SaaS can thrive on cloudy thinking

Software-as-a-Service (SaaS) is not a new concept, but it is a growing one as utilities rise up the agenda at financial institutions seeking to cut costs and silos, pursue internal digital strategies and increase flexibility. FX-MM's Neil Ainger examines what is and isn't SaaS and its adoption in the cloud at banks, treasurers and other FIs.

Hotmail or gmail is a Software-as-a-Service (SaaS) solution. It is not a new concept at all, despite what some vendors may tell you, and is sometimes referred to as 'on-demand software'.

Whatever you call it, SaaS is merely a subset of cloud computing where the software is licensed and delivered on a subscription or sign-up basis and centrally hosted with appropriate IT security protection and updates, for multiple tenants, often via a utility provider (see *'Definition of Saas'* on page 16).

The key phase there is centrally hosted. If it isn't centrally hosted and shared to various end users from the centre then it isn't true, pure play SaaS. More likely, it is a private cloud solution at a large financial institution (FI) which uses SaaS internally in its HR, CRM salesforce platform or other similar 'non-core' applications.

Sebastian Rojas
SWIFT

"SaaS is a hosted multi-tenanted solution where the user accesses it, but doesn't look after the software on its own servers," explains Sebastian Rojas, SWIFT's manager of cloud initiatives, such as the Alliance Lite (AL) 2 direct cloud connectivity option and the new AL2 for Business Applications programme. This was launched at Sibos 2014 and is targeting application providers that want to embed out-of-the-box SWIFT connectivity into their own offerings, initially targeting treasuries and securities/funds firms. "The ownership model is what matters."

"SaaS is gaining in popularity at FIs. SWIFT alone has 1300 customers that currently use its cloud connectivity solutions, by which I mean the AL2 offerings," said SWIFT's Rojas. "Organisations need to find efficiencies in how they manage their operations, without adversely impacting the back office [*particularly in a low interest rate regulatory environment where the cost of capital and of simply being a bank is going up under Basel III rules -Ed.*]. SaaS can potentially help, especially in non-competitive areas such as on sanctions screening duties or other compliance obligations."

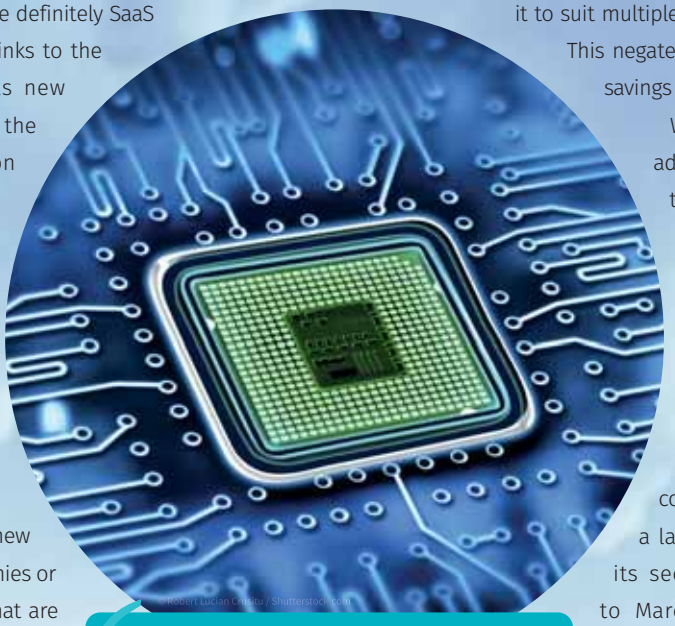
Andrei Charniauski
IDC Financial Insights

RBS is a good example of a bank having to cut costs post-crash. It is in the middle of a major reorganisation contracting to 13 core nations in 2015, from 38, as part of a more regional focus on the UK and Western Europe. It has cut costs by £1.1bn so far, with another £800m of cost savings being targeted this year. The bank's chief executive Ross McEwan revealed the plans during the 2015 spring reporting season on 26 February when RBS registered a loss of £3.5bn for 2014, down from a £9bn loss the previous year and mostly due to a £4bn writedown on the sale of its US business, Citizens. After one-off costs are stripped out operating profits at RBS were actually £3.5bn last year, the highest since 2010, illustrating that the bank is quite advanced in its downsizing and re-focusing on a banking environment where return on equity (RoE) is lower, compliance costs higher and more efficient IT is now a necessity to reduce baseline operating expense. SaaS is one way to get these efficiencies, although it tends to be via shared compliance platforms in the banking arena, not via core banking SaaS. It's also fast to introduce and scalable aiding digital banking initiatives.

Treasury customers and capital markets participants, such as

FX traders or money market players and asset managers are more obvious immediate customers for SaaS solutions, rather than banks, as they don't have such large legacy IT estates or capex budgets.

"Regulations and compliance are definitely SaaS drivers," says SWIFT's Rojas. "This links to the need to reduce costs anyway as new 'challenger' banks seeks to enter the market or risk demands fall on treasurers. This requires more agile IT infrastructures that can flex to meet new demands." Flexibility is the other key driver during an era when banks are pursuing more mobile and digital strategies on new technology platforms.



© Robert Lucian Ciobotaru / Shutterstock.com

If it isn't centrally hosted and shared to various end users from the centre then it isn't true, pure play SaaS

A new challenge

Banks have to go digital to battle new challenger banks, often tech companies or payment service providers (PSPs) that are attempting to disintermediate them and get the crucial customer-facing relationship for themselves. If established banks can move towards SaaS to battle newcomers' use of it for efficiency purposes they will; but it's much easier said, then done, particularly when you have large legacy IT. Look at RBS' week-long IT crash in 2012 which was caused by trying to update a piece of CA-7 software on its core retail banking system run out of its Edinburgh operations centre. Tinkering with existing systems is not easy. However, old legacy estates cannot remain untouched forever.

"SaaS is not really usable for [core] banking except in niche instances by small credit, mortgage or specialist lenders, or those with a single product or new offering," says Andrei Charniauski, Head of Europe for the IDC Financial Insights consultancy, which recently completed an IDC MarketScape report on the Worldwide Core Banking Solutions used by European banks. Non-competitive compliance duties via shared financial utilities, such as Thomson Reuters Accelus Org ID KYC platform or the like are fine, he implies, but core banking SaaS activities are another matter.

"I can only think of a few examples, such as Mambu, that offer a true cloud-based SaaS overall operational model to small FS clients across loans, financial inclusion and the like, but they can only do this because a single, simple interface is all that is required. There are no huge databases to worry about with smaller clients pursuing core banking SaaS, or too much product/channel complexity, as with Tier 1 banks, so it can work," says Charniauski. "Most vendors dream of pure play SaaS and indeed offer it, but bank take-up will always be limited by legacy issues [*particularly prevalent where lots of M&A activity means one bank's IT can often be layered atop another -Ed.*]

"Banks have too many channels across cards, checking accounts, loans and so forth; they have too big a profile for pure play SaaS. A Tier 1, 2 or 3 bank, for example, cannot just buy one solution and run it off a shared platform without expecting to have to customise it to suit multiple channels or siloed infrastructures. This negates the expected economies-of-scale savings and benefits of SaaS."

What is inhibiting the widespread adoption of SaaS by banks is simply the customisation requirement. "It kills SaaS," says Charniauski, who adds that banks' share of the core banking SaaS market "is around 10%."

Bottomline Technologies, which has many clients in the banking, financial institution and corporate payments space, is seeing a large increase in the popularity of its secure cloud solutions. According to Marcus Hughes, Head of Business Development: "In a business context where regulation and technological evolution require permanent upgrades to applications, SaaS becomes the most predictable and flexible model in terms of investment for users; they can control their costs and focus on the level of services they want from the cloud;

Marcus Hughes
Bottomline

that's the reason why users need to select a service-rich cloud offering to benefit from not only connectivity but also added-value functionality such reconciliation, data transformation, cash and liquidity management, sanction screening, mobile access, and predictive analysis, all of this in order to stay ahead of the market and regulation. The cost predictability is also valuable for the cloud provider who can better plan investments and leverage income to provide more added value services. It is a win-win model"

Utilities and banks

Financial utility platforms tend to be more popular uses for SaaS than core banking applications. Examples of SaaS solutions with multiple tenants in the financial utility arena might include the utility-focused DTCC Clarient Global entity hub for post-trade data, tax platforms for treasurers, or SWIFT's sanctions screening or KYC Registry for Know Your Customer reporting in the anti-financial crime arena. The Continuous Linked Settlement (CLS) foreign exchange (FX) settlement system could also be seen as a closed SaaS operation focused on serving multiple tenants' operational needs, albeit in a restricted access manner that isn't pure play SaaS.

Some smaller banks, such as Metro Bank UK, with its use of Temenos' T24 core banking solution on a SaaS subscription basis,

do use the operational model to run their current account core banking processing requirements – but it is unusual and you generally have to be a new 'challenger' bank, without legacy encumbrances to go down this route. Core banking SaaS is a very small subset of the market presently, with treasury management systems (TMS) or capital markets end uses for reference or trade reporting data much more popular.

According to Lawrence Freeborn, Senior Research analyst at IDC Financial Insights, it is not plain sailing for new challenger banks to easily adopt SaaS either, as is often assumed by virtue of their smaller size. Atom Bank, which coincidentally is coming to market this year under the helm of Metro Bank's ex-UK head, Anthony Thompson, is using the Fiserv SaaS Agiliti platform on a pure play SaaS basis, but it's too early to be accessed yet. "There is no legacy, which helps, but there are still linkages that need to be made across different channels and complexity. This can reduce economies-of-scale savings and its unknown how well these platforms will scale up as challenger banks grow and future innovations have to be accommodated."

Despite this Ben Robinson, Chief Strategy Officer at Temenos is bullish, commenting: "We're seeing a general increase in moving core banking to the cloud, and for some segments such as microfinance, it is moving very fast," he says. "In addition, there is a real push for SaaS in emerging markets, especially in regions such as Latin America. Just this week, for instance, we launched the T24 country Model Bank for Mexico initiative in the Microsoft Azure cloud. There are two early adopters for the Mexican service – namely, Servicios y Financiamiento Agrícola, S.A. de C.V. (SeFia) and Sociedad Financiera Campesina S.A. de C.V. (Soficam)."

Lawrence Freeborn
IDC Financial Insights

Private clouds

This may be so, but as mentioned previously, introducing SaaS core banking into large Tier 1 banks is all but impossible. Instead they are using 'SaaS' in internal private clouds – so it's not pure play as they're hosting the software themselves – and using the service model for internal efficiency purposes. As Bill Pappas, Chief Information Officer (CIO) for global wholesale banking technology and operations (GWBT&O) at Bank of America Merrill Lynch (BAML) explains he has 290,000 users across 40 countries, and 12 different languages, to cater for. "There are also 32,000 single sign-on accounts to manage for wholesale clients," he adds, so there are other end users for

Definition of SaaS

The US National Institute of Standards and Technology (NIST) definition of cloud computing is below. Note that Software-as-a-Service (SaaS) is just a service model and subset of it. Just because something is in the cloud does not mean it is SaaS.

> *"Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."*

This cloud model is composed of five essential characteristics; three service models, including SaaS; and four deployment models, says NIST.

The essential characteristics are: • On-demand self-service; • Broad network access via mobiles, workstations or the like; • Resource pooling of bandwidth, data storage, etc; • Rapid elasticity to scale up or down as required; • Measured service so that usage can be monitored, controlled and reported, providing transparency.

There are three service models available in the cloud according to NIST:

- **Software-as-a-Service (SaaS):** The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. Applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g. web-based email), or a programme interface [*the latter is more relevant for business and FI end use -Ed*]. The end user does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings. [*FIs will often be in this "limited user-specific" segment due to the desire for security and to control access and data as deposit-takers -Ed*].

The other two service models are Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS). We need not concern ourselves with either of these two definitions overly, except to say that the service model terminology is sometimes used interchangeably by vendors and FMIs, especially the latter where IaaS is occasionally inadvertently cited as SaaS, in a utility say.

The four deployment models defined by NIST are:

- **Private cloud:** This cloud infrastructure is provisioned for exclusive use by a single organisation comprising multiple consumers (e.g. business units or bank customers if an internal cloud). It may be owned, managed, and operated by the organisation,


Ben Robinson
Temenos

BAML's hosted software that aren't internal – for instance, via their CashPro Online cash management portal.

BAML is currently undertaking a radical overhaul of the bank's wholesale technology systems and infrastructure as part of its Wholesale Model Bank project, which started in 2010. The aim is to cut costly internal duplication, inefficiencies and inflexibility, post-merger, in order to offer a more useful, compliant and scalable platform to its customers. As Pappas says, "the project is intended to reduce, replace and harmonise our systems."

There has been a rise in FI SaaS adoption, agrees Hans Tesselaar, Executive Director at the BIAN organisation that seeks to agree common developmental standards and coding to allow banks to operate with service orientated architectures (SOA). These make software easier to 'plug in' and integrate, regardless of legacy. "Traditional banks have been relying on out-dated IT systems that were developed in a pre-internet era," admits Tesselaar. "These systems have become a convoluted mess as banks have added layers of technology in an effort to modernise and offer new mobile and other products to compete with newcomers.

> *Treasury customers and capital markets participants, such as FX traders or money market players and asset managers are more obvious immediate customers for SaaS solutions, rather than banks, as they don't have such large legacy IT estates or capex budgets*

"We see banks making SaaS one of the cornerstones of their overall IT renewal programmes," continues Tesselaar, who argues that within a well-defined IT architecture SaaS can be used as an intermediate step toward an own cloud environment, or in some cases it will be the desired end-state itself (typically for smaller banks). "Embracing SaaS would allow banking institutions to pick and choose best in class IT solutions for various services and even outsource some of their business functions to other parties, or banks, which may be able to perform these tasks more efficiently."

This is certainly how BNY Mellon, which likes to promote itself as the bank for banks and is active in the key asset management, servicing, broker-dealing, wealth and treasury services that are moving towards SaaS adoption faster than other segments, sees it. For them offering services to other banks and FI clients in their own cloud is a key requirement of business now.

"Over the past several years, BNY Mellon has invested in the digitisation of our technology ecosystem," says Suresh Kumar, CIO at BNY Mellon. "As a result of our digitisation efforts, we've grown our use of SaaS beyond the traditional HR, finance and CRM functions, and are now providing SaaS solutions to clients."

"We currently provide SaaS solutions for our wealth and investment management clients in our private cloud infrastructure," continues Kumar. "This is valuable to clients because it offers them the advantages of our scope and scale as a service, meaning they can focus on investing in their core strengths [not on core processing]. Our services are offered on a variable cost basis and clients don't need to worry about integration, upgrades or information security. Additionally, time to market is much faster [and flexibility enhanced].


Hans Tesselaar
BIAN

"We are seeing FIs who traditionally would not outsource business functions turning to BNY Mellon to take over some or all of their operations and technology, and we have offerings specifically targeting this growth in our Registered Investment advisor (RIA) and middle-office solutions. There is a broad spectrum of adoption by our clients and we continue to see more uptake in these services as FIs seek to shift their technology spends."

Public, hybrid and private clouds

SaaS can be deployed via a public, hybrid or private cloud, depending upon the desired security and access controls of the end user(s). As discussed, banks typically prefer the latter options internally, although strictly speaking a private cloud is not SaaS, as it's not

a third party, or some combination of them, and it may exist on or off premises.

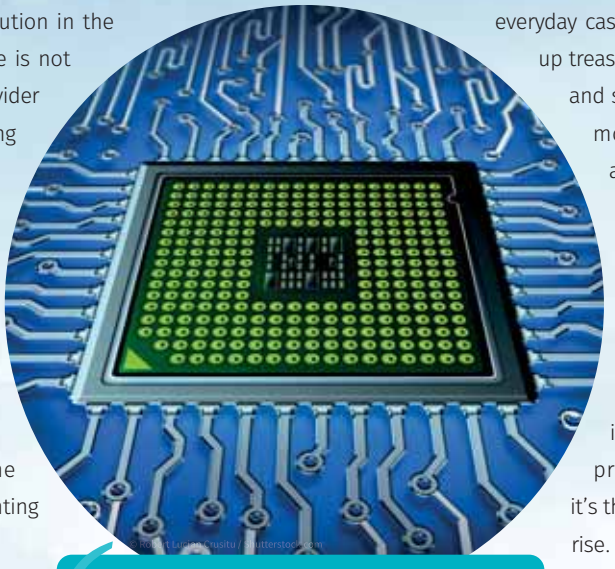
- **Community cloud:** This cloud infrastructure is provisioned for exclusive use by a specific community of consumers from organisations that have shared concerns (e.g. a specific mission, security requirement, policy, and compliance considerations. For example, a utility). It may be owned, managed, and operated by one or more of the organisations in the community, a third party, or some combination of them, and it may exist on or off premises.
- **Public cloud:** This cloud infrastructure is provisioned for open use by the general public [*and as such isn't so popular with FIs unless it's their own internal-only intranet-like cloud -Ed*]. It may be owned, managed, and operated by a business, academic, or government organisation, or some combination of them. The public cloud exists on the premises of the cloud provider.
- **Hybrid cloud:** This cloud infrastructure is a composition of two or more distinct cloud infrastructures (private, community or public) that remain unique entities, but are bound together by standardised or proprietary technology that enables data and application portability.

Source: The National Institute of Standards and Technology (NIST), part of the US Department of Commerce. [See NIST Special Publication 800-145, Re. The NIST Definition of Cloud Computing by Peter Mell and Timothy Grance http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf].

being hosted by someone else and isn't multi-tenanted. Some Tier 1 banks might offer SaaS services themselves to much smaller banks that cannot afford the processing or tech investments necessary to comply with a new regulation, making it SaaS-like in some exceptional circumstances, but it's not pure play SaaS if it's a private cloud.

In reality, vendors are much more likely to offer multi-tenanted processing platforms, or smaller banks might typically group together themselves in shared processing platforms like the CECA one in Spain or the German Finanz Informatik Technologie Service for Landesbanken core banking solution. This is in order to get economies-of-scale shared processing efficiencies on a shared SaaS core banking operational platform without being overly reliant on their larger banking brethren.

Bob Stark, Vice President of Strategy at Kyriba, rightly warns that a system that offers a solution in the cloud and simultaneously on-premise is not actually a cloud solution at all. "A provider that defines a private cloud as hosting a software solution on dedicated hardware is misleading the market," he says, referring mainly to the treasury management system (TMS) technology segment, however, rather than banking. "If a solution is truly SaaS, there won't be an installed, hosted, and SaaS versions of the product. Any one claiming all are possible is misrepresenting what their technology actually is."



Banks are less reliant on vendors to give them SaaS solutions because they typically have more IT budget to spend, which is why the treasury SaaS marketplace is currently a hot area for vendors

Treasury market

"As SaaS has proven itself to be the dominant solution many companies want to jump on the bandwagon and (wrongly) position their treasury products as SaaS. Unfortunately this means customers need to be diligent when reviewing vendors." It has to be a centrally hosted, multi-tenanted solution to be SaaS.

Suresh Kumar
BNY Mellon

According to François Masquelier, Head of Treasury and Enterprise Risk Management at RTL Group, speaking at the recent Payments International 2015 trade show, in London, UK, on 19 March: "SaaS solutions are an interesting option for TMS migrations."

He went on to explain that SaaS can help treasuries transform via graduated centralisation drives and evolve to meet future needs. This is true, but banks tend to have more money to do this or collaborate around a trade organisation such as SWIFT to achieve efficiencies in the compliance arena. Banks are less reliant on vendors

Bob Stark
Kyriba

to give them SaaS solutions because they typically have more IT budget to spend, which is why the treasury SaaS marketplace is currently a hot area for vendors, and why treasuries typically move in a slow scalable manner to the cloud in a graduated adoption cycle.

Vendors have noticed treasurers' interest in SaaS TMS offerings. As Phil Pettinato, Reval's Chief Technology Officer (CTO) says of its offering, "it was built from the beginning as a SaaS solution to serve both corporates and FIs". The Bloomberg TRM badged solution is similarly a SaaS-focused treasury system, using Bloomberg's risk and trading connectivity to try to serve treasurers' modern risk-based approach.

"IT matters in the evolving treasury role," added RTL's Masquelier, referring to the need for automated software to handle everyday cash management needs, thereby freeing up treasurers' time to focus more on risk-based and strategic value-adding work. "As we see more merger and acquisition (M&A) activity, because some countries are slowly recovering economically, SaaS can potentially help here. It gives treasuries more flexible, scalable IT, which is more amenable to integration efforts."

In banking and finance, complexity is often your friend – and source of profits. In technology terms, however, it's the opposite, which is why SaaS is on the rise. It's not cloudy thinking to reason that Software-as-a-Service might save you money.

"Cloud is clearly a disruptor and a big change is underway. But technology and trends change so quickly there is no guarantee the migration to SaaS and the multi-tenanted cloud will be irreversible," says SWIFT's Rojas. "In the future a different disruptor might appear."

Indeed, in a world where Bitcoin crypto-currency or the block chain evident in technologies such as Ripple might disrupt the way financial serices works in future, it pays not to be over-confident of SaaS' current primacy surviving forever. Equally, such developments could be incorporated into a SaaS service model. The so-called 'internet of things' where your fridge, pacemaker and building management system are all connected to the web and post-Edward Snowden fears about privacy and security may yet change the tolerance for SaaS, however, denting its appeal. No-one knows, but for now, SaaS is here to stay and presently, it's a case of who dares wins.

For further information: **www.fx-mm.com**