



# The value of open source for mid-market firms

# How open source software can ease move to cloud for mid-market firms

*The wide support base offered by the open source software culture is helping mid-market businesses move to the cloud for critical applications. But, as always, start small and experiment*

**T**he use of cloud services is being increasingly accepted by mid-market organisations, especially when combined with on-premise IT in a hybrid environment.

But IT managers in these firms still say they have apprehensions that need to be addressed, such as the operational cost of using cloud, the security of enterprise data, the availability of technical support, and questions about application suitability and latency.

These views appear to be particularly prevalent among mid-sized firms that don't have the same amount of technical, administrative and wider management resources that larger enterprises have to draw upon.

The cloud model of service-based application processing, storage and analytics is an undeniable sea change in terms of how firms build, manage, develop and maintain their corporate IT. Even for businesses with fewer than 100 employees or, perhaps, less than 50, the move to cloud is a new architectural thrust that affects all of IT; it is not simply a new application roll-out programme or a departmentally confined upgrade.

This is where open source software offers a potential opportunity to mitigate these concerns, tapping into the global support base for platforms such as Linux as they now exist in their robust enterprise-grade state.

## Origins and evolution

Open source software has evolved a long way from its hobbyist origins, says Paul Clough, professor of search and analytics at the University of Sheffield.

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“Established on a community contribution model of collaborative group engagement and support at the tail-end of the 1970s, open source began as a set of platforms and application suites designed to offer an alternative to the proprietary platforms that grew with the first era of personal computers. Some 40 years on, open source has changed radically,” says Clough.

“Still driven by free and open software foundations for the developers who continue to keep its dynamic spirit intact, open source now offers mission-critical versions of software that can be used to run multinational firms, to drive hospital life-support machines, or as part of the onboard IT systems in a modern aircraft.”

The emergence of cloud computing has been typified and defined by its use of open source platforms with early investments made by Nasa and a selection of other major IT industry players. It is cloud’s open foundations that continue to give it an open source-driven route of access for mid-market firms seeking to bring applications and services to the cloud.

### Flexible and agile management

Open source today is a means of using supplier-independent technologies to move to an agile infrastructure that benefits from advanced but flexible management tools. It is that flexibility factor that is essentially important for mid-market companies on their journey to cloud with open source.

We know that people download new apps on their smartphones every week, so the need to provide business users with the same kind of consumer-level agility is only possible if the IT function is built on an open and flexible foundation.

“Open source means firms won’t get stuck with the challenges associated with legacy applications. It allows them to experiment with new use cases and, when combined with the essentially connected power of cloud, build new digital workflows that can help firms break open new business channels,” says Dale Vecchio, a technology modernisation specialist who spent 18 years as a Gartner analyst.

“Many of the world’s largest organisations are caught in the nexus of dependency on legacy applications and support tools, used under expensive licensing models. The capabilities of these tools have now been eclipsed by those available in the open source market,” he adds.

“When development capability is available around the world, rather than just inside a corporate IT department, or from a single software vendor, then innovation and integration accelerates dramatically. This, in turn, attracts more talent, which creates further innovation. This is the real power of open source.”

### The open cloud

If we look at some of the most progressive aspects of cloud computing today, such as containerisation – a means of containing chunks of discrete application logic in one place to create a more manageable and flexible IT stack – this technology is ideally suited to open source cloud frameworks.

Organisations that want to be forward-thinking today need to think about building new market-facing customer propositions that have this type of DNA – one that is born in and of the open cloud. This has been amply demonstrated by the success of cloud-native businesses, which have used the agility and flexibility derived from such an open approach to compete against larger incumbents with bigger IT budgets.

Mid-market firms still thinking about where to start with cloud should take a methodical and systematic approach. Prudent firms that have embarked on new



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University of Sheffield**

cloud computing strategies have typically targeted one application at a time, or a single set of connected applications, to migrate to a cloud-based infrastructure.

A complete rip-and-replace process is rarely advisable. A more considered lift-and-shift process allows companies to audit and assess the impact of new cloud technologies as they come online. This, again, provides a firm validation for using open source, where many platforms and tools are accessible through open online code repositories that also provide connections to cloud-readiness assessments and support services.

### **Operational mechanics**

On the open road to cloud, everyone is equal, so organisations should recognise this opportunity to elevate themselves to a higher level of digital business. In terms of operational costs and the mechanics of day-to-day data throughput, cloud computing has clear advantages for medium-sized firms, which will now be looking to offer new web-based channels to their customer and partner base.

No matter which industry vertical an organisation operates in, web-based systems are notorious for their ability to create inherently unpredictable server loads. When user demand spikes occur, firms will need to be ready to satisfy demand levels. Using open cloud-based infrastructure to support web-based services offers a means of scaling up and down to more accurately provide the required amount of server load at any given point in time. Onward data management functions, including backup and recovery, are also made more efficient as they occur to an agreed service level.

Mid-market companies working to drive new growth and harness cloud technologies will be aware that their data volumes will almost inevitably grow. Connecting new applications and internet of things (IoT) devices to a more digitally driven business naturally leads to the creation of so-called big data. And the benefits of big data can also be harnessed using open source cloud technologies, which offer a means of processing large sets of data using simple programming models.

“Coupling open source cloud infrastructure with production-ready open source analytics and machine-learning software, such as H2O and TensorFlow, gives companies the ability to utilise and exploit data for gaining insights, driving predictive analytics and developing long-term strategic competitive advantage,” says University of Sheffield’s Clough.

Clough further points to the wider toolsets needed in the cloud workshop. Enterprise-grade open source technologies for every subset of the application lifecycle are available. From quality assurance and testing through to deployment and release management, incident response and escalation, security and compliance, the tools are there.

### **Becoming an always-on business**

Open cloud technologies allow smaller businesses to think and act bigger, so firms migrating existing technologies to the cloud will find that this provides a natural breeding ground for new cloud-native applications and services to flourish.

In a world of round-the-clock global business, many companies will now be expected to provide an always-on customer-facing service. With cloud collaboration and automation services, organisations have an opportunity to present that always-on front end. This status becomes possible because a cloud services provider handles the IT infrastructure responsibility at the back end.

A further benefit of cloud computing comes from shifting the nature of an organisation’s IT cost burden. An on-premise IT setup runs on a heavy capital

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expenditure (capex) responsibility, where all hardware has to be owned and maintained. A cloud-based IT environment runs on a more controllable operational expenditure (opex) basis, where hardware is owned and maintained by the cloud services provider, and software updates, tech support and ancillary maintenance services happen as part of the contract.

Where compliance regulations specify that some data needs to remain on company premises, a degree of hybrid on-premise IT plus cloud is the obvious smart choice. Integration between the two data estates should not be an issue if it is intelligently architected from the start.

Shifting from a capex model to an opex model gives mid-market firms the opportunity to experiment with new product and services innovations, scale upwards when needed and scale back when they have to. Essentially, it allows them to do more with less.

### The open bottom line

In terms of compatibility issues and concerns for mid-market firms looking to cloud via open source channels, once again the answer lies in openness.

“We’ve already said the open source model is built around the community contribution model of networked collaborative exchange, so firms will find that a great deal of support is available from peer networks across open community forums and special interest groups,” says Clough.

However, firms need to be aware that, often, the required level of enterprise support isn’t available, or isn’t available in enough detail or specificity. Mid-market organisations should look to suppliers offering enterprise-grade support and maintenance options to engage with dedicated engineers who will work to resolve any implementation or operational issues at hand.

Open source cloud is big business, no matter what size your organisation. ■

