



Cloud-based Seaport ERP Management Solution: Providing IT, Operations & Finance with an Integrated ERP Application for Seaports, Lake and River ports, Marinas, Waterways and Canals



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CEOCFO Magazine

“With Harbour Mastery® solutions, you and your seaport community of users get the best of ERP through NetSuite® and plus 25 years of subject matter expertise for how a seaport enterprise operates to facilitate the development of a solution tailored for your seaport. This allows you to leverage both that subject matter expertise and that global enterprise expertise through one company – Harbour Mastery®. NetSuite® now owned by Oracle® is the foundation for all of that.” - M. George Walters

CEOCFO: *Mr. Walters, would you tell us the concept behind Harbour Mastery®?*

Mr. Walters: Our company started with the concept that we wanted to create a cloud-based, internet-based solution for seaport management. We saw this coming more than fourteen years ago and believed that it was going to be a position for the future namely; a cloud based solution would give seaports of all sizes the opportunity to compete effectively in the global marketplace. The real-time dimensions of an internet based approach would give them advantages that they would not have otherwise with ordinary on premise internet enabled applications; repackaged commercial applications offered through a portal and other such categories and genres. We also knew that all of the activities and services offered through port operations had to flow seamlessly through to billing and collections, and these could not be two separate applications. At that time, we had one client, Tampa Port Authority, who was interested and willing to be our beta test site for developing a web based solution.

CEOCFO: *What are some of the challenges in managing a port that may not be obvious to many people?*

Mr. Walters: People take seaports for granted since they have been there thousands of years, whereas airports have only been there barely over one hundred years. The dynamics of managing a seaport are equally if not more complex than managing an airport. The same thing happens with both of them where you have people, vessels (whether air or sea vessels), cargo, scheduling and multiple activities and services to manage. For example, security, which people are familiar with in airports because many millions of people pass through them; but not nearly as many people pass through seaports. Security is essential in both airports and seaports and since 9/11 has become more complex involving Coast Guard, Commerce, Immigration, and the establishment of International Maritime Organization security standards with training security requirements for all personnel.

Seaports focus: The central focus of deep-water seaports is cargo and international trade. However, many other shallow-draft ports which are primarily short-haul and domestic trade focused face most of the same issues of larger ports. Focusing on the international, ninety-five percent (95%) of all world trade passes through seaports. Many people do not realize that is the way trade is handled. Only about 5% goes simply across land borders or by air. This is a huge dimension of the global economy. Managing this involves a very complex set of operations. Ships move slowly whereas airplanes move rapidly.

You see a ship sailing into a port now and it is a slow process. However, when that ship docks at a berth, everything has to swing into gear simultaneously for efficiency of operation, trade and commerce as well as security. The Complex IT management systems behind that frequently clash with each other because priorities are not always clear. Unless these systems are well integrated and designed, most seaports struggle with multiple systems and some are still trying to make do with spreadsheets, that do not talk well with each other or require downloads and uploads to keep them in sync.

CEOCFO: *How are you able to react quickly in the case of unforeseen circumstances or accidents?*

Mr. Walters: Applications themselves as you well know are pretty dumb and only do what you tell them to do. However, in the normal course of operations what you are dealing with in a seaport as with any major global enterprise, is a community of people who are all interrelated with each other and all have interactive roles to play. Simply bringing a vessel into a port involves a number of members of that community.

In a seaports you have the port operations who have to schedule the arrival and departure times for that vessel in collaboration with the terminal operators in the port who know when certain berths are available and the pilots who have to pilot the vessel in to be sure it follows the channel. The channel is not a clearly marked “runway” but it is marked and pilots know those markings and what they mean. Then there are the tug operators who have to nudge the vessel this way and that way to make sure it gets into the berth, and the linesmen that are going to have to be there the very moment that ship arrives to tie up. Then there are the electric hook-up and water hook-up people and those who are going to be sure the gangways are in place for loading and unloading crew and cruise passengers. Then there are the stevedores, terminal & crane operators who have to be ready to start pulling cargo off that vessel or loading cargo onto it.

This is a very dynamic and interrelated community. The Harbour Mastery applications’ objective is to provide every member of that community with the real-time interactive information they need to perform their role and perform it well. This involves communications and scheduling as close to real-time as you can get. It also involves making this available through multiple devices not dependent on a Local Area Network but connected globally through the internet. We are less a tell-them-what-to-do application; we are more of an enable-them-to-do-what-they-already-know-that-they-need-to-do application, and provide them the communications to facilitate that.

In fewer words, our approach is to insure the information and communications interchange within the port community that prevents accidents and reduces unforeseen circumstances. We also provide multiple conflict analysis checks for vessels and berths against schedules, services needed and sizing (vessel fit at the required berth). This conflict analysis heads off potential accidents and delays in service.

Accidents and even disasters (like oil spills) will occur and every seaport today is required to have a response and recovery plan aimed at ensuring the resiliency of port operations, which is the foundation of port revenue. Our application built on the NetSuite® ERP platform is not only Software-as-a-Service, but Platform-as-a-Service so that any third-party or legacy system that is required by the seaports can be accessed or integrated in real-time.

CEOCFO: *Has there been a reluctance to use a SaaS model?*

Mr. Walters: Absolutely!

CEOCFO: *Why has there been reluctance?*

Mr. Walters: Well there is the obvious which is the often rehearsed distrust of the internet, but this is diminishing as internet reliance and security continuously improve. Vulnerability is a fact of life as soon as you connect to the internet, download an email or application and click on an unknown source.

Beyond that, however, I think it is important to understand that seaport management solutions, unlike airport solutions, grew up more around the port itself whereas airport solutions grew up around the airlines that were utilizing those airports. There was a great deal of competition among those airlines to get it right and make their customers happy, whereas the port was stuck on its own knowledge base (as a niche market) to manage all of its operations for a wide variety of clients and customers who were utilizing their services. There were more tendencies early-on when computers started being used by seaports, to home grow their own solutions, to build it around the way they like to do things and had traditionally done things. Overtime a few “niche market” providers emerged providing highly customized and “vendor-dependent” solutions. There was not much attention paid to what we today might call “best practices” or efficiency in the way those things operated.

Over time, certain seaports began to emerge as better managed than others. The principles that they established became the basis for companies like ours to look at how we might create a program that had more universal application among seaports and at the same time could accommodate the uniqueness within each port. There is a saying in the seaport community that if you have seen a seaport, you have seen a seaport. However, our objective with every client is to offer best practice from an ERP systems point of view, and increase the standards approach percentage year after year. We study and engage every International Maritime Organization and ISO standard we can, such as the management of information for “Dangerous” goods aboard vessels whether they are to be loaded or unloaded within the Port of Call.

CEOCFO: *What might be different from one port to another?*

Mr. Walters: In 2008, we did an extensive study for ten of the ports in the state of Hawaii. We were working for the Department of Tourism and the Department of Transportation and Commerce. One of the things they wanted us to do was to analyze these ten ports and how they operated and then do some comparison with other ports of similar size in other parts of the world. One of the things we found was that in Hawaii, the islands are all volcanoes and so shorelines

tend to be very short and direct into the ocean. It is nothing like the beaches we might see around other seaports elsewhere in the world. Because there were so few places on each island that were adaptable to place a seaport for trade and commerce, those were also the same exact locations that people wanted to use for recreation – swimming, fishing and boating.

It is not unusual to see a small boat and a swimmer crossing the harbor while a 20-story high cruise ship is sailing into the harbor. They have a very unique set of safety and security regulations and what it means to respect the recreation dimension simultaneously with the cruise and cargo dimension that most seaports in the world do not face. They do not even have to consider it. The uniqueness varies from one country to another, from one environment to another. Some seaports today are facing challenges because of the ocean levels rising against the way their docks are designed. It just goes on and on in terms of the kinds of things that are unique from one place to another.

This study then required us to look at similar ports based on size and types of cruise and cargo trade. Our research on those ports in USA, the Pacific and Mexico gave us a broad perspective on similarities and differences which could be the subject of another article. I would be remiss in not mentioning the need to manage intermodal trade connectivity – trucking, rail, ships, pipeline and increasingly even airports. With one of our clients we are now managing the warehousing and storage needs for that intermodal connectivity. We include all of those dimensions in one integrated application that we call i-Seaports™ ERP.

CEOCFO: *Would you tell us about marinas and your i-Marinas™ ERP Management?*

Mr. Walters: There are only six thousand plus, deep water seaports on the planet. There are tens of thousands of marinas. Marinas are more geared towards recreation. They have long-term residents who put their boat in that marina for years. They also function as small boat harbors in many cases, which are utilized by fishing fleets and recreational tourist services – whale watching, coral reef diving, etc. They have other things that go on as well, like a place for repairing, with shipyards and dry docks for storage out of the water. At least two of the marinas that we work with also have RV parks where people come and put their RV there for a day, week, month or up to a year and then utilize the marina services to go fishing and other recreational activities in that area where they are located.

We just finished an RV park support system for one client and analyzed their clientele. A large percent of their clientele comes from Europe, and camp with tents. They are moving around the seaport there and engaging in recreation activities such as fishing and it is right on the beautiful beaches of the Atlantic. These activities in relationship to marinas are one thing but they also exist directly in relationship to seaports (as was mentioned in the Hawaii study above).

For marinas, as with seaports we have attempted to develop an inclusive application that allows the owners of these enterprises to manage all types of things that are part of their context. A major Marina complex which we serve on the Pacific coast as well as all of the seaports we serve, own a lot of property which they lease to many different private sector enterprises from fast-foods to terminal operators or maritime companies that do business with them and need a place to manage their services or trade. For this we have developed a Real Estate management module within i-Seaports ERP.

CEOCFO: *Why was NetSuite® your choice?*

Mr. Walters: When we began looking at ERP applications in 2003, NetSuite® was the one application we found that was dedicated to be entirely web based and not give up on that because that is the future and where we are going.

Secondly, it was dedicated to be SaaS, which means they do not install anything on anybody's computer. They are SaaS and therefore they are dedicated to the highest level of security that can be achieved, that you would expect for the security of information and the security of transactions that run in the hundreds of thousands of dollars a day for many seaports. You cannot take a risk on that security being there, as much as the internet gets hacked and attacked from every entity trying to steal something such as information or the money or the basis for engaging in fraudulent transactions. NetSuite showed up as the strongest answer to all of that, which might be utilized by seaports. That is why we selected it rather than trying to build our own.

Thirdly NetSuite gave us a platform for integrating Port Operations that seamlessly flowed through to billing and other ERP functions such as roll-based dashboards, multiple lines of business, payroll, fixed asset management, business financial analytics and built-in reporting capability accessible from any device, anywhere 24/7.

Since NetSuite's inception, all the major IT companies have been endeavoring to move into the SaaS ERP space. The recent acquisition of NetSuite® by Oracle® which has been one of those, is indicative of the success of NetSuite® in commanding that ERP space and now enables Oracle® to compete effectively against all new-comers.

CEOCFO: *Why pay attention to Harbour Mastery? Why is the company noteworthy?*

Mr. Walters: Firstly, from the SaaS ERP perspective for Seaports with our debut in 2007, we were first to market. We started down this path a long time ago in 1991 integrating to a wide variety of accounting systems until the release of i-Seaports in 2008.. We have learned the industry and traveled extensively to other countries to study their port operations

and understand them. Though we are primarily in the USA, we gained our 1st international client in Australia in 2012. Potentially we could have clients anywhere because we understand international trade and all its dimensions.

Secondly, pay attention to Harbour Mastery® because the platform is built from the ground up to be a global, multi-language, multi-currency enterprise application that can manage multiple lines-of-business and/or subsidiaries. There are many countries that want to have and do have control over all of the seaports in their country from a country level. NetSuite® is engineered to do just that. By building everything we do native to NetSuite and on that platform, we are able to leverage everything that NetSuite has to offer. Its recent acquisition by Oracle indicates that it has come of age in terms of being competitive and being something that an entity like Oracle would want to put its best foot forward with, so I think those would be two major things.

Finally, with Harbour Mastery® solutions, you and your seaport community of users get the best of ERP through NetSuite® and plus 25 years of subject matter expertise for how a seaport enterprise operates to facilitate the development of a solution tailored for your seaport. This allows you to leverage both that subject matter expertise and that global enterprise expertise through one company – Harbour Mastery®. NetSuite® now owned by Oracle® is the foundation for all of that.



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