

# Calypso Shipping Group (A)

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## Introduction

“The answers are in the data,” concluded Ross Wilder, his crisp articulation propelling the last two syllables across the conference room like a snapped rubber band. “But I’m still not sure what the right questions are, let alone how to answer them on a continuous basis without driving our IT people up the wall. That’s where I need your help.”

Wilder sat down and cast a probing glance at the two groups of people arranged around the table. One group was a team of Calypso staff he had hastily pulled together from around the company; they looked anxious to get back to their regular jobs after the intensive two-day workshop that was now coming to a close. The second group, a team of consultants from Deloitte Analytics, looked fresh and energized. Although they had spent the same two days around the same table, the Deloitte team’s hard work lay ahead of them. They were due to report back 24 hours later with preliminary insights and a proposal for next steps. A successful outcome of that meeting would mean a chance to present the proposal to Wilder’s boss, Calypso’s Chief Financial Officer—along with the company’s new CEO and an assortment of board members—at the company’s annual strategy meeting the following day.

The stakes for Calypso were high. If the company failed to return to profitable growth in 2011, it faced the prospect of being forced to liquidate assets or sell out to a larger competitor, ending its founder’s dream of completing the transition from a small family-run business to a successful independent player in the global shipping industry. In addition, Wilder’s reputation was on the line. His colleagues had tolerated his enthusiasm for data-driven analysis with a mixture of amusement and indifference, but with several factions within the company now seeking to curry favor with the new CEO, he risked provoking a dangerous backlash unless he could deliver results. The Calypso account also represented a substantial opportunity for Deloitte, whose analytics practice was gaining momentum worldwide but still honing its value proposition and service offerings.

## The Shipping Industry in 2011: Crisis and Uncertainty

More than two years after the financial crisis of 2008, the global shipping industry was still reeling from the effects of the subsequent contraction in world trade. Freight rates remained near record lows—down nearly 90% from their mid-2008 peaks—and shipping companies were saddled with

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overcapacity, with many vessels either idle or serving as storage facilities for unsold products. To make matters worse, many of the largest and newest ships were bought at peak prices using borrowed money, and shipyards continued to deliver orders placed during the boom period. With depressed vessel values and anemic forecasts for demand growth through 2013, numerous ship owners were finding themselves unable to pay back principal and interest to their lenders, leading to the threat of widespread defaults.

## Industry Structure<sup>1</sup>

The shipping industry is segmented both by the type of cargo being shipped and the type of service provided. Cargo types can be roughly divided into bulk and general cargo; the former is transported in large enough volumes to fill an entire vessel, while the latter is typically divided into smaller parcels. The bulk segment can be further divided into “wet” and “dry” trades: liquids such as oil and chemicals are transported via tanker ships, while dry bulk carriers (“bulklers”) are used for solids such as grains and coal.

The two main types of sea freight services are called tramp shipping and liner shipping. Tramp ships do not have a fixed itinerary, but go from place to place depending where they can find cargoes. Liner ships, in contrast, operate according to a fixed schedule along regular routes. Most bulk shipping is arranged through the tramp market, while most general cargo trade is handled through the liner market.

Until the mid-1960s, most general cargo (called “break-bulk” cargo) travelled loose, and each item had to be packed into the ship’s hold using pieces of wood or burlap to keep it in place. This labor-intensive operation was slow, expensive, and difficult to plan, and the cargo was exposed to the risk of damage or theft. As a result, cargo liners spent up to two-thirds of their time in port, and handling costs escalated to more than a quarter of the total shipping cost. Today, with the exception of large items such as automobiles and steel products, most general cargo now travels in standardized metal containers. In addition to vastly improving the efficiency of the cargo fleet, containerization made it economical to route cargo through one or more intermediate ports on the way to its destination, a practice known as transshipment.<sup>2</sup>

Running a tramp business is quite different from running a liner business. At its core, a tramp shipper seeks to maximize the financial return on the vessels that he owns, while liner shipping is primarily a service business that may or may not own the vessels used to transport customers’ cargo. Some shipping companies operate purely in one market or the other, while many—including most of the major global shipping groups, such as A. P. Møller-Maersk, Nippon Yusen Kabushiki Kaisha (NYK), and the China Ocean Shipping (Group) Company (COSCO)—are diversified into both.

## The Tramp Market

The primary activity in tramp shipping is chartering: hiring out vessels to third parties. In some cases, the charterer actually owns cargo and employs a shipbroker to find a ship to deliver it for a certain price, called the freight rate. A charterer may also be a party without a cargo who takes a vessel on

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<sup>1</sup> This section draws on several books on the shipping industry, including M. Stopford (2008), *Maritime Economics*, 3<sup>rd</sup> ed., Routledge, and Y. H. V. Lun et al. (2010), *Shipping and Logistics Management*, Springer, as well as relevant pages from Wikipedia (e.g., [http://en.wikipedia.org/wiki/Chartering\\_\(shipping\)](http://en.wikipedia.org/wiki/Chartering_(shipping))).

<sup>2</sup> For an engaging account of containerization and its effects, see M. Levinson (2006), *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*, Princeton.

charter for a specified period from the owner and then trades the ship to carry cargoes at a profit above the hire rate, or even seeks to make a profit by re-letting the ship out to other charterers.

A charter contract is an agreement that allocates both decision rights (who can direct the vessel to certain ports, decide what cargo to carry, etc.) and responsibility for various costs and risks. Three types of charter contracts are widely used:

- A *voyage charter* is the hiring of a vessel and crew for a voyage between a load port and a discharge port. The charterer pays the vessel owner on a per-ton or lump-sum basis. The owner pays the port costs (excluding stevedoring), fuel costs and crew costs. The payment for the use of the vessel is known as freight.
- A *time charter* is the hiring of a vessel for a specific period of time; the owner still manages the vessel but the charterer selects the ports and directs the vessel where to go. The charterer pays for fuel and port charges, as well as a daily hire to the owner of the vessel.
- A *bareboat charter* is an arrangement for the hiring of a vessel whereby no administration or technical maintenance is included as part of the agreement. The charterer obtains possession and control of the vessel along with legal and financial responsibility for it. The charterer pays for all operating expenses, including fuel, crew, port expenses and insurance.

The conventional wisdom in the tramp business is that the real profits are made from buying and selling ships rather than trading them on the charter market. However, chartering is necessary to put the ships to productive use and obtain cash flows that can be used to finance other activities.

One of the methods used by smaller companies to improve their profitability is to form pools that allow them to reduce overheads, use marketing information more efficiently, and compete more effectively for contracts with shippers who require high service levels. A shipping pool is a fleet of similar vessel types with different owners, in the care of a central administration. The pool manager markets the vessels as a single fleet and takes control of their day-to-day affairs, while owners generally continue to be responsible for the crewing, maintenance, and technical management of their ships. After deducting overhead costs and a commission fee, the net earnings of the pool are distributed between the participants according to a pre-arranged weighting formula. Participants are typically able to withdraw their ships from the pool after a pre-defined notice period (typically 3–6 months, or immediately subject to a penalty fee) if they feel the pool is not operating effectively or believe they can earn more by chartering directly into the market.

### **The Liner Market**

The main function of liner shipping is to satisfy the demand for regular transport under which cargoes are transported through regular routes and with regular schedules. Liners operate according to a schedule of ports of loading and discharge, usually adhering to a published timetable with set conditions of carriage. Liner cargo is mainly made up of manufactured or partly manufactured goods.

Cargo liners tend to be more expensive vessels than tramp ships because they are optimized for speed and efficiency. Many container ships are separated into compartments that enable containers to be dropped into holds vertically between systems of container guides, with several additional tiers of containers stacked on the top deck. As the cargoes transported by liners belong to many

shippers, the administrative processes of cargo liners are far more complex. As a result, their operational costs are also higher.

An important difference between liner shipping and tramp shipping is that the obligation to sail a timetable makes capacity inflexible. Because capacity expands in ship-sized increments, new ships must be ordered in multiples dictated by the service frequency, with sufficient capacity to cater for future growth. Whereas tramp shippers can respond to supply-demand imbalances by laying up their least efficient ships, liner companies must stick with their schedules.

The capacity challenge is exacerbated by the seasonal cycles on many routes, where cargo volume is higher at some times of the year than others, and by cargo imbalances that occur when there is more trade in one direction than the other (e.g., East Asia to North America). Both problems also occur in the tramp market, but they are quickly resolved by market forces as shipowners negotiate rates and shift between trading different types of goods. Liner companies lack this flexibility, since with so many customers it is not practical to negotiate a rate for every cargo. This combination of inflexible prices and capacity leaves liner companies with a pricing problem that has dominated the industry since it started.

Secondary markets have emerged for container ships and slot capacity, allowing liner companies to charter ships in and out of their fleets (similar to the tramp market) as well as to sell space on a given route to other liner companies. Liner companies have also formed alliances—such as the Grand Alliance between Orient Overseas Container Line (OOCL), Hapag-Lloyd and NYK—to operate as a global service network. While these developments have added flexibility, pricing and capacity management in the liner business remain more of an art than a science.

### **An Industry in Crisis<sup>3</sup>**

With economies worldwide downsizing in terms of both demand and production, the shipping industry spent much of 2009 and 2010 struggling to adapt to a harsh new economic reality.

A lack of consumer demand in such key sectors as construction and auto led to much-publicized reductions in output from producers of large transport goods, such as steel makers, with a corresponding impact on the overall appetite for raw materials. In 2009, global economic growth fell to its lowest level since World War II, with contractions of 0.6% in world output and 10.7% in world trade. 2010 brought an unexpectedly strong recovery (growth of 5.0% in output and 12.0% in trade), but growth expectations for 2011 and 2012 were more modest (4–5% in output, 6–8% in trade).<sup>4</sup>

The global economic slowdown has had a devastating impact on the shipping industry, which, prior to the crisis, transported 90 percent of globally traded goods and commodities. In December 2008, the Baltic Dry Index<sup>5</sup> was down to 672 points from its high of 11,793 in May 2008, levels not seen since mid-1986. In addition, both the Capesize and Panamax indices reached their lowest recorded

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<sup>3</sup> This section draws on Deloitte (2009), “Crisis in Shipping: Keeping Your Portfolio Afloat,” <http://www.deloitte.com/assets/Dcom-Belgium/Local%20Assets/Documents/EN/Industries/dcom-be-en-crisis-in-shipping.pdf>.

<sup>4</sup> International Monetary Fund (2011), “World Economic Outlook Update: Global Recovery Advances but Remains Uneven,” <http://www.imf.org/external/pubs/ft/weo/2011/update/01/pdf/0111.pdf>.

<sup>5</sup> The Baltic Dry Index (BDI) is one of the several price indices supplied by the Baltic Exchange, an independent organization that provides daily shipping market information (<http://www.balticexchange.com/>).

levels in the history of the Baltic Exchange, with the average time charter rate for a Capesize vessel falling to less than 1 percent of the record high of US\$233,988 in June 2008. From the lows of late 2008, charter rates recovered modestly in 2009 and 2010, only to fall again in 2011 (particularly in the dry bulk segment).

The crisis faced by the dry bulk market at the initial phase of the downturn extended to the wet sector, sending the oil tanker market into distress. The steep falls in industrial production and consumption of raw materials led to a precipitous drop in the price of crude oil—from a peak of \$147 per barrel in July 2008 to \$32.40 at the close of the very same year—causing significant margin erosion for large oil tankers.

Some operators of oil tankers mitigated oversupply through “contango”: buying and hoarding oil to sell it at a future delivery date when the price is higher. It was estimated, in the midst of the downturn, that close to 130 million barrels of crude oil, along with at least 30 million barrels of refined petroleum products, were being stored at sea in more than 50 vessels—reducing supply tanker tonnage and offering some stability to freight rates in the short term. Industry professionals swapped stories of manufactured goods like automobiles being treated in a loosely analogous way, with huge specialized roll-on / roll-off (“ro-ro”) vessels effectively turned into vast floating car parks.

Given the increasingly gloomy growth forecasts, doubts about the ability of shipping companies to generate revenues sufficient to service debt obligations presented substantial risks to banks that provide financing to shipping companies. On paper, many of these banks had sufficient security against shipping defaults in the form of mortgages on the vessels. But with falling prices in the second-hand ship market, lenders were concerned that mortgage values may not cover the loans.

These risks provided an opening for some shipping enterprises with sufficient reserves to negotiate with their lenders on adjustment of ratios (such as loan to value) and/or restructuring of debt. To meet their obligations, these companies also had the option of laying up part of their fleets until demand returns.<sup>6</sup> This could allow for reduced operational costs, especially as fuel prices (“bunkers”) have decreased considerably along with charter rates.

During the crisis, shipping companies sharply cut back their capital expenditures on acquiring new vessels, and many considered scrapping older ones and delaying or even canceling existing orders to effect some order of stability on freight rates.

## Outlook for 2011 and Beyond

Although glimmers of optimism had returned to the industry by the end of 2010, forecasts for the year ahead were conflicting and uncertain, as indicated by a sampling of reports:

*“The three major segments of the shipping industry, i.e. the container, tanker and dry bulk segments, have already shown positive signs of pick-up in recent months, with the improvement of trade activities globally.” — KFH Research, 2 September 2010<sup>7</sup>*

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<sup>6</sup> This practice fueled reports of a “ghost fleet” of ships anchored near Singapore in 2009: <http://www.dailymail.co.uk/home/moslive/article-1212013/Revealed-The-ghost-fleet-recession-anchored-just-east-Singapore.html>.

<sup>7</sup> Report available from <http://kfhresearch.com/>. Quoted in IQPC (2010), “A Brighter Outlook for the Shipping Industry in 2011,” [http://www.acnnewswire.com/Article.Asp?Art\\_ID=5378&lang=EN](http://www.acnnewswire.com/Article.Asp?Art_ID=5378&lang=EN)

*“[A Deutsche Bank analyst] noted that clean and dirty tankers face pressure as the floating storage trade has moderated and demand for petroleum remains weak. Rates are struggling at or below operating expense levels as a result, with no end in sight.” — Associated Press, 27 October 2010<sup>8</sup>*

*“A.P. Moeller-Maersk A/S, the owner of the world’s largest container-shipping line, lifted its 2010 forecast for a third time in four months on higher freight rates and predicted that the market will expand next year.” — Bloomberg, 10 November 2010<sup>9</sup>*

## **Calypso Shipping Group: Family Business in Transition**

The Calypso Shipping Group was founded in 1977 by Greek shipping tycoon A. B. Calypso, who emigrated to Hong Kong in 1966, fleeing political instability in his home country. Although he left Greece penniless, he found work as a stevedore in Victoria Harbour and worked his way up in the shipping industry, finally managing to acquire enough resources to buy a small bulker and start his own business. He soon moved the company to Singapore due to its strategic location for international transport and logistics activities on the Strait of Malacca and its pleasant tropical climate, which reminded him of Ogygia, the small island where he was born.

Calypso’s chartering business grew rapidly in the early eighties, fueled by the rapid expansion of Singapore’s value-added manufacturing industry. Catering to the industry’s need to import raw or partially-manufactured goods into Singapore and export finished goods to global markets, Calypso expanded to operate more than 20 vessels including bulk carriers, chemical and oil tankers, and special purpose vessels. By the early nineties, Calypso’s bulk carriers and tankers had gained enough scale to be spun off as separate business entities operating under the Calypso Shipping Group.

The group’s recent financial performance is summarized in Exhibit 1. Its current organizational structure is illustrated in Exhibit 2.

## **Calypso’s Evolving Organizational Structure**

Calypso Bulkers Pte Ltd is headed by Kyriakos Madora, A. B. Calypso’s long-time friend and business partner. Calypso Bulkers charters its own vessels to third parties on time charter contracts ranging from 1 to 5 years. The vessels are owned individually by companies incorporated in the Marshall Islands (a common practice in the industry). The bulk charter business has been core to the Calypso Group since its inception, contributing stable revenues at minimal overhead cost. Although chartering out its own vessels had always been a profitable activity, in recent years Calypso Bulkers derived a growing share of its profits by making smart trades in the spot market, chartering in vessels from other shipowners and subsequently chartering them out at higher rate. Madora had built a tightly knit cadre of operational managers who cultivated deep relationships with companies transporting dry and wet bulk cargoes through the Singapore ports, and the team had developed a finely honed intuition for the supply and demand pressures that influenced pricing trends in the charter spot market.

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<sup>8</sup> Associated Press (2010), “Deutsche Analyst Is Cautious on Shipping Companies,” <http://finance.yahoo.com/news/Deutsche-analyst-is-cautious-apf-3854133880.html>. See <http://www.crweber.com/TankerReportQ110.pdf> for additional analysis on the tanker industry in particular.

<sup>9</sup> C. Wienberg (2010), “Maersk Lifts Forecast, Predicts 2011 Market Expansion,” <http://www.businessweek.com/news/2010-11-10/maersk-lifts-forecast-predicts-2011-market-expansion.html>

Calypso Tankers Pte Ltd is run by Boris Ilyich, who joined the group in 1979 as a time charter broker focusing on the oil trade, and was soon given responsibility for the group's growing tanker business. Unlike the bulk charter business, Calypso Tankers continues to rely almost exclusively on chartering its own vessels to third parties on long-term charter contracts. On rare occasions when a regular client needs more capacity than Calypso can offer using its own vessels, charter managers are authorized to charter in tankers from the spot market to meet the excess demand. On the other hand, when demand for long-term charters is low, managers have the discretion to place part or all of the tanker fleet in a managed pool operated by a sister company, Calypso Pools.

Calypso Pools Pte Ltd, headed by Jakob Beukes, operates solely as a pool manager for two tanker pools that fix charters from the South East Asian and North African regions, respectively. The company earns fixed agent fees plus a small commission for administering the pools, which entails marketing the vessels and handling the payment of voyage-related costs such as cargo handling and bunkers. Participants in the pools valued their ability to generate revenues even in down markets, primarily by allowing them to compete for larger and more complex contracts than the single-vessel time charters they normally engaged in. Although profits from the pools were modest because most revenues were redistributed to their members, Calypso Pools typically made a steady contribution to the group's bottom line regardless of conditions in the charter market.

Emboldened by its success in the bulk trades and spurred by the Singapore government's efforts to strengthen the Port of Singapore through tax incentives and other initiatives to promote the development of the local maritime industry, Calypso diversified into container shipping in 1998. A. B. Calypso himself took charge of the new liner business, and with the help of his extensive personal network quickly managed to develop a loyal network of third-party agents who brought in freight arrangements for Calypso's small but growing fleet of container ships.

In 2003, Calypso hired Ross Wilder to take the helm of Calypso Liners Pte Ltd. Despite his youth (Calypso threw him a surprise 30<sup>th</sup> birthday party soon after his arrival), Wilder had risen rapidly through the ranks of Maersk Singapore and built a reputation for being good with both numbers and people. His first major initiative was to optimize third-party freight arrangements and liner route planning using both internal company data and a variety of external sources. As a result, Calypso's liner business not only reaped healthy profits, but also won respect among its customers and competitors for sophisticated operational procedures not commonly associated with smaller shipping companies.

In 2005, some of the group's most proficient personnel were assigned to the task of consolidating the group's various ship management activities under another separate operating company headed by Markus Shepperd, who had managed Calypso's South East Asian pool under Beukes. Calypso Ship Management Pte Ltd was formed to leverage these employees' many years of commercial shipping experience by providing ship management services to both the group's sister companies and independent shipowners. Calypso's ship management services included crew management, supervision of new shipbuilding projects, and ship management consulting.

### **The Crisis and Its Aftermath**

By early 2007 (three decades since its inception), the Calypso Shipping Group had grown in size and stature to become a leading shipping company in Singapore, admired for its competent leadership

and diversified revenue streams. Calypso was seen as a darling of the local shipping industry and an exemplar for the government's efforts to revitalize "sunset industries" like shipping by attracting foreign talent and creating a favorable business environment. Posting record profits and expanding into new businesses year after year, Calypso seemed invulnerable to the winds of fortune that periodically swept through the shipping industry.

However, the financial crisis of 2007–2008 proved otherwise. The bulkers and tankers units saw falling revenues due to depressed charter hire markets. Major charterers defaulted on their long-term contracts and chose to pay up to US\$5 million termination fees in order to be able to sign new charter contracts at historically low recessed prices. Hence, Calypso managers who were originally confident of riding through the crisis using their strong pool of long-term charter hire contracts suddenly found themselves trading in the spot market for much lower returns. To add to these woes, the spot market remained highly volatile throughout 2008 and 2009, contributing to net losses for Calypso's trading activities. Calypso Bulkers and Tankers had to sell several of their vessels to keep the group afloat, resulting in accounting charges for vessel impairment and additional losses due to low prices in the depressed second-hand market.

The liner business also saw a substantial decrease in profits as trade in the well-established routes for which it had optimized its network of third-party agents had dropped significantly. As agents relied on commissions, their bookings tended toward getting consignments at any rates, no matter how low, rather than no consignment at all. As a result, the liner business saw dropping freight rates and operating losses on even its historically most profitable routes.

The ship management division was profitable, but much of its revenues came from Calypso sister companies as it served all of the group's ship management needs. With the economic downturn, the division faced aggressive demands from other Calypso businesses to increase efficiency and reduce operations costs. During their monthly planning meetings, the bulkers, tankers, and liner operations managers started citing competitive fees quoted by third-party ship managers, and suggested that they might be able to reduce costs by outsourcing their ship management functions. Several managers felt that the secure internal customer base for the ship management division reduced its drive to innovate, and that Calypso ship managers were not trying hard enough to reduce costs.

Calypso Pools was a lone bright spot. The pools business did not fare as badly as the others during the recession as many owners, unable to find charterers, put their vessels in the hands of Calypso's pool managers to earn some money in the hope of covering their bottom line. However, historical patterns suggested that this revenue stream might weaken as the economy picks up, leading owners to take back direct control of their vessels to avoid paying the additional costs of pool management.

## Repositioning for Growth

The recessed economic climate, coupled with a lack of enthusiasm to take on new challenges in the last stretch of their careers, fast-tracked the retirement decisions of long-term business heads including Madora, Ilyich, and Beukes, who had been instrumental in the growth of the group. The imminent retirement of the old guard in the bulker and tanker businesses prompted a secondary exodus of mid-level managers who had been hired and groomed by them. Calypso filled the vacuum



by hiring outstanding recipients of Singapore's prestigious MaritimeONE scholarships,<sup>10</sup> and also by promoting promising young talent who had served the company well as charter brokers and operating managers. As the younger guard was settling in, however, the group experienced a spate of operational lapses that led to a spike in port charges as its vessels were assessed penalties for arriving earlier or later than the times scheduled.

A. B. Calypso sensed a need for new leadership to help the company weather the storm. In late 2010 he hired Phil Timble, a widely respected senior executive at a larger Singapore shipping company, as the new CEO. Calypso himself retained the post of chairman but stepped back from his executive role almost immediately upon Timble's arrival. Timble quickly noticed that employee confidence levels were low. He realized that the group's top management needed to make some critical business decisions soon, and it was imperative to get them right. With few of the old guard still actively involved in day-to-day management, Timble turned to Ross Wilder for help. He appointed Wilder to a newly created position of director of special projects, reporting to the CFO. His first special project, aptly codenamed Phoenix, was a mission to put the stuttering firm back on a profitable growth track. Although he was not given a specific budget for the project, Timble assured him that if he needed resources beyond what the CIO and business unit heads were authorized to commit through the standard procurement process, he would bring the request directly to the board of directors.

Wilder, never a fan of "gut feel" decision-making, began his daunting assignment by collecting and synthesizing information from around the group. His initial efforts included asking managers in each business unit for recent data on operational and financial performance, as well as requesting group-level reports from the CIO. The result was a mess of charts and spreadsheets that were hard to interpret and reconcile, let alone glean actionable insights from.

## Information Technology at Calypso

Almost everyone at Calypso considered IT crucial to their day-to-day functioning. But according to group CIO Tan Chu Kang, who attended one session of the analytics workshop conducted by the Deloitte team, "To the business side, IT means ShipNet—period. They don't see or frankly want to know about any other systems, so my organization is a black box to them. They call us when their computer crashes or their email stops working, but they have no clue how we produce their financial reports, or how much paperwork we save them by handling regulatory compliance issues. ShipNet is managed by the vendor, and they do a fine job, so they might as well be our IT department as far as my colleagues are concerned."

Exhibits 3 and 4 describe the current structure of Calypso's IT organization and systems.

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<sup>10</sup> The MaritimeONE scholarship program is an initiative of the Singapore Maritime Foundation, a consortium of leading industry players in the marine, shipping, port, and ancillary service sectors that works closely with the Singapore government: <http://www.smf.com.sg/index.html>.

## Adoption and Proliferation of ShipNet

ShipNet is a comprehensive business process platform tailored for the needs of the global shipping industry.<sup>11</sup> Although headquartered in Norway (and owned since 2007 by a shipping services group based in the UK and Dubai), the company that produces ShipNet had run its Asian operations from Singapore since 1992. Calypso Bulkera was an early adopter in the region, and Calypso Tankers soon followed suit with its own installation. By late 2000, four separate instances were deployed across the group, causing frequent headaches for the small IT department managed by the group's first CIO. Although ShipNet was designed as an integrated solution for shipping companies of any size, Calypso's decentralized structure and culture of independently managed business units posed formidable obstacles to consolidating these instances; after a preliminary feasibility study in 2001, the idea was deemed impractical and abandoned.

Calypso was thus especially receptive when ShipNet Asia (the vendor's local subsidiary) began offering a hosted solution in 2002. The four instances were transferred to a ShipNet data center in Singapore over the next six months, and each business unit began paying a monthly subscription fee in lieu of renewing their software licenses and support contracts on an annual basis. Pricing was negotiated to yield a 30% savings over the previous total cost of ownership (including hardware and support). However, the task of producing group-level financial reports remained arduous and error-prone. Staff from the group CIO and CFO's offices worked together to extract the relevant data from ShipNet and import it into Excel spreadsheets, which were then used to produce the reports required by the group's auditors. The entire process took several months to complete, and was repeated on a quarterly basis.

In late 2004, the CIO left Calypso to run ShipNet's growing services business; Tan Chu Kang was hired as a replacement. Tan had spent most of his career as a consultant at a major IT services company, and had extensive experience deploying SAP R/3 in medium-sized enterprises. Having been warned of the resistance he would face if he tried to "pry ShipNet from my cold, dead hands" (as one charter manager bluntly put it), he pursued an alternative approach to consolidating the group's financial data and reporting processes. Within a year, Calypso was running a bare-bones but fully functional SAP installation that took data exported from ShipNet and produced timely reports that met the auditors' stringent requirements.

## Emergence of Calypso's Hybrid Approach to IT

Over the next two years, the use of SAP was expanded to encompass most of the strategic planning, human resource and financial management needs of the Calypso executive team, including the CFO and CEO. The CIO's office was in charge of extracting relevant transactional data from the various ShipNet instances to facilitate company-wide reporting processes such as generating group-level financial control and accounting reports (see Exhibit 5 for a simplified view).

In addition to the SAP installation and its associated infrastructure, the group CIO's office administered Calypso's core IT services such as desktop support, email, and IP telephony. While group-level IT personnel were involved in a variety of critical activities (Exhibit 3), the group IT organization was fairly small, with about 25 full-time personnel. Funding came primarily from internal headcount taxes, which were calculated to recover the costs of the services provided (plus a

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<sup>11</sup> See <http://www.shipnet.no/> for more information about the product and the company. Some historical facts have been invented for the purposes of the case.

small margin for overhead). Individual business units often funded projects for their own IT needs, and maintained small IT staffs under their respective operational budgets.

ShipNet usage patterns and processes varied widely across the Calypso businesses. ShipNet processes for the bulk cargo, ship management and pools businesses were straightforward, as they mainly entailed the retrieval and modification of preexisting contract templates. The necessary integration with the SAP financial system was generally robust due to a loosely-coupled design (widely credited to Tan) in which data was exported from ShipNet and imported into SAP using adapters and interfaces provided with these packages (Exhibit 4). While both vendors frequently sought to convince their Calypso stakeholders to upgrade to their newest offerings, there was little interest from these business units in replacing legacy software that still operated reliably without any major glitches.

The ShipNet processes for the liner business were more complex (Exhibit 6), as they involved third-party shipping agents and sometimes port officials in addition to Calypso Liners staff. Unlike the simple integration between SAP R/3 and the ShipNet instances of the other business units, there were several manual reporting steps required to synchronize the data flow between the Liners ShipNet instance and the SAP R/3 system. Liners staff were in charge of reconciling the data; group IT was only involved in monitoring the transaction flow on the SAP R/3 side. IT personnel hired and managed by Liners had created a suite of custom applications and scripts to handle the complex optimization procedures involved in running the business effectively and exporting the relevant data in a format that could be conveniently imported into SAP R/3. Calypso also equipped its liners (both those it owned and chartered in) with onboard computer and networking equipment that provided access to ShipNet via satellite link.

A resource-intensive activity at the business unit level was the maintenance of “local share data”: third-party information such as spot market pricing trends, maritime consultant reports, and correspondence with customers, which was collected and used by business unit managers but not stored in ShipNet or SAP (see Exhibit 7 for a partial listing). The group CIO’s office had little visibility into this data, which largely existed in the form of spreadsheets, documents, and presentations collected over the years and stored on departmental servers within Calypso’s various business units.

### **Contrasting Perspectives and Priorities**

During his time running the liner business, Wilder advocated repeatedly for increased help from the group IT organization, especially in generating reports that integrated multiple sources of data. While Tan generally welcomed efforts to involve his staff more closely in day-to-day business operations, he also felt that his team was chronically under-resourced and that Wilder’s requests would be better served by making long-term investments in Calypso’s information management infrastructure (such as upgrading SAP R/3 and building a data warehouse) than “fighting fires” lit by business managers focused on their own parochial concerns.

In his new role leading the Phoenix project, Wilder came to appreciate Tan’s point of view and realized that building Calypso’s analytic capabilities was a significant challenge that demanded a systematic approach. While he recognized the value of a robust and flexible IT infrastructure, his first priorities were to understand the root causes of Calypso’s precarious financial position and identify the most promising drivers of profitable future growth. In the longer term, he believed that

promoting a culture of data-driven decision making would boost the confidence of the younger guard in the various business units and ultimately lead to a sustainable competitive edge.

To this end, Wilder envisioned a future in which managers could dynamically access relevant operational data from a variety of internal and external sources—without the delays and inconvenience of requesting special reports from the group IT organization—and rapidly synthesize it to support sound statistical interpretation leading to actionable insights. Wilder felt that these capabilities were essential not only to answer his immediate questions about how to weather the volatile economic climate in the near term, but also to lay a strong foundation for longer-term profitable growth.

### **Sending Out an S. O. S.**

Wilder was in his office overlooking the Port of Singapore on a quiet Friday afternoon in March 2011 when he heard the news of the earthquake and tsunami that struck the eastern coast of Japan. Like many of his peers in the shipping industry, he spent the weekend and much of the next few weeks at his desk, first trying to ascertain the safety of Calypso's vessels and crews, then trying to absorb the implications of the devastating disaster for the industry and the company.

### **Chaos, Relief, Frustration**

Although one of Calypso's container ships had just left the port of Sendai when the earthquake hit, it escaped damage and was able to dock safely in Yokohama several days later. Its onboard connection to ShipNet remained active throughout this tense period, and Calypso's liner fleet operations center was able to maintain communication with the crew and track the ship's location at regular intervals. Locating company's tramp ships was more difficult, since several had changed hands multiple times on the time charter market and no centralized tracking system existed. (Charter managers also fielded frantic calls from owners of ships that Calypso had chartered in, trying to reestablish contact with their crews.) It took several days and hours of poring over Twitter and Facebook updates to establish that while several Calypso bulkers and one tanker had been in the Pacific Ocean east of Japan that week, none was in the vicinity of the areas affected by the earthquake or the tsunami.

Toward the end of March, as a semblance of normalcy returned to Calypso headquarters, Wilder turned his attention back to Project Phoenix with renewed urgency. The recent events had thrown fresh uncertainty into the freight markets, bolstering his sense that being able to make decisions based on timely and reliable data was essential to the group's future financial performance. Moreover, he had gained a new appreciation for the operational importance of basic real-time fleet information, which he took for granted in his previous roles in the liner business.

Digging through the information he had received from managers across the group, as well as the group-level reports to which he had direct access through his position in the CFO's office, he struggled for almost two weeks to construct a unified data set that he could use for further analysis. He was stymied by a range of problems, including data that appeared to be missing, inaccurate, or possibly even falsified. Moreover, he knew that even if he were able to pull together a fairly complete and reliable view of the company's operations, it would already be too outdated to be used by managers in the business units for the kinds of trading decisions that drove much of Calypso's financial performance.

### Message in a Bottle

After a particularly frustrating day in mid-April, Wilder called Michelle Luciano at Deloitte Analytics for help. A college friend of Wilder's who had recently been promoted to partner, Luciano was responsible for Deloitte's worldwide analytics practice, a fast-growing business within the world's largest private professional services organization. Seeing an opportunity to gain a reference client in an important industry, Luciano promptly referred the lead to her colleagues in Singapore, who in turn convened the analytics workshop that was now coming to a close in the glass-walled conference room adjacent to Wilder's office.

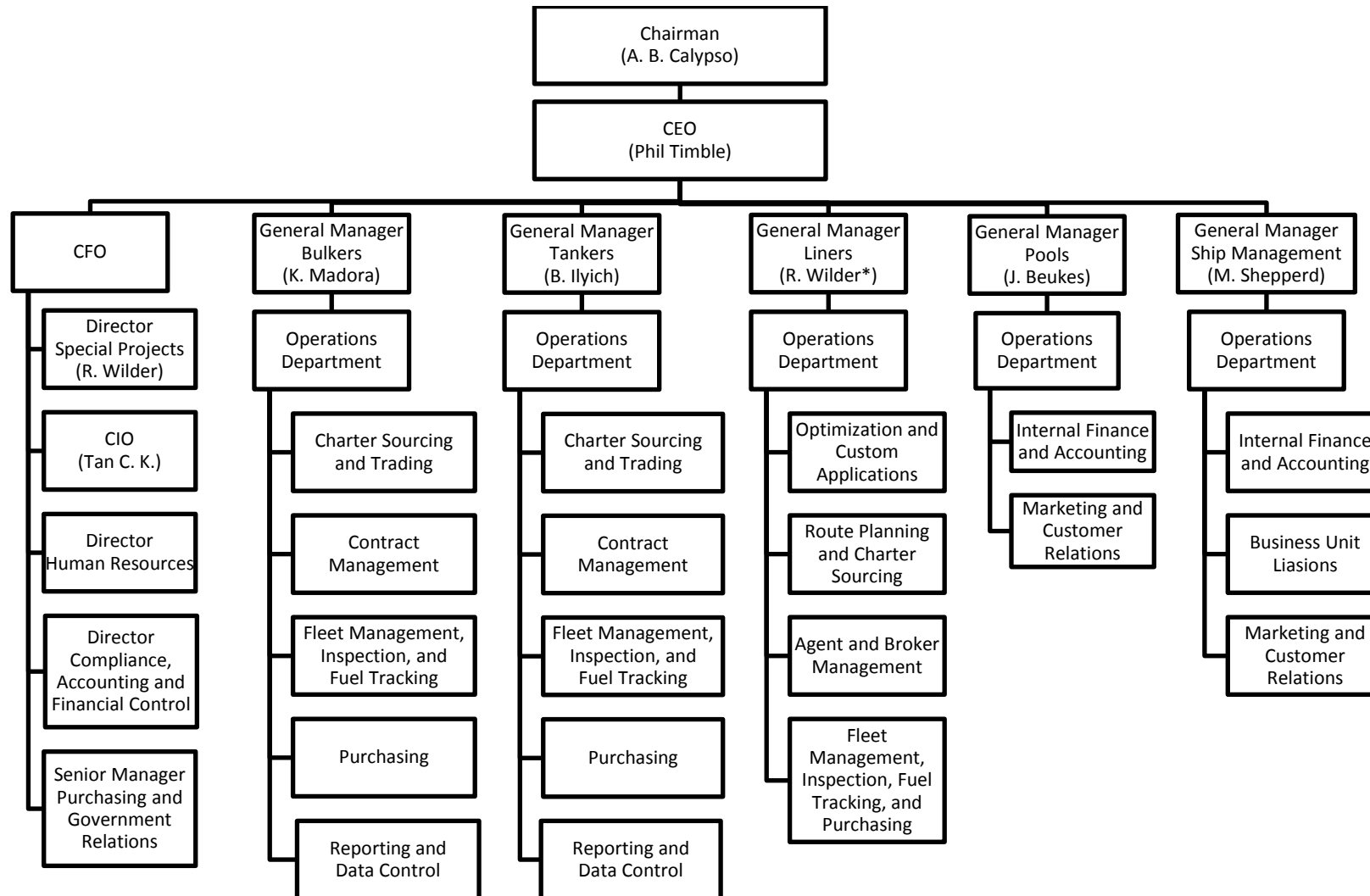
Wilder turned to the Deloitte team to offer his parting advice. "We've told you most of what we know and given you as much data as we can. You're now in a better position to understand our business than most people inside the company. I don't expect a full set of answers tomorrow, but if you want to talk to the board on Friday you'll need some real insights, along with concrete ideas about where to go from here. We can't afford to keep an army of consultants around even if we wanted to, so be reasonable and realistic. But don't be afraid to tell us what we need to hear!"

**Exhibit 1: Selected Financial Information for Calypso Shipping Group**

<b>BALANCE SHEET</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>
<b>Assets:</b>			
Cash	113,721,887	95,239,267	75,547,042
Receivables	24,029,158	22,988,021	25,264,772
Vessels	298,063,102	405,524,780	611,808,734
	<u>435,814,147</u>	<u>523,752,068</u>	<u>712,620,548</u>
<b>Liabilities:</b>			
Payables	12,318,805	8,000,971	11,287,290
Loans	87,500,000	165,900,000	315,000,000
<b>Equity:</b>			
Share Capital	-	-	-
Accumulated Profits	336,517,219	350,101,331	385,833,257
	<u>436,336,024</u>	<u>524,002,302</u>	<u>712,120,547</u>
<b>PROFIT AND LOSS STATEMENT</b>			
<b>Revenue:</b>			
Time charter hire out revenue - owned vessels	13,979,500	36,273,700	157,753,000
Time charter hire out revenue - chartered in vessels	24,029,775	13,048,750	81,896,875
Freight income - owned vessels	16,425,000	9,563,000	43,435,000
Freight income - chartered in vessels	16,242,500	9,599,500	45,990,000
Pool income	12,592,500	10,585,000	25,550,000
Ship management fees - internal	-	-	-
Ship management fees - external	2,640,000	5,280,000	7,920,000
Pool management fees - internal	-	-	-
Pool management fees - external	2,520,000	5,760,000	5,400,000
<b>Less expenses:</b>			
Charter hire in costs	(43,252,500)	(34,127,500)	(110,230,000)
Port expenses and bunkers:	(7,278,353)	(9,166,004)	(14,081,826)
Technical running costs	(21,187,296)	(27,090,200)	(64,058,232)
Depreciation	(46,552,984)	(50,612,347)	(57,053,347)
Impairment of vessels	-	(5,855,000)	-
Employee benefits expense	(7,223,608)	(8,812,108)	(8,817,985)
Other operating income <sup>1</sup>	9,264,598	2,247,070	54,442,577
Other operating expenses	(3,719,719)	(9,641,231)	(4,757,350)
Finance costs	(6,526,700)	(6,123,052)	(17,569,124)
Profit before income tax	<u>(38,047,287)</u>	<u>(59,070,422)</u>	<u>145,819,588</u>
Income tax	(1,086,825)	(1,846,505)	(5,704,362)
Profit for the year	<u>(39,134,112)</u>	<u>(60,916,927)</u>	<u>140,115,226</u>
<b>(1) Other operating income:</b>			
Gain on disposal of vessels	9,264,598	2,247,070	54,442,577
Interest income from related companies	-	-	-
	<u>9,264,598</u>	<u>2,247,070</u>	<u>54,442,577</u>

All figures are in US dollars for convenience (since most shipping market rates are quoted in USD).

**Exhibit 2: Calypso Group Corporate Organization**



\* Wilder formally retained his position at Liners while on secondment to the CFO's office, although he relinquished day-to-day management duties.

**Exhibit 3: Calypso Group IT Organization**

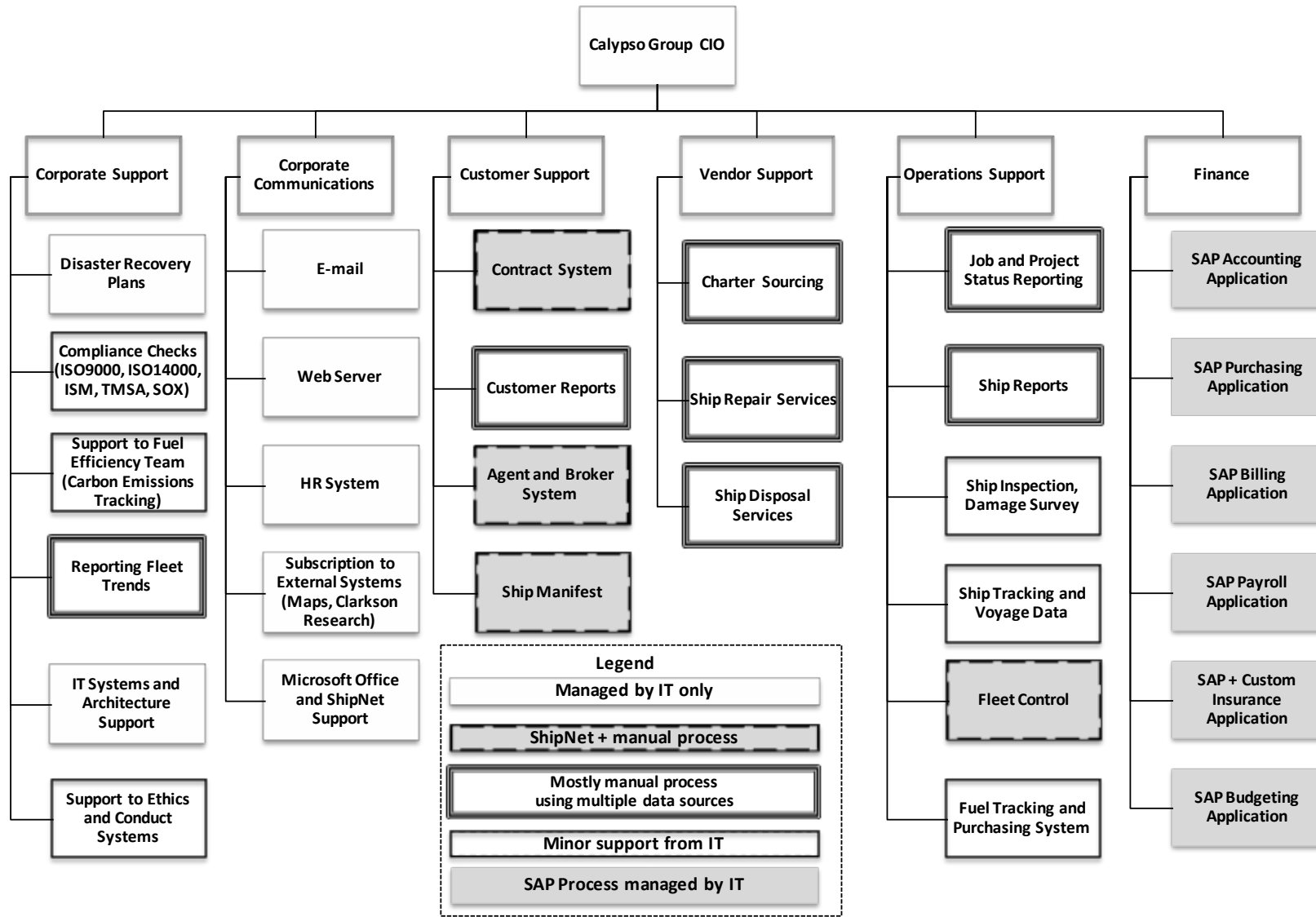
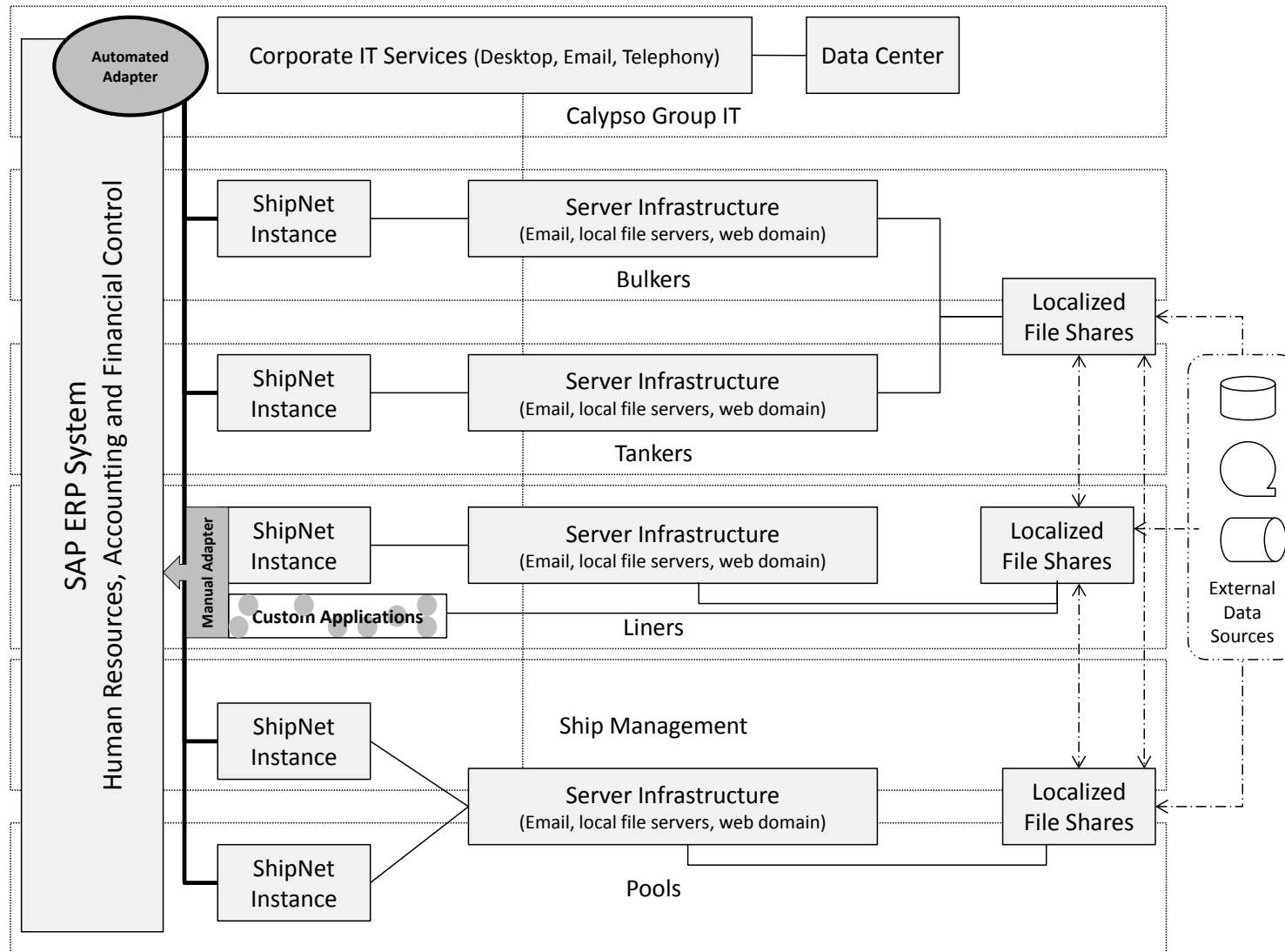
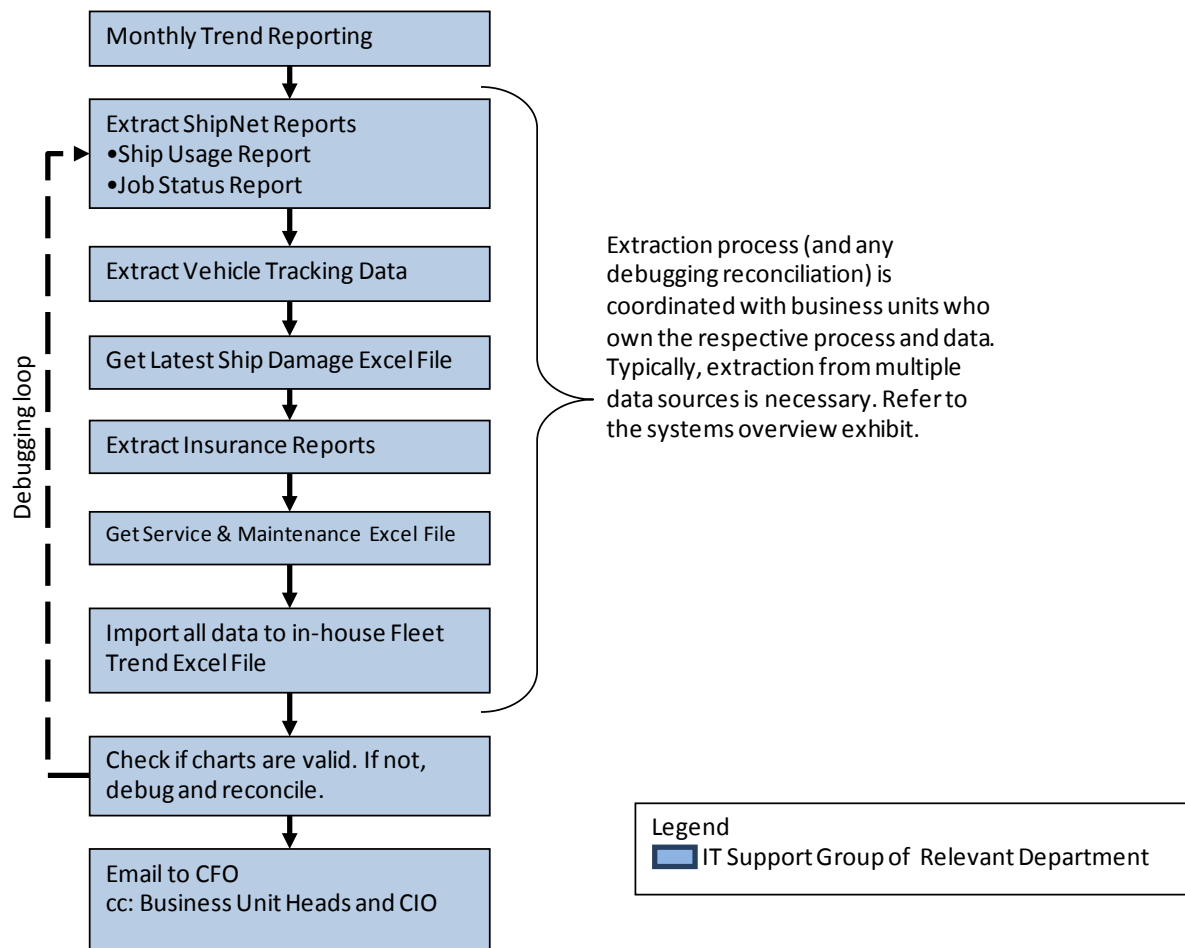




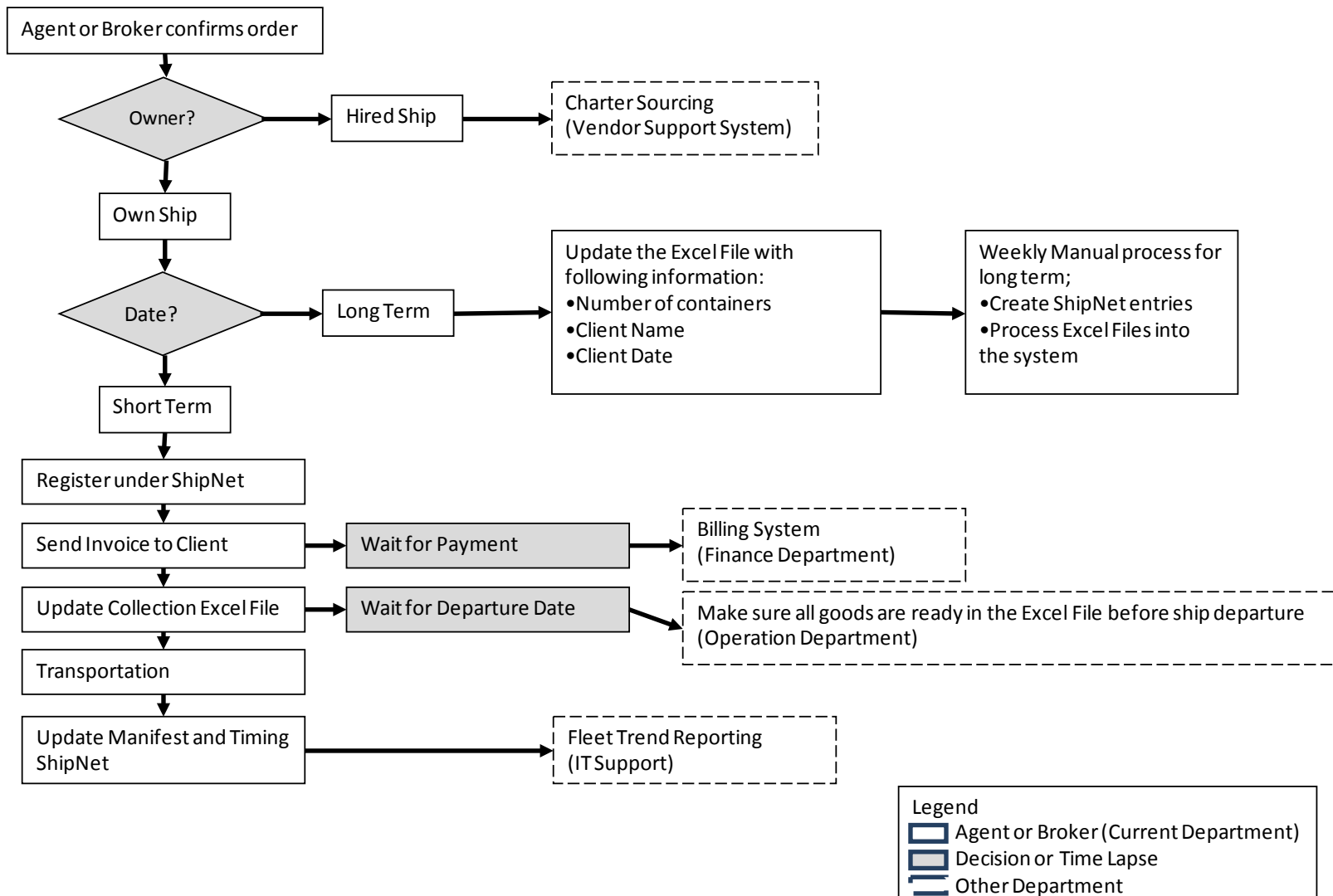
Exhibit 4: Calypso Group IT Systems



### Exhibit 5: Group IT Reporting Process



### Exhibit 6: ShipNet Reporting Process for Calypso Liners



## Exhibit 7: Third-Party Data Acquired by Calypso Business Units

Data Source	Data
Market Reports	<ul style="list-style-type: none"> <li>• Reports on 20+ market sectors including tankers, bulkers, containers, gas, chemical, short sea, newbuilding, sales and purchase, demolition, bunkers – updated daily with graphs.</li> <li>• Latest articles from Clarkson Research publications.</li> <li>• Fleet news: Alerts to changes in the fleet – deliveries, contracts, demolition, losses.</li> <li>• Register: brief details of registered fleet.</li> <li>• Other links: to some 4,000 maritime websites and 30,000 industry contacts.</li> </ul>
Ship Registers	<ul style="list-style-type: none"> <li>• Fleet listings and orderbook organized into 11 main ship types and 95 sub-categories, which includes the following: <ul style="list-style-type: none"> <li>○ individual ships data</li> <li>○ owner data</li> <li>○ shipbuilder data</li> </ul> </li> <li>• Ships data: Information available about individual ships including a sales and fixture history (for tankers and bulkers). In addition there is a peer group analysis, which pinpoints the number and characteristics (dimensions, flag, class, ownership, builder) of similar ships by type, size and age.</li> <li>• Owner data: lists of vessels (by type) currently owned and on order by individual owners including key data about each ship. Data can also be accessed directly via an owner-level search button.</li> <li>• Shipbuilder data: full lists of vessels currently on order with the builder, previously built ships in service and no longer in service with key data about each vessel. Data can also be accessed via a builder-level search button.</li> <li>• Listings of second-hand ships or demolition sales, contracting of new orders or newbuilding deliveries are also cross-referenced.</li> <li>• Flag data for ship types / categories or ships registered under a particular flag is also available through the fleet search button.</li> <li>• Fixtures: All reported spot and period fixtures for tankers and bulk carriers are available and can be accessed by month or year for each ship type or individual ship. The data is also available by owner, charterer, and load or discharge area.</li> <li>• Ship sales: like fixtures, ship sales are available by month or year or for each ship type over time.</li> </ul>
Trends and Historical Data	<ul style="list-style-type: none"> <li>• Fleet developments and changes (deliveries, scrapping, etc.) for all ship types / categories measured in numbers of ships and dwt.</li> <li>• Shipbuilding data: orderbook, contracting and deliveries by ship type / category and by country / region of build in various units.</li> <li>• Commercial data: spot freight rates and earnings, period rates, newbuilding second-hand and demolition prices; all by ship type / category; choose your own frequency. Volume of activity in each of these market areas (fixtures, sales, etc.) is also available.</li> <li>• Economic and financial data: commodity prices (oil, bunkers, steel, etc.), trade (oil, ore, coal, grain, containers, etc.), production (oil, steel), GDP, industrial production, exchange rates, interest rates.</li> </ul>