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## PAYMENTS AND BEYOND

During the development of the Single Euro Payment Area and the rise of payment hubs as an architectural choice, delegates at conferences would repeat the mantra, “a payment is a payment is a payment”.

Turns out they were wrong.

Banks and payment services providers are now taking great pains to point out that customers don't think about payments in the same way that banks do and they think about the users. In effect, banks should

stop thinking about a payment as a process and start thinking about the business it supports. If they don't, customers will find other ways to fulfil their needs.

But even though the large scale infrastructure projects of the past decade, like SEPA, are now behind us, the payments landscape is undergoing profound changes and there is no chance to rest on whatever laurels people may feel they have earned.

The good news is that those projects have laid strong foundations for the next generation of development. In this *Banking Technology*/FIS supplement there are two stand-out case studies that exemplify this: Credit Suisse and Bank of New York Mellon, which both embarked on daunting transformational journeys that are now paying dividends.

Similar stories are being repeated across the globe, reminding us that ‘international payments’ is not simply an industry synonym for payments that cross borders.

Looking to the future, it is likely that it will be hard to distinguish between domestic and international payments, or between low-value and high-value payments – and they will all be real-time.

Which is, as it happens, what customers expect: in their world, a payment is part of a transaction, and it is the transaction that is important. There is certainly no distinction in their minds about what is low- or high-value – they are trying to pay or be paid for something, so of *course* it is valuable.

The challenge is how to make the transaction frictionless while making it more valuable to the user – banks will call it enriched transaction data, but corporates will be thinking of it in terms of automating reconciliation.

As with the efforts to harmonise the implementations of ISO 20022, making sure that everyone is talking the same language is going to be crucial as we move forward.

**David Bannister**  
Editor

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## OPENING UP A WHOLE NEW WORLD

**Michel Jacobs** focuses in the Enterprise Products Organisation on combining Capco consulting insight and FIS software and services assets focused on core, channel and payment transformation solutions. Michel has participated in the formation of a new regional payments infrastructure in Asia, conversion of global financial institutions to real-time banking models in Europe, and the implementation of multi-channel customer centric infrastructure in some of North America's largest banks. **Warren Gardiner** is responsible for a cohesive and innovative product strategy in and beyond enterprise payments, having been chief strategy officer for the Open Payment Framework since 2004. Warren has been a key contributor and driver in most of the company's large international – and very varied – payment hub implementations in Europe, the US and Asia Pacific, where he resided until 2010.

"There is an almost unique difference between how the core nature of banking has little changed since the Venetian tradesmen invented the profession and the massive sea change in the world around us that has impacted banking: technology, customer behaviour and societal change. The one real change in banking practice has been securitisation, which opened up more options to engage with banks in different roles and functions. We added

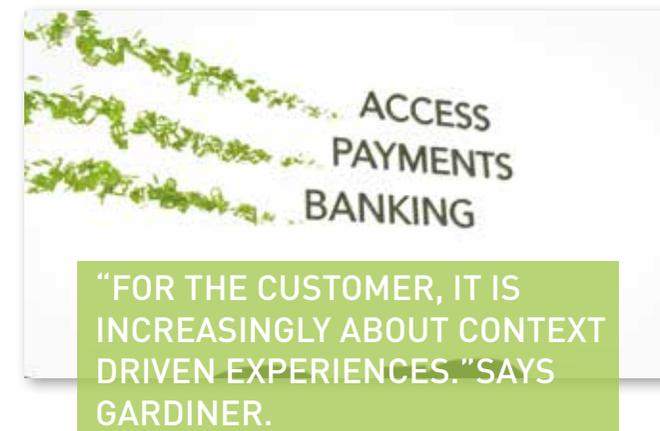
channels and products so the logical calculation of this industry evolution is that we have managed to massively increase the complexity in execution", says Jacobs. "The car industry had the same problem and figured out that from only three platforms you could produce highly customised cars on a flexible assembly line. The retail industry embraced the concept of customer-centricity. Banks remained to a large extent account-and product-centric.

Banks responded by pulling channels together in a multi-channel approach in order to get a more holistic view: a new focus on the customer was born. Customers make payments and the underlying transactions form the core of the bank's existence. Furthermore, the payments space was being complicated at all levels: national and international regulation, a myriad of types and clearings schemes, new crypto currencies, etc.

The regulators stepped in too: SEPA regulation streamlined Euro payments and cut cross-border fees, then interchange fees were capped and having been a mundane practice for years, payments became a business enabler. This change might have been accelerated by economic and regulatory change, the move from product and account centricity to customer and transaction centricity will follow next".

### Sharing > Owning

"Today, the term omni-channel has grown in usage across the industry to mean a new cross channel, customer centric experience, which in itself is good. But in nearly all of the conversations I have had on this topic with banks, it has mainly revolved around the notion that banks own and control all the 'omni-channels'", responds Gardiner. "Yet the world has moved on. For the customer, it is increasingly about context driven experiences, this is where the bank can re-think their approach and do great things. Go where the customer goes and



provide solutions and products that speak to the experience and context the customer is in. With Access to Account and the PSD2 regulation, banks will no longer be in control of all the channels, or even own them. Of course, customers will continue to use bank provided channels but increasingly will also use third party financial and payment related apps so the whole thinking of how one services and retains clients will have to change. Yes it's true that there is the potential for third parties to take business from the bank as is often discussed, but in the right model they can actually be used to drive business to the bank. So the key question banks need to ask themselves in this open world is: how to go about transforming my

business model, pricing and operations?"

### Context is everything – payments memory

Context makes the experience relevant for a customer in payments.

When people book an Uber taxi, it is about the service, no worries about the currency, the payment method or even obtaining a receipt. The payment is a vital part in the context of the transportation transaction. Gardiner feels very strongly that this is a key opportunity for banks, thinking outside-in opens new ways for banks to interact with customers. One or two of the new banks are already deploying machine learning that contextualises transactions to offer their customer relevant advice.

"With the OPF payment hub technology we have the foundational asset that differentiates a transaction from an interaction," says Jacobs. "Transactions are multi-channel, interactions are omni-channel and as such able to add context and this is the way to go. Payment hubs are a vital enabler in the route to a fully open banking world."

"Ownership," Gardiner emphasises, "is not required to deliver a full end-to-end contextual payment service. Whether a payment is executed in batch or real-time, whether you own the channel or only part of it, does not stop the bank from supplying what I call an end-to-end payments >>





**“CUSTOMERS – FROM CORPORATE TO RETAIL – NEED BANKING SERVICES, NOT NECESSARILY BANKS”, SAYS JACOBS.**

a relevant customer experience, one that fits into their life (style) and community.

“The game is very different for the banking sector. Large banks can ‘build’ their own community; small regional

or community banks cannot make those deep investments. All banks must be relevant and part of their customers’ life however. And in turn be aware that customers – from corporate to retail – need banking services,

memory. So that bank not just knows how much I paid, to who and when, but also what I bought and where I bought it. It is this payment memory or data that is key for the bank to distinguish itself.”

### The real-time paradigm

In order for a bank to evolve towards omni- or contextual payments it has to move away from silos as a very first incremental step. Going for a foundation that offers immunity from channel and type is a prerequisite for embracing this next new ‘big thing’: real-time. Around the world, collaborative initiatives around immediate payment schemes arise, schemes exist and flourish today and in spirit with the time frame we live in, ‘instant’ is a key talking point on any payments agenda (see *Flavours of Fast*, page 11).

In the quantum shift to real-time, it is not just about supporting a real-time acquisition and execution capability, in order to get the real customer benefit running a real-time balance and account is important too. “We

see, for example, that many banks in Australia that have to support real-time settlement by 2017 are looking beyond just supporting real-time payments but also towards supporting a real-time bank,” says Gardiner. “At FIS we have many answers to that process, deep and shallow, quick or incremental in step, but one thing is for sure, if you do not support real-time, you will be very limited in serving your customers as they keep moving into this open world in every walk of life.”

### Customers want a relevant experience

‘Fast, open and in control’ might be new to banks, but it is the staple diet for today’s customers who clearly indicate that they want

not necessarily banks,” says Jacobs. “Seventy to eighty per cent of the banking services people need is the ‘meat and potato’ savings and deposits business. If you lose that seventy per cent in current or chequeing accounts, as a bank you lose out on ‘cheap’ funding and associated fee income/margin too. Smaller banks feel this first and as such often act in a more customer centric and friendly manner. In addition new financial services providers all over the world join the fray like supermarket



banks, a flood of banking licenses, digital type banks and mobile operators reinforce the evolution of digital payments. These new banking service providers can outsource or look for new models like working with other banks or service providers for niche services like lending or trust management. Larger banks will refocus too, realising that all clients matter: the volume of retail, the breadth and mix of SME and the value of corporate clients and how to leverage that franchise.”

### OPEN world – new alliances

So let’s assume an open world where customers pick and choose their service providers and where banks large and small have figured out that being relevant matters more than ‘ownership’, and that providing the service is more important than ‘control’. “Clients should not need to worry about types of payments,” says Gardiner. “Just tell us what speed you need for this payment, what the context is, what your risk appetite is and we as a bank put it through the pipe that is the best match for you.”

Jacobs agrees: “With ISO 20022 the bank can profile the payment, send it with the right logic to the addressee. And this is where scale starts to matter. Being a large bank in the Netherlands or Thailand does not mean you are a large

global player. If you link together strong regional and national banks, you get a much broader mid layer, so each individual bank has more directions and can offer unparalleled transparency to their (banking) clients. Just think about the business impact. If a Texas company buys online equipment in Europe for \$20,000 today, they have no view on the payment (and thus transaction), they have to wait for confirmation at some moment in time, there is no correlation between the payment and the shipment details, etc. People in those businesses still scramble for paperwork with wire instructions. We have to enable transparent contextual information associated with payments that will deliver tangible value for small and large businesses today and in the future.

“This is where the airline analogy steps in,” he continues. “Most

commercial organisations that hit the \$500 million revenue point have multi-bank relationships and it takes a lot to keep that business primarily coming *your way*. On top of that this means that for each company around 2-3 per cent of their revenue is trapped in a payments chain at any moment in time. If and when smaller and larger banks team up together in a type of airline alliance, together those banks can service the vast majority of payments, offer broad connections and – most importantly – direct connections. All those players with their own customer relationships can offer truly global payment services in a better way, real-time, at less risk. This is ultimately what smaller and larger banks look for in terms of a relevance to clients in an open world and are investigating/experimenting with blockchain technology and alternative bypass network approaches such as Ripple. The Open Payment Framework is an excellent starting point for the *payment hub Plus*: the next layer that can extend the contextual execution of payments associated to relationship centric banking.”



**Michel Jacobs at Sibos 2015: “Keen to learn how banks can become a business enabler in payments as opposed to a cost centre. How to influence bottom line costs and add top line revenue?”**



**Warren Gardiner at Sibos 2015: “Understand the impact of real-time on banks from a customer and account infrastructure perspective. Where is the world of real-time going and what is its impact?”**

# ESSENTIALISING THE BANK

## AN OPEN MIND TO PAYMENT UTILITY OPTIONS



Hans Kraus is Senior Partner in the FIS consulting arm Capco and a thought leader in the payments practice. As an ex-banker he has

a profound understanding and interest in all the processes behind the scenes that determine to a large degree the performance of financial institutions.

He combines a friendly personal approach with bold and broad thinking – most recently about the role and best operating model for payments in an increasingly complex landscape. In the following ‘mental workout’ he stretches the executive’s mind around the topic of Essentialising the Bank and exploring the opportunity of payment utilities in a way that befits the bank’s agenda.



All stakeholders in the global payments value chain will agree on one thing: the volume of non-cash transactions is huge and growing. Today Europe stands at around 100 billion (the last official count in the *World Payments Report of 2014*, which gave a 87.6 billion number for 2012), around 130 billion for North America, 58 billion for Greater Asia, 33 billion for Latin America and around 29 billion for CEMEA.

But, in helping to make sense of how ready these markets might be for market-driven or shared payment utilities, these numbers shed little light. This has to do with two main factors: how far are the

individual (large) banks advanced in their utility thinking. Secondly, what is the level of fragmentation in that country/region or how many existing smaller banks and new entrants are part of that particular market? Plus, is payments-as-a-service a culturally acceptable phenomenon?

Coming back on the first issue, Kraus points out: “The readiness to put utility thinking on the agenda has changed immensely over the last two to three years. Where in early 2010 any bank would retort with a firm ‘No, payments are essential to us and need to stay inside the bank’, there is now more

mind space for this topic. Post-2008 most banks were dealing with liquidity and capital issues, quickly followed by a regulatory ‘catharsis’ that effectively overwhelmed any strategic debate around operations and all thinking was geared to preventing a repetition of the credit crunch. In 2012 and 2013 we saw early signs of banks starting to also look at the operational side of supporting their core business: getting money in and supplying credit. This means that the retail and SME/Corporate business, which heavily rely on an excellent payment service to the customers – got prime focus. The wider part

of operations and IT became conceptualised into something that could be done outside the bank and as such the industry provider/utility concept was (re) born. Management talent, capital, skill sets for these functions can be hard to find and maintain inside a bank. This led to broader board discussions and a leading banker has even been quoted as saying: ‘There are no sacred cows anymore inside this bank’. This mindset is now prevalent in many institutions and the utility question pops up in most – if not all – strategy payments RFPs we see today”.

### Repair – engineer – innovate – shape

Although payment transactions are more or less similar across the board, every financial institution defines its very own payment agenda depending on strategy and point in time. Where lifecycle issues dominate the agenda it is often about *repairing* for regulatory maturity or platform efficiency and *engineering* for a new operating platform, improved channel efficiency or sourcing strategy. Others might opt for an *innovation* agenda on the search for competencies in adjacent areas, new digital core services or a totally differentiating value chain in terms of business process or information technology outsourcing. Whereas the previous three steps allow a bank to secure, tune and extend their payments offering, there is also the option to renew their offering by *shaping* a new retail or merchant payments model, or redefine their cash management model and business.

All of the above is taking place in the harsh reality of banking

in 2015. “No matter how much passion a payments team pours into their own strategic agenda, they are vying for attention on an overloaded boardroom agenda in nearly any institution: capital adequacy, ongoing regulatory requirements, risk and cost awareness and measures and an innovation agenda driven by the changing behaviour – and options – of all client segments. And these are all challenges that carry heavy

**Utility (noun): the satisfaction experienced by a consumer of a good or service**

impact if not met adequately, ranging from losing market share to losing a license to operate,” says Kraus. “Giant leaps are being asked of the board – and made – and therefore preparing the payments strategy agenda, challenge, revisit and rephrase it before taking it to the top table is of vital importance.”

### Essentialising the bank

The essential bank really consists of core business areas (collecting and lending) and a core value chain. It is not new to think of ways to improve performance on just that axis: outsourcing dates back to at least 1981 and as such is a much overused word for ‘lifting and shifting’ processes and services with the aim of financial engineering or the creation of economies of scale. “Whereas this has brought its merits in areas, inevitably it got stained with the perception of ‘low value, low expertise and low innovation’. What

we mean now by utility thinking reaches much further and deeper and as such is really a mental exercise. It puts the key business objectives of transformation, innovation, process governance and assumptions of risk at the heart of the debate”, says Kraus.

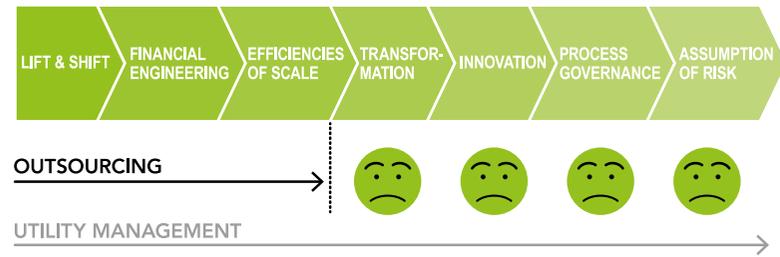
### Industry vision 2020

Getting to a new and modern infrastructure is one thing, staying up to date with the relentless pace of industry and technology innovation quite another. Therefore it is imperative that this continuous innovation should be at the core of utility thinking. “Think of an old Nokia phone versus a new iPhone”,

says Kraus. “You can change all the parts that make up the Nokia and build the closest match to an iPhone – for a day or maybe a month. In no time new services will be available on the iPhone and finally you realise that buying into the services based idea of an Apple experience will allow you to stay in step. Payment utilities too will evolve from a regulatory perspective, in terms of going instant for many more types of payments, to name but a few examples. Utilities can afford to go further than one bank on its own.”

Looking forward to 2020 we could well see a development from payment device software as-a-service (think wallets, ATMs etc.) as we know today to the payment hub as-a-service (a segment in which FIS acquired a main stake with the acquisition of OPF and its many large global implementations) to even payment networks as-a-service, >>

**Utility Thinking is one step beyond**  
Classical "outsourcing mind set" approaches fall short



**“THE MENTAL CHALLENGE OF CONSIDERING THE UTILITY ROUTE, OF CONCEPTUALISING A DIFFERENT WAY OF WORKING IS TREMENDOUS.”**

whereby global network utilities will have replaced large parts of the correspondent banking networks. Although this might seem like a quantum leap, a closer look at the economic rationale makes it worthy of further investigation.

One could conceptualise a payment network as-a-service as a type of global payments overlay. “Obviously, this is both an interesting as a well as a contentious issue at Sibos, where we hope that Swift will reveal more of its long term innovation agenda”, concedes Kraus. “But as a company we have an obligation to our customers to have an open mind when it comes to shaping a global payments innovation agenda for the industry at large. A payments overlay could connect local payment utilities and offer an overarching global network for clearing settlement of liquidity. This money stays in the payment overlay to increase interest

benefits for the associated parties. Additionally this overlay can provide a myriad of functionality across payment channels and interfaces.”

**Strategic choices ahead – utility options**

One constant factor in the ‘sourcing’ debate around payments is the confusion of terminology to which Gareth Lodge referred in the 2013 Celent paper ‘Thinking the Unthinkable: “a first step to wider use of outsourcing may actually be the dropping of the word outsourcing itself, as it comes with connotations and misconceptions”. With this statement, he paved the way for a progressive level of services in a utility environment ‘from outsourcing to best-sourcing’.

In-house utilities deliver undeniable benefits like internal integration synergies, cost reduction and a higher level of flexibility and control. A captive utility where the payments

environment is also offered as-a-service to other third party clients gives besides higher levels of cost benefits primarily the great advantage of avoiding more systems complexity. At the point where a genuine market utility is offered as-a-service to a variety of different clients with different needs, the cost leader strategy becomes a reality in terms of scale, automation, labour and productivity. Also, for a niche offering like this there is only one success strategy: offer the best that is available in the market (think third party or embedded value add services) for the best price.

How to move from being a payment hub customer to a captive utility or how to build a market utility is determined by the strategic agenda around technology, business model (experience), customer access and capital. Those factors need to be mapped and plotted on a longer term plan and challenged by external and internal expertise.

**Mental stamina called for**

As in all walks of life, change is never easy. The mental challenge of considering the utility route, of conceptualising a different way of working is tremendous. “At the same time this is exhilarating, every time we meet with a bank we feel a new sense of energy and urgency around the payments paradigm,” says Kraus. “Ultimately the bank’s strategy on this front determines its future: ‘We want to survive’; ‘we let regulation determine our path forward’ or ‘we design our future around payments’. Repair, engineer or innovate are all viable mind sets that can be addressed in the payments utility context.”

# FLAVOURS OF FAST – AROUND THE WORLD IN IMMEDIATE PAYMENTS

In 2014 Clear2Pay, as it then was, published its first global real-time payments paper, *Flavours of Fast*, in which it outlined not only the existing schemes, but also an overview of those under development. All 16 schemes were rated by a number of chilli peppers – the spicier the score, the higher the potential for innovation. Four was the top ranking, which was met by UK Faster Payments and Swiss Interbank Clearing. This was visualised in the Fast Payments Innovation Index, a map that soon found its way in many industry stakeholders’ presentation decks and into last year’s *Banking Technology Sibos* supplement.

This year, now FIS published *Flavours of Fast II* in May. The number of schemes covered had ridden to 20: new on the map were Finland and the ECB initiatives (seedlings stage) and Nigeria and Turkey. Since May, real-time has almost exploded as an industry topic. In this article we highlight some of the real-time payments developments since May, which will surely make their way into *Flavours of Fast III*.

**EMEA**

In Europe, there is a lot of movement on the immediate payments front. A few countries, like Spain, Finland and the Netherlands have kicked off an immediate payments programme in earnest.

The Spanish banking association is analysing the different infrastructure models that could be used for immediate payments (account to account, 24/7/365 availability and

immediate availability of funds). The focus is on credit transfers as the underlying product and the basic service should be made available by the national clearing house, with any value added services to be developed by other providers. All services should rely on a joint infrastructure, providing immediate clearing between PSPs and immediate crediting of the beneficiary account. The settlement model is still undecided.

In May 2015, the Dutch banks announced their ambition to deliver an infrastructure which supports 24/7 instant payments for P2P and P2B both online and offline. The announcement was very positively received by the market, in particular retailers who see the benefit of being able to receive funds over the weekend. The Dutch banks want to base their new infrastructure on SEPA and want it to provide access to all payments service providers (banks and non-banks). Another key requirement was an infrastructure that allows for connection to the future pan-European solution as per below. An important nuance is that Dutch banks develop an infrastructure, not a scheme. For the scheme, they look at the EPC effort and will assess whether this scheme fulfils the Dutch requirements.

In the UK, Faster Payments Scheme Ltd (FPSL) issued a white paper to describe its New Access Model. To date, direct technical access to the central infrastructure operated by VocaLink) is only available to nine banks and one building society. All other 400 indirect participants go

through a sponsor bank – currently four out of the nine banks are offering this service. Going through a sponsor bank is more cost efficient for these indirect participants. However, the PSP is not required to guarantee that every payment is processed in real-time nor is 24/7 availability guaranteed. FPSL’s vision is to offer a third option, whereby a PSP can connect to a technical aggregator (combining demand for multiple PSPs), with a guaranteed real-time service and 24/7 availability but at a lower cost than direct connectivity to the central infrastructure. The New Access Model is mainly intended for non-bank PSPs and challenger banks.

But probably much more important is the statement made by the **ECB’s European Retail Payments Board (ERPB)**, launched in December 2013 to ‘foster an integrated, innovative and competitive market for retail payments in Euro in the EU’. With an ECB Chair and the European Commission as an observer, it expressed the need for a pan-European instant payments solution available 24/7/365 and resulting in the immediate or close to immediate interbank clearing of the transaction and crediting of the payee’s account with confirmation to the payer within seconds of payment initiation.

The ERPB defines three layers: a Scheme layer, based on SCT, IBAN and ISO20022, cooperatively or competitively developed. In order to kick start this, the ERPB has asked the EPC to design an instant Credit Transfer and a first version is expected >>

in November 2015. Secondly the clearing layer, which could be intra-bank, bilateral interbank, ACH or a point-to-point network and the Settlement layer, either deferred net settlement or RTGS.

In response to the call for action by the ERPB, EBA has also published a blue print for pan-European immediate (instant) payments. A task force was created to work on the creation of a pan-European infrastructure (mandated by the EBA Clearing board). The blueprint describing high level business requirements was delivered in June 2015, followed by a consultation round with the user community and stakeholders (July-September 2015). By the end of the year, EBA Clearing will go to market with an RFP and a pilot is planned for the second half of 2017, with a full roll out in 2018.

Finally, the **European Automated Clearing House Association (EACHA)** also published a study, with a focus on interoperability between existing and future ACHs. This document covers the whole EU – euro and other domestic currencies – and is the only report that investigates a multi-currency scenario. EACHA sees immediate payments mainly as a basis for mobile payments and e-payments and as such really only covers the retail (e-commerce and P2P) space.

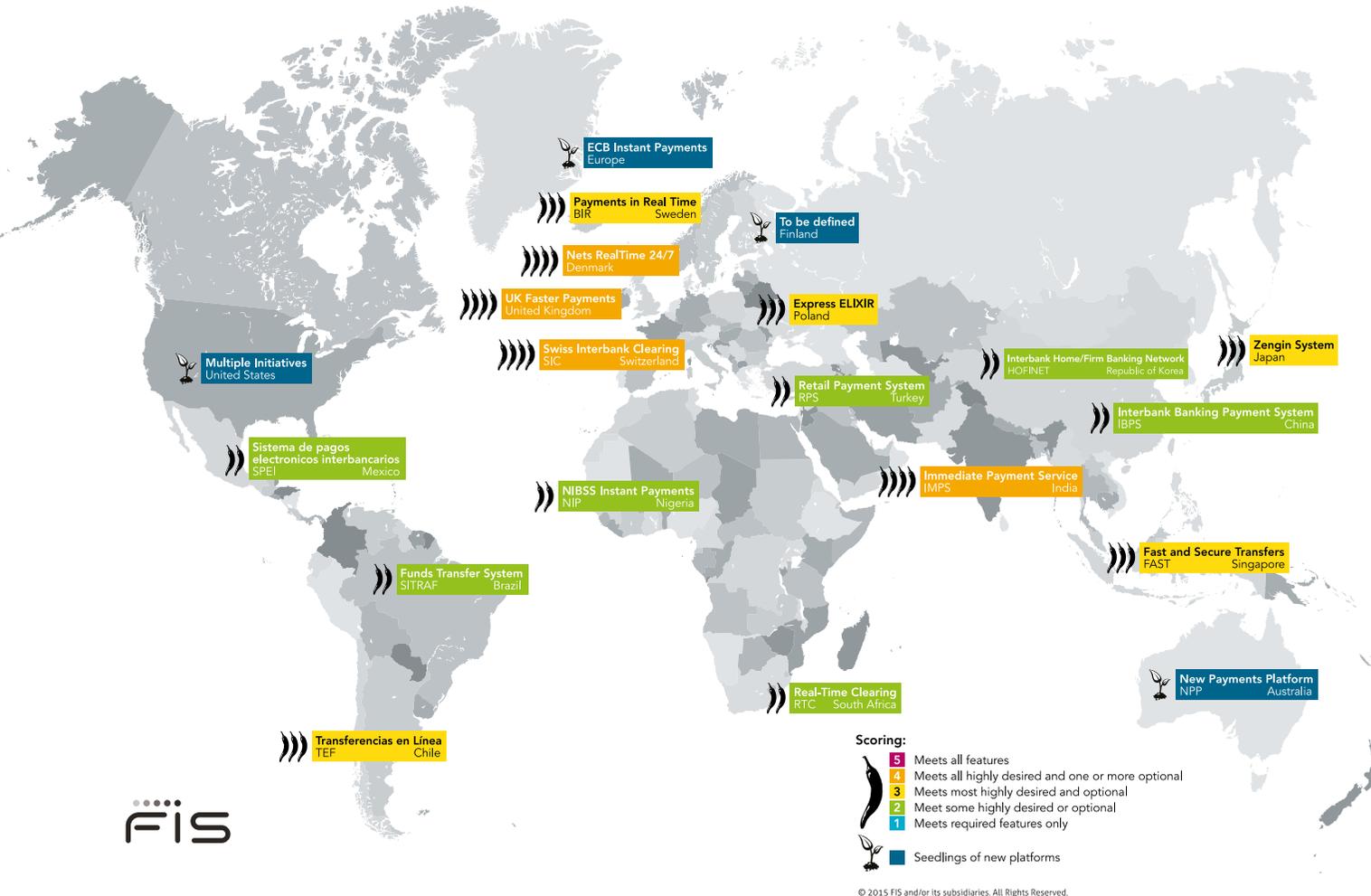
**US**  
The **Federal Reserve Faster Payments Task Force** was formed to identify and evaluate approaches for implementing a safe, ubiquitous, faster payments capability in the US. FIS is one of 19 companies elected to advise the Federal Reserve Chair on Faster Payments Task Force meeting agendas and synthesising task force perspectives of full task

force deliberation. Peter Gordon, senior vice president of Payment Strategy at FIS, was elected to the Faster Payments Task Force Steering Committee. "Faster payments capabilities must be ubiquitous for all market participants in the United States," said Nancy Langer, chief product officer, Enterprise Product Organisation, FIS. "FIS' role as a leader in global money movement makes us a strong contributor to the Fed's task force." The Steering Committee, which is made up of 19 payments professionals representing financial

institutions, consumer groups, merchants, government and FinTech representatives, will lead those efforts. The goal is to identify best approaches to real-time payments by December 2016.

**Global**  
Finally, increasingly payments stakeholders realise that the ISO 20022 industry standard can make a vital contribution to real-time payment initiatives on top of which the industry can innovate. So with much support, an **ISO 20022 Real**

# Fast Payment Innovation Index<sup>®</sup> - a global view

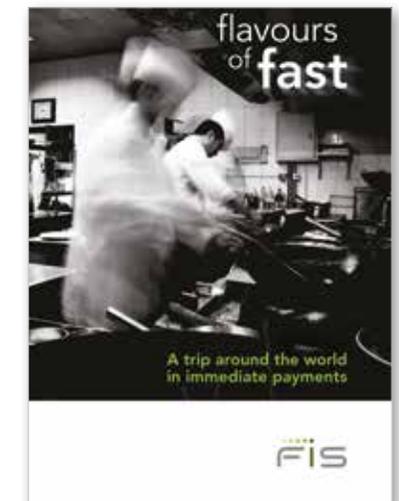


in real-time payments. The market practice includes the actors, which messages will be used, message flows and usage guidelines. It allows defining a common baseline for multiple implementations:

- Driver for interoperability and reuse
- Capture best practices
- Reducing "accidental" differences (doing the same thing in a different way).

However, deviations are accepted and allowed but they should be for a business reason such as local market requirement or functional benefit.

With different immediate payment initiatives around the world, there is a growing need for interoperability: global interoperability requires harmonisation of market practices, data requirements and standards.



Flavours of Fast can be downloaded at: [www.fisglobal.com/products-enterprisepayments](http://www.fisglobal.com/products-enterprisepayments)

**Time Payments Group** was created in May 2015. The working group consists of a larger group (open participation) and a drafting group (composed of ACI, Canadian Payments Association, Gefeg, Nets, The Clearing house, Vocalink and Volante, facilitated by Payments UK (formerly the Payments Council).

ISO 20022 is an open standard, not controlled by a single entity and is open to participation of users. In payments, it is currently used for low and high value (T2, EURO1/STEP1),

domestic and international payments, C2B and B2B and is rapidly becoming the de facto standard for real-time payments. Many feel the time is now to identify the commonalities and convergence.

The ISO 20022 RTPG describes the specific use case of the standard



**Peter Gordon, FIS and member of the Faster Payments Task Force Steering Committee: "When the payment infrastructures are modernised in banks to handle the evolving global ISO standardisation, the convergence of retail and wholesale payments to support global real-time money movement demands, banks will lead again"**

# SWISS PASSION AND PRECISION AT WORK – THE CREDIT SUISSE GLOBAL PAYMENTS PROGRAMME

Photographer: **Johannes Dikoby**

## ROUNDTABLE

### MEET THE ROUNDTABLE PARTICIPANTS:

**Lothar Raif** – Head Product Management Payments & Connectivity Solutions at Credit Suisse and also Chairman at Swiss Euro Clearing Bank and Vice-Chairman at SIX Interbank Clearing, **Hendrik Blankenberg** and **Andreas Hahn** – leading the programme from respectively a Business and an IT perspective, **Ralph Halter** – Co-Lead Global Payments Services Operations and **Laurent Déneraud** – Global Operations Payments Processing.

**Nedo Haubelt** – Capco Delivery Lead for the programme and **Warren Gardiner** – VP Enterprise Payments at FIS and in-depth expert on the programme's OPF platform

**Conny Dorrestijn** – VP Global Payments marketing and moderator



The Global Payments Programme was started in 2013 and is currently one of the largest infrastructure projects at Credit Suisse.

While current payment applications are very mature and complex, historically grown and highly interlinked, the new infrastructure will be lean and flexible, using a component-based architecture to meet the new Swiss payment standards by 2016 and any new development Credit Suisse wants to move into or adjust to. It will form the basis for a new highly efficient and cost effective payments processing platform and the future Credit Suisse payments factory which can be leveraged globally as well as throughout the industry.

Credit Suisse is investing a multi-million budget, over a four to five year period. The delivery of this very large and complex program covers more than 100 interfaces and requires the involvement of multiple internal and external partners, 200+ people

from different cultures and more than 20 nationalities spread around the globe from various IT and business fields, primarily from operations and product management. Whereas design, implementation and roll-out takes place in Switzerland, major parts of development and testing services are provided out of multiple locations and countries, including Belgium, Slovakia, Poland and India.

In 2010 early discussion began at Credit Suisse about end of lifecycle issues of the infrastructure, SEPA in the EU, a move towards standardisation and XML and technology choices in the Swiss market. This started to shape a strategic way of thinking which took root in 2013 when Hendrik Blankenberg and Andreas Hahn started the project that addressed the question for Credit Suisse whether the bank wanted to stay in step with the industry and move to the XML standard too with a new Global Payments platform

and embark on a huge renewal path that cannot be abandoned once started. "We needed commitment from Credit Suisse's senior management and we also knew that in view of the scope of the endeavour we had to go for a state of the art vendor solution and work with a skilled and experienced integration partner. We had to break down the complexity and wanted to prove our delivery capabilities with regular releases throughout the year. In August 2013 we took off with Capco as our chosen integration partner and Clear2Pay's OPF as our payment hub technology of choice", Blankenberg points out. Lothar Raif comments on how the Swiss market's decision to use the XML standard for the New SIC Architecture coupled with SEPA in Europe further determined their appetite for open standards. "Credit Suisse wants to be one of the first movers in the Swiss market when SIC starts SIC4 clearing in 2016 and this obviously adds focus and a clear deadline to the roadmap. Switzerland is too small to entertain its own proprietary standards any longer and therefore the market participants in Switzerland all agreed to go ahead with the new technology and integrate with other countries around us, which were already doing this".

Hahn readily admits that this opened up quite a debate in IT as well: "It is always tough to move to something new when you are used to your comfortable well-tuned (in-house) and still reliable payments infrastructure. Especially in operations this is a very understandable sentiment. However we soon concluded that tweaking the existing legacy systems was simply not an option. We had to cut the cord and move to a new proven solution."

Blankenberg joins in: "Of course we had a discussion about going the in-house route, but this was not seen as a sensible IT strategy, because best-in-class solutions are already offered in the market, so buying best of breed functionality in a modern framework was the way to go".

### Project delivery – the power of a dedicated team

The Blankenberg/Hahn duo decided early in 2013 that Capco – with the support of Wipro – was able and had the relevant track record to support the bank in the project development and delivery stages. "Each technology and delivery programme is also very much a people game with two key success factors: a combination of the right system integration partner with the software solution provider of choice (at that time Credit Suisse didn't know Capco and Clear2Pay would end up being brothers in one family) and connecting with the senior management team."

Warren Gardiner looks around and says that he is positively surprised to see the same faces on the team at the table as on the day it was kicked off two years ago. "So often continuity is lost when you play musical chairs", he comments.

"The importance is that in this team we all know and trust each other, we have each other to rely on and can have a truly open debate. Collaboration between IT and business does not necessarily mean being naturally in tune, but we have open discussion and both appreciate that immensely," replies Blankenberg.

Ralph Halter adds, "We are all in it together, rather unusually we at operations are on board since the beginning as well,



LOTHAR RAIF

not merely at the receiving end and as such there is a much better understanding between the program and day to day operations." Both Halter and Laurent Déneraud have "found out that they (the programme team) deliver and so we productively work together, give and take and don't dig our heels in".

Next Gardiner touches on two other key elements in project delivery: board sponsorship and the impact of vendor selection on the IT infrastructure. At Credit Suisse the sponsor of the global payments programme is Marcel Schuler, Global Head of Operations Utilities and Regional Head Operations in Switzerland, who contributes significant time to this strategic initiative and aligning the interests from all different stakeholder groups in business and IT. >>



LAURENT DÉNERAUD

**WE HAD TO BREAK DOWN THE COMPLEXITY AND WANTED TO PROVE OUR DELIVERY CAPABILITIES WITH REGULAR RELEASES THROUGHOUT THE YEAR.**



CONNY DORRESTIJN



**“TESTING EQUALS TRANSPARENCY FOR THE PROJECT MANAGEMENT.”**

Hahn readily concedes that it took quite some time to align the software vendor selection with the existing underlying IT infrastructure of Credit Suisse. “As we went from build to buy we also brought a new standard into the bank and we needed technical and application engineers to define the necessary solutions; e.g. which hardware stack to run the new payments processing platform on.”

**What’s in it for whom? Clients – Operations - IT**

For a bank like Credit Suisse that keeps a strong focus on its Wealth Management and Corporate Banking divisions it is important to transform a project of this scale into tangible benefits for their clients. “Standardisation, cost efficiency etc. mean little for our customers if we do not translate this into differentiating services, which are indeed enabled by this new programme,” says Raif. “Payments itself is a commodity business. The efficient infrastructure we have put in place enables a different experience at the operations angle of our business so the services we can deliver and the level of transparency at our client desk is quite different. We have clients

that pay a flat fee for a specific quality level of service, and other clients that pay for special services. The new platform supports the intention to maintain and price to perfection unique sets of different service levels.”

Operations have their targets too and although they are not at the receiving end, they do experience the result at the tail end and in a live 24x7 environment. Efficiency matters here most, as does resilience. Dénervaud smiles when Gardiner asks whether 99% STP is the ultimate goal. “It is for now, but once we have that we will move onto improving the non-STP processes, including usability of the system. Whereas we used to have to interface by phone or email with many departments, we are now further integrating workflow and case management systems and that opens huge opportunities for us. The fast access we have to a broad and structured set of

information means we can automate it.”

Halter adds: “99% is not enough, we will further increase that, and leverage the system globally for Credit Suisse.”

Cleverly, Credit Suisse has architected

the solution to have clear functional and technical separation between the client-side and market-side elements of the platform. This uniquely positions the bank to look at a range of payment utility options, either in-sourcing or out-sourcing of payments, over time.

“The great thing about this solution architecture is that it now puts the bank in a very good position to, ‘carve out’, the market-side elements of its payment processing at very low cost because the bank had the foresight to include this objective as a key element of its target operating model from the get go,” says Gardiner. Further cost saving will be achieved over time as the programme intention is to decommission the vast majority of the current payments application portfolio. However, as the vast majority of legacy systems support all flows and market standards, the bank has to wait to finish that job until the last release has gone live. Equally, as the bank determines to a finer degree what exactly it wants to offer to its clients, migration and decommission issues become clearer.

**Testing on the game**

Whereas testing used to be ‘the end game’, it has become a common practice to establish a testing practice right at the



**“A COMMON VALUE SYSTEM IS MUCH MORE IMPORTANT THAN ‘LOVING EACH OTHER’.”**

beginning, and throughout the project. As Gardiner tables the topic, Blankenberg reacts: “It is a huge challenge to have automated a high number of test cases for the functionality that we have already deployed in production. But anything in development is not yet stable enough to fully automate. In August this year we went live after having executed thousands of comprehensive test cases covering the new functionality; hundreds of test cases were fully automated covering the functionality from previous releases. For the next release the emphasis is on automating an even higher number of test cases as otherwise we will not be able to conduct our regression testing in a reasonable timeframe. Another aspect to consider is the integration complexity where the platform connects to the outside world and/or other services of the bank, such as FX, Messaging, Liquidity Management.”



ANDREAS HAHN



HENDRIK BLANKENBERG

Raif says, “Testing equals transparency for the project management, in particular for us working with many different partners on the team. These parties push and pull each other at different moments and paces. The developers need a high level of detail and push back, operations want a lot of testing and the business wants to go live with new functionality based on reliable production quality!”

Haubelt explains how it works: “Testing is already starting as part of the development services which is to a great extent managed by the Capco team. They first test it in their respective development environment, then in the bank’s end-to-end test environments, and finally do an integration and acceptance test with the business users in a production-near environment, involving the end-users as early as possible.”

**The hard impact of soft culture**

Well-functioning teams excel in exploring the new as well as relying on individual strength and mutual reliance and it is no different in the Credit Suisse project team. Culture and personalities can make the difference. For starters, in 2015, the two key strategic partners Capco and Clear2Pay

were united in one large global FinTech company, FIS. Two personalities with one common DNA: payments modernisation.

Blankenberg has so far seen many positive consequences: “We obviously opted for Clear2Pay for its state-of-the-art technology, but, in truth, at the beginning it was a bit of a black box to us. Now that we work with one partner the delivery has become more transparent, we have better visibility on where we stand and how we can help each other. One of the reasons for going for a vendor package is that we want to have an active and deep dialogue and knowledge exchange with global experts. Niche expertise is what we actively on-board and look for in working with these two partners– now one partner.” From the Capco angle, Haubelt observes: “We have obviously moved on from co-vendors to a much closer working arrangement, we better understand each other and staffing the project has become easier, too.”

Then there is the element of personality mix in a project team. Hahn paints the picture: “In operations you run a stable organisation with people who enjoy delivering excellent service as a daily business. Vendor package people love anything fast and new, programme people like change and we do need them all. We on-board the



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vendor package, we transition this into a stable environment and then run a better service. We aim to have, and do have, a good mix."

Raif speaks from experience: "A common value system is much more important than 'loving each other'. Listening, being open to somebody else's topics and arguments; in the end it is all about being professional and following one common vision and clear program goals. A program like this can be defining for your career path."

Haubelt decisively states: "We all have one major objective: building up a reliable delivery team, evolve together for the sake of delivering success. Always improve your way of working, test, learn and enrich on the go."

The cultural change element for his people is made tangible by Déneraud with an example. "What we underestimated is not so much the impact of the new technology our operators have to work with, but the new philosophy on how to process the payments," he says. "Our team was used to being and feeling responsible for a payment flow from start



WARREN GARDINER



**"AT NO OTHER TIME WAS THIS INDUSTRY AS CHALLENGING AND EXCITING A PLACE OF TRANSFORMATION AS IT IS TODAY. THIS IS OUR TIME!"**

NEDO HAUBELT



to finish. Today they must learn to be in charge of particular worklist items, a piece of the chain. Moreover they need to learn to be confident that their colleagues or the

payment system will take care of the rest in due time and this is a huge step for them. In mass payments processing this is quite accepted, but we also manage high value payments so going from total to work item responsibility is a formidable change."

Inevitably new technology does not have the level of familiarity or customisation on day one operators were used to. However Raif is confident that with proper training on the user interface and improved visibility the benefits will soon shine through.

**On track and beyond**

The bank is clearly on target, which in itself is no mean feat when one looks at the average industry benchmark. The 2013 programme roadmap presented to the executive board of Credit Suisse is still being delivered on, 90% of all required integration layer components are already in place, 100% of the downstream systems have been on-boarded and OPF is fully integrated with the Credit Suisse back office landscape. The start date for the Swiss market adoption of the SIC4 XML standard is July 2016 and by that time the system will have been tested for robustness and reliance in order to process the required volumes.

There is a very high likelihood that by that time the same people will be at the table as today, each expressing their

observations and impressions looking back and moving forward. Blankenberg is simply proud that the bank has met its ambitious goals to date, proud too of the great performance of the whole delivery team and happy that the FIS teams have kept their promise and continue to give their best. The operations men Halter and Déneraud feel the best is yet to come (in terms of on-boarding the CHF transaction volume onto OPF in 2016) and are enjoying the best time in their career. "How many chances to deliver a programme of this magnitude do you get in life?" Haubelt, ever careful and ambitious in one, reflects on how as the project matures, one needs to keep breathing for there is no time to relax and as the skin gets thinner, team success and unity builds new skin to keep moving on.

Concluding, Raif is simply pleased to live in this day and age in the payments business: "Sure, you need a level of know-how in this complex world and a lot of passion but at no other time was this industry as challenging and exciting a place of transformation as it is today. This is our time!"



RALPH HALTER



**CROSS BUSINESS AND INFRASTRUCTURE PERFORMANCE MONITORING**

Picture this: a bank is executing a large batch file on behalf of the government to pay out the monthly social security allowances. There is a hitch – somewhere – in the system and thousands of people wait in vain for the money to hit their current account before they go grocery shopping. A large construction company has bought overseas equipment and its delivery is critical in a multi-million fine-tuned construction plan. Something goes wrong in this high value international payment and goods are not automatically shipped and delivered on time on site.

These are not dreamt-up examples, these are real life events that illustrate how vital and important the – non-sexy – payments business is for the relationship between banks, clients and end recipients. Operations people in a bank know better than anyone else that picking state of the art technology for a

payments environment has to go hand in hand with a state of the art performance monitoring system across IT and business infrastructure.

When a payment goes wrong it really boils down to two possible avenues: there is a hitch in the IT infrastructure which can range from pure CPU issues to connections to external applications, or a changed or new business rule

(regulation, new product) is causing trouble. Today most banks run Business Activity Monitoring solutions alongside their payments infrastructure to manage the business environment and a host of IT applications to look after their infrastructure. At the moment of an incident smart IT staff have to >>

**FROM BLACK BOX TO WHITEBOX**



ETIENNE CASTIAUX

TOM VLEMINCKX

work their way through a myriad of options and systems to get to the root cause.

The enterprise payments team at FIS is in daily contact with customers to improve visibility, incident management and tactical as well as strategic performance monitoring of their payments infrastructure. The team has taken years of practical IT and payments experience and combined this with the new opportunities of unstructured data, the rise of real-time as the norm and the availability of modern and intuitive dashboards. Etienne Castiaux, Chief Technology Officer and Tom Vleminckx, Enterprise & Solutions Architect, lift the lid of the 'black box' called operational performance and Whitebox emerges.

Reflecting on how the first ideas around Whitebox performance monitoring were born, these ardent technologists looked at other industry successes that made people's lives easier. "If Twitter and LinkedIn had been written with a relational database, neither would be as valuable to their users as they are today," Castiaux says. "The secret of success is the huge amount of data but also the fact that you can find your relevant answers in the way that you find useful and interesting. This made us reflect on the operational support we offered around our Open Payment Framework (OPF). One can never guess how and what a user wants to find out, no matter how many scripts and rules you define. The human mind asks different questions at every single incident. Moreover, the payments space is rapidly moving real-time and real-time payments call for real-time



**"REAL-TIME PAYMENTS CALL FOR REAL-TIME ALERTS, MONITORING AND REPORTING."**

alerts, monitoring and reporting."

#### What is Whitebox?

Whitebox is a new solution built to allow performance monitoring of business and technical events coming from the Open Payment Framework and all other middleware and systems around OPF. It leverages new technologies like big data and allows for dashboards to be built on demand without complex tools. The monitoring can take place in a more transparent and quick way as there is no need for a – predefined – rules-based system, instead intuitive instant calls can be made upon the system and sub-systems across the technical and business environment.

"Different people in an operations environment have different information needs," adds Vleminckx. "With Whitebox we have opted for a holistic approach by turning a complex multi-layered ecosystem into one transparent place. The solution correlates

between different levels and when a business problem occurs it also dives deeper into technical layers to find the possible source and solution. Previously this was – and to some extent is – a painful route through hybrid and very different systems across OPF, middleware and deeper technical layers. This means different people, with different access, going through different systems in different languages. An environment like that is nearly as complex as the underlying system, inflexible and costly. It offers a lot of information that is available but hard to access, and as such often underutilised. With Whitebox we open up a lot of data streams that add value in terms of alerts, and reporting but also capacity monitoring and other forward looking activities. It is simply a



sign of the times, we move from structured data silos to unstructured and event driven and from batch to a real-time environment."

#### How does it work?

"OPF does not live on an island and nor does Whitebox," Castiaux explains, "so its reach across the entire ecosystem is wide from before, to during and after payments processing and as such it pinpoints events on the entire payments chain. Let me illustrate this by one example. "Performance management tests are often executed to check business performance or systems performance or simply to monitor whether the current infrastructure is optimal for the required volume. Whitebox does not only monitor OPF but also where and how it talks to external systems, it will offer a breakdown of the time it takes to execute a payment and it pinpoints: database, queuing, fraud

detection, infrastructure and CPU. This creates huge transparency which is beneficial for both supplier and bank. In talks with procurement teams we often had to reproduce events in a non-live environment to find future solutions or benchmarks, we can now do this real-time and live. We can increase the debugging of the system and retrieve relevant business and technical info that enables the maintenance people to intervene. If a bank needs to execute RTGS payments for top rank clients, this has to be done immediately."

#### What is the upside?

Realising that Whitebox is a solution that is being developed and enhanced as we speak, Vleminckx says that the benefits too will increase over time. "We have made the point about the benefits of a

**"WE'D MUCH RATHER TAKE PRO-ACTIVE ACTIONS BEFORE INCIDENTS ARISE AND SOLVE THEM."**



holistic approach across all systems. And in that one main benefit many sub-benefits reside. The cost of setting up and maintaining a classic IT monitoring system is high and on that banks have to layer business monitoring tools. Whitebox is available at a much lower overall cost for its performance only requires an additional 2-3 per cent CPU power.

"Secondly, as banks brace themselves for a real-time world, they must

have instant real-time monitoring and alerts so that within seconds they are up to date on what their system is doing. Moving into the future, in environments dubbed 'Payments as a Service, Utilities, Cloud' – dynamic solutions are a prerequisite. Provisioning 'on the go' is a massive requirement in a SaaS world as it improves the business SLA and decreases downtime. Whitebox leaves the guessing behind us and this is important as the invoice for infra is still very high in most banks."

#### What's next?

Having worked on Whitebox with an internal development team, FIS also made the choice to work with industry standard techniques and tools with regards to dashboard, consoles, etc. The library was built in-house in order to have control over specific performance requirements but techniques like big data indexing were also leveraged to build a modern and open system. Whitebox is compatible with multiple indexers but, based on rigorous testing experience, Splunk is being recommended. "In the short term we will focus on a broader reach into the functional space," says Castiaux. "Longer term there are options for any system environment with complex processing flows of large amounts of data and a heavy reliance on many (internal) systems. Nearly every bank's system can be characterised like that, and at FIS we have more experience than most companies in this area. As a team we draw inspiration from the movie *Minority Report*; we'd much rather take pro-active actions before incidents arise and solve them, technically that is the path we will follow."

# BNY MELLON – ONE YEAR ON

Reach and impact of a centralised Global Payments Infrastructure

Having received both a Celent Banker Award and the prestigious *The Banker's* Tech Project of the Year 2015 in the payments category, BNY Mellon's Global Payments Infrastructure project, it is safe to say, continues to attract global attention since we first covered it in last year's *Banking Technology* Sibos supplement with an extensive roundtable on the programme. Since going live in January 2014 with its first payment offerings, BNY Mellon's London branch has significantly increased the number of global currencies it can provide and process through a single system, with the total expected to exceed 120 currencies over time.

But that is only the beginning. The new infrastructure operates as a single platform geared to process payments regardless of their value, initiation method, settlement mechanisms or location. Following a development process that began in 2009, the platform saw a multi-year, multi-phase release with some components still to be released in various locations. The standard and stand-out feature of the platform is its flexibility. With a core payments hub that works in cooperation with various sub-systems through the end-to-end payments process, new services and clearing channels can be introduced to the infrastructure without jeopardising or disrupting the core.

On a hot summer day in late August, we sit down in New York with Michael Bellacosa, managing director and head of global payments for BNY Mellon Treasury Services, and Doug Gross, general manager enterprise payments for the Americas at FIS, who have worked together on the project from the day BNY Mellon selected Clear2Pay's Open Payment Framework (now FIS) as the core payment hub for their project.

"If you ask me where we stand today," Bellacosa says, "I am happy to say we have implemented multiple phases and it works really well, which is great from a business perspective. It does what it is supposed to do, so we can focus on new capabilities and new markets. Most important, in terms of major concerns when you undertake large infrastructure

changes, our clients had no service disruptions. The quiet was a good thing in this context: no news is good news."

## Beyond payments

The Global Payment Infrastructure, though initiated and sponsored by BNY Mellon's Treasury Services business, touches the company on a wider scale, which is one of the core foundational principles of a payment hub. "With this system, we can quickly adapt to regulatory changes in particular jurisdictions and geographies. A good example would be an EU-based central bank's request for BNY Mellon to clear and settle using one of our EU bank entities. Accommodating this request supports our investment services business in the market," says

Bellacosa. "Another example was offering CHAPS clearing in the UK. The capability supported securities cash settlements, but we were able to leverage the hub concept to also roll out direct correspondent bank clearing for our treasury services business. There are also features that we can leverage across the entire business, such as liquidity management. We looked at how we manage intra-bank exposure at the central bank and nostro network levels across the company, not only to monitor and understand exposure, but to allow for forecasting with machine-learning capabilities and control tools, such as throttling, to manage those exposures. We concluded that, with a leading-edge platform and roadmap, we had a good foundation for optimising



**"A COMPANY CAN ONLY BE READY AND PREPARED WITH THE RIGHT OPEN FRAMEWORK"**

**MICHAEL BELLACOSA, BNY MELLON**

our offering and working with our global clients to identify how we can extend those features to them from a liquidity management perspective. We explained what we were developing and, client by client, we got incredibly positive feedback that enabled us to push our initiatives to the market. In the process, we modernised our company's and our clients' experience."

## Enriched data

Another topic that is much talked about these days is 'enriched data' or how to lift a pure payment into a wider contextual space. If viewed in a larger transactional context, payments can be of huge value in understanding a client's business and delivering enriched data to the client. Now that the company has a central ecosystem for payments, there are repositories for the data flow from which it can deliver more and more relevant data, faster, to the company's

clients. This data ranges from liquidity information to trends and flow forecasts on any BNY Mellon account impacted by a given transaction.

On the payments side, a holistic, enriched-data view has already led to a higher degree of STP for both company and client payments, and to an increased understanding of information related to payment processing costs. Making this information available to clients – both payment values and their client-specific data – helps clients better understand their payment flows, and gives clients a total view across the whole spectrum of their payment activities. The company not only gives its clients this view but, on top of that, layers the company's industry perspective so that clients can benchmark against industry norms.

Gross has been close to the project throughout. "Moving on from the initial plumbing and electrical connections stage," however, is no mean feat in terms of operations, as the infrastructure is connected to a myriad of source systems and the capabilities we created are a result of leveraging the entire infrastructure and bringing data together," he said. "We are now at a stage where the bank can focus on powerful innovation and this overlay insight prioritises to a high degree which element will go live next."

## Staying true to 'openness'

At the time of the launch, emphasis was placed on building a truly open industry-standard-based infrastructure. "No one can predict future trends," Bellacosa notes. "A company can only be ready and prepared with the right open framework." Bellacosa confirms that the company stays true to its intent for the simple reason that it pays off. "Because of the openness, we have been able to augment and expand the platform quickly and efficiently. From a business perspective, it is incredibly valuable to see how much you can do now that the core open system is in place."

Gross: "We can relatively easily add new currencies, but even new >>



**MICHAEL BELLACOSA, BNY MELLON**



**DOUG GROSS, FIS**



“IN THE FUTURE, IT COULD VERY WELL BE THAT THE MOST VALUABLE PIECE OF A PAYMENT IS THE RECORD, WHICH SHOWS WHO HAS OWNED AN ASSET.”

DOUG GROSS, FIS

values that might be unknown today can effectively be processed in the future.”

Bellacosa adds: “As a payment services provider, we are evaluating what cryptocurrencies

and Blockchain-type technologies can bring to the payment services we provide internally to other BNY Mellon businesses and to the services we provide to external clients. Payments are a key focus for our Innovation Labs in Silicon Valley and other locations. Our research and interaction with start-ups and venture capitalists enable us to stay current with emerging technologies both at the Lab and through proof of concept engagements to begin to develop a vision on how these new technologies can provide better service to our clients. Developments in technology impact more than just payments and correspondent banking; other value transfer activities, notably securities or trade, may also be impacted. There is a place for this in the future. In fact, it is probably inevitable and there are very sensible use cases that will evolve as a result. We’re not likely to see the use of Blockchain for US ACH transactions today, but there are relevant explorations around regulatory compliance, complex letters of credit, settlement activities, etc. The core issue in this quest is: do these technologies genuinely add value for a specific activity? And, if we add something new, is it too complex, or



will it solve for current limitations? Will it reach critical mass as a value add?

So yes, we are very open to new technologies and initiatives, but we don’t want to just add more ways to do the same thing and get to a point where there are many solutions performing the same core functions. We see technology innovations developing in pockets in various markets, some receiving support in varying degrees from regulatory bodies. In addition to the collaboration taking place in our innovation labs and across our business and tech teams, we’re also making substantial investments to better understand relevant technologies, conduct various proof-of-concept exercises, and engage with various partners and clients. We stay very close to the developments and we see that as the most pragmatic way forward. Making sure we’re nimble, agile and able to do things faster is key. The industry is moving quicker than ever before. Rising client expectations coupled with a heightened regulatory environment that includes local, national, and, increasingly, harmonised global compliance requirements, makes it a challenging and exciting time.

“At FIS we feel that no customer expects a cut and clear answer to

crypto-technologies, but they want to be sure that we look at these developments and prepare for it to protect their business. And, in the future, it could very well be that the most valuable piece of a payment is the record, which shows who has owned an asset” adds Gross.

#### The bank has got to figure it out

BNY Mellon is executing on the company’s mission by growing with clients in terms of types of payments, geographies and currencies: to see where the client is and try to be a few steps ahead. When it comes to data, information and reporting, the company continues to evolve. “Understanding what our clients need tomorrow is key. To gain that understanding I continually speak with our clients around the world. However, we as a treasury services provider owe it to them to have a vision and strategy of our own for the future. Based on this vision, we set out scenarios on how and where we think we need to change our business and then get feedback from clients and industry stakeholders. We get our best input when we put a potential future into a context for our clients that’s aligned to their business activity – ‘what if we had this’ and ‘would it work if you could do that’. That feedback helps shape our direction and maintains our alignment to client needs. At the end of the day, we have to figure it out or someone else will.”

## TESTING IN A NEW MOBILE PAYMENTS ERA – DYNAMIC MANAGEMENT



The payment industry has always been busy creating the best possible payment experience. Yet strangely enough, it’s trendy technology companies that are introducing the likes of Apple Pay, Samsung Pay and Android Pay and disintermediating banks. Clearly these initiatives, which are supported by the traditional stakeholders of the payments business, are now here to stay.

Most models make use of Hosted Card Emulation (HCE), much applauded by issuing banks - as it allows them to have more control over the product life

cycle, compared to the SIM-based ‘secure element’ or SE model which is controlled by the telco or manufacturer. Global payment networks, such as MasterCard and Visa, are hedging their bets and have integrated both models into their existing infrastructure. So is this shift finally the silver bullet for mobile? Sure looks like it. However, it requires a new look at the card application management...

#### The new dynamics of virtual payment cards

Banks need to be aware that the digitisation of cards and the

tokenisation of data make card issuance and management more dynamic. For instance, once a traditional payment card is in the hands of the cardholder, the opportunities to intervene are limited; the card ultimately expires and is replaced. Today, payment cards are becoming virtual and payment applications can easily be updated. Further, when changing or upgrading handsets, payment applications are re-installed and typically the life of a smartphone is now shorter than the average life of a plastic payment card.

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### Tokenisation, say what?

A mobile phone's operating system isn't secure enough to hold sensitive payment data. It is simply unsafe to store and use the card number (PAN) and cryptographic keys as static data in this vulnerable environment. Here's where tokenisation comes into play: frequently replacing the digitised card's mobile account-related data (including the PAN with a token) reduces the risks linked to stolen credentials and prevents their replay into the payment system. This results in another dynamic process of mobile account management.

A number of players are involved in managing the new dynamics:

- The mobile payment platform takes care of the management of the card application. This includes authenticating the device and the user, and providing secure communication between system and device.
- The cloud-based payments platform is responsible for digital issuance and token management.
- The digital issuance handles account (data) management and key management.
- The token service provider (TSP) is in charge of token generation and validation (during payment transaction processing).

With the different roles within a mobile payment environment explained, it is interesting to see how these roles are being shared out in the emerging landscape. To facilitate the adoption of cloud-based mobile payment, the global (credit) payment network brands have taken the initiative to provide tokenisation as service. Elsewhere, other parties are providing solutions for card issuers, merchants and mobile wallet service providers to act as a token service

provider. It will be interesting to see how relevant these 'new kids on the block' will become.

### Beyond the pilot phase, towards global interoperability ...

Interoperability has always been the great driver for global payment. With a huge number of people paying abroad, be it via plastic or phone, it is a prerequisite for success. Let's have look at interoperability from different angles and how testing comes into the play:

#### 1. At the merchant acquirer side ...

Cloud-based mobile payment has limited impact on the card acceptor infrastructure. At the terminal, the emulated card is processed as if it is a contactless card and the payment transaction data processing is transparent for the acquiring bank infrastructure.

The existing official test infrastructure to support the global card brands has been updated in two ways:

- Testing of the contactless EMV interface between terminal and mobile device covers the subtle changes between SE-based and HCE-based tokenised EMV transactions.
- Testing of the transaction processing further down-stream between the acquirer, the network infrastructure and the issuer has been extended to support conveying the token related data up to the issuer.

#### 2. ... at the issuer side

Making the new components connect into the existing issuer infrastructure poses more challenges. The existing infrastructure may need to interface differently with the new

components - with strategic choices to be made:

- The perimeter of the 'own' system, which determines the data to be exchanged and kept synchronous across the border with third parties.
- The choice of the mobile payment technology provider, dictating the communication protocols between the system components.

With this new technology comes the opportunity for banks to play a lead role and take control ... and with control comes responsibilities such as testing which some are keen to delegate. In a global payment space there are the obvious external obligations to ensure that the financial institution's infrastructure seamlessly plugs into the worldwide network. But there are internal expectations too, like ensuring that added value services like loyalty and couponing can easily integrate into secure payment solutions.

Tokenisation, used correctly in a properly configured application, provides the cornerstone to building safe solutions – ensured by complete testing.

### A novel means of payment with high potential

Cloud-based mobile payment gives issuing banks the opportunity to control the complete life cycle of the payment application. With trust playing a key part in customer uptake, interoperability and security are essential elements; extensive testing and new certification processes will be high on the agenda for all involved. The future looks fascinating and rewarding for everyone, bringing new opportunities for banks and a richer payment experience for customers.

# A CONSUMER PERSPECTIVE ON BANK PERFORMANCE

## Understanding Performance Against Customer Expectations

Keeping retail banking customers satisfied is a tougher job than ever before. Customer expectations of their banks' performance are increasingly defined by, and compared to, non-bank industries,

raising the bar for service provision. Worse, consumers are bombarded almost daily with reports of security breaches raising concerns over the safety of their finances. And all the while a wide array of new challengers

are entering the market and chipping away at revenue once controlled by banks.

### FIS Consumer Banking PACE Index™

In order to assess the current state of banked consumers' perspectives on how their primary banking providers are meeting their expectations, FIS created the FIS Consumer Banking PACE Index™. The goal for this research is to help banking providers identify more clearly and prioritise more effectively those areas of performance improvement required to deepen consumer engagement, sustainably.

The FIS Consumer Banking PACE Index tracks how financial institutions are performing against customer expectations among 9,000 banked consumers in nine different countries, including Brazil, Canada, France, Germany, India, the Netherlands, Thailand, the United Kingdom and the United States. This research identifies areas where banking providers are outperforming expectations, areas where they are underperforming and the most critical areas that need to be fixed to improve performance.

The shocking reality is that 77 per cent of global consumers perceive gaps in performance. >>

## BELOW CUSTOMER EXPECTATIONS



### Banks are not perfect in safety and security

Unsurprisingly, consumers place the greatest importance on safety and security and expect their banks to be trusted to effectively protect assets, including money and personal identities. Globally, banks are perceived as falling slightly short on safety and security.

### Banks do not offer a fair and open proposition

Customers register a wide gap between expectations and performance in the areas of fairness (no hidden charges or fees), reliability (following through on promises) and transparency (providing easy-to-understand pricing and terms).

### Banks do not do enough to help people control their finances

Customers place above average importance on personal financial control as a factor that empowers them, but globally, banks fall short of enabling control.

### Banks don't recognise customer value enough through rewards

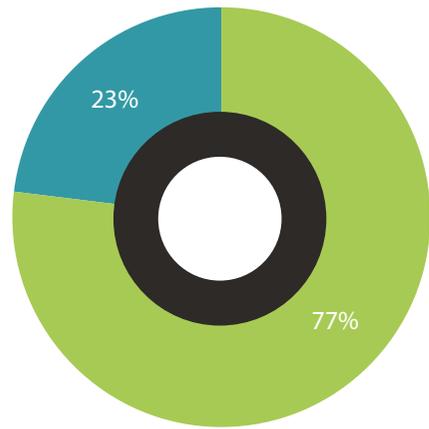
There is a wide gap between consumer expectations and bank performance in the area of recognition for bringing personal business to the bank.

### Banks are insufficiently focused on customisation

Although most consumers indicate low demand for customised banking products, banks are still seen to be falling short in the area of tailoring products to individual profiles and needs; banks score much better on the higher ranked attribute of product simplicity, i.e., providing products that are easy to understand and use.

### Banks don't do enough to help customers achieve their financial goals

Consumers have modest expectations for obtaining financial advice to help them manage their money or achieve the goals that are important to their lives. Banks are falling short of delivering on customers' modest expectations.



Bank is meeting or exceeding expectations

Bank performance falls short of expectations

They believe their primary banking provider is not meeting expectations across a range of factors essential to building relevance and trust. Although banks excel at using digital technology to meet consumer

needs for convenience and access, performance lags in fulfilling some basic banking requirements.

As the industry forges ahead with advanced technology, crucial flaws remain in providing the very basics of banking regarding fairness, reliability and transparency. Improved delivery of these basics is a prerequisite to developing trust and earning customer permission to achieve the ultimate objective: providing relevant advisory services focused on personal financial goals and leading to profitable, long-term relationships.

**Getting Back to Basics – Safety and Convenience Beyond the Transaction**

Banked consumers have extremely high expectations for banks to keep their money and information safe and secure and deliver a fair and open deal. Capabilities that right now

provide superior convenience and channel access can achieve more for the consumer and the bank. They should be utilised to evolve relationships beyond providing transactional convenience. They can and should extend to facilitating sound money management and financial goal attainment.

**Pleasing All of the People All of the Time**

The index results clearly suggest that banks today are not pleasing all the “right” people – the people with the greatest revenue potential. Instead, the bank is pleasing consumers with declining age demographics (older) and reduced uptake of the higher-value products and services that characterise a fully engaged bank relationship.

Meanwhile, the younger, higher-earning, tech-savvy consumers who have greater potential to engage in high-value bank relationships have expressed concerns about banks and are consequently more likely to consider offers from alternative financial services providers. In response to demographic contrast between traditional consumers and younger more affluent customers, banks might be tempted to undertake an overhaul of marketing focus and service styles, talking exclusively and appealingly to the under-40 demographic, because they are the future of revenue, market share and profit.

Banks should resist this temptation, because the demographic focus of banks’ marketing and business development initiatives is not what needs fixing. It is the underlying issues of service delivery and service styles that need to be addressed. Trust, fairness and relevance can be developed universally without favouring any specific demographic.

**MEETING CUSTOMER EXPECTATIONS**



**Banks are providing convenience**

In fact, they are exceeding consumer expectations for delivering a convenient banking experience.

**Banks are providing connectivity**

Overall, consumers rate banks as performing above expectations for enabling their connectivity, including anywhere, anytime access through online and mobile banking.

**Banks are perceived as facilitating digital payments effectively**

Overall, consumers rate banks as performing significantly above expectations in digital payment options for financial transactions. This area is in fact the biggest positive performance differential among all attributes surveyed.

**Banks are seen to be performing well at providing omnichannel service**

Most consumers believe that banks provide consistent account information across all the possible points of contact with the banking provider.

**Banks are meeting product innovation expectations**

A small portion of consumers place high levels of importance on offering more leading-edge products than other financial institutions as a differentiating factor between banks. While most consumers simply require market-parity product performance, consumers positively ranked banks’ performance around product innovation.

**Banks exceed expectations for in-person service**

While older consumers and consumers from more developed European countries place the most importance on face-to-face service, even millennials favour personal service when they have issues to resolve.

SINGAPORE

“WHERE CHEFS EAT”

Most important book review for the week

Just as the financial services industry has rating agencies giving advice on institutions’ health, and industry analysts commenting on who trumps who in financial technology, restaurants have long relied on restaurant critics, from institutions like Michelin or the feared local newspaper reviewers.

The internet turned every diner into a food critic and restaurants now watch TripAdvisor and its likes as much as the established critics. Choosing a restaurant has become a fun, transparent and virtual exercise.

Cutting across that, one man – Joe Warwick – came up with the great idea of asking chefs where they eat after their own shift is done: where they celebrate, what their local favourite hangout is, where they fill up at budget prices and which restaurants they wished they had opened in their lives. This amazing journey brought him to publish *Where Chefs Eat*, covering 70 countries, including Singapore which is great news for Sibos delegates. The book reviews more than 3,250 restaurants all around the globe and gives a totally new and much more varied insight than any restaurant guide before and as such it is must have for travellers looking for original and authentic suggestions around

the world. So for the foodies in Singapore who want to have a late night bite, a suave client dinner, a relaxed team dinner, check this out. In true Sibos style we have chosen chefs from around the world, go for the chef, the type of restaurant or food, or occasion, the choice is yours.

• **DB Bistro Moderne**, also in The Shoppes, offers oysters and “superb” seafood with an Asian touch. “Chef Jonathan Kinsella does great truffled scrambled eggs on toast” which Almany recommends as a brunch treat in this bright, fun and lively restaurant.

• For luxury dining and entertaining, there is another “superb” place on the Sibos doorstep: **Waku Ghin** in the Marina Bay Sands hotel offers “probably one of the best concepts in the world as it is the most refined dining experience I have ever had. The best thing is that you get to watch all the food being prepared in front of you”. Legendary chef Tetsuya Wakuda >>

**‘FREE SPIRITED, REFINED AND BEAUTIFUL COOKING.’**

TOM KERRIDGE

Chef **David Almany** originates from Los Angeles. For years he was chef in the much acclaimed Osteria Mozza (yes here in Marina Bay Sands) and is now busy laying out the plans for a new restaurant in Singapore called Angeleno. His recommendations:

• **Cut**, in The Shoppes at Marina Bay near to the Sibos location, does not come cheap but offers the best steaks in town. Smart casual attire, credit cards accepted for those in need of some extra iron to get through the week. Reserve for dinner.



# ‘Late at night I like to drop by for some sinful chicken wings.’

SEBASTIEN LEPINOY

opened his first venture outside Australia – some lucky Sibos veterans may remember him from Sydney in 2006 – in this French-influenced Japanese restaurant, where guests move from room to room for each course, while enjoying spectacular views of Singapore.

- Still nearby, more affordable and a local favourite of his, is **No Signboard Seafood**. “This place sums up Singapore. It is casual and fun with unbelievable live seafood. Being there and having the chef cook whatever is best that day, is a great experience.”

- Orchard Plaza is home to one of his favourite small and intimate Japanese restaurants **Otowa**, very affordable and casual its twelve seats assure a delicious and highly personal experience.

**Julien Royer** is a famous French chef who has brought his knives to Singapore, where he currently cooks in **Jaan**, located in The Stamford Swissôtel and ranking 74<sup>th</sup> on the world’s best restaurant list. He would suggest we try nearby:

- **Brasserie Gavroche**, a French brasserie style restaurant, casual and affordable that serves “really good comfort food, great ambience and good value”.

- A good late night place to go to, apart from Monday, is **Bar-Roque**

**Grill**, for an international bite at reasonable prices. “The food and drinks are as good and generous as the owners Kori and Stephane. His tarte flambée is fantastic”.

- More centrally, near Orchard Road, you can sample “the best soup dumplings in town” at **Din Tai Fung**, a casual Taiwanese restaurant, no reservations but surely a local favourite. “Always good, consistent and their *xiao long bao* are delicious”.

**Sebastien Lepinoy** is another French chef who took his flavours east and now cooks at **Les Amis**. His suggestions are two lower price neighbourhood restaurants for ‘man food’:

## ‘It’s cheep and tasty. A taste of Singapore’

REIF OTHMAN

- **Ice-Cold Beer**, as the name suggests, is a good place to go after a drinks party or dinner when you talked more than ate. It is budget, casual and offers the best bar snacks in town. “Late at night I like to drop by this place for some sinful chicken wings (which might be just the best in town)”.

- Anyone who likes top quality burgers with a hint of French cuisine should head for **&Made** on any day of the week. “&Made is my favourite burger place in Singapore at the moment, the ambience and vibe of the restaurant is really fun and

the burgers are unique as well,” says Lepinoy

Italian chef **Massimo Bottura** was “partly as dare, partly as joke” taken to **Pizzeria Mozza**, in the bay area, where he was “hugely surprised by the really good pizza”. Another budget choice in the area for authentic Singaporean street food can be found at **Lau Pa Sat** near Raffles Place, a favourite of Belgian born chef **Gunther Hubrechtsen**: “After a busy night I will treat myself here to some good dim sum.” Indian street food is good at **Tekka Food Centre** in the bay area, according to chef **Reif Othman**. No credit cards, but open seven days a week and a real bargain for authentic Indian cuisine, he reckons.

Finally for those wishing to enjoy and impress, two higher price choices which get very broad acclaim from a range of chefs. **Chong Chee Loong**, who made the reverse trip and now cooks in Tallinn, is very fond of **Bacchanalia**. The name says it all: expensive, smart casual, this is the perfect international and modern place for exquisite food. “Impressive, I love the ambience and food. The portion size is perfect and you can share multiple dishes”. More into town, **Iggy’s** is located in the Hilton hotel at Orchard Road. Chef **Naren Thimmaiah** dined there as part of a group of chefs from India and China and all were “overwhelmed by the dining experience which was a treat for any chef”. Progressive food with ingredients from Europe, Asia and Australia with a fantastic eye for detail will surely please any taste bud of your guests.

With many thanks to Joe Warwick for putting this life work together, the book is also available on iPhone or iPad app on [itunes.com/phaidon](http://itunes.com/phaidon). Be prepared!



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