

Next Generation Payments come to NonStop

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Abstract:

Financial institutions worldwide are becoming increasingly alarmed over the future of payments processing products. They are worried about the risks associated with migrating off existing platforms and are uneasy about the escalating costs from simply doing nothing, allowing competitors to pull ahead with new product offerings. Looking to lower their transaction processing costs and manage the challenges of lower interchange fees and increasing volumes, these corporations must continue to enhance their services by providing multiple touch points, such as ATMs, IVR, kiosks, mobiles, and POS terminals for their customers.

With years of industry knowledge and the extensive experience gained from implementing third party solutions, ElectraCard Services (ECS) fully understands these challenges and has added support for the HP NonStop server - the ideal platform for running the next-generation *electraSWITCH*™. Together, ECS and its parent Opus Software Solutions have accumulated a wealth of experience working with financial institutions to deliver differentiated products and services. Effectively bypassing legacy components that make many solutions slow and expensive to customize, ECS helps clients put distance between their financial product offerings and those of competitors still unsure of the direction to take!

Introduction

In a September 18th, 2007 Forrester Research paper “The Changing Retail Payment Systems Landscape” analyst Benjamin Ensor reflected on how “retail payment systems are going through rapid change as a combination of technology innovation, new transaction types, and fraud, drive improvements to existing systems, as well as the development of a large number of new alternative payment methods.” Articles and columns that followed in trade publications throughout 2008 highlighted the growth in payment types, channels, regulations, and technology with the clear message to CIOs worldwide that they would be under considerable pressure to reassure their colleagues that the financial product offerings being deployed by their corporation had the flexibility and agility needed to remain competitive.

As 2008 transitioned to 2009, financial institutions began feeling the full impact of a deteriorating marketplace as once-strong corporations began to fail and governments worldwide were forced to step in and prop-up an industry that appeared to be heading for a seismic implosion. The worst scenarios depicted went unrealized but entering 2010 the landscape continued to shift and financial institutions everywhere were forced to re-examine their business models. No longer could they depend on simply pursuing business-as-normal as customers reconsidered the value and security being provided by the financial institution and worried about the safety of their investments.

An IDC Financial Insights research paper “Worldwide Financial Services 2010 Top 10 Predictions: Where to Next?” written in January 2010 by David Potterton, Vice President of Global Research, underscored the drama that had unfolded in the previous eighteen months, and proposed that “the focus in 2010 will be on restoring trust and confidence back to the financial sector. This means financial

institutions will need to redefine their business models with an emphasis around the customer in order to get our industry back on track.”

The ever-changing, turbulent seas that all global financial institutions find themselves contending with today continue to wreak havoc on data center managers – traditional vendors to this market segment have refocused their energies in support of different products and technologies, returning to platforms of the past, with little apparent appreciation of the user requirements for platforms that can be more easily customized. These vendors show very little understanding of the need for less expensive systems and tools, and appear to be indifferent to the needs of financial institutions wanting to better support their customers and to differentiate their products from those provided by their competitors. In trying to reach a larger customer base, financial institutions now need to support larger transaction volumes often with significantly lower transaction value, all while tightly constrained and required to further reduce their costs. Yet addressing the needs of customers remains paramount and financial institutions will be striving to stay aligned with these ever-evolving requirements.

Financial institutions may be awash in a sea of change, but with this most recent foray into the marketplace by ElectraCard Services (ECS), the needs of the customer will push these financial institutions to taking a closer look at the *electra*™ solutions suite and in particular, at the *electra*SWITCH™ product. The *electra*SWITCH™ product has been developed from scratch, and has been well thought out and carefully designed, starting with a “clean sheet of paper!” While the first iterations of *electra*SWITCH™ supported Unix, ECS has not only completed the port to HP Integrity NonStop, and “performance benchmarked” their product, but have succeeded in winning their first customer, the State Bank of India (SBI). A Fortune 500 institution, SBI runs one of the world’s largest ATM networks.

Appearing in Business Standard – Delhi, February 26th, 2010, was the announcement for ECS *electraSWITCH*[™]. “Opus Software Solutions has bagged a \$10 million contract from the State Bank of India to replace the latter’s existing ATM platform,” the column begins. It then adds “Opus Software pipped global players like Fidelity Information Services, S1 Corporation, and IBM to bag this contract.” The article then includes a quote from Ramesh Mengawade, “we have gone live with a few ATMs. The migration will be completed in the next six to eight months. SBI, which was using this platform from a US-based firm, will migrate to our *electraSWITCH*[™].”

This represents a significant milestone for ECS and gives it an opportunity to migrate current users to NonStop, as their transaction and market requirements dictate. It also provides a viable, alternative solution for tier-one banks as they watch the evolving strategy of their incumbent suppliers and become concerned about where they are headed. The current market conditions may persist well into 2010 and beyond, and calm seas may remain a distant horizon, but CIOs of financial institutions everywhere will welcome viable alternatives and ECS is quickly proving its worth as a payments processing product vendor.

Market drivers – the need to review your options!

As financial institutions pull away from the crises that began in 2008, the theme has become one of “modernization,” and about embracing “industry standards”. It’s responding to the mandate of “doing more with less!” It’s a future mandating quicker and more timely responses to changing market conditions. It’s about flexibility and agility, and remaining competitive in a global marketplace where product differentiation is absolutely necessary to stay ahead of the competition. For CIOs everywhere, behind the story of modernization, flexibility, agility is the necessity for change, and for moving off the legacy solutions that financial institutions have relied on for decades.

The decision of HP to support NonStop on the new HP Blade Systems is giving financial institutions access to the industry’s most reliable platform and the vendors an opportunity to embrace an industry standard Intel platform at a significantly reduced price tag! This is good news for existing users of NonStop as well as those who thought the technology was beyond their reach. Many data center managers have essentially pulled together combinations of clusters and redundant systems and tried to deliver levels of availability provided by NonStop, only to struggle to contain the costs. Modern payment processing products coming from ECS that support industry standard Unix, as well as NonStop, and do so from a common code base, are fueling serious reconsideration of the legacy products that financial institutions have spent so much time customizing.

The recently announced sun-setting of the products that many financial institutions have heavily invested in for decades, is challenging CIOs to examine the TCO of moving to the newer solutions. To face moving off NonStop at a time when their prices are dropping and back to legacy mainframes where the costs are significantly higher couldn’t be coming at a worse time for many financial institutions struggling to contain costs. There are times to change platforms and there are times when it makes little

sense – moving to a newer modern payment processing product supporting existing hardware platforms represents a less risky course of action today and one better aligned with the goals firmly established for today's CIOs.

CIOs remain under pressure to seek lower cost alternatives and they are looking for partners with extensive experience developing, deploying, and customizing modern solutions. Flexibility is becoming critical and staying so in turbulent times, where requirements for compliance and mandates from regulators show no signs of lessening is a must! The impact of changing technologies, platforms, and alliances will continue to be felt across the financial services marketplace and it will be the perceptive CIO that capitalizes on the availability of newer, modern solutions.

Payment platforms evolve – the need for greater flexibility!

For the payments industry and for those financial institutions relying on third-party software, the battle will remain as these institutions struggle to find a balance between costs and reliability and accommodating unexpected, often irregular, growth! In particular, for the EFT Switch user community, the prospect of expensive upgrades as well as the potential for impacting support that this would create, is generating renewed interest in alternative payment processing products.

Today, payment platform products deployed at many financial institutions have not proven to be problem-free, and momentum is shifting away from further reliance on these types of product offerings. They mandate considerable time and expense to sustain and have slowed down their users ability to capitalize on new marketplace opportunities; they have been developed with dependencies on archaic architectures where the tools data center managers need are supported by very few vendors. These payment platform products are simply not keeping up with modern infrastructure and middleware offerings arriving in the marketplace!

"We developed a lot of experience with existing product offerings but in time, we found that traditional payment systems have issues such as time and costs to modify, proprietary tools and difficulties in adding new functionality. We architected *electraSWITCH*[™] to eliminate these issues and provided customers with flexible, and change management friendly solution with an extensive, intuitive and rules driven approach to processing and interface definition," added Ramesh Mengawade. Figure 1 (below) illustrates the breadth of support provided by *electraSWITCH*[™].

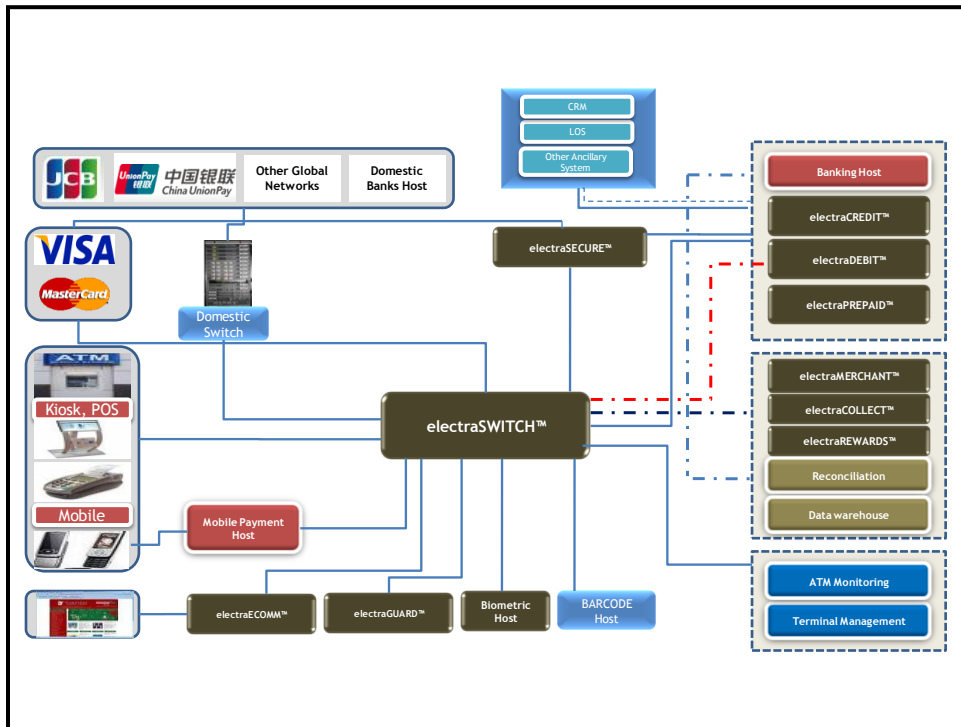


Figure: 1

Industry analysts are predicting significant growth in the use of mobile devices, for instance, and accommodating such growth will require solutions that can quickly adapt to the changing and often fickle nature of today's consumers. "More than 3 billion people in the world will bank and shop online by 2014, thanks to advances in technology and growing Internet use among emerging markets, Gartner forecasts," Lance Whitney of the electronic publication cnet.news reported in a January 14th, 2010 article. Whitney then added that "with 6.5 billion mobile connections expected by 2014, Gartner notes that not everyone with a mobile phone will conduct business online, but that all will have the ability to do so." It is projected growth figures of this magnitude that suggest newer, modern payments processing products capable of being quickly customized that will be urgently sought on response to projected transaction processing volumes of this size.

Shareholders with stakes in financial institutions are looking for significantly improved performance in the coming years. They expect to see a growing customer base and they expect to see new, innovative financial products being deployed. They also anticipate substantially lower costs with improved operating margins. No longer tolerant of projects that take years to customize and where the end results provide only marginal improvements, they are demanding that their partners and the products they provide can be more easily tailored to meet the requirements of processing transactions originating from an ever growing collection of modern touch points. Heavily influenced by the global success that they see with the Internet and the mobile, and the technologies and products they have spawned, business leaders today have become increasingly anxious about their corporations potential missed-opportunities resulting from difficult-to-customize products of the past.

Following years of just providing support of basic card and client services, with little differentiation, the compelling need today is to have the capability to easily put distance between the services a financial institution provides, and those of its competitors. As the ability to leverage any such advantage typically remains “unchallenged” for only a short period of time, the urgency today is to ensure the right partner has been selected and that the best combination of hardware, middleware, and infrastructure and solutions has been implemented! Momentum has swung in favor of new vendors with modern products that are easy to customize and vendors, such as ECS with their *electra*[™] solutions suite are well positioned to help CIOs realize the expectations of their shareholders.

New product – the availability of *electra*TM

In a recent press release posted to the ECS web site, “Secure credit card processing,” ECS explained that the *electra*TM solution suite “enables customers to gain significant competitive advantage in an ever growing payments marketplace. We leverage the unmatched flexibility of our *electra*TM platform, deep industry expertise and an innovative approach to provide precise processing services globally.” The *electra*TM solution suite addresses four distinct financial institution requirements – EFT switch solutions, card solutions, prepaid card solutions, and e-Commerce solutions and is today recognized globally for its performance, scalability and most importantly, for its change-responsive nature. Figure 2 (below) illustrates the products that make up the *electra*TM solution suite.

The *electra*TM Solution Suite

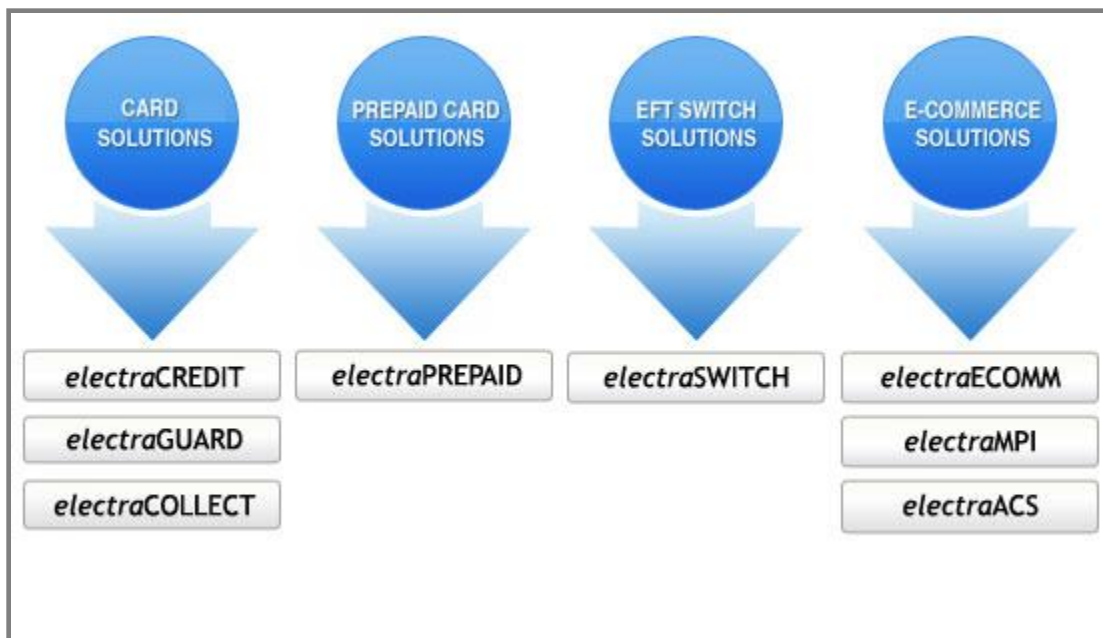


Figure: 2

In its pursuit of supporting the HP NonStop server, ECS has elected to first port *electra*SWITCHTM but other products from the *electra*TM solution suite will follow.

The first win for ECS at SBI, where *electra*SWITCH™ has already been begun migrating ATMs and where, according to the news release of February, 2010 SBI will be adding “other solutions from (the ECS) *electra*™ solution suite to enable SBI to implement ‘Go-To-Market’ strategies quickly and deliver value-added services to its customers,” is a strong indication of more to come from ECS.

The ECS engineers started with a clean sheet of paper and were able to bypass many of the legacy components still carried by many of the competitors. These engineers understood the need for an easy-to-customize solution and the need for change-control oversight of any customization. The result is the *electra* transformation engine, which is at the heart of the *electra* suite. Payment systems, by their very nature, need to integrate with multiple internal and external systems; card associations, domestic networks, account management systems, aggregators, utility companies, and other such service providers. This engine allows ECS implementation engineers, customer’s data center staff to very quickly and intuitively define the interface with the external system and specify the business rules around it. The in-built simulator allows testing before deployment. With *electra* transformation engine, integration with other applications is a matter of days, down from the weeks or months required to hand code and test it. With the additional benefit that the core code remains unchanged thus improving overall application maintainability and robustness. Figure 3 (below) provides a snapshot of the power of the *electra* transformation engine.

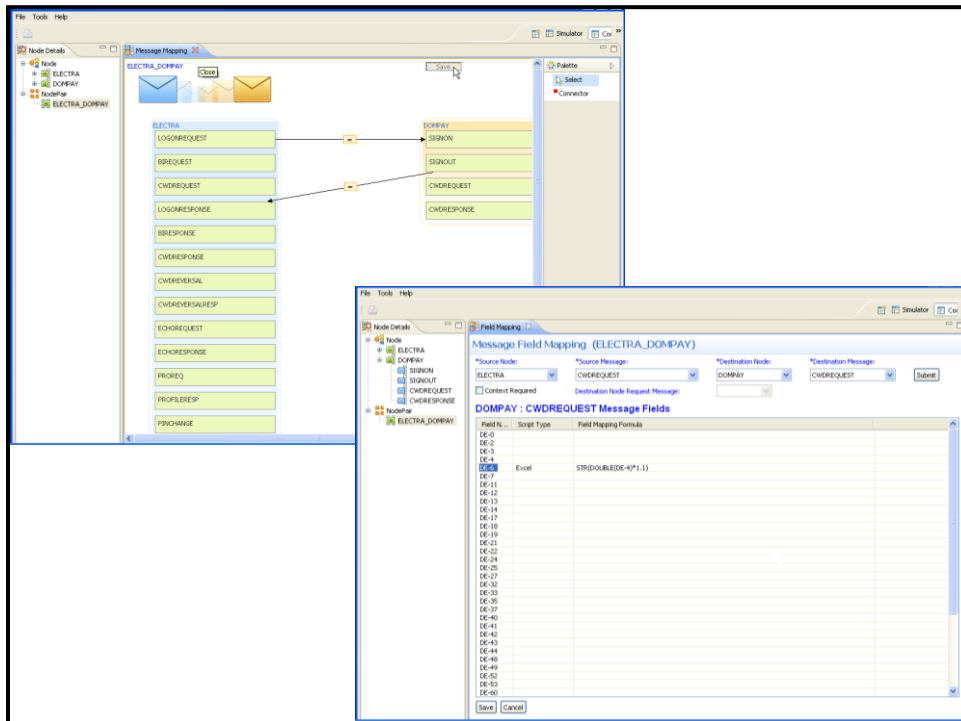


Figure: 3

ECS recognized the value of building a modern product in a mix of C++ and Java languages. What they saw coming to market for NonStop was just the kind of technology they believed would be able to help and, working with HP's NonStop Advanced Technology Center (ATC) in Cupertino, they first ported the product to Tuxedo, and then, a few months later, to NonStop Pathway. They were able to transparently access NonStop SQL/ MX. Abstracting Operating System (OS) and Transaction Processing (TP) middleware specifics from the *electra*TM product components within a separate *electra*TM framework , as well as isolating the specifics of data base implementations within an *electra*TM data access layer, were instrumental in supporting the same code base across the different operating environments of the many platforms supported by the *electra*TM solution suite.

In a press release in July 2008, "HP and Opus to Provide Integrated Payment Solution for 24/7 Business Operations," it was announced that the *electra*[™] solution suite components would be ported to the HP NonStop Server. In that announcement it was explained how "the collaboration combines the availability and scalability of HP servers with Opus' proven electronic payments platform by porting Opus' *electra*SWITCH[™] on HP Integrity NonStop servers." The announcement then added "the open architecture of HP Integrity NonStop servers will allow the *electra*SWITCH[™], Opus' integrated payments solution, to authenticate and route financial transactions from multiple channels including ATMs, POS systems, web services and mobile devices. Businesses with disparate or legacy systems can upgrade to this integrated payments platform to improve cost efficiency, scalability, security and data integrity."

"We have been working with Opus for the past couple of years; we originally did a porting analysis in 2006, and followed this up with several detailed design reviews," explained Chris Russell, of the ATC. Russell then went on to add "following our recommendations, Opus converted their C/Tux/Oracle implementation first to NonStop SQL/MX while using NonStop Tuxedo and this was followed by a second stage of conversion from NonStop Tuxedo to Pathway (TS/MP) last year. Neither porting step was over-complex. Along the way, we have been reviewing their Measure data and providing tuning advice, which they followed; I think they have been very good to work with - they have a lot of NonStop skills." Figure 4 (below) illustrates the usage of key HP NonStop infrastructure by *electra*SWITCH[™].

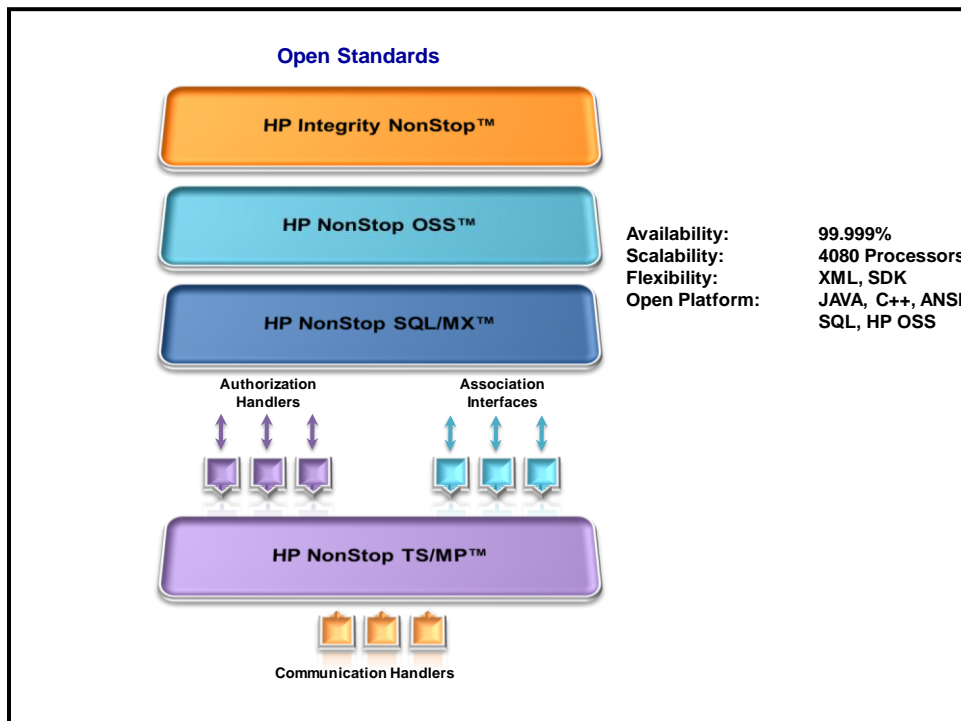


Figure: 4

Sandeep Kapoor, Director , NonStop Business APJ, observed recently in another publication "we are very excited about the prospect of Opus providing additional solutions in the APJ marketplace and fully expect them to prove to be just as successful on the global stage. They are demonstrating the new price-performance (TCO) value that comes with the NonStop Blades offerings." Ramesh Mengawade commented on how, "from our product perspective we started with a clean sheet, with respect to the framework underpinning the electra™ solution suite, and entered the marketplace supporting Unix platforms. However, after HP offered support for NonStop on Blade Systems, at a time when the legacy vendor was refocusing its attention onto other platforms, the price point for supporting NonStop became attractive. Today, we have a single code base across Unix and NonStop with only small changes made to the framework."

With the support from a major vendor, like HP, prospects and customers alike enjoy the assurance that they will be implementing a modern payment platform

as flexible and as cost-effective as their needs dictate! Rather than facing a new round of costly migrations to platforms previously rejected as closed and proprietary, CIOs can look forward to a modern, less-costly, alternative – and in *electra*[™] a solution that is already finding acceptance within the larger, global NonStop community.

New partner – the commitment from ECS

Opus Software Solutions was founded in 1997 with a focused mission to provide world-class services and technologies to the credit and payments industry worldwide. Opus is one of the oldest payments systems organizations in India with deep domain knowledge, extensive global experience and core competence in designing, building and maintaining software for the payments industry. ECS was established in 2006, as a wholly-owned subsidiary of Opus Software Solutions, and focuses on providing the credit and payments industry with superior financial transaction processing solutions. As it has developed its customer base, ECS has proved to be a world-class solutions vendor demonstrating its prowess with modern languages and subsystems, and today it has established a significant presence with its Unix offering having a broad footprint across the financial institutions of Asia, the Middle East and Eastern Africa.

As a partner, HP NonStop Division is finding ECS a good example of how powerful the HP strategy of converged infrastructure is. As covered in The Connection magazine of Jan – Feb 2010, HP converged infrastructure that “addresses IT sprawl, the main cause of technology spending being focused on maintenance instead of innovation.” The article then goes on to explain that in providing a converged infrastructure, HP assists its partners “to more easily deploy application environments through orchestrated, shared service management.”

For HP, the goal is to ensure all partners can develop one code base that can be easily moved between platforms, thereby eliminating the barriers that once prevented solutions, like *electra*[™], from running on HP’s NonStop server. The *electra*[™] framework also played a major role in helping ease the migration to HP

NonStop and it required only minor changes to the configuration for *electra*SWITCH[™] to be deployed. “With the *electra*[™] product suite,” Ramesh Mengawade said, customers will “have a very modern architecture built using open tools, such as SQL,

C++, Java, and, the *electra* transformation engine empowers their users in a highly visible and powerful manner.”

“ECS solutions are backed by domain expertise, a proven track record as well as experience of migrating from legacy systems, mature processes and a commitment to exceed customer expectations,” according to Ramesh Mengawade. With the success that ECS has had to date and with the backing it has from Opus Software Solutions, all at a time when other popular solutions have an uncertain future, bodes well for the future success of *electra*™ and CIOs will welcome the commitment as they further consider the alternatives open to them.

Timely response – every financial institution needs to know!

The *electra*SWITCH has now been ported to the HP NonStop server, an undertaking made easier with the availability on NonStop of the open infrastructure and middleware needed to support the product. ECS and Opus have more than 700 professionals serving more than 150 customers in 25 countries. While ECS has been established in 2006, Opus has been in business for over 12 years and in that time has accumulated considerable experiences with multiple payments systems.

"We developed a lot of experience with existing product offerings but in time, we found that traditional payment systems have issues such as time and costs to modify, proprietary tools and difficulties in adding new functionality. We architected *electra*[™] to eliminate these issues and provided customers with flexible and change management friendly solution with an extensive, intuitive and rules driven approach to processing and interface definition," said Ramesh Mengawade.

HPs marketing message for NonStop of “common standards, uncommon advantages” is a reference to the availability of open infrastructure and middleware today on NonStop. Across its portfolio of platforms, HP is pursuing a “converged infrastructure” strategy, where solutions developed for one HP platform can be run on any other HP platform. It is a testament to how well the strategy of a converged infrastructure is working when ECS was able to easily port *electra*SWITCH[™] to NonStop and to retain a single code base for the application. Taking advantage of all of the capabilities of NonStop, *electra*SWITCH[™] has been benchmarked at 4200 TPS – a clear demonstration of how well this new payments processing product has been integrated with the NonStop platform.

It's a future mandating quicker, timely responses, to changing market conditions. It's about flexibility and agility, and remaining competitive in a global marketplace where

product differentiation is necessary to stay ahead of the competition. It's also about recognizing new business opportunities and providing customers with the innovative products that will help financial services companies differentiate themselves from their competitors. But it's also a time where these companies are facing increasingly complex regulations, a volatile and risky marketplace where cost containment is at a premium even as they attempt to launch these new and profitable products.

"HP has the industry expertise to offer the best-in-class solutions and services needed to help financial institutions deliver competitive, industry-leading products and services, and Opus and now ECS have the track record of deploying state-of-the-art software systems for managing credit and payments at more than 150 customers worldwide," said Ramesh Mengawade. "Our joint initiative provides customers with more choices to reach out to the growing payments markets and address high performance, change management friendly and cost efficiency challenges of the marketplace."

"Companies whose payment applications are the lifeblood of their operations can greatly minimize business risk by leveraging HP NonStop technology," said Herbert Zwenger, Vice President and General Manager, Business Critical Systems, HP Asia Pacific and Japan at the time Opus entered into relationship with HP. "HP's NonStop platform supports the majority of ATM and credit card transactions globally. Together with Opus, we deliver a robust infrastructure that is ideally suited for the financial services industry"

Payment systems are going through a period of rapid change and the combination of technology innovation, new transaction types, and fraud prevention that is driving the improvements to existing systems is not something

CIOs of today's financial services companies can escape. Traditional suppliers have moved their resources onto platforms of questionable value to these CIOs, and highlighted the need for alternative products. The availability of *electra*[™] on HP

NonStop servers is likely to prove to be the better choice, and quickly appear on many CIOs radars. Supported as a HP NonStop partner product, and with its first successful deployment already completed, *electra*[™] will prove to be the answer that trims the TCO, improves the ROI, and lessens the risks CIOs so eagerly await.

About the Author:



Richard Buckle is the Founder and CEO of Pyalla Technologies, LLC. He has enjoyed a long association with the IT industry as a user, vendor, and more recently, as an industry commentator. Well known to the user communities of HP and IBM, he served as a Director of ITUG (2000-2006), as its Chairman (2004-2005), and as a Director of SHARE (2007-2008).