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Cargo Management Software:
What to Look for When Choosing a Platform

Introduction

For decades in the airline business, there's been a large gap between IT development for passenger traffic and for the cargo business. Although senior management has long understood the appeal of revenue from the belly, software dollars have followed the passenger, and they have continued to rely on software "bolted on" to legacy mainframe systems. Lagging IT is one of the reasons air cargo, despite huge increased in global trade, is an underdeveloped segment – worldwide each year, some 70% of the usable belly space of combination (passenger/cargo) carriers flies empty.

By contrast, the all-cargo behemoths, FedEx, UPS, and DHL have for decades recognized that IT was key to building a comprehensive and ultra-reliable system from shipper to recipient.

In recent years, a number of new companies, and some longtime airline IT providers, have begun to deliver software to help manage the cargo business. Their colorful brochures and polished presentations suggest they've solved the problem, developing comprehensive solutions for all the players from shipper to recipient. But they haven't. Their solutions are partial, often just an evolution of an existing product.

In this white paper, you will learn about the improvements in computing technology and communication networks that are enabling new cargo management solutions, and the systems features that are truly cutting edge, all to enable you to make a better decision when upgrading or acquiring a cargo management platform. The emphasis is on practical information, a relatively brief, "Plain English" approach to understanding a field that is often strewn with jargon and arcane concepts.

What Has Changed? The Confluence of Three Key Factors

Everyone knows that for several decades, information technology has been improving rapidly, and the pace of change has accelerated in recent years. In airline IT, three recent developments have been especially important: the growth of Cloud computing, the rise of mobile platforms (smartphones and tablets), and data analytics. These three factors have worked together to give users unprecedented access to information *now.* In the past, IT people talked about "real-time" systems, but that really just meant the ability to process transactions, and not the ability to instantly access summarized information about those transactions.   For example, IBM's massive PARS mainframe systems were great for automating airline tasks like scheduling and cargo processing at airports, but at the end of each day those big machines could not tell you how many tons you carried that day and at what yield. Those reports were in the realm of "batch processing," meaning you got the answers weeks or even a month later. Moreover, older systems often limited or denied access to key partners in the cargo chain, reducing productivity.

Now, thanks to the interplay of these three factors, you can have all of what you need: systems that efficiently handle transactions and keep all parties "in the loop," and at almost the same time tell you how well you're doing. This gives cargo managers unprecedented ability to make efficient and effective decisions quickly, not much later. And to make those decisions from anywhere with an Internet connection, which nowadays means virtually anywhere.

What to Look for When Choosing a Cargo Management Platform

Although this package of Cloud computing, mobile capability, and data analytics represents best practice, many cargo software solutions have not evolved to integrate all three. Candidly, many are stuck in the past. So here is a summary to help you understand what is truly state-of-the-art from what might just be in a shiny package.

Fully in the Cloud

Most airlines, large and small, stayed with their legacy systems and their adjuncts for too long, ignoring the dramatic improvements in data processing and networks. Fast-forward to today, when the Internet and other innovations have upended conventional thinking. Moving to a Cloud-based solution – essentially software on remote servers linked with a fast connection – is first and foremost economical. Cargo platforms have long required dedicated hardware and software that requires upfront investment, is expensive, and inflexible. By contrast, a Cloud solution eliminates all that initial spending, so is much more cost-effective. Moreover, it boosts productivity, because any device with an Internet connection – a desktop, notebook, tablet, or smartphone – becomes a workstation.

And being the Cloud yields other benefits, too. First, it enables access to relevant information – with proper security limits, of course – to all the partners who move the goods, including freight forwarders, ground handling agents, warehouses, customs brokers, government regulators, and others. Second, freed from dedicated equipment and code, implementation is typically quicker and easier. Third, most Cloud-based solutions are what's called Software as a Service (SaaS), which means you pay as you go – on a per-waybill, shipment, or weight basis. No more hardware to buy and maintain, annual license fee, etc.

Now that you understand the Cloud benefit, an important caveat. Some providers claim to be "in the Cloud" or "Cloud-based," but this simply means that they host the platform on their server and the application is accessed via the Internet. These solutions partly comply with the Cloud definition of the National Institute of Standards and Technology (NIST) – a U.S. government agency that is the recognized global authority on IT standards. To get the full benefit, look for systems that are fully Cloud-based, that is, they comply 100% with the NIST definition.

Why does this matter? A 100% Cloud solution gives users far more flexibility compared to either partial-Cloud or older technology. Changes and tailoring to meet specific user needs are quicker, easier, and less expensive.

A Comprehensive, Integrated Solution that Learns on the Job – and Is Easy to Use

Many older cargo systems began with a modest core of functions, and expanded incrementally to meet customer need; expansion was often difficult, because older IT tended to be rigid. By contrast, the best of the newer solutions have been built from scratch, and with flexible system architecture that will enable the platform to evolve and improve as needs change and increase.

System integration is also key. Although cargo needs are distinctive, an airline cannot manage its cargo business in isolation.   For decades, lack of coordination and communication between the passenger and cargo sides of an airline hampered cargo revenues and degraded customer service to shippers. All older cargo software and even many new solutions have not addressed this long problem.   Business-as-usual means continuing to accept shipments when capacity does not exist, promising delivery times that cannot be met, and the like. It thus makes sense to look for a cargo platform that is fully integrated with the passenger system (PSS such as Sabre or Navitaire). Full integration means that cargo planners instantly know capacity, limitations, and other key data, improving load planning, revenues and yields, and customer service.

The most evolved new cargo platforms are also neural networks. A neural network is the IT equivalent of an animal's central nervous system. Neural networks learn as they operate, recognizing patterns, predicting outcomes, and other behavior akin to living things. This means the more a system is used, the smarter it becomes, helping to optimize cargo management.

Notwithstanding all this functional capability, the best crop of new cargo solutions should also be easy to use and intuitive. No more arcane keystrokes and commands to understand and memorize. Screens should be clear and easy to understand. Point, click, done. This matters for two reasons: first, in many parts of the world, employee turnover is increasing, and efficient new-hire training is essential; second, for experienced workers, clear workflow boosts productivity.

Be Synchronous: Everyone Should Know What They Need to Know, and at the Same Time

Older computers didn't have the processing power of today, and most older cargo solutions provide key information on volumes, revenues, billing, and other key metrics days or weeks after the fact – an approach called batch processing. By contrast, the newest cargo platforms give everyone immediate access to this information – airlines know today how much cargo they carried today, and at what yield.   Different cargo teams within a carrier see the same information at the same time, reducing the age-old squabbles between sales and service groups.   A freight forwarder knows exactly how it's doing on a monthly incentive – for example, how many more kilos of perishables they need to ship in order to gain an additional commission. Ideally, these systems integrate accounting and operations, to reduce charge corrections and provide other benefits.   Cargo customers will be better informed.

Not only did older systems report long after the fact, but basic reports were rigid – what "someone else" decided was key information. By contrast, newer systems, especially those that are 100% Cloud-based, allow each end user, all along the cargo chain, to define the metrics that are important to them, improving accountability and visibility, and enabling more effective decisions.

In addition to real-time transaction, traffic, and other basic information, these new solutions also deliver a full array of tools for business intelligence, enabling users to find

trends and patterns that in turn provide a foundation for service improvement and revenue growth. This is all about realizing the huge potential of Big Data in cargo management.

The SmartKargo Approach

The developers of SmartKargo, a team of engineers and experts trained at MIT, understood these things from the start. But they didn't do their work in a lab; rather, they worked closely with airline cargo veterans to build a system that leveraged the three factors discussed earlier – Cloud computing, mobile platforms, and data analytics – to deliver a system that met the varied needs of all the partners in the process: shippers, freight forwarders, GHAs, and most important, airlines. SmartKargo has all the "look for these" features and benefits discussed here:

- Full Cloud design
- Comprehensiveness and all-partner access
- Integration, especially with passenger systems
- Neural network
- Ease of use
- Instant information on transactions and activity
- A full suite of business intelligence tools

SmartKargo's existing customers (names and references available on request) report significant improvements in ROI and key performance indicators, on three main dimensions:

- Higher yields of 1 to 3%, resulting from SmartKargo's more accurate capacity utilization and dynamic pricing control
- Higher tonnage, 2 to 4%, primarily from real-time interfaces with the passenger system, as well as GSA ability to access the system to make additional bookings
- Higher flown as booked (FaB) of 3 to 5%, because better information produces greater accountability

SmartKargo is Software as a Service (SaaS), meaning you pay only for what you need and use. After a modest implementation fee, SmartKargo customers pay by shipment weight – a simple and transparent approach.

Finally, SmartKargo's system architecture is flexible, which yields two key benefits. First, it can be easily and quickly adapted to meet specific carrier needs; and second, it will evolve to meet the future needs of both the industry and specific customers. Yet another reason why it's SmartKargo.

Questions? We'd be delighted to answer them, and to show you how SmartKargo can help your business. Please be in touch with Jay Shelat, +1 817 262 9642, jay@qidtech.com.

www.SmartKargo.com