Interview: BofA Merrill's CIO Bill Pappas outlines his model bank

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*The chief information officer (**CIO**) of global wholesale banking technology and operations (GWBT&O) at **Bank of America Merrill Lynch** (BofA Merrill), **Bill Pappas**, is currently overseeing a radical overhaul of the bank's wholesale technology systems and infrastructure as part of its Wholesale Model Bank project. He talked about the project's integration aims, status and the future plans of the bank with bobsguide's Neil Ainger at the recent [**Sibos 2013**](#) trade show, while also outlining his career and what he sees as the exciting technologies of the future: the cloud, mobile, big data and better information security among them.*

Bill Pappas is CIO of global wholesale banking technology and operations (GWBT&O) at Bank of America Merrill Lynch. The experienced financial technologist is overhauling the bank's IT infrastructure and looking forward to training the next generation of technologists, while also incorporating many exciting consumer technologies from the mobile and other fields into the new banking infrastructure he is building.

In common with other established global banks, some of the legacy systems at Bank of America Merrill Lynch (BofA Merrill) are duplicated across a diverse international IT estate. This is why the bank is currently in the process of replacing or upgrading these systems as part of a massive overhaul of its wholesale banking and global IT infrastructure.

The multiyear Wholesale Model Bank project at BofA Merrill is intended to introduce an exemplary technology infrastructure and system that CIO Bill Pappas hopes will eventually be recognised as a leading best practice example of how to structure your bank operations. The idea is to cut costs, inefficiencies and inflexibility, in order to offer a truly scalable and useful platform for the bank and its corporate treasury and other wholesale clients.

"The project started in late 2010 when we decided we wanted to modernise our core infrastructure and it is still in its early days," explains Pappas, who goes on to detail the over-arching vision of the Wholesale Model Bank project, which is likely to close unnecessary data centres and run until 2016. It will touch upon all aspects of the bank's operations across its central platforms, reaching out into 28 different countries from the US, to Europe, Asia and Latin America. The global wholesale banking technology and operations (GWBT&O) unit that Pappas is CIO of employs 35,000 people and contractors around the world, so the project is inevitably large-scale in nature.

One of the first elements of the global technology modernisation project to be realised is the introduction of a new mass payments processing engine by year end for use by European corporate treasury and business clients. This new payment engine is compliant with the single euro payments area (SEPA) standards for direct debits (SDDs) and credit transfers (SCTs) and can handle the mandatory ISO 20022 XML messaging standard. "We are ready for the 1 February 2014 migration deadline," says Pappas, when discussing this first stage project initiative, and the benefits the wider technology upgrade could have elsewhere in the business, in terms of offering clients rich data reporting functionality.

Wholesale Model Bank Project
Bank of America Merrill Lynch (BofA Merrill) has grown via mergers and acquisitions (M&A) throughout its history, as its name alone tells you, and the rescue of the investment banking, wealth management and other activities of Merrill during the banking crisis of 2008 is only the latest manifestation of this acquisitive trend and desire for growth. "We have some duplication because of this and in some cases have two of everything, which we obviously don't need," says Pappas. "The Wholesale Model Bank project is intended to reduce, replace and harmonise [our systems]. We want to release opportunity and reduce operational cost, ultimately cutting the unit cost for client services."

It's not a regulatory driven project, claims Pappas, pointing out that its adherence to the SEPA payment standards for the new payments engine is just one aspect of a much wider tech overhaul. It is a technology, client service and efficiency project, although Pappas does admit BofA Merrill has to operate within the appropriate risk appetite and, of course, comply with the new post-crash regulatory environment, which is forcing many a bank to cut its operational costs (as the expense of doing business in this new stricter regulatory environment goes up).

"This project will help us cut the cost of operationally 'keeping the lights on' so it is cheaper to run the business than previously," he says. "For us though, it is more a matter of just wanting to make our costs more elastic, our infrastructure more flexible and our ability to launch new services quickly and provide rich supply chain data to clients more evident."

"We are moving away from a product-driven strategy towards a focus on relationships and providing a 24x7 overview to corporate treasurers, chief financial officers (CFOs), large financial institutions (FIs) and our other wholesale clients. I want a service oriented architecture (SOA) and to overhaul all our core payments, loan, trade finance, receipt and supply chain services, giving us an overview of our client's liquidity, so that we can then help them run their business more effectively. These are all crucial to me and the benefits will accrue externally to clients and internally, in terms of our operations, even ten to 20 years down the line."

Knitting Together The Bank
Marrying back-end payment and other processing systems with real-time data, reporting and management services is obviously a key aim of the technology overhaul at BofA Merrill. It is not an easy feat to achieve, however, as the famous failure of the earlier 'One HSBC' project in the mid-noughties showed. HSBC's then CIO Ken Harvey attempted to integrate all its far flung retail banking operations into a single holistic whole after the bank purchased US subprime lender Household International in 2003 and went on a pre-crash expansion spree in Asia and eastern Europe. The idea was to have integrated systems and economies-of-scale savings but that bank's project floundered towards the end of the decade in the face of local regulatory requirements, integration problems across legacy and sometimes domestic proprietary systems. The problems were then acerbated by an understandable lack of attention when the financial crisis hit in 2008.

Knitting together a global, diverse multinational bank on centralised technology platforms is never easy, but BofA Merrill's Pappas is confident it can be achieved because the bank is not seeking a revolution, but managed evolution. "As I said, we intend to reduce, replace and harmonise [our systems]." Some mid-lifecycle systems may presumably be replaced, updated or retained with bolt-ons therefore, remembering the aim is to achieve a SOA that is flexible and not be dogmatic about how to achieve this and "to release opportunity and

reduce operational cost" in whatever way is feasible. This seems sensible in an environment where the cost of doing business is going up under the weight of the Basel III capital adequacy regime and the timing for such an integration push is certainly better. Pappas also maintains that BofA Merrill is starting from a better place than HSBC and "already has a single platform" upon which to build.

The doubling of transaction banking volumes over BofA Merrill's systems in recent years is also a key driver for the Wholesale Model Bank Project, as it will increase the capacity of the bank to handle large volume flows. Sooner or later all bank systems have to be upgraded, centralised to obtain efficiency, but still remain flexible enough to avoid legacy concerns and meet local regulations. It is how the process is managed that will decide its success or failure.

Training the Next Generation and Vendor Selection
As part of BofA Merrill's Wholesale Model Bank Project CIO Pappas is presently running a vendor selection process to choose some partners to help him overhaul the bank's software and technology systems. "There are only a small number of technology companies who are large and skilled enough to partner with us," admits Pappas, "and I am looking for that proven ability to handle multiyear, multimillion dollar global projects."

The decision not to build new systems themselves but to instead rely on software from technology partners was made at the beginning of the BofA Merrill Wholesale Model Bank Project, which is a change from when Pappas first joined the bank back in 2002 as a process engineering executive. He spent the previous seven years at GE Capital in the US and Europe working in operations and corporate functions, so is an experienced financial technology (fintech) professional having also worked in investment banking, payments and technology support positions with the US-headquartered bank.

"I grew up building systems, but at BofA Merrill we are moving that balance now and instead relaying on buying some systems. We will specify exactly what we want, ensuring strong management and service level agreements (SLAs) - if relevant for non-critical hosting infrastructure - to get the right structures for us."

Pappas intends to involve his senior bank technology colleagues at BofA Merrill in the vendor selection process as part of their training and development. He believes improving management, communication, request for proposal (RFP) and other such skills in the technology department is crucial to ensuring the bank's future performance and success. It is also something that is vital in ensuring bank technologists get the ear of the boardroom and can advance their own careers and the cause of the profession, while demonstrating value to the business.

The development of management skills is only likely to become more important as cloud computing continues to advance across the industry – something Pappas talked about during the **Technology Forum** at SWIFT's recent Sibos 2013 trade show – and as the need for collaboration to cut costs at individual banks' increases. **A proliferation of shared services platforms**, such as SWIFT's sanctions screening and Know Your Customer (KYC) platforms, can be expected across non-proprietary unprofitable bank obligations to cut regulatory and operational costs in the future. This will demand better management, collaboration and communication skills from bank technologists in the future.

"It's a different skill to transition a platform, than to build it," says Pappas, "but it is equally as vital. The area we need to stay ahead in is in developing our workforce because skills, expertise and innovative thinking, allied to delivery capabilities, are crucial to future success."

Technologies of the Future: Cloud, Infosec, Mobile
For Pappas clever, skilled technologists, and ensuring that his staff continue to progress, means that BofA Merrill will be able to take advantage of the technologies of the future. The cloud, mobile channel and better, more intelligent information security, which could perhaps rely on 'big data' location and personal identity or access control services, are the key technologies for him.

Cloud computing is part of the BofA Merrill Wholesale Model Bank Project, says Pappas, but he cautions that it's the private and hybrid cloud that is most of interest for banks and FIs, as there are less security concerns than with the public cloud. "There are also privacy, data protection and different rules across different jurisdictions to consider," he says, "so it is important to work out how the cloud fits into your particular organisation and infrastructure and what it means to you."

"The mobile channel is a big technology focus for me in the coming years, especially as the innovations seen in the retail banking arena begin to rollout across the wholesale banking sector: we can tap into the expertise of our other units in this respect," says Pappas. The BofA Merrill CashPro online portal and its mobile access points, trade authorisation and account balance functionality is something that he is particularly keen to stress as it is now available in more than 20 countries for the corporate and FI clients that his GWBT&O unit services.

Conclusions
There is a long way to go before the mobile channel in wholesale banking obtains anywhere near the penetration and uptake figures seen in the retail banking arena, but there are very different dollar values and flows running across the respective systems. Securing the higher priced payments and transaction flows seen in wholesale banking is something that Pappas is particularly keen to ensure.

"We've spent a lot of time ensuring the portability but also the security of our mobile offerings," he says, citing how the bank has replicated its multi-layered online approach with passwords, encryption and other controls deployed to ensure customers feel comfortable and are protected, as much as that is possible.

The need to deliver innovative services across the mobile channel in a cloud computing environment that is increasingly being targeted by cyber-criminals is the key technology challenge that Pappas envisages in the years ahead. The challenge is made harder by a regulatory and banking environment where budgets are scarce and regulatory and operational costs are going up. That is why skills, cleverness and people development is so important, however, and Pappas insists there is always room for innovation if you have the right people.

- *To see an earlier chief information officer (**CIO) bobsguide interview - with SWIFT CIO, Michael Fish** - please click **here**.*

Neil Ainger, bobsguide, Editor-in-Chief, on General Fintech and Industry Developments

As editor-in-chief of *bobsguide*Neil Ainger is responsible for setting the editorial strategy and writing news analysis, blogs, hosting webinars, commissioning and so forth. He has a keen interest in technology and banking, particularly in the payments, cloud, data centre, trading, infosec and mobile technology fields, having previously been the deputy editor at*Banking Technology* and editor of *FSTech*. Ainger has a BA (Hons) in English Literature from Leeds University and has been employed as a journalist since graduating in 1995. He has also worked at*gtnews* covering treasury, trade finance and so forth, and on engineering titles at Reed Elsevier, local newspapers, etc. In addition, Ainger has worked on internal publications for BT Global, PwC and Lucent Communications (in New York City), among much else.

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