Closing The App Gap

A comparative study on enterprise adoption of mobile application development

April 2013

Contents

Scope of research/methodology

Research methodology

Progress Software commissioned independent technology market research specialist Vanson Bourne to undertake the research upon which this report is based.

600 interviews were carried out during December 2012 and January 2013 with senior business decision-makers outside the IT department, in businesses with 100-1000 employees. Interviews were performed in nine countries:

- USA - 120 interviews

- Russia - 100 interviews

- Brazil - 60 interviews

- France - 60 interviews

- Germany - 60 interviews

- Singapore - 60 interviews

- United Kingdom - 60 interviews

- Benelux - 40 interviews

- Nordics - 40 interviews

Respondents to this research came from four specific industry sectors of particular interest to Progress:

- Financial services (including insurance)

- Manufacturing

- Retail

- Supply chain

Because the scope of this research is limited to these four sectors, the results should not be considered to be indicative of the whole market in this size range. However, as many problems identified are common to businesses in these four very different sectors, the research does hint that many of the issues raised could be more widespread.

Interviews were conducted online using a rigorous multi-level screening process to ensure that only suitable candidates were given the opportunity to participate.

Unless otherwise indicated, results discussed in the main narrative are based on the entire global sample. Where variances in regional response are notable, they are clearly indicated as such.

Aims of the research

Over the past few years, business computing has been slowly undergoing a fundamental change not seen since the widespread adoption of the Internet during the late 1990s. At the turn of the millennium, office workers may or may not have had an Internet connection on their desktop but otherwise most had essentially the same setup: a desktop computer, one of the latest iterations of Microsoft Windows, and a wired connection to the corporate network. The last decade has brought about a range of advances and technologies whose adoption amongst businesses and consumers has changed that core office setup: employees are more frequently able to work from home, to bring their own computing devices into the office for work purposes, to access programs and data through the cloud rather than having them installed locally, and to work beyond the boundaries of the standard nine-to-five.

But now more than ever, businesses are finding themselves in a transitory state. Remote working and employees using their own devices have, thus far, been something requested by a minority, but increasing numbers of organisations are rolling out such schemes to the entire workforce. A key driver for this is the growth in consumer adoption of mobile devices like smartphones and tablets - while at home, workers are enjoying simple touch interfaces and systems that 'just work' without a great deal of technical knowledge and are increasingly asking their companies to allow them to use such devices for work purposes.

And it's not just staff that expect businesses to be able to offer them cross-device access to their

systems. Customers are also increasingly making purchases through smartphones and tablets, meaning that companies have to ensure that their online sales and support strategies take these various platforms into account.

Though this is an emerging trend, it raises all sorts of questions for businesses. Beyond the simple question of whether they are supporting mobile platforms is a range of questions about approach: how are they supporting those platforms? Do they have formal plans? Are those plans long-term or do businesses work on a project-by-project basis? Are they having to make infrastructural changes to accommodate mobile devices? And, crucially, do they think that mobile platforms are a fad or will those platforms change how they develop and execute their digital strategies in future?

This research aims to answer these questions; to understand how important these organisations consider mobile platforms to be, to understand how they plan to deal with them, the risks involved in adoption, and their implementation plans.

Summary of key findings

Mobile platforms are critical to the future of businesses

- 90% say that mobile operating systems will become dominant over traditional ones

- 92% feel that if their business does not offer mobile apps, it will be left behind

- Decision-makers think that mobility will provide five benefits on average, most likely to be faster decision-making, the ability to use real-time data with customers, and responding to customers faster

- 90% believe that mobile apps will create new business opportunities

Few businesses have a coherent, company-wide mobile strategy

- Only 29% already have a formal mobility project within their organisation

- That is not to say that mobile devices and platforms are not being used, as 85% say their employees use mobile devices and many offer mobile apps to employees (51%), customers (45%), and partners (43%)

- This suggests that it is only a minority that have a formal strategy at present, meaning that different divisions in different countries may be developing similar mobile applications in conflicting ways

- However, 71% will have a formal mobility project within twelve months, suggesting that only now is the importance of mobile platforms being understood

Supporting and adopting mobile technologies present companies with multiple risks and problems

- 94% believe that there are hidden risks and costs associated with adopting mobile technologies

- Security (54%) and privacy (41%) are the biggest concerns, along with the cost of initial investment (48%) and ongoing support (47%)

- Only 15% say that all of their current applications can be easily adapted for use through mobile platforms

- 76% are worried about developing apps for Android due to malware/hacking issues

Businesses are increasingly relying on external vendors to help them develop apps

- 62% would prefer to commission an established vendor to develop mobile apps for them rather than do it in-house

- This is partly due to the challenges associated with adding mobile apps to the infrastructure:

  → 77% struggle to find the programming skills in the marketplace

  → 58% have to change how they hold and access data

- Because of this, 93% say a critical consideration at contract renewal or tender is whether a vendor offers or supports mobile apps

The growing importance of mobile platforms

The growing dominance of mobile platforms

Business decision-makers believe that the growth in adoption of mobile devices is signalling a fundamental change in computing. Though mobile devices are currently being used in tandem with traditional desktop/laptop devices, those that we surveyed almost unanimously see this changing to the extent that nine in every ten respondents believe that mobile operating systems will become more dominant than the old guard.
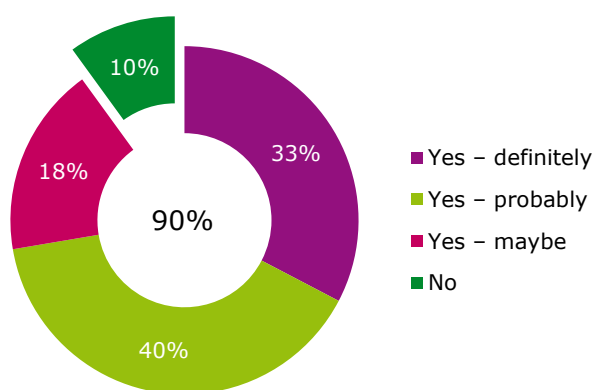

90%

33% — Yes – definitely
40% — Yes – probably
18% — Yes – maybe
10% — No

Figure one: 'Do you think mobile operating systems will become more dominant than traditional ones?'

This has big implications for businesses, as their infrastructures are built to accommodate programs and protocols which run on those traditional operating systems. A program built for the organisation at great expense may not necessarily run on a mobile device, nor might mobile platforms be able to use longstanding protocols in the same way as their desktop counterparts. If mobile platforms become prevalent over older desktop operating systems, there is the very real possibility that the IT department will need substantial investment to ensure that business processes can continue.

Organisations recognise that they need to change in order to address and embrace the rise of mobile platforms. 93% agree that if organisations do not offer mobile apps to staff and customers that there is a risk they will be left behind, and 92% believe that not embracing mobility could put them at a competitive disadvantage. They

realise that in order to remain relevant and successful, they need to embrace mobile platforms and develop apps for staff and customers.

This all implies a future scenario wherein the world will predominantly rely on mobile platforms and interact through easily downloaded and installed apps rather than via the present day desktop/laptop environment. Indeed, 100% of those that we spoke to say that in five years' time mobile technologies will be important to their organisation to some degree. But the data makes it clear that this is not just some theory about the future: mobility is already important to the majority. 98% say that mobile technologies are important to their organisation right now, with around two in five (38%) reporting that it is critical to their business.
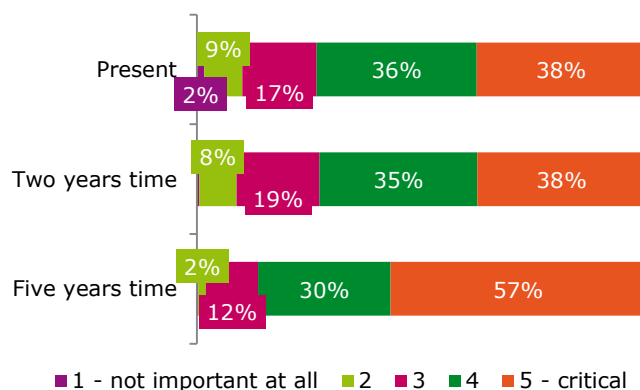

| | 1 - not important at all | 2 | 3 | 4 | 5 - critical |

Present: 2%, 9%, 17%, 36%, 38%
Two years time: 8%, 19%, 35%, 38%
Five years time: 2%, 12%, 30%, 57%

Figure two: 'On a scale of 1-5, how important would you say the use of mobile technology is in your organisation?'; *response over three time periods*

This data implies a further finding: there is a minority of businesses who say that mobile platforms are crucial to their business now, which rises to the majority (57%) in five years' time. This means that there is already a vanguard group of businesses already embracing mobile technologies ahead of their rivals; there is evidently a race to embrace mobility, creating a gap between those companies offering apps and compatibility to staff and customers and those which are becoming increasingly aware that they need to.

The benefits of embracing mobility

When first introduced as a new concept, many technologies are wrapped in layers of hyperbole that make it difficult to understand if there is truly a business case for adoption. With something like the widespread adoption and implementation of mobile platforms within an organisation this is especially true, as it requires a re-examination of how compatible all existing programs, data, and processes are with any new mobile operating system. A move to mobility could be hugely disruptive to a business no matter how well implemented it might be. Does the proposition offer sufficient benefit to justify that process?

Simply put, those that we surveyed are, in the main, convinced that mobility will provide multiple benefits across the entire business and will ultimately create new business opportunities.

On average, respondents report around five ways in which they believe that mobility will improve their business. This illustrates that mobility does not bring just one benefit to the organisation; decision-makers realise that it can bring a whole range of potential improvements.
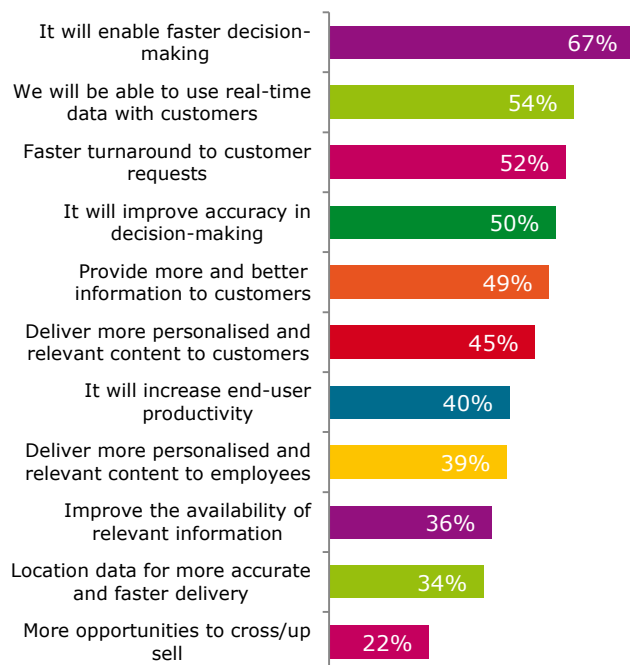
Many of the most commonly cited improvements relate to the speed of being able to do business: faster decision-making (67% see this as a benefit) and responding to customers faster (52%). Although being more responsive will always be a boon to any business, other selected benefits reveal something new: mobility as a way to personalise the relationship with the customer. Using real-time data (54%), using more and better information (49%), delivering personalised and relevant content (45%) and using location information (34%) means that businesses are able to reach out to customers and give them a service fully tailored to their needs, wishes, and experience. It suggests that a move to mobility will help to improve the relationship that businesses have with their customers, which can only improve customer retention and customer growth. If businesses are able to be faster than their competition too, this makes mobility a very attractive proposition.

Mobility also offers potential benefits to employees, too. Around two in five believe that mobility will deliver more personalised and relevant content to employees (39%) or increase end-user productivity (40%). Beyond this, decision-makers believe that mobility will lead to greater collaboration, as 95% say that increased mobility will lead to a greater adoption of collaboration tools to some extent. Mobility will not just increase productivity and allow employees to access more relevant content; it will also allow them to work together to a greater degree.
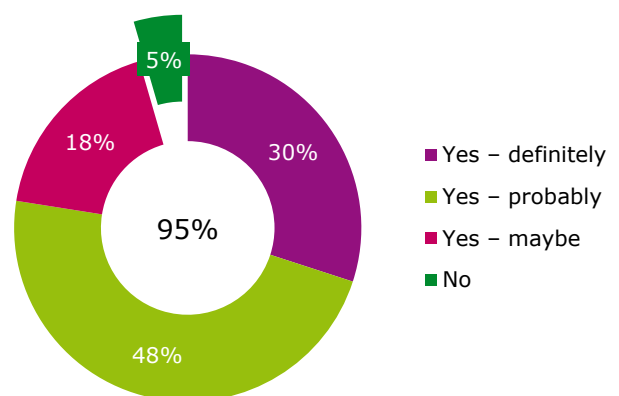

Figure three: 'How do you think mobility will improve your business?'

Figure four: 'Do you think increased mobility in the enterprise will lead to the greater adoption of collaboration tools in organisations like yours?'

Mobility is predicted to benefit business processes across the entire business, too. On average, decision-makers believe that the increased use of mobile devices would improve four different

application types, most commonly email (64% say this), logistics (48%), CRM (44%), finance (42%), and process tracking (41%). Simply, it's not just the case that rolling out mobile devices will result in staff having greater email access.
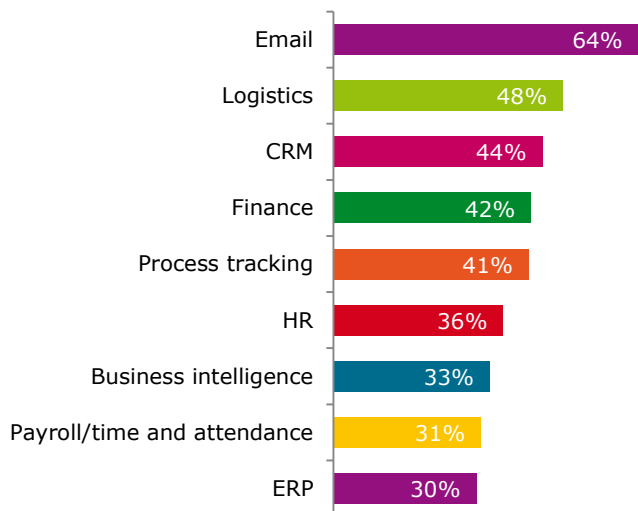
Figure five: 'Which of these applications in your infrastructure would benefit from being accessible through a mobile device?'

But mobility isn't just a matter of helping employees and customers do what they already do but a bit more quickly and easily. Many of those we surveyed suggest that mobile applications - if created and implemented in the right way - will create new business opportunities. This is not a minority view, as only one in ten (10%) say that mobile enabled contextual applications will not create new business opportunities.

Some of those new opportunities relate to those same speed/ease arguments - over half (53%) say that a key opportunity arises because such applications will make their operations more efficient. Many of the suggested new opportunities relate to finding new customers or markets: 44% say that quick adoption will put them ahead of their competitors, 41% say that adopting mobile applications shows that they are an innovative company, 33% say it opens up new markets, 32% say it puts their proposition in front of early adopters, and 17% say that it opens up their prepositions to a more affluent audience. The rollout of mobile apps shows that the company is an innovator and potentially ahead of the competition, and that can be key to capturing a technologically savvy and relatively affluent customer.
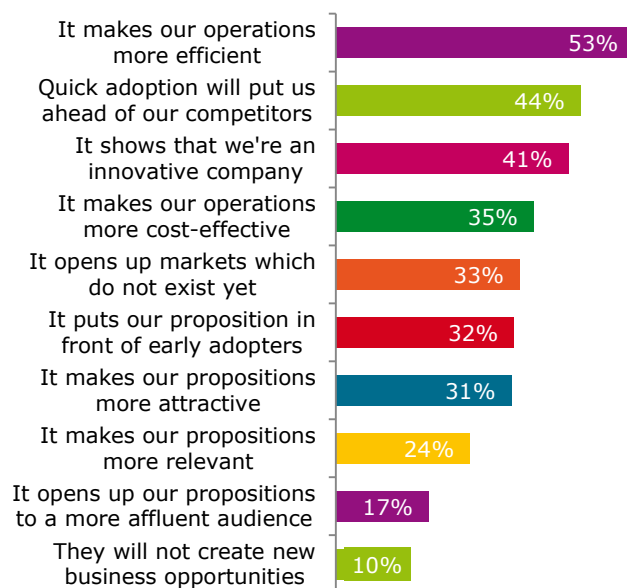

Figure six: 'How do you think mobile-enabled contextual applications will create new business opportunities?'

In an increasingly mobile, virtualised, and networked marketplace, a company offering a range of innovative and appropriate apps is hugely appealing. As consumers increasingly have mobile devices constantly in hand, they will want to interact with companies through that platform. It can only be advantageous to businesses to ensure that their proposition is mobile-device friendly in order to capture this new market.

But it is not just a case of bringing in mobility for the customer's sake: employees are increasingly engaging in Bring Your Own Device (BYOD) schemes whereby they use their personally-owned tablets and smartphones for work purposes, so they will increasingly need mobile access to corporate programs, processes, and data too. Empowering staff to be able to work from anywhere at any time and using any device allows them to work quicker, smarter, and more efficiently.

Though it would be tempting to dismiss mobility as a distraction, the research shows that this is far from true. On the contrary, it is a fundamental rethink of how businesses will approach how they use computing technology in their organisations. The technological landscape is shifting - from being very desktop-entrenched to needing to accommodate staff and customers who demand device plurality. Few should see the move to mobility as a choice: it is an evolution of existing networks and systems. But, like any evolution, it

can be undertaken slowly in small steps or it can be embraced and actively addressed. If the vast majority is aware of the importance of mobility and believes that their business will be left behind if they do not embrace these platforms, how are they actually making the move to mobility?

Country analysis

Broadly speaking, there is little variation between respondents in different countries. There is a strong belief in the coming dominance of mobile platforms, a strong universal fear about being left behind, and a recognition of how critical those platforms will be to their businesses in five years' time.

Respondents in the USA tend to be the most forward-thinking. 50% of those in the USA think that they will definitely be left behind if they do not offer mobile apps, compared to a global average of 32%, and 54% say that mobile technology is already critical to their business, compared to an average of 38%. American decision-makers believe that an average of five different application types would benefit from mobile accessibility, compared to an average of around three-and-a-half. Given that America - and Silicon Valley in particular - is the innovator of a lot of this technology and tends to keenly embrace new business ideas, this enthusiasm is perhaps not surprising.

What is notable is that Brazil and Russia tend to be slightly more enthusiastic about mobility than their counterparts in Europe. 44% of those in Russia and 35% of those in Brazil think that mobile operating systems will 'definitely' become more dominant than traditional platforms, compared to just 23% in France and 22% in Germany. Similarly, 58% of those in Brazil say that mobile technology is already critical to their organisation, compared to just 15% in Benelux.

Europe has a tendency to lag behind the US when it comes to the adoption of new technology – is there a risk that they could fall behind these emerging economies too?

The timeline to mobility implementation

Company-wide strategies

Knowing that the vast majority of organisations believe that mobile platforms, apps, and devices are crucial in the near future, we would expect the research to show us that businesses are supporting them. Initially it looks like this might be the case - 85% of businesses say that their employees use mobile devices like smartphones and tablets for work purposes at the moment - which would imply that businesses are pushing through mobile support.

The reality is quite different. Astonishingly few businesses have a formal, company-wide mobility project in place at the moment - only around a quarter (29%) of those that we surveyed. Alarmingly, almost one in ten (9%) say that they have no plans to begin any type of formal mobility project despite such widespread recognition of the importance of the platforms.
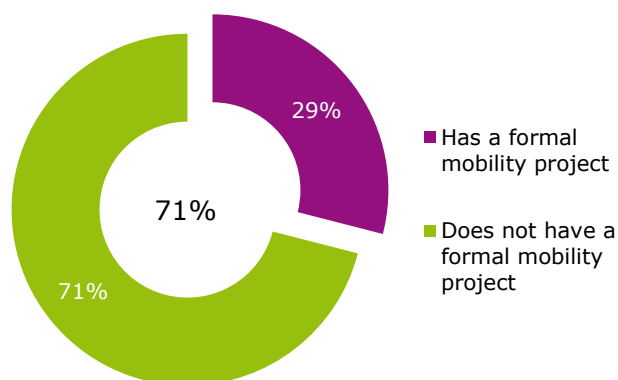

Figure seven: *Percentage of those who have a formal mobility project*

The research does not suggest that businesses are merely paying lip service to the idea of adopting mobility. Despite the low percentage of organisations that have a formal mobility project in place, 51% currently offer mobile apps to employees (with another 33% intending to at some point), 45% offer mobile apps to customers (with another 39% intending to), and 43% offer mobile apps to their partner organisations.

What does this imply? It suggests a dislocation: businesses are adopting and implementing mobile apps in order to serve staff, customers, and partners, but they appear to be doing so on a piecemeal basis. Only a small minority have a

formal project right now - they are likely to have a wide-ranging, company-wide strategy in place rather than having different departments in different countries implementing different projects in different ways.

This could lead to a range of problems in both short and long term. It is inefficient: the organisation could well be paying for the same technology to be implemented multiple times. It is divisive, as the strategy or solution adopted by one division may not work correctly or at all with the solution chosen by another division. It is potentially confusing to staff and customers, as they may need to move between different solutions in order to complete similar processes. And it is hugely troubling from a future-proofing point of view, as it means that the IT department will have to be able to provide support for multiple solutions, ensure that all the data is kept and secured according to local and international legislation, potentially figure out how to make different services or data interoperable, and help to ensure that those solutions work on any mobile operating system updates (e.g. new iterations of Android or iOS).

This is a headache for any organisation, but it also underlines an attitudinal problem. Businesses recognise that mobile platforms will become increasingly important if not dominant, yet only a few have formal mobility projects. If mobile operating systems are going to become crucial to businesses like these, why are there not formal projects to evaluate the company's response to this challenge at the very least?

Companies are waking up to this problem. Though only 29% have a formal project right now, an additional 42% intend to begin one within the next year, meaning that in twelve months' time 71% - almost three-quarters of organisations – will have a formal mobility project.
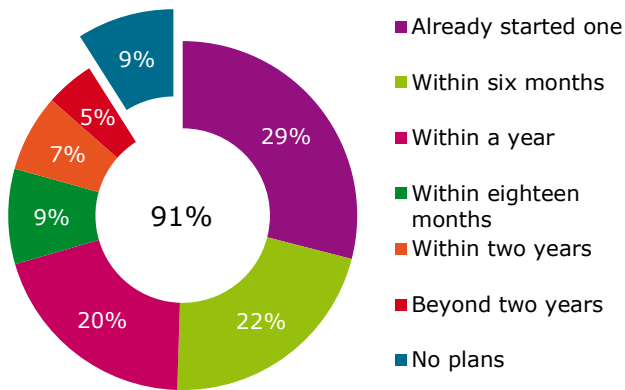
Figure eight: 'When will your company start a formal mobility project?'

If an organisation does not have a formal mobility project right now, it is highly likely that they will within the year. This reflects the increasing importance of mobile platforms - as already shown, though those platforms are critical to a minority at present, they will become increasingly critical to the organisation over the next five years. As businesses start to realise this fact, so are they starting to put together plans to have a formal strategy.

But what this does mean is that a minority of organisations are quantifiably ahead of others on the path to mobile adoption. Those who already have a formal mobility project in place are likely to deploy apps and mobile services much sooner than the rest. Given that many believe that the move to mobility will put them ahead of their competitors, those who already have projects in place will be better able to seize this opportunity.

Level of investment in mobility

Beyond whether or not businesses intend to have a formal mobility project, the research looked to evaluate what kind of investment organisations are intending to spend on mobile apps as part of their mobility strategy.

As previously discussed, the move to a mobile-friendly infrastructure could be exceptionally costly, as it is no simple proposition to ensure that existing programs, processes, and data work on a range of mobile platforms. Development of mobile apps, therefore, will not necessarily be a quick or cheap experience.

Despite this, organisations are planning to invest remarkably little in mobile apps over the next few

years. On average, those we surveyed intend to spend $468,000 over the next three years, or around $150,000 per year.

Are businesses being realistic about the cost, given all the potential hurdles that need to be overcome to make an app work with existing systems? $468,000 seems a relatively small figure for such a difficult yet important part of future IT strategy.

When analysed in more detail, this figure is shown to be a poor estimation of the true cost of developing and implementing appropriate mobile apps. We might expect those who already have a formal mobility project, with investment behind them, to have lower spending plans over the next few years than those yet to start. What we actually see is the opposite: those who already have a formal mobility plan intend to spend *more* - around $673,000 over the next three years.

It is easy to imagine that this proves that those who already have a project and are reaping early benefits are confidently investing in the next stage, spending more in order to get that early market share. This does not tie in with the research findings though, as the data shows that the sooner organisations intend to start a formal mobility project, the more they plan to spend.
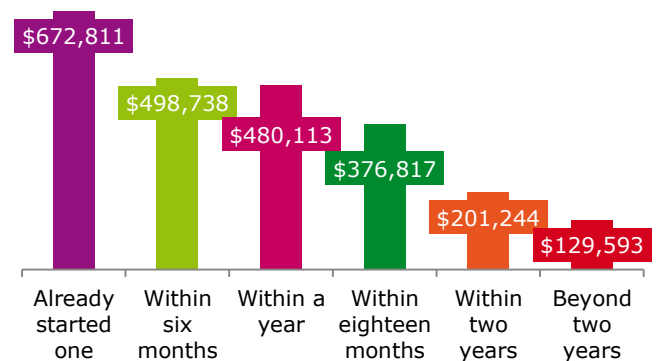

Figure nine: 'What level of investment do you expect your organisation to make into mobile apps over the next 2/3 years?', *analysed by when they expect to have a formal project*

This difference may reflect attitude - those who are looking to start a project later are planning to invest less because they see it as a lower priority. However, it could be more reflective of experience - those who already have a formal mobility project know the true cost so are aware that they have to spend more, with those closer to starting a project having made more investigations so are

likely to have a more realistic view of the true cost.

Either way, it is evident that there is a minority who are already working on formal, company-wide mobility projects and they are planning to invest much more on mobile apps than their competitors elsewhere. This should be truly troubling for those who do not already have such a formal project or who are planning to make only meagre investments in mobile applications for their organisation.

Country analysis

Although the previous section shows that the emerging economies of Brazil and Russia are best placed to make the jump to mobile, the data here shows that they are amongst the least likely to already have a formal mobility project. 22% of companies in Brazil have one and just 17% of those in Russia, compared to 38% in the Nordics, 43% in the USA, and 45% in France.
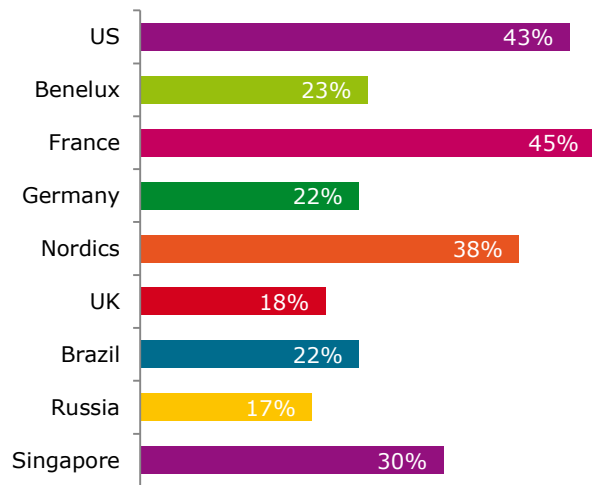

Figure eleven: *those who have or intend to have a formal mobility project within a year, analysed by country*

Figure ten: *those who have a formal mobility project at present, analysed by country*

However, within a year, the majority of businesses in all the countries we surveyed intend to have a formal mobility project, suggesting that this sudden awareness of how crucial mobile platforms are to the future is a global phenomenon that businesses will spend a lot of time and energy on over the next twelve months.
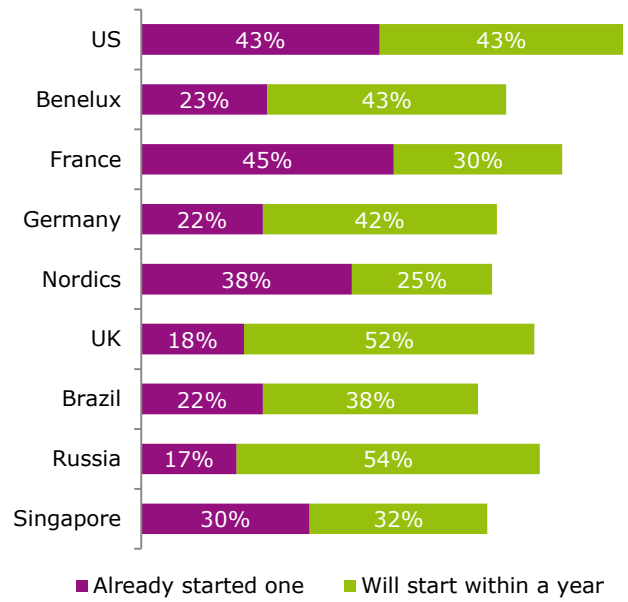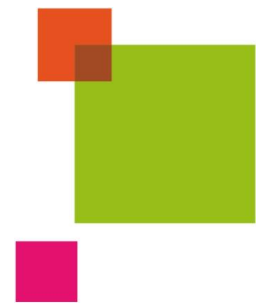
The risks associated with the emergence of mobility

Mobility presents all businesses with dangers. There is certainly a danger of being left behind, of watching competitors grab new customers as they develop and implement mobile apps, and of watching staff become increasingly dissatisfied that they cannot use their tablets and smartphones for work purposes.

When companies do start to implement mobile solutions and apps, a range of other risks start to appear. Businesses are fully aware of this problem too, as only 6% of those that we surveyed feel that there are no hidden risks or costs associated with adopting mobile technologies. Neither is it the case that businesses expect to experience just a single problem: on average, decision-makers are concerned that there will be an average of four problems they will have to deal with in the mobile adoption process.

Unsurprisingly, some are worried about the cost. There is already the possibility that organisations are not planning to spend enough or may end up duplicating their spend due to a lack of a unified mobility strategy; here, around half of respondents say that they worry about having to find additional investment to begin adoption (48% say this) and to maintain the new mobile-friendly infrastructure (47%). Maintaining the system is a particular worry as it raises a new cost item: ensuring that systems operate correctly whenever each mobile platform is updated (37%).

But costs are not the only risk associated with the adoption of a widespread mobility strategy. Decision-makers worry about a range of other problems too:

- The majority are worried about the security problems that mobility creates. 54% know that making programs, data, and processes accessible to a variety of mobile devices means changing the infrastructure to some degree. If done incorrectly, this could expose the company to problems like data leaks, data corruption, data loss, or hacking.

- Similarly, just under half (47%) are worried about the privacy risks associated with adopting mobile technologies. Because adoption means providing a multitude of devices and apps with access to data, organisations need to intelligently consider how they will ensure that users will only be able to see data appropriate to them.

- Around a third (32%) worry about data stability; making sure that data can be appropriately read and written by many different mobile devices is a challenge. Around the same number (31%) are concerned with making sure that data transfers between devices and the infrastructure correctly, too.

On top of these concerns, arguably the biggest problem that businesses have to overcome is getting their existing programs working on mobile devices. At present, only 15% of organisations say that all their current business applications can be easily adopted for mobile devices; to some degree, 85% of businesses will struggle to get at least some of their applications mobile-compatible. This is by no means a simple task with a simple solution: to some it may mean writing some script to act as a bridge between device and application, to others it might mean an awkward virtualised solution, and to many it may mean a re-evaluation and potential migration from the programs they currently use.
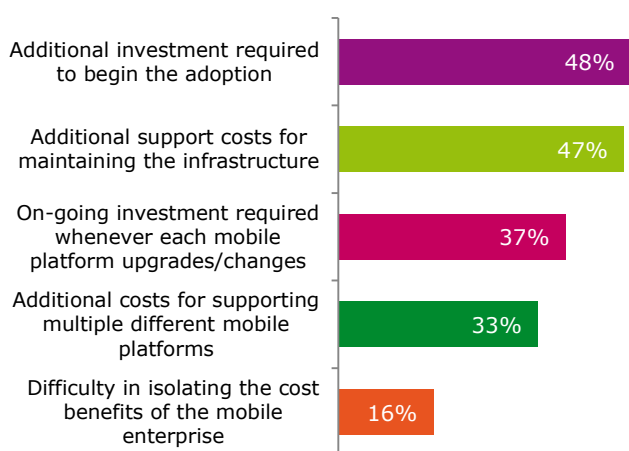

Figure twelve: *Hidden costs associated with enterprises adopting mobile technologies*

The problem of platform

Part of the problem that businesses have to overcome when thinking about their mobility strategy is that the mobile economy is still in its relative infancy. There is a wide range of platforms all vying for market dominance: Google's Android and Apple's iOS are the most popular right now, but Microsoft's Windows Phone, BlackBerry OS, Symbian, and Palm OS are all viable alternatives. With other organisations like Opera and Firefox also working on releasing mobile operating systems too, it is difficult to second guess what will take off and what will be irrelevant. The importance of the two most popular platforms fluctuates too - worldwide there are more devices running Android, but in the USA the iPhone is the best-selling smartphone. Similarly, recent research has shown that though Android is used extensively, iOS devices are more likely to be connected to the Internet more regularly and iOS users are more likely to make purchases for digital and physical goods and services through their device.

The simple choice for many organisations might be to choose one single platform. In such instances, Android is the logical choice due to its flexibility, extensibility, and because it is open-source. Apps developed for Android are also instantly deployable across all devices, not subject to delays in an external review queue that characterises Apple's deployment process. But Android has its own problems - over three quarters of decision-makers (77%) are worried about the malware and hacking issues inherent on the platform, with around one in three (31%) saying that it is a big concern to them.
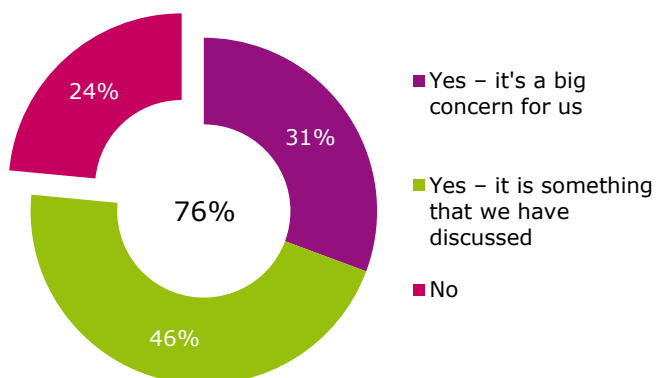
Only supporting one platform - and a platform with a history of security issues - is therefore not a smart move, yet developing apps that work cross-platform and cross-device is costly and time-consuming. Yet there is a certain cachet to being able to offer native apps on each device, creating the sense that customers and employees are being appropriately catered for.

Unsurprisingly, there is no prevailing method in businesses as to how they develop apps for employees and customers:

- Around two in five (42%) prefer native apps, allowing them to tailor the app to the features, software, and users of those devices

- A quarter (22%) prefers more universal apps written in HTML5, a more universal platform that allows deployment over multiple devices but without necessarily use of the features of each device

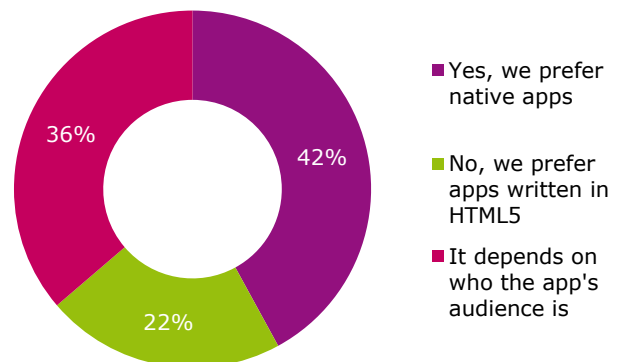- Around a third (36%) thinks that it will vary depending on audience.

Figure fourteen: 'Does your organisation prefer to use apps for employee/customer use which are native?'

- Yes, we prefer native apps
- No, we prefer apps written in HTML5
- It depends on who the app's audience is

Businesses are very confused about the best strategy for developing apps. There is no simple 'right' way to be developing, implementing, and rolling out apps, and no 'right' choice of platforms, either. With a lack of clarity as to what might be the most dominant platform in the time it takes to develop a mobile app, it becomes a very risky proposition indeed.

Figure thirteen: 'Are you reluctant to develop apps for Android devices given the malware/hacking issues inherent on the platform?'

- Yes – it's a big concern for us
- Yes – it is something that we have discussed
- No

Country analysis

In the main, there is a split between developed and emerging countries on the biggest concerns associated with adopting mobile technology. Those in developed countries tend to be more worried about the security and privacy implications - the UK, Germany, Benelux, USA, and Singapore all rated security or privacy as their most concerning risk. Elsewhere, others are more concerned about cost - Brazil is most concerned about the cost of ongoing investment when platforms are updated, Russia is most concerned about the cost of beginning adoption.

in the West have had a corporate network of some description for decades, whereas in emerging economies it is only relatively recently that company-wide networks have started to be adopted. It is therefore to be expected that those in the US and Europe are more worried about security and privacy issues as they will have much more historical and legacy data which could be put at risk from adopting mobile applications.

We might expect the worries about platform development to differ greatly, with the open-source nature of Android being more appealing to businesses in emerging economies. Interestingly this is not the case: across all countries, it is only the minority who are not worried about the hacking and malware issues associated with developing for Android.
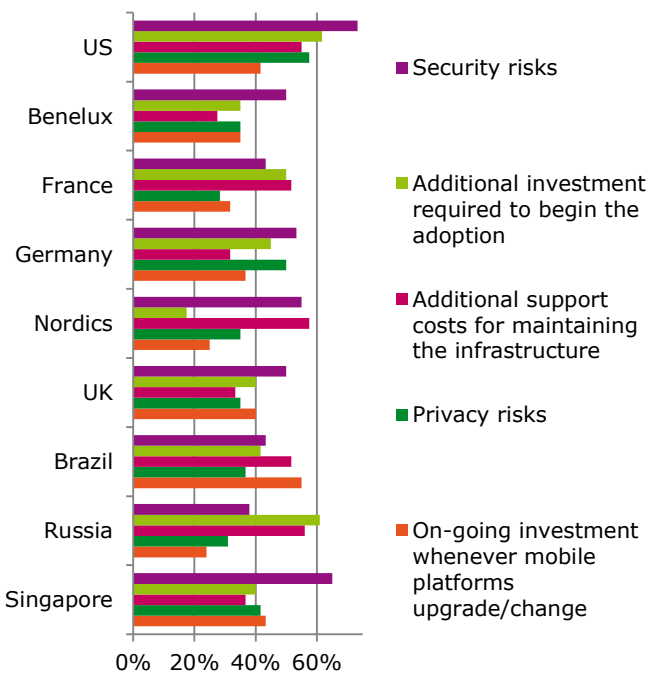

Figure fifteen: 'What hidden risks and costs do you associate with enterprises adopting mobile technologies?' *analysed by country*

There is no clear reason for this divide, but it could reflect a difference of attitude and position. It is not that Brazil and Russia do not believe that mobile development could have significant security or privacy risks; it is just that money is a greater concern. We have already seen that both countries are keen to develop and implement mobile applications because they recognise that there are so many potential benefits; it is cost rather than security/privacy concerns which have held them back.

This difference might also be due to how established the IT infrastructures are in these different countries. Most enterprise organisations

How businesses are implementing mobility

Infrastructural compatibility

Adding mobile device compatibility to an infrastructure is a difficult proposition. The research has already suggested that mobility projects are being started separately, as few businesses have a formal company-wide mobility project yet most offer apps or mobile phone access to the infrastructure. It is likely that only a minority has a coherent, company-wide strategy about how they will embrace the mobile platforms that they predict will become so dominant over the next few years.

One of the reasons that few have a unifying strategy is that the move to supporting those platforms could potentially require huge changes to the existing infrastructure. In fact, only 27% of those surveyed say that their current set up natively has the flexibility to support new mobile uses such as targeted marketing; over half (58%) are having to make changes to how they hold and access data in order to support new mobile platforms. This is a huge undertaking for any company, let alone one that has many hundreds of employees generating and accessing multiple terabytes of data in order to do their work; any change in process could have a huge knock-on effect on productivity.
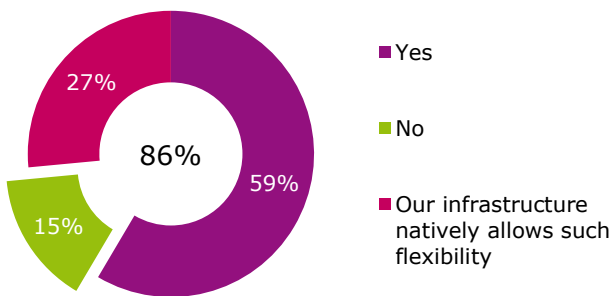

Figure sixteen: 'Will your organisation change how it holds and accesses data in order to support new mobile use cases, such as targeted marketing based on client location and interests?'

How does such a huge undertaking get funding? Would it fall under app development? If so, does the average spend of $468,000 on app development over the next few years really look like a reasonable sum? Do any updates need to come from existing IT department budgets? Can CIOs easily requisition the funding to make those infrastructural updates from the board given that they do not create instant, visible benefits?

Finding the expertise

Even once businesses agree on an approach and timeline to adding mobile platform compatibility to their infrastructure, the process of developing and deploying appropriate apps is no simple matter. All mobile platforms use different code bases and protocols, the two results of this being:

- Because these are relatively new platforms using relatively new languages, there is a finite number of people in the marketplace with the skillsets to create mobile apps;

- If a company wishes to implement apps across different mobile platforms, they will struggle to find programmers who have the skills to develop on every platform of interest.
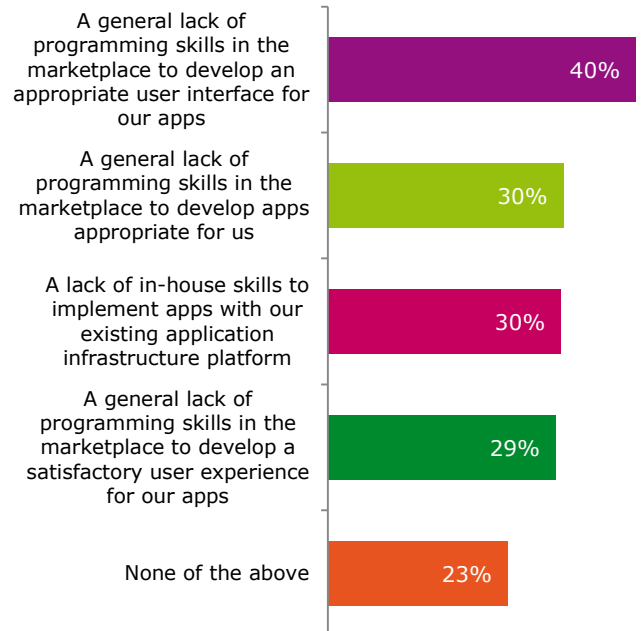

Figure seventeen: 'When thinking about offering mobile apps for your business, are any of the following a concern?'

Businesses are fully aware of this problem. Over three-quarters (77%) say that there is a general lack of programming skills, holding back their ability to effectively offer mobile apps. It is not just lack of skills within their own organisations

either: 40% see a lack of the necessary skills in the marketplace as a whole to develop appropriate user interfaces, and 30% see a lack of skills in the marketplace with regard to developing apps appropriate for their business.

Because businesses struggle to find the skills themselves, most are relying on vendors to help them to develop, implement, and deploy the mobile apps that they would like to offer. Nearly two-thirds (62%) of those interviewed during the research say that they would prefer to commission an established vendor to do the majority of the work of developing, implementation, and deployment of mobile apps, rather than doing the work themselves using a dedicated mobile application development platform.

Commissioning an established vendor that offers mobility capabilities to do most of the work for us — 62%

Doing most of the work ourselves using a new-to-the-market but dedicated mobile application development platform — 38%

Figure eighteen: 'When thinking about developing your own mobile apps, which of the following would you prefer?'

Given the complexity of developing apps, it makes absolute sense that businesses should reach out to vendors with experience and a greater knowledge of the risks involved in order to implement mobile apps in a logical, rational, effective way. Why leave such a crucial area of computing to chance?

However, this does place a burden on vendors as businesses increasingly rely on their mobile capabilities. Only around one in twenty (7%) businesses says that it is not important that their existing IT partners do not offer or support mobile apps; the majority (69%) say that it is very important or critical that, when contracts come up for tender or renewal, vendors have the ability to support and help them in their mobile endeavours.

Country analysis

The majority of businesses in every country prefer to reach out to external partners to help them to develop mobile apps. The extent does change slightly though - just over half of those in Europe want external help compared to two-thirds (66%) of those in the USA, 70% of those in Brazil, and 71% of those in Russia. This could suggest two potential conclusions:

- those in the USA and the emerging economies increasingly rely on outside expertise, potentially due to a greater lack of in-house knowledge than exists in Europe;

- the European countries are less likely to see the value of outsourcing the development of their mobile apps

However, there's a third potential conclusion which may be more telling. The three countries that are more likely to want external help are also most likely to already have a formal mobility project. Have they already experienced the difficulties of attempting these things themselves and realised they need outside help? Does greater experience of the move to mobility equal a greater recognition of the difficulty?
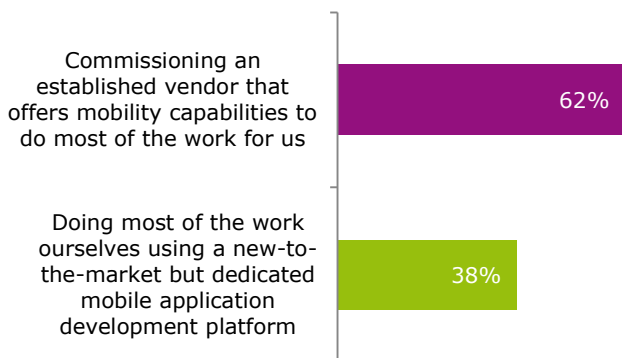
Conclusion

The changes to the computing landscape over the past decade have been phenomenal.

At the turn of the century, the majority of computer users had Internet access but only through bulky desktop computers, tethering them to working and interacting with companies through a single designated computer area. The reduction in the cost and size of x86 and other IBM compatible computers created a boom in laptop and netbook sales over the intervening years, liberating employees and customers from the desk but still keeping them within the same technological ecosystem.

But that traditional ecosystem is becoming ever less relevant. The emergence of smartphones, the business adoption (and subsequent decline in adoption) of the BlackBerry, the boom in the Android platform and its associated devices, the rapid adoption of tablet devices, and the popularisation of apps which are easily downloaded and installed have made customers, employees, and business decision-makers alike question their traditional computing estate.

It is clear from the research that business decision-makers are increasingly certain that mobile operating systems will become more dominant than traditional ones, and that over the next five years those same mobile platforms will become increasingly important to these businesses. That does not necessarily mean that those desktops and laptops are obsolete; as so many critical business processes can only be performed through those traditional platforms at present, a mass exodus to Android or iOS devices is unlikely in the short term. Large organisations will still be using standard Windows/OSX/Linux infrastructures for a while yet, but the research confirms that we are seeing a definite business move to mobile platforms and new ways of working.

Customers, employees, and partners will increasingly be served through mobile devices, and not necessarily through company-owned devices. Those that we spoke to during the research confirmed this - over three in five (61%) decision-makers told us that they use a tablet or smartphone which they personally own for work purposes. As this attitude percolates through businesses and as customers demand increasing access to businesses through an ever more diverse list of devices, businesses will need to ensure that they offer a range of different apps which work effectively, easily, and without problem.

The real danger is that though the majority of businesses recognise that this change is happening, only a few are proactively addressing this and have formal plans and strategies in place to ensure that their business is mobile-ready. The vast majority do not have such plans as yet; though most plan to within the next year, for some particularly competitive markets will this be too late?

Worse still, there is a real danger that those with formal projects or who have started developing apps without having a unified company-wide strategy could be doing so in a poorly structured or ill-advised way. The creation of mobile apps and the changes needed to the infrastructure to cope with them requires a degree of exploration and flexibility - if done poorly, it could lead to duplication of effort, early redundancy of new projects, and wasted capital, creating frustration amongst customers, employees, and partners alike, not to mention potentially lost revenue.

That many businesses are relying on external vendors to help them to develop apps and implement mobile platforms within their infrastructure makes complete sense. It is a difficult problem with no simple solution, and with mobile ecosystems rising and falling in prominence over the course of just a few months, companies do need to be guided by an expert hand. With mobile operating systems becoming so fundamental and critical to how businesses will operate in both the short- and long- term future, vendors need to be able to support such businesses appropriately.

About Progress® OpenEdge®

With the Progress OpenEdge® product, you can develop dynamic solutions that incorporate business process and integration capabilities securely across multiple platforms and devices. Whether you deploy on-premise, on a mobile device, or in the Cloud, the OpenEdge application offers a single integrated platform that is 40% more productive and provides a 30% cost savings versus the competition.

The OpenEdge product is a productivity platform for end-to-end application development, enabling our customers and partners to deliver responsive business applications through key features that include:

- **Mobile Development and Deployment –** The OpenEdge Mobile product provides the ability to quickly and easily extend existing OpenEdge applications to support multiple mobile devices on various platforms or to build new mobile apps for new business areas or new markets.

- **Multi-Tenancy –** database level support to a number of separate and distinct groups of users greatly reduces operational complexity due to the number shared resources and because only one instance of the application and database is involved. For SaaS and Cloud implementations, the unique differentiator with the OpenEdge platform is that instead of the client managing access to tenant data, the database takes care of everything, making them transparent to the application provider. And, OpenEdge product gives you the ability to self-provision tenants for Cloud-based applications.

- **Agility** – The OpenEdge platform allows you to balance productivity and flexibility by eliminating many of the coding tasks associated with creating robust business applications. Through these visual workflows, you can quickly and efficiently incorporate new processes into your application, driving new levels of personalization. They facilitate collaboration and empower the business user to take control of application change. When combined with the Progress Corticon® product, developers and business owners achieve new levels of agility and the ability to rapidly change and customize applications. The result: you can swiftly create business process and rules-enabled applications with little or no code—significantly cutting development time while preserving your ability to customize an application.

- **Operational Excellence –** The OpenEdge solution supports the development of high-performance ultra-reliable applications to meet the needs of 24/7 business operations with ever-increasing numbers of users.

- **Security and Compliance –** Whether your business is in retail (PCI-DSS), financial services (PCI-DSS, SOX), healthcare (HIPAA), or is impacted by the European Union Directive on Data Protection, your business must comply with regulations aimed at protecting data in order to survive. The OpenEdge product makes it easy to secure your application and data in order to comply with these regulations, and does so with minimal setup or application change.

- **User Interface Flexibility –** Enhanced Rich Internet Applications (RIAs) provide a dynamic Web experience that is rich and engaging, as well as interactive. RIA technologies provide a variety of development, deployment and runtime options for SaaS-based applications.

About Progress Software

Progress Software Corporation (NASDQ: PRGS) is a global software company that simplifies the development, deployment and management of business applications on-premise or on any Cloud, on any platform and on any device to any data source with enhanced performance, minimal IT complexity and low total cost of ownership.

The comprehensive Progress portfolio provides leading solutions for application development, data connectivity and interoperability, and SaaS and cloud solutions. Progress solutions are used across a variety of industries, including manufacturing and distribution, retail, healthcare, and financial services.