

Tech briefing: SaaS: Centre stage

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Telcos could be well placed to offer centralised, managed software services through the latest model being talked up—software as a service.

Software-as-a-service (SaaS) has a lot in common with the much hyped but previously flawed Application Service Provider (ASP) business model. Accessing business software on-demand over the Web looks a good way to take the management headaches, and some of the cost, out of owning applications—and this time vendors just might have got it right.

In the late 1990s scores of ASPs talked up the model only to scale back their operations or fail altogether. “The market wasn’t ready,” says John Madden, research director at Ovum Summit. “Software was not built from the ground up for the Web but was adapted from what was available, and the business models hadn’t been figured out.”

Since then business strategies have matured as early-adopter SaaS providers have gained several years of market experience, coupled with technology advances in software, security, data centre equipment and networking.

What’s more, the model still promises enterprises significant benefits. Unlike traditional software bought and maintained by an enterprise, a firm can subscribe to an SaaS application on a user-per-month or even a transaction basis.

“With SaaS, the enterprise does not need to host [the application], provide the hardware and keep the software updated with patches, with all the associated security issues,” says Clive Selley, managing director, wholesale service design and 21C platforms at BT Group. “This is really important: do not underestimate the energy, time and money needed to manage hardware.”

If the growth statistics for SaaS are anything to go by, enterprises are not underestimating the benefits. One early adopter, Salesforce.com, which started business in 1999, says its customer relationship management (CRM) software is used by 38,000 firms and 1 million subscribers. And US firm NetSuite’s successful flotation last December also put the spotlight firmly on software delivery over the Internet. NetSuite provides business applications and uses SaaS for their delivery, and by September 2007 claimed 5,400 customers.

Analysts and investors are also talking up the SaaS opportunity. Gartner claims that sales of Web-based applications reached \$5.1 billion worldwide in 2007 and will grow to \$11.5 billion by 2011. Perhaps even more notable, it believes SaaS will account for over a quarter of all enterprise software sales by 2011, up from 16% last year.

“What we are seeing to date is a set of application companies making hay,” says Mike Fitzgerald, founding partner at Commonwealth Capital Ventures, which invests in SaaS start-ups. “They will go down the list until they have implemented all the applications [using SaaS].”

Challenges ahead

It’s not all plain sailing just yet. “There is still much to be worked out—how to use it and for what markets,” says Amy Larson Decarlo, principal analyst, Internet and managed services at Current

Analysis. "But SaaS is already big enough for all types of companies to invest in it."

Exinda Networks, for example, is using SaaS for central management and reporting of its hardware platform that boosts applications over wide area networks. Its platforms inspect traffic packets to boost application performance using techniques such as quality of service and content caching. An enterprise or service provider installs the hardware and purchases a subscription to an Exinda-run service delivery platform that manages the devices centrally.

"The alternative [to SaaS] is to manage each device independently," says Con Nikolouzakis, Exinda's CEO. Enterprises do not need to train staff to manage the hardware, and because the management software is hosted, customers benefit immediately from any software upgrade.

But some analysts believe providers of SaaS alone will continue to face challenges. "One of the things that always comes up is monitoring—tying information from multiple places," says Decarlo at Current Analysis. "There is virtual infrastructure with many layers. Tying them together to make logical sense is hard." This is a huge issue, she claims: "I've not seen anything that shows me that this can be done in a logical, clear way that gets hesitant users of SaaS on board."

Madden agrees that monitoring is a critical issue. "But none of the technical issues are show stoppers," he says.

The combination of infrastructure, security, data centre and hosting know-how makes telcos well placed to benefit from the uptake of SaaS. "Service providers see SaaS as an opportunity to increase value to enterprises," says Roz Roseboro, senior analyst at market research firm OSS Observer. But they must first overcome some business challenges. "Service providers own the network, but they are not used to selling applications," she says. "They don't speak the same language, nor do they have the IT experts that understand why such applications are so critical to enterprises' businesses."

For SaaS to work, several technical requirements must also be met. "It is all about the architecture—it has got to be scalable," says Nikolouzakis at Exinda. "The application has got to be fast and responsive, and it has got to be secure."

Security requirements include ensuring that the service cannot be brought down with distributed denial of service attacks and that an enterprise's network is not compromised when the SaaS provider has access through the enterprise's firewall. It also means securing a customer's data so that it cannot be viewed by any other enterprise subscribing to the applications.

Network infrastructure linking the data centres that host the applications must also be reliable, while application software must be designed to accommodate multiple firms with widely varying numbers of users. "We have five or six customers that have over 20,000 subscribers leveraging our applications," says Woodson Martin, vice president of marketing, EMEA, at Salesforce.com.

To accommodate such demands, SaaS uses a single instance of the application software, with each customer viewed as a "tenant". SaaS vendors claim multi-tenancy provides the scaling while avoiding the cost of managing a software instance and even specific hardware for each firm.

Salesforce.com describes how its database has an account table with a customer's records on each row. "[The customers] are as closely intermingled as that," says Martin, who points out that it is not just the database layer that is shared but also the operating system layer and the application logic that sits on top of the shared infrastructure.

Metadata are used to tailor applications. "Keeping everything at the metadata layer also makes service upgrades straightforward," says Martin.

Salesforce.com supports application programming interfaces (APIs) to enable integration with

other technologies, such as its partnership with Broadsoft that integrates voice services with its dedicated SaaS CRM application. "A call comes in [to a Salesforce.com's CRM subscriber] and up will pop the account details [of the customer]," says Scott Hoffpauir, Broadsoft's CTO. The shared layered architecture and APIs enable third-party applications to be incorporated, which can then be offered to all 38,000 customers immediately, says the company.

Salesforce.com uses six service providers to deliver the bandwidth and redundancy required between its mirrored data centres. "Customers can monitor service delivery availability," says Martin.

Cisco also highlights the importance of the network and software architectures for SaaS. It acquired on-demand collaboration firm, WebEx, in March 2007.

"The reason why Cisco bought WebEx wasn't because it was the number one collaborative software firm but because of the network they built," says Tim McCracken, business development manager, unified communications & collaboration, at Cisco. The WebEx Mediatone network comprises seven data centre hubs around the world. "If any one goes down all the information is rerouted to another node," says McCracken. The architecture is also multilayered, such that capacity can be added at each layer, whether network or application.

Delivering SaaS over wireless suggests even more demanding networking requirements, due to the various air interfaces and mobile devices that need to be supported. But Vetro, which offers SaaS applications such as CRM, IT support, and pick-up and delivery for mobile workers, argues it is no more complicated than fixed-line services.

"We can't guarantee a connection to any mobile device on any network all of the time," says Howard Finnegan, vice president, EMEA, at Vetro. "But we can guarantee that our services are up and running." Vetro's applications can operate without the need for a mobile connection. "They are fully functional and use their own storage." And when the connection is restored, the device synchronises for updates. Its mobile client also supports over-the-air updates.

"It means you develop applications once that then run on any device, and you only need to maintain the application once," says Finnegan.

Communication/collaboration and CRM are likely to be important drivers for SaaS according to Gartner (see table above).

BT uses Oracle Siebel's CRM. "It is hugely powerful and integrates all our supply chain," says Selley. The operator is working closely with Oracle as it develops its own SaaS CRM offerings. "The software is much more flexible that way."

BT also plans to make such network manipulation available to third-party developers alongside its more general Web21c programme, which exposes network attributes to developers through a set of tools and sample applications (Total Telecom, September 2007, p.16). "We want to expose that innovation and power to a wider community," says Selley.

Claranet is another hosted service provider expanding its SaaS offerings. It has just launched a managed application shared environment that enables customers to use SaaS for their own products. "There is a demand for SaaS," says Marino Zini, business development director at Claranet. "SaaS's emphasis also allows us to make the most of the skills we have." Claranet already provides enterprises with an always-on, SaaS-based email service and is planning additional applications for CRM and VoIP.

Colt Telecom also aims to exploit SaaS as part of its next-generation service plans. "Traditionally, in the data centre there was a lack of agility," says Geoffry Gilton, head of managed services products at Colt Telecom. SaaS reflects the broader trend of virtualisation in the data centres that improves equipment usage and flexibility. "Our goal is to enable customers to make the transition from siloed IT stacks to a Web-centric service delivery model," says Gilton. But this will also require supporting their legacy applications as part of the transition. Gilton says Colt currently delivers "select applications, in select markets" through the SaaS model.

Colt is offering its utility service platform—which includes on-demand storage, and utility and grid computing—to which will be added a service delivery platform. The final stage will be the integration of its IP multimedia subsystem (IMS) network with its utility services. Colt is rolling out IMS in 2008, but has yet to detail when it will complete its integration with the hosting.

IMS and SaaS fit comfortably with the IP/Web-centric business model.

"We view IMS side by side with the host IT infrastructure," says Hoffpauir at Broadsoft. "IMS provides the real-time comms services such as voice, video and presence, while the hosting IT side supports non-comms applications, which for most people will be SaaS."