Control Tower Logistics (CTL)

Fourth-Party-Logistics (4PL)

Abstract

This document serves to define the vision, mission and strategy for the CTL partnership. The document presents an approach to software and business model development - including the role of partnership, IT-development and enhancement. The prototype is described as the current solution and user cases are highlighted to state the current traction in the market.

Keywords

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Résumé Control Tower Logistics

The transportation industry is tying all products and services together. It is the inevitable and vital service, of which all people and business on earth adhere to. It is the biggest industry in the world. The third-party-logistics (3PL) market in Europe, solely, generated revenue of more than EUR 161 billion in 2013. The total of all US logistics services generated $1.33 trillion and the worlds logistical revenue is projected to be $4.8 trillion in 2015.

To enlighten the purpose of CTL, we refer to the existing potential to control and optimize services provided by 3PL companies. We want to enable companies to gain control and make smart decisions when purchasing transportation services. CTL is the Expedia for logistics, and we have ambitions to control all logistics processes on behalf of the logistic purchaser through intelligent information systems.

Vision:

CTL seeks to be the preferred fourth-party-logistics (4PL) provider and thus a neutral Logistics Management System (LMS). We want to assist manufacturing and trading companies in analyzing, coordinating and purchasing numerous logistic services from several 3PL companies.

CTL LMS guides the customer to optimal solutions, helping them to reduce cost of logistics and time spent on coordinating logistics. Moreover, effects of events that complicate the supply chain will be minimized. CTL will lead logistic purchasers to better performance globally.

Mission:

CTL LMS simplifies the operation and coordination of sea, air and road transportation in one digital interface. We offer the simple overview in a complex world of active, upcoming and completed shipments via software integration. The interface is leading the user towards optimal transportation solutions by monitoring the market, proactive notifications, logistical overview, communication platform, procedures and standards for tender agreements.

Transportation solutions are provided through a network of 3PL companies, such as freight forwarding companies, trucking companies, carriers, etc. The logistics management system guides the user, through a digital interface, towards better supply chain performance.

The system guides and standardizes communication and interactions between the original customer and the vendor, which enable the system to perform process optimization, enhance flexibility, improve service levels as well as competitiveness.

Strategy:

CTL LMS is positioned between corporate ERP (Enterprise Resource Planning) and warehouse management systems. Our cloud-based system is positioned between customers ERP system and 3PL companies cloud systems. Interactions are automated through API integration.

The need for 4PL services is exposed by a number of clients in all industries. The need is expressed as to optimize daily interactions, of which operational management and coordination of sea, air and trucking services will become simpler. The current logistic purchasers are looking for a neutral LMS to give an overview of logistical solutions from global 3PL companies. Processes are hereby required to be automated and optimal for the current situation, need and preference. Guidance, consultation, proactive notifications, logistical overview, communication, fixed standards of procedures and price comparison tools – are all provided in one system, leading the world's logistic services.
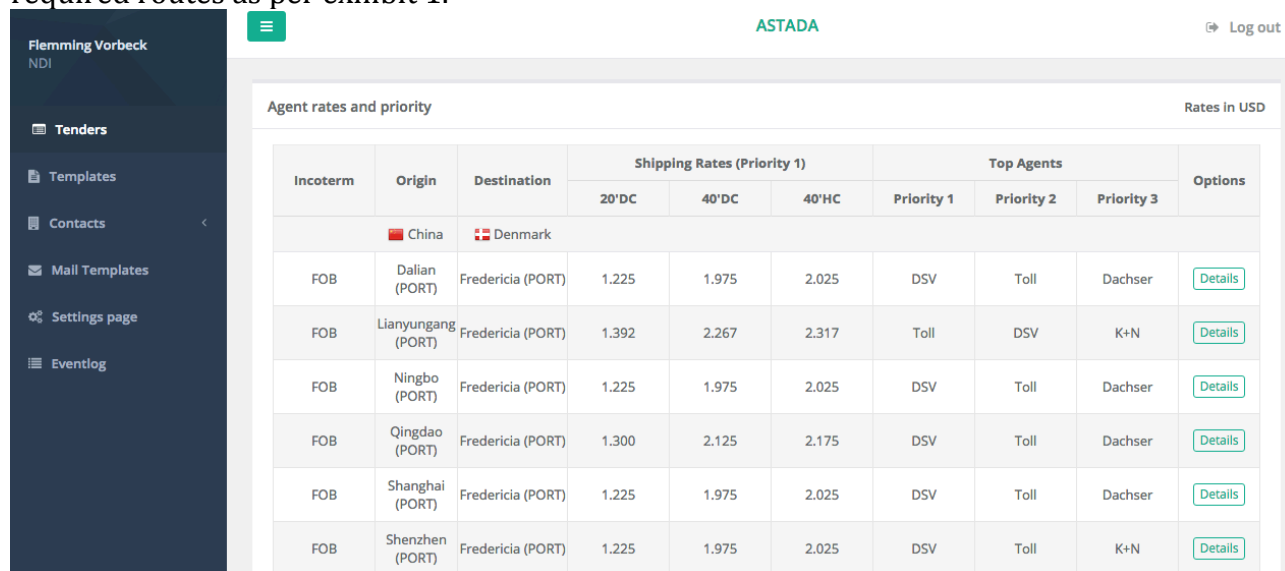
All services are invoiced by CTL, which enables CTL to control the 3PL services. The following headlines specify briefly how CTL develops into a complete 4PL provider, step by step.

CTL - 4PL

The 4PL interface is established to facilitate consultation services, purchase of logistics services and customer support features that are performed by the interface and staff.

Prototype

Danish manufacturers and trading companies have applied the current prototype to minimize sea freight transportation costs. 20 companies in Textile, Automotive, Heavy Industry, Furniture and Interior have applied the prototype. The users create transportation tenders with the required routes as per exhibit 1.

Incoterm	Origin	Destination	Shipping Rates (Priority 1)			Top Agents			Options
			20'DC	40'DC	40'HC	Priority 1	Priority 2	Priority 3	
	🇨🇳 China	🇩🇰 Denmark							
FOB	Dalian (PORT)	Fredericia (PORT)	1.225	1.975	2.025	DSV	Toll	Dachser	Details
FOB	Lianyungang (PORT)	Fredericia (PORT)	1.392	2.267	2.317	Toll	DSV	K+N	Details
FOB	Ningbo (PORT)	Fredericia (PORT)	1.225	1.975	2.025	DSV	Toll	Dachser	Details
FOB	Qingdao (PORT)	Fredericia (PORT)	1.300	2.125	2.175	DSV	Toll	Dachser	Details
FOB	Shanghai (PORT)	Fredericia (PORT)	1.225	1.975	2.025	DSV	Toll	Dachser	Details
FOB	Shenzhen (PORT)	Fredericia (PORT)	1.225	1.975	2.025	DSV	Toll	K+N	Details

Exhibit 1 – A snapshot of NDI's routes from various origins in the Far East to Fredericia, Denmark

The different 3PL companies is listed in prioritized order in exhibit 1, showing the best offered rates and the top 3 3PL companies based on the algorithm optimizing price, transit time or service. The user is able to invite an unlimited number of 3PL companies, making it possible to analyze and exploit the market opportunities without doing the actual work. The user is able to place the orders with specific 3PLs upon completion of the routing network and also able to analyze the specific routes in depth as per exhibition 2.

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Exhibit 2 – A snapshot of NDI's alternatives from Shanghai to Fredericia

The user has full insights into the alternatives when choosing one of the 3PLs. At this stage, they can either just choose to go with the cheapest service, fastest service or an alternative within that range. Data is generated and stored for every request in the system. Hence the user will have access to historical information for the routes and 3PL services as per exhibit 3.

Exhibit 3 – A snapshot of NDI's tender requests over time

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The stored data helps the user to monitor development and performance for each 3PL company. The data helps the user to investigate previous performance of their future transportation vender in order to make better and more sustainable decisions.

Going forward from the prototype

The 4PL service and operation is functional from day one, but the scalability of the business is only applicable after completion of a fully developed front-end interface. The development of a complete LMS interface is hence endeavored through requirement specifications defined by clients and 3PL companies. Launching the service prior to a completed system enables CTL to involve important stakeholders in the development and generates a positive cash flow quickly.

The first priority is to deliver a complete module for clients to manage shipments. The priority is based on user assessment that states an urgent need for a simplified handling of multiple 3PL relations and access to optimal solutions. At this phase, the system will replace 3PL cloud systems, whiteboards, excel sheets, numerous e-mails and phone calls. The system development is divided into three preliminary stages, in order to set goals and milestones to monitor results.

Step #1 – Interface

The first version of the CTL LMS provides the interface to manage logistics tender agreements and operations (booking, shipping details, etc.) between the client, CTL and the 3PL companies. Exhibit 4 shows a complete overview of modules – from a dashboard to user settings.

Id #	Ref.	From	To	Cargo	Latest event	State
9519878	B774-PO75	Fuzhou Qiaowei Waterproof... Fuzhou, CN	Active Sportswear Int. Brønderslev, DK	Clothing in 20ft dry	Booking confirmed at 21-05-2015 | 16:53	New
9519874	B774-PO74	Xiamen Saga Sports Co., Ltd. Xiamen, FU, CN	Active Sportswear Int. Brønderslev, DK	Clothing in 20ft dry	Unloaded in Hamburg, DE at 21-05-2015 | 16:34	In transit
9519841	PO74455-ALDI	Active Sportswear Int. Brønderslev, DK	ALDI GmbH & Co. KG Essen Essen, DE	Clothing 4 x pallets as LTL	Arrived at Terminal Padborg, DK at 21-05-2015 | 12:17	In transit
9519812	PO5478666-B	Shanghai Qinfei Import &... Shanghai, CN	Active Sportswear Int. Brønderslev, DK	Clothing 18 x boxes (4,3 m³)	Delivered at 21-05-2015 | 10:47	Delivered
9519787	K4744-B74	Chacewater Truro, UK	Active Sportswear Int. Brønderslev, DK	Multiple commodities 18 x boxes (4,3 m³)	Departed Facility in Billund... at 21-05-2015 | 14:11	In transit

Exhibit 4 – The sketched front-end interface controlling the purchasing, operations and coordination of shipments

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The interface enables an easy and user-friendly view of shipments, regardless of the complexity in terms of different 3PL suppliers, shipments and information streams.

Step #2 – Process optimization

Today, the transportation buyers are in a lock-in situation to use specific 3PL companies' systems. The situation makes it hard for the buyer to swift and source services from various companies at the same time, hence many buyers end up with one 3PL relation, which is costly inefficient, or a very complex network of 3PL relations, which is cost efficient, but enforce the use of numerous systems. We offer the buyer to gather current manual interactions between client, CTL and 3PL companies in one system and automate the processes through API integration.

Step #3 – Decision making

Intelligent information technologies analyze solutions in order to provide the optimal support for decision-making. Intelligent information about 3PL companies, transportation modes and route of network is provided in a user-friendly interface. The proposed optimal solutions are based on historic data and key performance indicators matched with the client's preferences and requirements.

The prototype system is currently live via www.astada.com/en. The team is looking for seed funding that can help to strengthen the sales and development capabilities. In a 24 months perspective, the team seeks to land a USD 500,000 investment to cover expenses in establishing the business and generate a positive cash flow.

National rankings consistently place UC Berkeley's undergraduate and graduate programs among the world's best. Berkeley is home to top scholars in every discipline, accomplished writers and musicians, star athletes, and stellar scientists—all drawn to this public university by its rich opportunities for groundbreaking research, innovative thinking and creativity, and service to society.

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