IT upgrades and training</td>
</tr>
<tr>
<td><strong>Manpower</strong></td>
<td>Lack of IT training &amp; e-freight awareness</td>
</tr>
</tbody>
</table>
Document flow for “To-Be” process

- Electronic XML messages to replace paper documents
- Make use of Data@source and Data Reuse

The average time taken for the whole process is 68mins
(40% time saving)
## Opportunities for productivity gains and cost savings

<table>
<thead>
<tr>
<th>‘As-Is’ process</th>
<th>‘To-Be’ process</th>
<th>Benefits of ‘To-Be’ process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual data entry</td>
<td>XML messages</td>
<td>• Reduce data error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Increase productivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Increase efficiency in complying with regulatory requirements</td>
</tr>
<tr>
<td>Documents flow together with cargo</td>
<td>Documents and cargo flow independently</td>
<td>• Minimize the need of having to wait for cargo before documents can be sent to the downstream stakeholder</td>
</tr>
<tr>
<td>Storage of physical paper</td>
<td>e-archival of documents</td>
<td>• Reduce the need for physical storage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Documents can be retrieved easily whenever it is required</td>
</tr>
</tbody>
</table>
## Opportunities for data reuse down the chain

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity of goods</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>5</td>
</tr>
<tr>
<td>Number of packages</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>5</td>
</tr>
<tr>
<td>Dimension and weight</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>5</td>
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<tr>
<td>Shipper's details</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>Consignee's details</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>4</td>
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<tr>
<td>ETA and ETD</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>4</td>
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<tr>
<td>Transport details</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<td>x</td>
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<tr>
<td>Description of goods</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Origin airport</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
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<td>Destination airport</td>
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<td>x</td>
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<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>HAWB number</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>MAWB number</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
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<tr>
<td>Incoterms</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Carrier</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Flight details</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Handling instructions</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Payment details</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Value of goods</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Classification of Goods</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
<tr>
<td>Country of Origin of Goods</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>3</td>
</tr>
</tbody>
</table>

Data can be reused along the supply chain
Minimise data re-entry and duplication of work
Productivity gains are shared by all parties

<table>
<thead>
<tr>
<th>Document*</th>
<th>Without data@source</th>
<th>With data@source</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Characters (manually entered)</td>
<td>Time Taken per document (min.)</td>
<td>No. of Characters (manually entered)</td>
</tr>
<tr>
<td><strong>SHIPPER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invoice</td>
<td>5,160</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>Packing List</td>
<td>3,500</td>
<td>15</td>
<td>70</td>
</tr>
<tr>
<td>Certificate of Origin</td>
<td>3,100</td>
<td>13</td>
<td>1,200</td>
</tr>
<tr>
<td><strong>FREIGHT FORWARDER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(HAWB)</td>
<td>3,800</td>
<td>17</td>
<td>2,300</td>
</tr>
<tr>
<td>MAWB</td>
<td>4,200</td>
<td>18</td>
<td>500</td>
</tr>
<tr>
<td>Consol Manifest</td>
<td>1,100</td>
<td>5</td>
<td>400</td>
</tr>
<tr>
<td><strong>GHA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flight Manifest</td>
<td>1,500</td>
<td>7</td>
<td>600</td>
</tr>
</tbody>
</table>
Cost Savings per Stakeholder

<table>
<thead>
<tr>
<th>Document Processing Cost</th>
<th>Shipper ($'000 / mth)</th>
<th>Freight Forwarder ($'000 / mth)</th>
<th>GHA ($'000)</th>
<th>Airline ($'000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘as-is’</td>
<td>2,980</td>
<td>965</td>
<td>30</td>
<td>115</td>
</tr>
<tr>
<td>‘to-be’</td>
<td>1,856</td>
<td>594</td>
<td>22</td>
<td>82</td>
</tr>
<tr>
<td>Savings ($'000 / year &amp; % between ‘as-if’ &amp; ‘to-be’)</td>
<td>13,488 (▼38%)</td>
<td>4,452 (▼38%)</td>
<td>96 (▼27%)</td>
<td>396 (▼29%)</td>
</tr>
</tbody>
</table>

Annual cost savings for air cargo industry = S$18.4 mil

Cost Savings at National Level

- Shipper, $13,488, 73%
- Freight forwarder, $4,452 (24%)
- GHA, $96, 1%
- Airline, $396, 2%

% saved by each stakeholder

National level cost savings are significant
### Productivity Gains per Stakeholder

Productivity gain for shipper = aggregated hours of all shippers in air cargo industry based on total number of documents generated per month

<table>
<thead>
<tr>
<th>Productivity gain (hrs)</th>
<th>Shipper</th>
<th>Freight Forwarder</th>
<th>GHA</th>
<th>Airline</th>
</tr>
</thead>
<tbody>
<tr>
<td>'as-is' ('000 / mth)</td>
<td>251</td>
<td>77</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>'to-be' ('000 / mth)</td>
<td>155</td>
<td>38</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Savings ('000 / mth)</td>
<td>96</td>
<td>39</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

| Savings ('000 / year & % between ‘as-is’ & ‘to-be’) | 1,152 (▼38%) | 468 (▼51%) | 12 (▼50%) | 36 (▼30%) |

### Annual productivity gain for air cargo industry = \(1.7\) million man-hours

### National level productivity gains are significant
Companies can conduct their own self assessment

Cost Benefit Analysis Tool Available on CAAS website
Training sessions planned for local industry
Presentation Outline

1. e-freight@Singapore

2. Air Freight Process Productivity Study

3. Implementation Plan/Call-for-Collaboration (CFC)
# Implementation Plan/Call-for-Collaboration

## Background:
- A CFC was jointly issued by CAAS and the Info-communications Development Authority of Singapore in March 2011

## Objectives
- Encourage the Singapore air cargo and logistics industry to propose innovative business process integration and data exchange solutions.
- Establish interoperable data exchange standards, leveraging the defined messaging standards.
- Validate e-freight@Singapore key concepts of data@source and data re-use
- Promote adoption of the successful business process integration to more players.

## Multi-party Integration
- 3 supply chain segments to be integrated:
  - Shippers to Freight Forwarders
  - Freight Forwarders to Airlines / GHAs
  - Permit declarations to Customs.

## Status
- 3 consortia have been awarded the CFC in February 2012
- Consortia will develop and deploy solutions from 2012-2014
Solutions will integrate multiple parties

Multi-party Integration
• 3 supply chain segments shown above
  – Shippers to Freight Forwarders
  – Freight Forwarders to Airlines / GHAs
  – Permit declarations to Customs.
Thank You

Find out more about e-freight@Singapore at 
http://www.caas.gov.sg
Data Quality: The Devil is in the Details

Electronic Message vs. Paper AWB: An Analysis of Potential Sources of Data Quality Issues

Jackson Chan, Cargo Services Manager – e-Freight, Cargo Department, Cathay Pacific Airways Regional Cargo Manager, Europe & CIS, IATA
Data Quality Issues (e-Freight)
IATA World Cargo Symposium 2012

Jackson Chan
Cargo Services Manager e-Freight

15 Mar 2012
Agenda

1. History
2. IATA CargoIMP Air Waybill Data (FWB) Message
3. Common Data Quality Issues
4. Next Steps
5. Q & A
Back to year 1970-1990

- Each SITA Telex message has a size limitation of about 1600 characters
- Each line in the telex cannot be longer than 69 characters
- The PC terminal screen has maximum of 24x80 (1920 chars)
- IATA CargoIMP Messages, airline & warehouse systems were developed according to this specification at that time.
Air Waybill Data (FWB) Message

FWB/9
160-32917592HKGTPET36K160

FLT/CX406/01
RTG/TPECX

SHP
/CATHAY EXPRESS CO LTD
/33F BILLION PLAZA 8 CHEUNG YUE S
/HONG KONG
/HK//TL/85227171228

CNE
/CATHAY EXPRESS CO LTD
/ROOM 801 NO 65 SECTION 3 NANKING E
/CKS AIRPORT
/TW

AGT//1330999/0004
/CATHAY PACIFIC AIRWAYS
/HONG KONG

SSR/RAR-RA12345
/TOTAL 36 PACKAGES ONLY ONE POUCH
DOCUMENT ATTACHED

- Human readable
- Each group of data has a line identifier
  - FLT – Flight Details
  - RTG – Routing Details
  - SHP – Shipper
  - CNE – Consignee
  - AGT – AWB Agent
  - SSR – Handling Information
- Slash ‘/’ is a separator between each field
- Fixed sequence and field size on each line
- Only ‘.’ and ‘-’ are valid symbols
Air Waybill Data (FWB) Message

ACC/GEN/EXPRESS PR1
CVD/HKD//PP/NVD/NCV/XXX

RTD/1/P36/K160/CQ/W160/R9.5/T1520
/NG/CONSOL SHIPMENT
/2/NG/DETAILS AS PER
/3/NG/CARGO MANIFEST
/4/NG/NO S.W.P.M.
/5/NS/36
/6/ND//CMT24-31-15/3
/7/ND//CMT34-34-17/8
/8/ND//CMT31-32-19/6
/9/ND//CMT19-14-15/10
/10/ND//CMT25-21-18/3
/11/NV//MC1.75

OTH/P/MYC608AWC13MCC236.4
PPD/WT1520
/OC857.4/CT2377.4

CER/JACKSON CHAN
ISU/01MAR12/HONG KONG/CATHAY PACIFIC
REF///AGT/CX/HKG

➢ Each group of data has a line identifier
➢ ACC – Accounting Information
➢ CVD – Charge Declaration, declare value
➢ RTD – Rate Description
➢ NG – Goods Description 11 lines
  ◦ ND – Dimensions
  ◦ NS – Actual SLAC pcs
  ◦ NV – Volume
➢ OTH – Other Charges and total charge
➢ CER – Shipper Signature
➢ ISU – Issuing carrier or its agent
➢ REF – Sender reference
<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipper's Name and Address</td>
<td>CATHAY EXPRESS CO LTD 33F BILLION PLAZA 8 CHEUNG YUE S HONG KONG HK</td>
</tr>
<tr>
<td>Consignee's Name and Address</td>
<td>CATHAY EXPRESS CO LTD ROOM 801 NO 65 SECTION 3 NANKING E CKS AIRPORT TW</td>
</tr>
<tr>
<td>Issuing Carrier's Name and City</td>
<td>CATHAY PACIFIC AIRWAYS HONG KONG</td>
</tr>
<tr>
<td>Account No.</td>
<td>EXPRESS PR1</td>
</tr>
<tr>
<td>Agent's IATA Code</td>
<td>1330999/0004</td>
</tr>
<tr>
<td>Airport of Departure</td>
<td>HONG KONG</td>
</tr>
<tr>
<td>Issuer's Name and Address</td>
<td>CATHAY PACIFIC AIRWAYS 33TH FLOOR, ONE PACIFIC PLACE</td>
</tr>
<tr>
<td>Accounting Information</td>
<td>EXPRESS PR1</td>
</tr>
<tr>
<td>Copies 1, 2 and 3 of this Air Waybill</td>
<td>are originals and have the same validity.</td>
</tr>
<tr>
<td>Not Negotiable</td>
<td></td>
</tr>
<tr>
<td>Air Waybill</td>
<td></td>
</tr>
</tbody>
</table>
# Paper AWB Part 2

**Airport of Departure (Addr. of First Carrier) and Requested Routing**

<table>
<thead>
<tr>
<th>Airport of Departure</th>
<th>Address of First Carrier</th>
<th>Requested Routing</th>
</tr>
</thead>
<tbody>
<tr>
<td>HONG KONG</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**To**

<table>
<thead>
<tr>
<th>TPE</th>
<th>CX</th>
</tr>
</thead>
</table>

**By First Carrier**

<table>
<thead>
<tr>
<th>TPE</th>
<th>CX</th>
</tr>
</thead>
</table>

**Routing and Destination**

<table>
<thead>
<tr>
<th>TPE</th>
<th>CX</th>
</tr>
</thead>
</table>

**Flight/Date**

| 406/01 |

**Amount of Insurance**

| XXX |

**Declared Value for Carriage**

| HKD |

**Declared Value for Customs**

| NFD |

**Handling Information**

RAR-RA12345 TOTAL 36 PACKAGES ONLY ONE POUCH DOCUMENT ATTACHED

<table>
<thead>
<tr>
<th>No. of Pieces RCP</th>
<th>Gross Weight</th>
<th>kg</th>
<th>Rate Class</th>
<th>Commodity Item No.</th>
<th>Chargeable Weight</th>
<th>Rate/Charge</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>160.0</td>
<td></td>
<td>Q</td>
<td></td>
<td>160.0</td>
<td>9.50</td>
<td>1520.00</td>
</tr>
</tbody>
</table>

**Nature and Quantity of Goods**

CONSOL SHIPMENT DETAILS AS PER CARGO MANIFEST NO S.W.P.M.
36 SLAC
DIMS 24X31X15CMT/3
DIMS 34X34X17CMT/8
DIMS 31X32X19CMT/6
DIMS 19X14X15CMT/10
DIMS 25X21X18CMT/3
DIMS 22X22X14CMT/6

<p>| 36                | 160.0        |    | Q          |                    | 160.0             | 9.50        | 1520.00 |</p>
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepaid</td>
<td>1,520.00</td>
</tr>
<tr>
<td>Weight Charge</td>
<td></td>
</tr>
<tr>
<td>Collect</td>
<td></td>
</tr>
<tr>
<td>Other Charges</td>
<td></td>
</tr>
<tr>
<td>P MYC</td>
<td>608.00</td>
</tr>
<tr>
<td>P AWC</td>
<td>13.00</td>
</tr>
<tr>
<td>P MCC</td>
<td>236.40</td>
</tr>
<tr>
<td>Valuation Charge</td>
<td></td>
</tr>
<tr>
<td>Tax</td>
<td></td>
</tr>
<tr>
<td>Total Other Charges Due Agent</td>
<td></td>
</tr>
<tr>
<td>Total Other Charges Due Carrier</td>
<td>857.40</td>
</tr>
<tr>
<td>Total Prepaid</td>
<td>2,377.40</td>
</tr>
<tr>
<td>Total Collect</td>
<td></td>
</tr>
<tr>
<td>Currency Conversion Rates</td>
<td></td>
</tr>
<tr>
<td>Charges in Dest. Currency</td>
<td></td>
</tr>
<tr>
<td>Total Collect Charges</td>
<td>0.00</td>
</tr>
<tr>
<td>Charges at Destination</td>
<td></td>
</tr>
<tr>
<td>Total Collect Charges</td>
<td></td>
</tr>
</tbody>
</table>

Shipper certifies that the particulars on the face hereof are correct and that INSOFAR AS ANY PART OF THE CONSIGNMENT CONTAINS DANGEROUS GOODS, SUCH PART IS PROPERTY DESCRIBED BY NAME AND IS IN PROPER CONDITION FOR CARRIAGE BY AIR ACCORDING TO THE APPLICABLE DANGEROUS GOODS REGULATIONS.

CATHAY EXPRESS CO LTD

JACKSON CHAN
Signature of Shipper or its Agent

01 MAR 2012  HONG KONG
Executed on   at  
(Date) (Place)  Signature of Issuing Carrier or its Agent

160-32917592
What are the common Data Quality Issues?
1. Incomplete name due to longer than 35 characters
   • especially consignee name

2. Name and address contain special character not acceptable
   • &, +, ()
   • 9/F, South Tower…

3. 35 characters limitation for key address
   • Incomplete or not meaningful address
   • Correct addresses above are ‘8 Cheung Yue Street’ and ‘NO 65 SECTION 3 NANKING ESTATE’

4. Missing or Invalid Postal Codes for shipment to CA/US/Europe etc

   Solution: . Re-type the full name and address in the Handling Information Box if necessary
            . Input Street number and Street Name as the key address or
            . Update your existing customer address table in your own system

Note: Same applies to Consolidation List (FHL) message
Issuing Agent and Accounting Information

1. Incorrect Agent Name and IATA number
   • Especially for co-load shipment, shipper IATA number was used instead of master co-loader

2. Missing or incorrect CASS number
   • Mandatory for CASS settlement countries
   • CASS number also has check digit control

3. Missing special product information in Accounting Information
   • Caused incorrect billing

Solution:   . Forwarder system must be capable to use the correct the IATA number and CASS number
           . Request your IT team to setup the correct CASS code
           . Your Ops team should know how to update Accounting Information
1. Missing Lithium Battery declaration Statement
   • Present Lithium Battery declaration letter to airline.

2. Not declare DG or missing DG statement

3. Cannot include special handling codes in the FWB/SPH line

4. Not input security statement according to each country requirement
   • HKG Known Shipper RA code
   • Europe format DE/RA/12345-01/0001-SPX/KC not acceptable

Solution: Follow airlines data input guideline.
   Specify clearly the shipment special handling requirement details, do not un-declare DG, lithium and other special shipments.
   Work out locally to resolve the un-acceptable security statement,
1. Missing or incorrect Rate Class code, Chargeable Weight
   • Above rate related fields are all mandatory
2. Missing House Manifest (FHL) data for consolidation shipments
3. Input data in marked yellow area which cannot contain in FWB message
4. Main goods description is not input first
5. Description lines are longer than 20 characters and get truncated in forwarder’s FWB message
6. Missing shipment dimension or volume information
7. Missing actual SLAC pieces

Solution: Input correct data based on experience and e-AWB feedback from carriers
Other Charges

1. Missing Other Charges found in e-AWB

2. Incorrect codes used
   - Such as TC = Terminal Charge and DC = AWB Document Charge

3. No standard or alignment among carriers on how to use other charges code
   - CX uses MY for fuel surcharge and MC for terminal charge but they are airline specific.
   - CX uses MW for Insurance and security surcharge but not XB and different countries use different codes. i.e. SC in Australia and XB in Europe.

4. Incorrect Due Carrier or Due Agent indicator specified

Solution: Input all required other charges by forwarder
   - Agree standard Other Charges Code with IATA and/or Local Working Group
Signature of Shipper, Agent and Carrier

1. Missing Shipper Signature

2. Airline will sign for both Shipper and Carrier for e-AWB
   - By printing them in CAPITAL letters

Solution: . Forwarder should contain both Shipper Signature and Issue Agent Lines
IATA Resolution 600a
attachment B article 4.2

- Clearly indicate that air waybill data message shall contain the information of the paper AWB
- The existing CargoIMP limitation prevent us to do so today
What IATA is going to do?

- Created new XML messages standard to remove limitations
- Proposed to modify CargoIMP FWB and FHL standard before 2014

What You need to do?

- Prevent common data quality issues happen
- Enhance your systems to adopt new CargoIMP FWB, FHL message standard and new XML messages
Enjoy your coming challenges in improving data quality!
Thank You!
Data Quality: The Devil is in the Details

Addressing Data Quality Issues When Implementing e-Freight: A Practical Approach

Nicklas Schlingensiepen, Head of Airfreight Operation & Compliance, Asia Pacific, DHL Global Forwarding

World Cargo Symposium – 13 – 15 March 2012
DHL Global Forwarding
a Practical Approach to Data Quality

Nicklas Schlingensiepen
Head of Airfreight Operations & Compliance, Asia Pacific
High Level Scope of Data Quality

Customer Originating Information
- Received by EDI, pdf, paper (Booking/Invoice/Packing List)

Forwarder/Airline Interface
- Master Air Waybill Messaging (FWB)
- House Waybill Message (FHL)

Forwarder/Customs
- Direct Filer for some countries
Customer Originating Information

- Received by EDI, pdf, paper (Booking/Invoice/Packing List)
- Not directly integrated into the operating system
- Needs human intervention that can create errors; individual knows better!
- Master data in system can vary at customer level

Next Steps

- New Forwarding Environment – change program within DGF including replacing operating system
Forwarder/Airline Interface

- Master Air Waybill Messaging (FWB) at DGF:
  - Multiple suppliers providing messaging service
  - What is measured; historically C2K; only first 4 lines of the FWB and FWB timeliness
  - Multiple FWBs, as linked to print MAWB, awareness
  - Data quality not an overriding objective when paper exists
  - When measured: MIP has a significant time lag; result that six weeks after event
  - MIP reporting not consistent
### MIP Reporting by Participating Carriers

<table>
<thead>
<tr>
<th>FWBAAllData</th>
<th>FWBErrs</th>
<th>FWBNotRec</th>
<th>FHLAllData</th>
<th>FHLErrs</th>
<th>FHLNotRec</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

- What this shows is that only 13 of the 40 participating airlines are providing the full suite of MIP reports.

- Given this the plan is to migrate to using weekly FNA data from our messaging provider to drive FWB quality.
## Individual Carrier MIP Report – Good Example

<table>
<thead>
<tr>
<th></th>
<th>all DHL GF offices worldwide</th>
<th>all DHL GF total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of AWB</td>
<td>11,379</td>
<td>11,379</td>
</tr>
<tr>
<td>No of AWB without FWB</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>No of AWB with formally correct FWB</td>
<td>11,053</td>
<td>11,053</td>
</tr>
<tr>
<td>No of AWB with formally incorrect FWB</td>
<td>229</td>
<td>229</td>
</tr>
<tr>
<td>FWB quantity compliance (%)</td>
<td>99.15%</td>
<td>99.15%</td>
</tr>
<tr>
<td>FWB formal quality compliance (%)</td>
<td>97.97%</td>
<td>97.97%</td>
</tr>
</tbody>
</table>

### Penetration

### Quality
Individual Carrier MIP Report – Good Example

<table>
<thead>
<tr>
<th>FWB rejected by Airline</th>
<th>FWB0010 / unable to use the FWB data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>22</td>
</tr>
<tr>
<td>FWB0015 / AWB already created in carriers system</td>
<td>99</td>
</tr>
<tr>
<td>FWB0055 / charges collect not allowed to this destination</td>
<td>7</td>
</tr>
<tr>
<td>FWB rejected by Airline</td>
<td>128</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FWB syntax errors</th>
<th>AGT0010 / general</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21</td>
</tr>
<tr>
<td>AWB0030 / ap/city code of destination</td>
<td>4</td>
</tr>
<tr>
<td>ISU0010 / general</td>
<td>2</td>
</tr>
<tr>
<td>CVD0150 / Charge Code not valid for eFreight</td>
<td>1</td>
</tr>
<tr>
<td>COR0010 / general</td>
<td>8</td>
</tr>
<tr>
<td>COR0020 / general</td>
<td>40</td>
</tr>
<tr>
<td>PPD0015 / total weight charge - charge identifier</td>
<td>1</td>
</tr>
<tr>
<td>RTD0025 / no of pieces/RCP details - /rate combination point</td>
<td>1</td>
</tr>
<tr>
<td>RTD0050 / chargeable weight details - weight</td>
<td>6</td>
</tr>
<tr>
<td>RTG0020 / 1st destination/carryer carrier code</td>
<td>4</td>
</tr>
<tr>
<td>RTG0025 / onward destination/carryer ap city code</td>
<td>14</td>
</tr>
<tr>
<td>RTG0030 / onward destination/carryer carrier code</td>
<td>1</td>
</tr>
<tr>
<td>RTG0150 / Invalid Routing for eFreight</td>
<td>6</td>
</tr>
<tr>
<td>FWB syntax errors</td>
<td>109</td>
</tr>
<tr>
<td>FWB Error IATA</td>
<td>237</td>
</tr>
</tbody>
</table>

This report provides error summary and MAWB level errors.
Multiple FWBs

- Change trigger to flight close:
  - later in the process; higher quality data; only one transmission
  - risk is that if quality not correct will require regional escalation to resolve

Messaging Content

- FWB/FHL quality are key performance measures for 2012
- As our messages migrate to sole messaging provider will use FNA data to highlight and resolve issues
  - this provide on weekly basis, thus can be addressed quickly and frequently
Data Quality: The Devil is in the Details

» Data Quality: A Quick Review of MIP Results from the Past 12 Months

» Constantin Syridis, Cargo Business Intelligence Manager, IATA
MIP - Message Improvement Program

Constantin SYRIDIS, Manager Cargo BL
IATA Geneva
MIP Background

- 40+ major airlines (data providers and report recipients)
- 20+ major freight forwarders (report recipients only)
- Focus on FWB and FHL messages
- 200+ different quality issues are reported every month (data missing or errors, duplicate and missing messages)
- Volume of MIP participating airlines represents 1.5m AWBs per month, or 50%+ of the total market
Industry FWB Quality

- No significant quality improvement in 2011
- Stagnating around 40% of AWBs for which one error-free FWB is received
- E-freight Quality is much higher at around 90%
Industry FHL Quality

- Slight improvement in quality in 2012
- Stagnating around 60% of HWBs for which one error-free FHL is received
- E-freight Quality is around 66% same as for industry
Top-5 FWB Errors

- Account for 35% of all errors (Jan 2012)
- Top errors remain the same for the past couple of months

<table>
<thead>
<tr>
<th>Rank</th>
<th>Count</th>
<th>%</th>
<th>Error Code</th>
<th>Error Description</th>
<th>EF Mandatory</th>
<th>Error Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32489</td>
<td>11.4%</td>
<td>AGT1020</td>
<td>Agent details - IATA cargo agent numeric code corrected</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>20834</td>
<td>7.3%</td>
<td>AWB1035</td>
<td>AWB consignment details - shipment description code corrected</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>17929</td>
<td>6.3%</td>
<td>OTH1010</td>
<td>Other charges details corrected</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>14101</td>
<td>5.0%</td>
<td>PPD1040</td>
<td>Prepaid charge summary details - total other charges due carrier - charge amount corrected</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>14025</td>
<td>4.9%</td>
<td>OTH1020</td>
<td>Other charge details - code corrected</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>284450</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Top-5 FHL Errors

Account for 77% of all errors (Jan 2012)

Top errors remain similar for the past couple of months

<table>
<thead>
<tr>
<th>Rank</th>
<th>Count</th>
<th>%</th>
<th>Error Code</th>
<th>Error Description</th>
<th>EF Mandatory</th>
<th>Error Corrected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24384</td>
<td>37.6%</td>
<td>CNE3035</td>
<td>Consignee details - ISO country code corrected</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>10545</td>
<td>16.3%</td>
<td>FHL2015</td>
<td>House Air Waybill already created in carriers system (The FHL has been received after the carrier has created the data in his system and is too late to be of any use)</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5167</td>
<td>8.0%</td>
<td>HWB2010</td>
<td>Invalid or missing house waybill summary details</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4767</td>
<td>7.4%</td>
<td>FHL2010</td>
<td>Unable to use the FHL data (Data contained with the sent message cannot be used to update the carriers system).</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4739</td>
<td>7.3%</td>
<td>HWB3050</td>
<td>House Waybill summary details corrected - HWB Manifest description of goods corrected</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>104</td>
<td>64799</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MIP Action Plan for 2012

- All existing reports to be incrementally improved, reports currently available only to airlines will be made available to forwarders too
- Organize issue resolution sessions between participants:
  - Hold a 2nd speed-dating session at the World Cargo Symposium
  - Hold a 3rd one later in the year in Geneva
- Increase synergy with Cargo 2000 to make MIP more relevant
- Review the types of errors reported and data providers
- Expand membership to GHAs, CCSs and airports
MIP Speed-Dating

What is the MIP Speed-Dating?

• Meet everyone else in the room you are doing business with for a couple of minutes then:
  1. Quickly review your list of bilateral issues (using MIP Report 15 xls)
  2. Agree on which issues to solve
  3. Define who will be the contact at both ends for issue resolution
Networking
Coffee Break
MIP Speed Dating

Organizer

Constantin Syridis, Cargo Business Intelligence Manager, IATA
CHAIRMAN’S CLOSING REMARKS

Oliver Neerfeld, Head of Commercial Operations Asia pacific, CHAMP Cargosystems

Track Sponsor
Networking Lunch Break