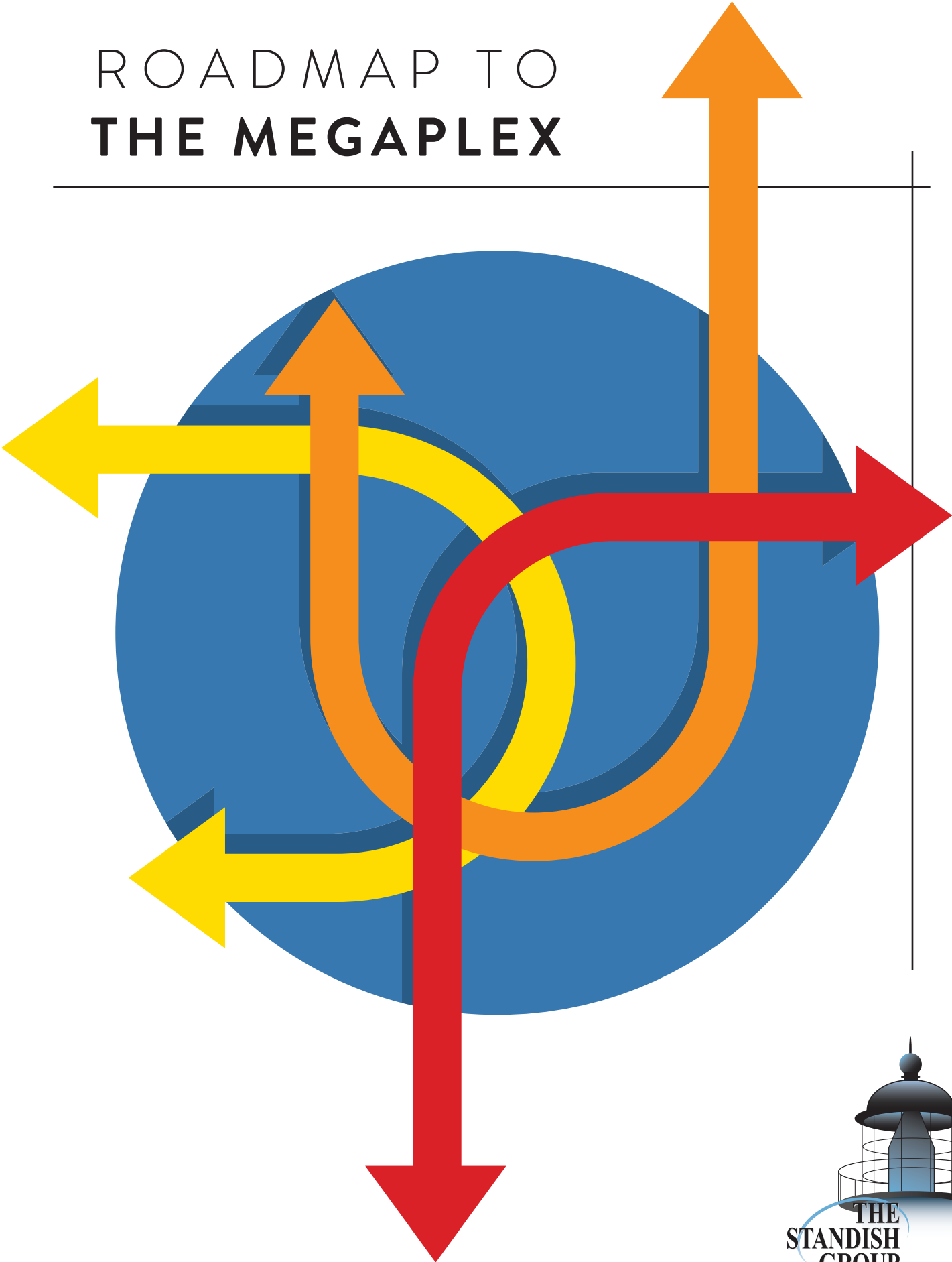# ROADMAP TO
THE MEGAPLEX

ROADMAP TO THE MEGAPLEX

THE STANDISH GROUP

INTRODUCTION

The industry is moving at light speed toward a new era of computing based on the simple premise of pay for play. Many of these pay-for-play concepts are manifested in cloud computing, software as a service (SaaS), service-oriented architecture (SOA), business ecology, and other modern IT methods and technologies. HP NonStop server systems already play a vital role in these concepts, and will continue to do so, as the industry transitions from vertical applications to horizontal business services. The purpose of this white paper is to provide a roadmap to move current NonStop stovepipe applications into the fully integrated data center, or what we call the Megaplex.

This paper comprises six steps to NonStop modernization and to the Megaplex. Each step includes: an introduction, a profile of a major vendor and the technologies that help implement the step, a modernization case study, a simulated return on investment example, a benefit checklist, and alternative vendor product.

The six steps are:

STEP 1 **Database Modernization:** The process of moving from Enscribe, the Tandem proprietary legacy file system, to HP NonStop SQL, the open standard relational database. The vendor/product profiled is Carr Scott Software's Escort SQL, a transformation tool that allows the organization to move to a SQL database without the need for reprogramming.

STEP 2 **User Experience Modernization:** The process of moving from green screens to modern graphical user interfaces (GUIs) and a web presence. The vendor/product profiled is comForte's Application Modernization Suite (AMS). AMS is a GUI builder and code generator tool for Java development on the HP NonStop platform.

STEP 3 **Application Modernization:** The process of changing the application so it reflects the features and functions of current principles, processes, and techniques. There are many ways to modernize an application. The vendor/product profiled is NuWave Technologies' SOAP/AM. SOAP/AM is a middleware tool that builds Simple Object Access Protocol (SOAP) messages between the HP NonStop environment and other standard IT environments.

STEP 4 **Availability Modernization:** The process of changing from the traditional availability and disaster recovery methods to a continuous-readiness program. The vendor/product profiled is Gravic's Shadowbase®. Shadowbase provides for active/active processing and zero-downtime migration and upgrades.

STEP 5 **Security Modernization:** The process of changing the traditional security and protection systems from passive to proactive. The vendor/product profiled is XYPRO Technology Corp.'s XYGATE suite. XYGATE enhances security and compliance solutions for the HP NonStop environment.

STEP 6 **Operational Modernization:** The process of moving from a vertical structure to a matrix structure by adding horizontal service views. The vendor/product profiled is HP's Systems Insight Manager (SIM). SIM provides hardware and software management for NonStop, other HP systems, and non-HP systems including IBM mainframes.

Application modernization is the process

of changing the application so it reflects the features and functions of current principles, processes, and techniques. There are many ways to modernize an application. You could write it from scratch using modern tools and technology; however, this approach is expensive, time consuming, and risky. You could purchase an off-the-shelf package, which is far safer and quicker. It would most likely be cheaper than writing it yourself, but will it have the needed functionality? On the other hand, you could take a service-oriented architecture approach and renovate the application. Renovation is the process of taking legacy code and using modern languages, tools, components, and other services to add substantial value to the application. One such tool that could aid in this process is NuWave's SOAP/AM (as profiled). Using SOAP/AM, an organization can modernize the application while continuing to leverage its current functionality, but at a lower cost and risk compared with other methods. If you have already renovated your application, you can move to Step 4.
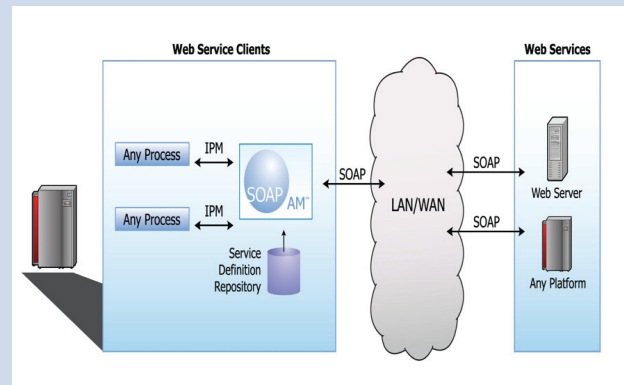
PRODUCT PROFILE
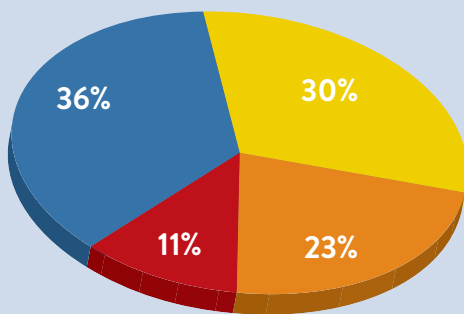
PRODUCT: SOAP/AM

VENDOR:

NuWave Technologies
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Nashua, NH 03063
603-594-9896 • www.nuwave-tech.com

REUSE & MODERNIZE

The question asks CIOs, "Do you have an active program to reuse and modernize existing applications?"

Yes, we have/had a concentrated effort:	30%
Yes, but it is opportunistic:	23%
No, but in our plan:	11%
No plans:	36%

OVERVIEW

SOAP/AM is a middleware tool that builds SOAP messages between the HP NonStop environment and other standard IT environments. SOAP/AM does this through an automated information gathering process that lets the developer indentify the data structures exchanged with each service. Then, through an intuitive browser interface, it allows the developer to specify how he or she wants the message to look to the receiving service. The result is a standards compliant Web service definition (WSDL). The purpose of SOAP/AM is to be able to reuse existing code on the NonStop environment in a service-oriented architecture. NuWave's SOAP/ AM product achieves this feat without having to make any changes to the NonStop or other participating environments.

ROADMAP TO THE MEGAPLEX

FOUR MAJOR FEATURES

1. **EASE OF USE:** SOAP/AM is easy to use. Many users indicated they were up and running in a few minutes, and proficient in just a few days.

2. **STANDARD:** SOAP/AM uses standard SOAP and industry protocols such as WSDL, XML, and SSL. This allows for integration with an array of other services that use these same standards.

3. **REDUCED COMPLEXITY:** SOAP/AM hides the costly development of communication protocols, including SOAP, HTTP/SSI, TCP/IP, and XML through the automated mapping process.

4. **WIZARDS:** SOAP/AM has a browser-based developer interface that presents a sequence of dialog boxes that lead programmers through a series of well-defined steps.

FOUR USAGES

1. **REUSE:** Component reuse is the most important consideration of an SOA project. SOAP/AM allows organizations to easily reuse applications and components.

2. **INTEGRATION:** SOAP/AM offers organizations the ability to exchange information with partners easily and securely, build common data views, and access external data sources.

3. **MIGRATION:** SOAP/AM offers a method to migrate applications and components in an iterative and agile mode while maintaining a fully functional production environment.

4. **CORE:** SOAP/AM provides a method to use the HP NonStop for mission-critical components currently running on other less reliable platforms such as Linux, Unix, and Microsoft.

STRENGTHS

NuWave's first customer in New Zealand downloaded a 30-day free trial, obtained an evaluation key, installed and tested the software, negotiated a price, and purchased the software with no other interaction with NuWave. NuWave's management is very technical and has been working with NonStop for 30 years. SOAP/AM is easy to use, is standards based, has a small production footprint, and offers excellent support.

WEAKNESSES

SOAP/AM is an HP NonStop product. It is not marketed or sold to organizations that do not have a NonStop platform. SOAP/AM only runs on the Guardian operating system and not on Open System Services (OSS). In addition, SOAP/AM only supports access to data through a server and does not support direct access to the database.

SUMMARY

SOAP/AM enables a simple and standard method for moving data to and from NonStop platforms to other platforms, such as Linux, Unix, Windows, and IBM mainframes. For web presence, SOAP/AM allows for mash-ups onto one screen from variable Pathways routines. An example might be a picture of a product along with a quote for the inventory and price database. Main features include: mash-ups, dynamic WSDL, and design wizards. For the NonStop user it greatly reduces the risk of integration, eases migration, and enables the reuse of existing applications and services. SOAP/AM allows new application services to be built around existing applications using modern development environments.

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RIMMS GETS ROYAL MAKEOVER

The Royal Bank of Canada (RBC) is the largest financial institution in Canada, measured by deposits, revenues, and market capitalization. The bank serves more than 17 million clients and has more than 80,000 employees. The Royal International Money Management System (RIMMS) was designed to support wholesale high-value payment processing. RIMMS started out as an off-the-shelf application package in the early 1980s, but RBC purchased the source code and customized the features and functions. Over the years, RBC added a full range of wholesale and international banking instruments, including FX, MM, derivatives, synthetics, debt equities, loans, and facilities. Today, RIMMS is a core and vital part of the RBC treasury function. However, it was written in TAL and COBOL, making it difficult to change and add functionality. The user interfaces were green screens and the programming interfaces were custom code.

RBC wanted a web presence for RIMMS and a standard way of interfacing other banking functions, such as trading, to RIMMS. RBC wanted to contain RIMMS and create a service-oriented architecture to bring agility and flexibility to the treasury business. Since the treasury business changes constantly, the architecture would be designed to adapt quickly with minimal effect on RIMMS and the other applications. A web presence with modern GUIs would make using RIMMS easy and more accurate.

RBC called on NuWave to create its RIMMS SOA environment with the use of SOAP/AM products. RBC downloaded a trial version of SOAP/AM Server from the NuWave website and within 30 minutes was building SOA objects through standard browser screens that intuitively lead developers through the process. RBC quickly purchased a production version for client interfaces and replaced the green screens with new modern GUIs. Then RBC set out to interface the Unix treasury applications with RIMMS. In this regard, RIMMS would send services to the Unix platform for execution. RBC then purchased the SOAP/AM Web Service Client

NuWave also offers consulting services to design and implement an SOA and other NonStop environments. The company also offers consulting services for business process management (BPM), application development, systems integration, application migration, user experience, and web presence for NonStop users. In the area of BPM, NuWave consulting helps the organization effectively bridge business and IT to improve process flow. In this regard, NuWave, with its SOA and BPM experience, helps align the NonStop user organization's business methodology for efficiency while striving for innovation, flexibility, and integration with technology. NuWave's web presence consulting services help reclaim dormant NonStop assets for greater accessibility and usefulness.

so that the Unix platforms could send service requests to the RIMMS NonStop platform for execution. Today, RBC has a fully functioning SOA treasury environment because of SOAP/AM. RBC had high praise for NuWave's products and customer service.

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ITEM		TYPE	CURRENT	PROPOSED	PERIOD
1	Software Purchases	Cost	$0	$60,000	One Time
2	Development	Cost	$700,000	$580,000	Yearly
3	Software Maintenance	Cost	$0	$20,000	Yearly
4	Migration	Cost	$0	$50,000	One Time
5	Administration	Savings	$0	$10,000	Yearly
6	Gain	$220,000			
7	Payback (Months)	12			

SIMULATED RETURNED ON INVESTMENT EXAMPLE

The table provides an example of the type of return an organization can expect from converting from vertical applications to a service-oriented architecture and creating a web presence. The first item is the cost of the SOAP/AM software. The second item is for a seven-person development shop where the increase in production should be at least 20%; this example reflects a 17% increase in production. The third item is the increase in the cost of SOAP/AM maintenance. The fourth item is the cost of the migration effort. The fifth item is additional savings as a result of easier administration. In this example there is a one-year payback and third-year gain of $220,000.

BENEFIT CHECKLIST

1. Create opportunities for the organization to reuse components and applications for SOA projects.

2. Create opportunities for the organization to exchange information with partners, build common data views, and access external data sources.

3. Create opportunities for the organization to migrate applications and components in an iterative and agile mode while maintaining a fully functional production environment.

4. Create opportunities for the organization to create a web presence with legacy and existing applications and services such as mash-ups.

5. Create opportunities for the organization to use the HP NonStop for mission-critical components currently running on other less reliable platforms such as Linux, Unix, and Microsoft.

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Apple has changed the way the world

looks at applications with its iPhone and iPad products. Users just don't want seamless integration; they demand it. They want everything to work with everything. Users just don't want portability; they demand it. They want apps to work on their Mac, PC, iPhone, BlackBerry, Kindle, and iPad. Users just don't want performance; they demand it. They want apps to perform at their pace and speed. If they don't get that performance from you, they will go to the provider that can offer the kind of service they expect. Applications are no longer islands, and the NonStop applications must play with all the other applications in order to survive and prosper in this new world.

The roadmap to the Megaplex provides six steps to modernization. It is in essence a survival guide. More important, it is a guide to maximize the current investment in NonStop applications and make them a core element of the organization. The return on investment scenarios, while simulations, offer compelling reasons to modernize the NonStop applications and environment. Standish developed the models using our ROI tool and templates. The templates provide a manual for things that should be in an ROI document. Therefore, if executive management wants to know if modernization is a good investment, we've got an app for that!

However, the most compelling reason for modernizing NonStop applications and the NonStop environment is the sheer flexibility and cost-reward benefits. As applications decompose into services, each service can then be evaluated on an importance scale. The service also can be evaluated on availability needs, security

PRICE/KSU

	MORE	MORE	KSU
Megaplex			$11
IBM zSeries	37%	$957	$18
NonStop	26%	$616	$15
Linux	-15%	-$248	$10

The chart shows the relative cost of a payment system on an IBM mainframe, NonStop blades, Linux, and Megaplex. In the IBM mainframe, NonStop blades, and Linux environments, 100% of the production is running on the platform. In the Megaplex example, 25% of the load is shifted to the NonStop environment, while 75% is left running on the low-cost Linux environment. Here we show the cost differential of only 10%.

needs, and data integrity needs, without sacrificing the budget or technology strategy. Therefore, higher-importance services can operate on the higher-grade system services; the less important services can operate on less costly service areas. Our research and VirtualADVISOR show that moving 25% of the workload to the NonStop from the lowest-cost Linux environment can increase the overall cost by only 10% while providing the highest level of service. Therefore, if executive management wants to know the total cost of ownership for operating NonStop capabilities in the Megaplex environment, we've got an app for that too!