Platform-as-a-Service: Powering the development and deployment of new applications

August 2014

A Vanson Bourne survey

Contents

Aims of the research

This study explores the current landscape of internal application development for mid-sized organizations. Existing processes are reviewed, including timescales, frequency, user interfaces and who the internal contributors are.

Can application developers keep up with organization's demands? The research explores the different experiences of respondents whose organizations currently use PaaS in their application development/deployment, compared with those that do not. What advantages do they see? This study explores some of the more subtle differences between the groups.

How is the concept of 'mobile first' driving the direction of future application development? What obstacles do respondents' organizations face when implementing this type of development? The paper also looks at the future trends and how IT decision-makers expect to see development change, including the use of new programming languages.

Summary of key findings

Organizations using PaaS note significant benefits to application development and deployment

- …including a reduction in cost (51%) and an increased capacity for innovation (47%)

Most respondents (85%) report that they are under pressure to reduce the time taken to develop and deploy new applications

- …however, only a small minority (18%) say that their processes are always agile enough to meet this demand

Currently, around half of all respondents (48%) are using PaaS to develop and deploy new applications

- …and the majority (77%) are planning to invest in it in 2014, with an average spend of over $250,000

Four in five (80%) have departments outside IT involved in creation of new business applications

- This rises to 94% among those with PaaS
- The department most likely to contribute is sales/marketing (47%)

Need to integrate multiple data sources in application development

- 81% claim that the average new application requires two or more sources to be integrated
- …however, three in five (61%) do not have access to all the data sources they require for application development
- PaaS users can introduce and integrate new data sources in half the time of non-users and are more likely use non-relational and big data sources in their applications

Increase in 'mobile first' application development

- Respondents estimate a 15% increase in the number of applications created as 'mobile first' by 2017
- Currently only 9% consider themselves to be part of a 'mobile first' organization
- Over two-thirds of those using PaaS for development (69%) anticipate that their organizations will be 'mobile first' within a year, compared with just 20% of those without PaaS

PaaS defined

In early 2014, Gartner defined PaaS and application-specific PaaS as:

"Application infrastructure (middleware) functionality enriched with cloud characteristics and offered uniformly to all qualified subscribers, as a service, while encapsulating and hiding the underlying system infrastructure, is a platform as a service (PaaS).

A PaaS that is designed to enable runtime deployment, management and maintenance of cloud business application services is an application PaaS (aPaaS)."

Current state of application development

Development takes too long

In-house development of applications is very common, with the vast majority of respondents (93%) saying that their organization has some form of internal development team (figure 1).

For these teams, it takes an average of six months to develop and deploy a new application and three such applications are being deployed each year. 72% of respondents say that their organization creates at least one new application a year.

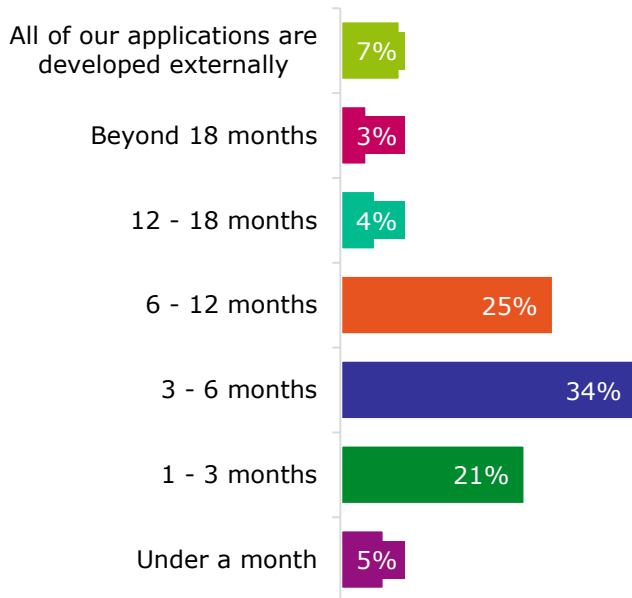**"How long does it take your internal application development team to develop and deploy a new application, on average?"**

Category	Percentage
All of our applications are developed externally	7%
Beyond 18 months	3%
12 - 18 months	4%
6 - 12 months	25%
3 - 6 months	34%
1 - 3 months	21%
Under a month	5%

Figure 1: *Asked to all respondents (700)*

One major criteria for success is productivity, the time taken between commissioning an application and deployment. At present, it takes six months, on average, for a respondents' organization to develop and deploy an application.

Demand for faster development and deployment

The majority (85%) say that there is demand from within their organization to reduce the time taken to develop and deploy, suggesting six months is still too long. A quarter of respondents say that speed is the most significant factor of all when creating applications (figure 2).

"Is there a demand within your organization to reduce the time it takes to develop and deploy new applications?"

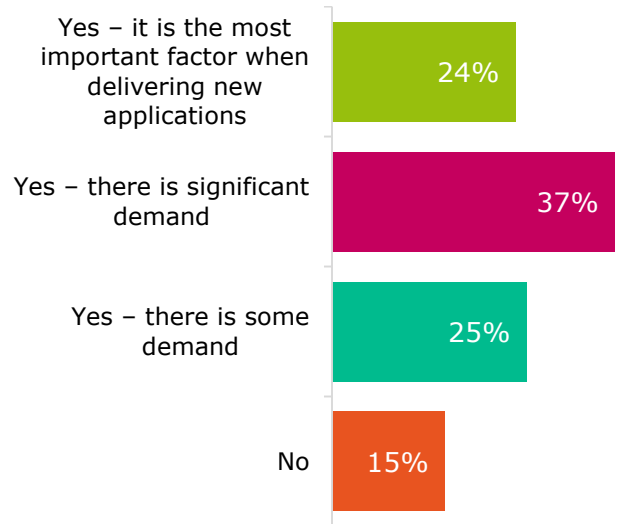| Category	Percentage
Yes – it is the most important factor when delivering new applications	24%
Yes – there is significant demand	37%
Yes – there is some demand	25%
No	15%

Figure 2: *Asked to all respondents (700)*

In a competitive business environment, being able to develop applications rapidly is critical. 88% are also looking to deploy applications with greater frequency. Reasons behind this include responding to market needs more effectively (61%) and taking advantage of new opportunities when they arise (51%).

Current state of application development

Half of respondents (51%) also claim that their organizations want to be able to launch more applications to ensure that they are always compatible with new operating system updates (figure 3).

"Is your application development team aiming to deploy applications more frequently for any of the following reasons?"
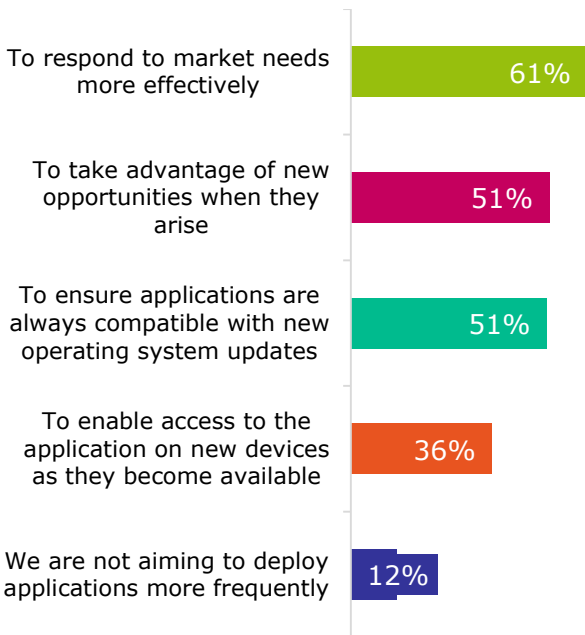

To respond to market needs more effectively — 61%

To take advantage of new opportunities when they arise — 51%

To ensure applications are always compatible with new operating system updates — 51%

To enable access to the application on new devices as they become available — 36%

We are not aiming to deploy applications more frequently — 12%

Figure 3: *Asked of respondents whose organization develop some applications internally (647)*

Between frequency and speed, the majority of respondents are clear that they want to increase their organization's productivity when it comes to the development and deployment of new applications.

Organizations' processes don't support fast delivery and deployment

Despite this demand, only 18% of all respondents consider their organization's existing infrastructure to be agile enough to always meet the demand for faster deployment. There is a large discrepancy as 84% of respondents with application PaaS say that their processes are always or usually agile enough, compared with 58% without it (figure 4).

"Do you believe that your application development processes are agile enough to enable you to develop and deploy applications as quickly as you would like?"
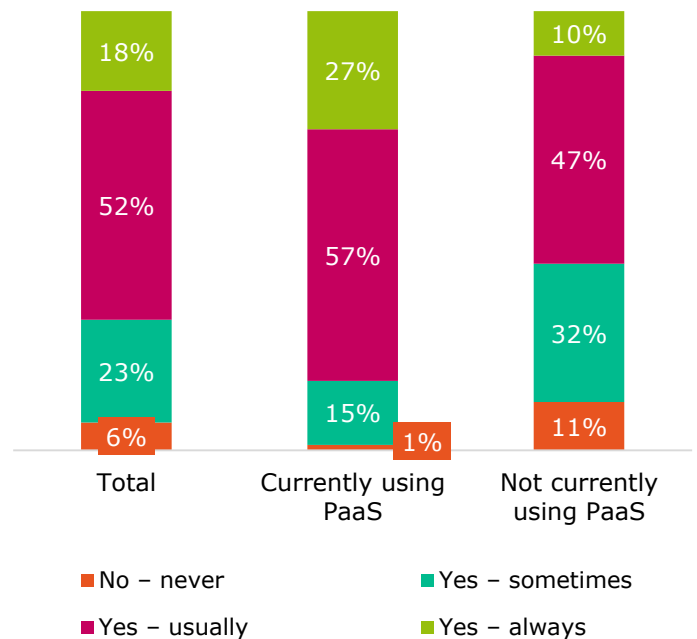

	Total	Currently using PaaS	Not currently using PaaS
Yes – always	18%	27%	10%
Yes – usually	52%	57%	47%
Yes – sometimes	23%	15%	32%
No – never	6%	1%	11%

■ No – never   ■ Yes – sometimes
■ Yes – usually   ■ Yes – always

Figure 4: *Asked to all respondents (700), split by those who do or do not use PaaS*

Current state of application development

Pressure from C-suite level

But where does the demand for increased speed of development and deployment come from? 55% claim that the demand comes internally (from the IT department), although as all respondents work within the IT department, the results here could be skewed.

A significant proportion (43%) claim that the demand is "top-down," coming from the C-suite/board level, and a third (34%) say that demand comes from sales/marketing. 72% also encounter external pressure to reduce timescales (from customers, competitors etc.) (figure 5). Overall, this shows that those experiencing demand are seeing it from multiple directions.

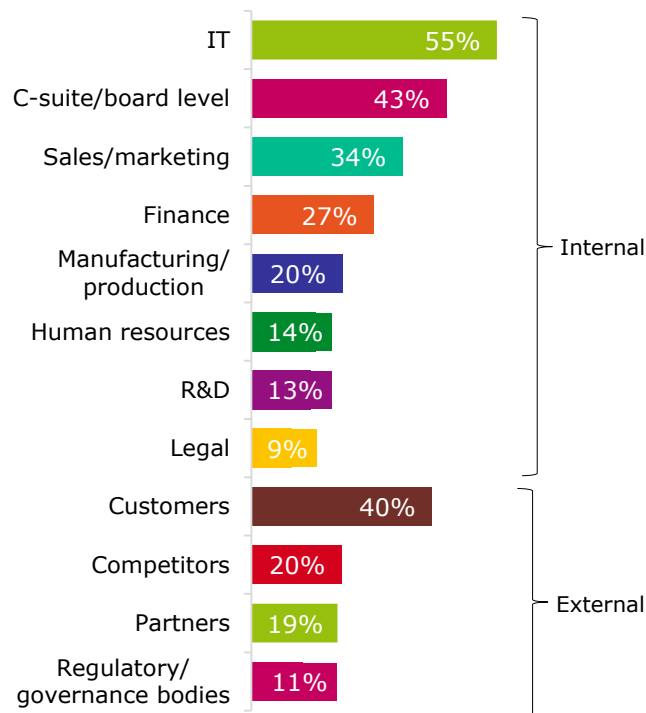**"Where does the demand for rapid development/ deployment come from?"**

Figure 5: *Asked of respondents whose organization experiences demand to reduce delivery time (598)*

Current state of application development

It's not only IT building applications

Application building is rarely the exclusive realm of the IT department. Four in five (80%) say that other departments within the organization are sometimes involved in the creation of applications. However, the IT department is still involved in the vast majority of cases. There is also an increased likelihood that other departments will contribute when PaaS is used (figure 6).

Does this mean that PaaS aids greater cross-departmental collaboration? Further evidence is that for the majority of individual departments, PaaS users see higher percentages involved. For example, 36% of those with application PaaS see the R&D department involved in the process, compared to just 22% without PaaS.

"Do departments outside of the IT department contribute to the development and deployment of new applications?"
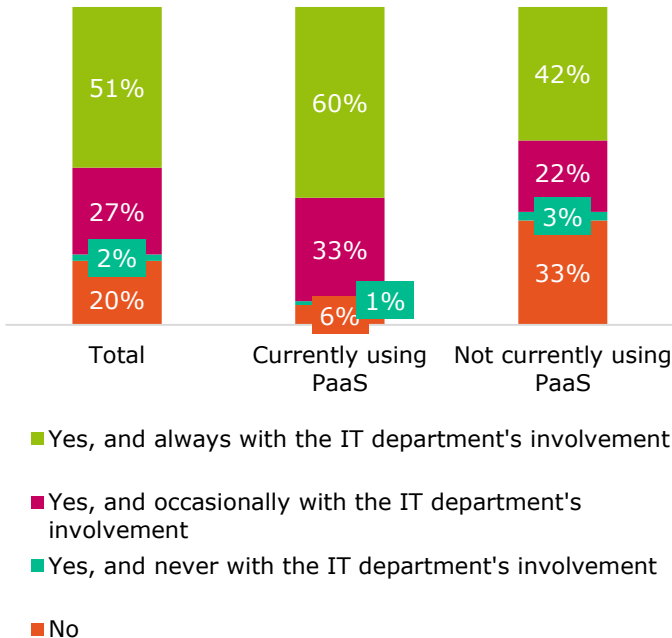
- ■ Yes, and always with the IT department's involvement
- ■ Yes, and occasionally with the IT department's involvement
- ■ Yes, and never with the IT department's involvement
- ■ No

Figure 6: *Asked to all respondents (700), split by those who do or do not use PaaS*

Overall, the most likely department to actively participate in application development is sales/marketing (47%). Finance (44%) and manufacturing/production (38%) are also likely to contribute (figure 7).

"Which other departments are contributing to application development and deployment?"
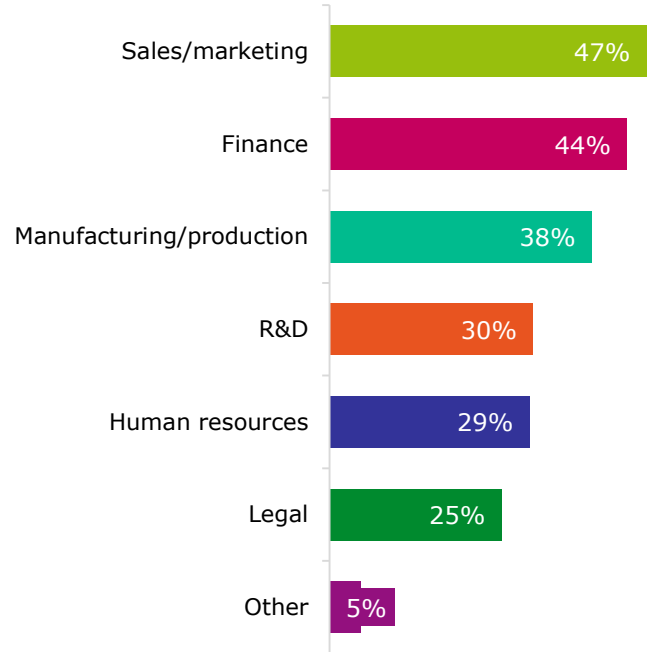
Figure 7: *Asked of respondents whose organization has departments outside of IT contributing to the development and deployment of new applications (559)*

Current state of data integration

Challenges surrounding data source integration

90% of respondents say that their organization requires more than just a single data source to be integrated for at least some of their new applications (figure 8). This is another level of complication faced by internal development teams and a test for the IT team that underpins the development process.

Around two-thirds (68%) report that they require multiple sources on half or more of these applications, and for an average application, 81% require two or more data sources.

While the majority have access to most of the data sources that they require, only 39% have access to everything (figure 9). Therefore, 61% is unable to access some of the required sources – a significant disadvantage considering the number of new applications that need multiple data sources.

On average, it takes five working days to add a new data source and fully integrate it with existing applications. A third (34%) say that this length of time is too long, representing a challenge for their organization.

However, the most commonly experienced barrier is the integration with existing on-premise data sources (47%). The vast majority of respondents (86%) report at least one integration challenge (figure 10).

"When new applications are developed/deployed, is there a need to integrate multiple data sources?"

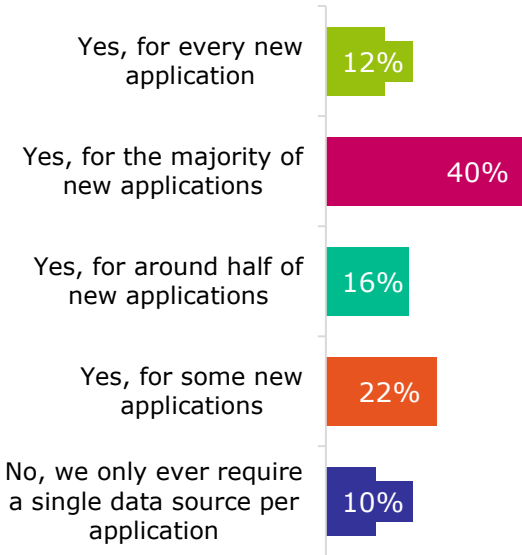|	
Yes, for every new application	12%
Yes, for the majority of new applications	40%
Yes, for around half of new applications	16%
Yes, for some new applications	22%
No, we only ever require a single data source per application	10%

Figure 8: *Asked to all respondents (700)*

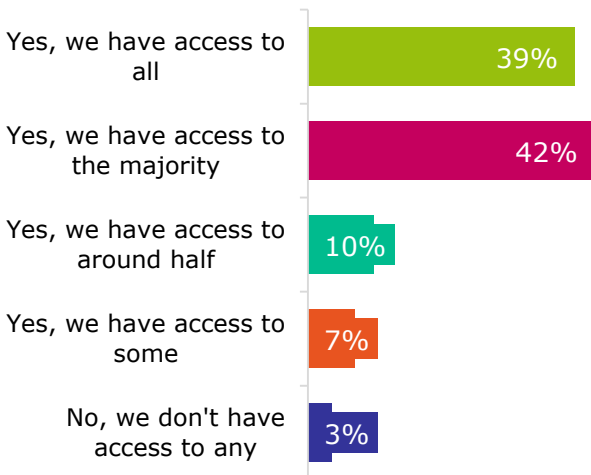**"Do you already have access to the data sources that you require when developing new applications?"**

Yes, we have access to all	39%
Yes, we have access to the majority	42%
Yes, we have access to around half	10%
Yes, we have access to some	7%
No, we don't have access to any	3%

Figure 9: *Asked to all respondents (700)*

"What challenges does your organization experience when integrating different data sources for application development?"

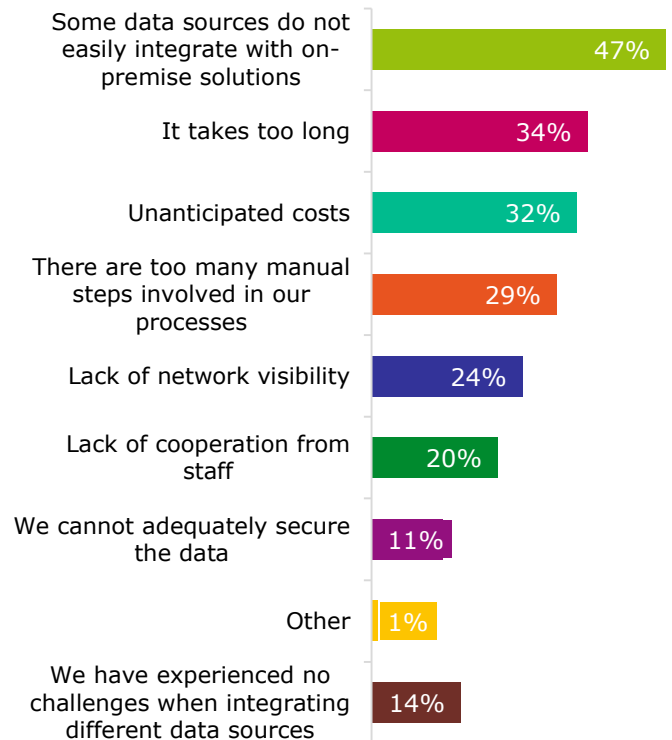|	
Some data sources do not easily integrate with on-premise solutions	47%
It takes too long	34%
Unanticipated costs	32%
There are too many manual steps involved in our processes	29%
Lack of network visibility	24%
Lack of cooperation from staff	20%
We cannot adequately secure the data	11%
Other	1%
We have experienced no challenges when integrating different data sources	14%

Figure 10: *Asked to all respondents (700)*

Organizations using PaaS are deriving benefits

Extent of PaaS use

There is a constantly growing number of custom-built business applications coming into existence. Over the next three years, respondents estimate that the number of custom applications in their organization will increase by over a third (35%) on average. Meeting the demands and challenges brought about by existing and future demand requires assessment of all available tools.

Currently, just under half of respondents' organizations (48%) use a PaaS solution for application development and deployment, although only 18% have used it for over a year. A further 22% claim they plan to start using it, and hence the majority of those surveyed (70% in total) will be using PaaS in the development and deployment of their applications in the future (figure 11).

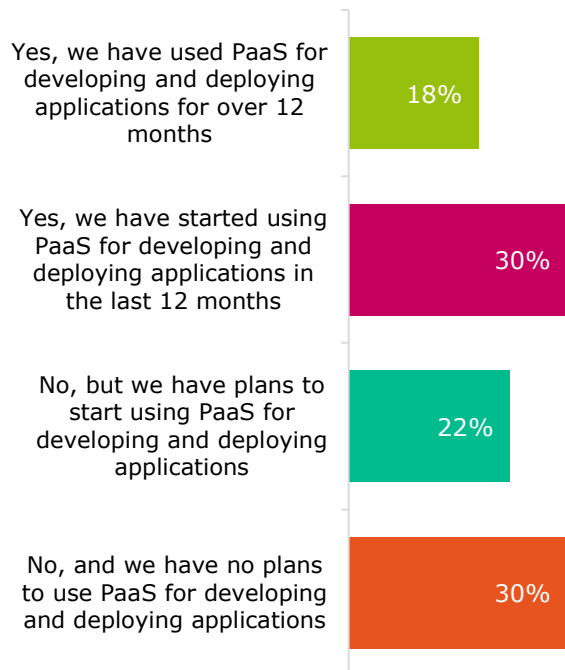**"Does your organization use PaaS when developing and deploying new applications?"**

Figure 11: *Asked to all respondents (700)*

On average, respondents predict that over a quarter of a million US dollars will be invested in PaaS for applications over the course of 2014. For those already using it, the figure is even higher (figure 12).

Analysis showing the percentage of respondents whose organization is looking to invest in PaaS for application development in 2014, and the average investment (US$)
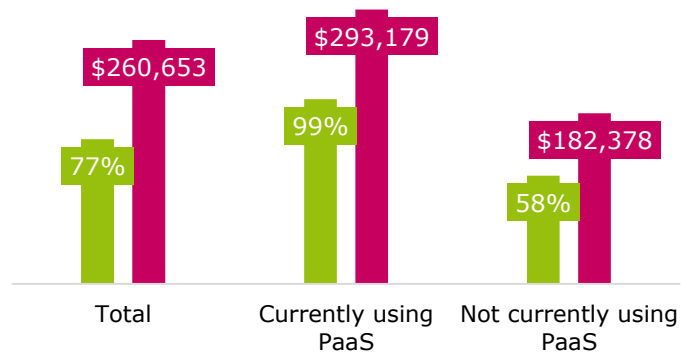
Figure 12: *Asked of all respondents (700)*

PaaS uptake also varies by geographic region. Respondents' organizations in the US (81%), Singapore (80%) and Brazil (78%) are the most likely to be using, or planning to use, PaaS in the development and deployment process. By contrast, respondents' organizations in the UK (48%) and Benelux (54%) are the least likely (figure 13).

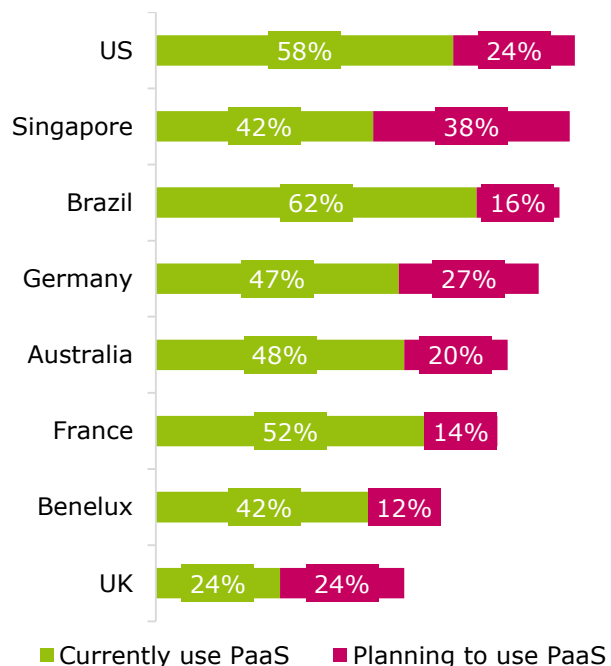*Analysis showing percentages of respondents that use, or plan to use, PaaS for application development and deployment*

Figure 13: *Asked to all respondents (700), split by region*

Organizations using PaaS are deriving benefits

Direct benefits as a result of PaaS

What is driving the large number of respondents whose organizations are investing in PaaS for application development and deployment, as well as the sizeable investment figures themselves?

Of those that already utilize a PaaS solution when creating applications, there is nearly universal positive feedback on how this has affected them. Almost all claim to have observed an overall improvement in the development (93%) and the deployment (95%) of new applications (figure 14).

Analysis showing the percentage of respondents that say PaaS has improved the development/deployment of new applications
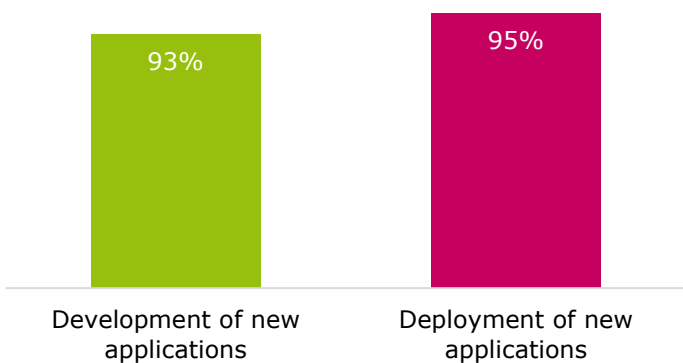

Figure 14: *Asked to respondents that currently use PaaS for application development/ deployment (335)*

Virtually all respondents (99%) have experienced benefits as a direct result of using PaaS, including crucial reductions in timescales (54%) and development costs (51%).

Other major benefits that have been experienced include improved scalability (47%), the ability to continuously monitor, test and develop (42%) and application support (38%). 47% say use of PaaS has given them more capacity for innovation within the organization such as finding new ways to combine existing resources or exploring more innovative ways of using mobile (figure 15).

On average, each respondent whose organization has aPaaS capability is able to cite three different benefits. This suggests that improvements to development and deployment are multi-

dimensional, rather than respondents' organizations seeing only a single benefit each.

"What benefits has your organization experienced as a result of using PaaS for application development?"
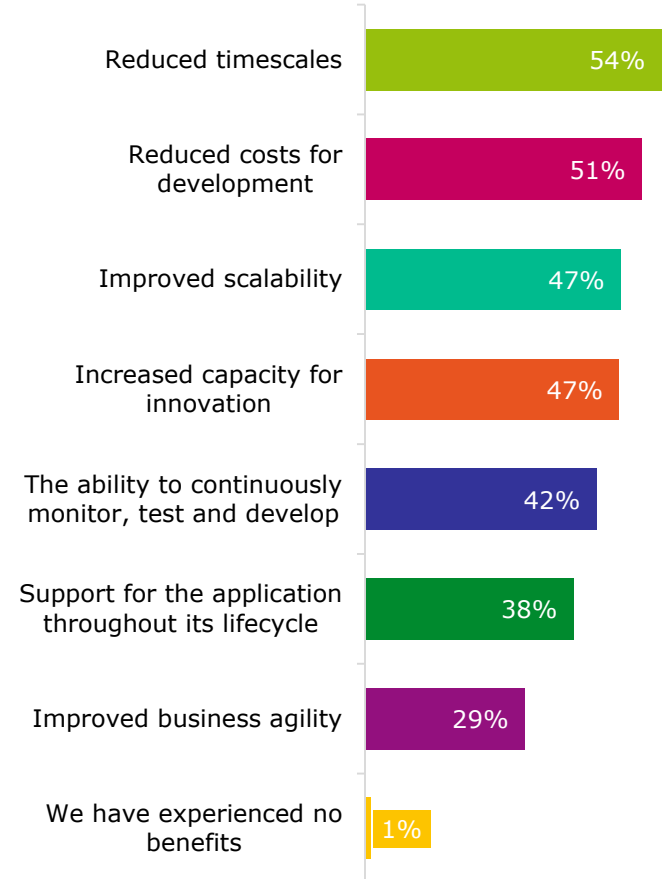
Figure 15: *Asked to respondents that currently use PaaS for application development/deployment (335)*

Improved development

Development of new applications is seen as more challenging than deployment; 57% of respondents believe development is difficult with their current infrastructure, compared with 41% for deployment.

Building an application using an appropriate user interface (UI) is a critical part of that development process. In just over half of respondents' organizations (53%), development teams have a single, overarching UI for application development.

Organizations using PaaS are deriving benefits

The respondents that utilize PaaS in the development process also have a much greater likelihood of having a single UI for development. 77% of PaaS users already make use of a single application-building UI, compared to just 31% of those without PaaS (figure 16). This suggests that either respondents' organizations that have attained a single development UI are more likely to use PaaS, or PaaS has enabled the deployment of such company-wide UIs with greater ease and frequency.

"Does your application development team use a single, overarching UI for application development?"
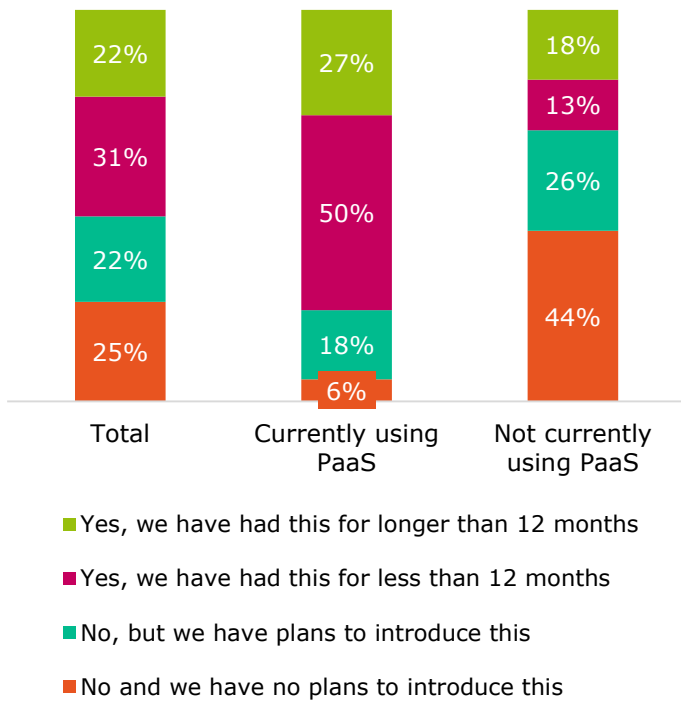

- ■ Yes, we have had this for longer than 12 months
- ■ Yes, we have had this for less than 12 months
- ■ No, but we have plans to introduce this
- ■ No and we have no plans to introduce this

Figure 16: *Asked to all respondents (700), split by those who do or do not use PaaS*

As seen previously, there is a considerable demand for increased productivity. The majority of respondents acknowledge that speed, frequency and agility are key attributes of the infrastructure required to build applications internally. However, it is not the case that most existing UIs are more focused on productivity instead of control. Just over a quarter (27%) have opted for productivity as the focus of their development UI, but the majority (56%) actually have equal balance between productivity and control (figure 17).

"Is your application development UI more focused on productivity (i.e. developing applications quickly) or on control (i.e. allowing development of more complex applications)?"
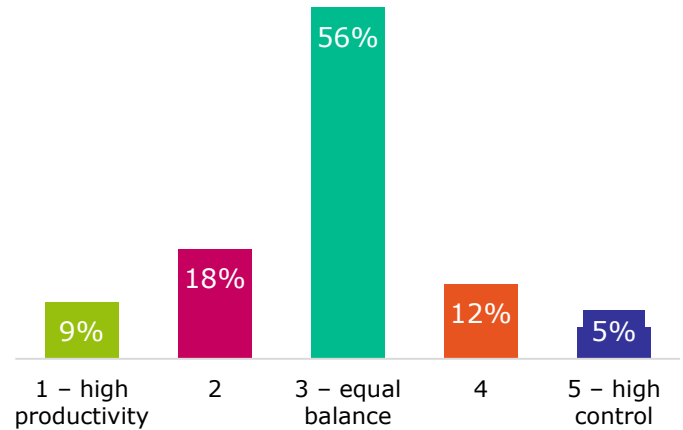

Figure 17: *Asked to all respondents (700)*

For most respondents, this result implies an unwillingness to sacrifice the ability to build complex applications for the sake of improving productivity, and that having both good productivity and control is the more ideal situation.

Organizations using PaaS are deriving benefits

PaaS for improved integration management

Respondents have varied experiences with data source integration and whether or not PaaS is used in the development of new applications has a consistent impact upon these outcomes.

One of the clearest differences is the average length of time required to integrate new sources. Those using PaaS for application development are able to integrate new data sources in half the time of those without (three days compared with six days, on average) (figure 18).

"On average, approximately how quickly can new data sources be introduced to your organization and integrated into existing applications?"
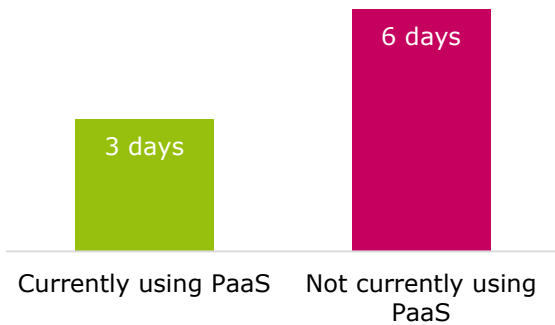

Figure 18: *Asked to all respondents (700), showing average number of days, split by PaaS users vs. non-PaaS users*

The study also shows a trend between PaaS use and flexibility around the types of data sources that can be integrated.

PaaS users and non-PaaS users are equally likely to use relational data sources, but those using PaaS are significantly more likely to be using or planning to use non-relational and big data sources. For example, 91% of respondents' organizations currently using PaaS connect, or plan to connect, applications to big data sources. This falls to 54% among those that do not have PaaS (figure 19).

"Does your organization connect your applications to any of the following data sources?"

- ■ Yes, we already do
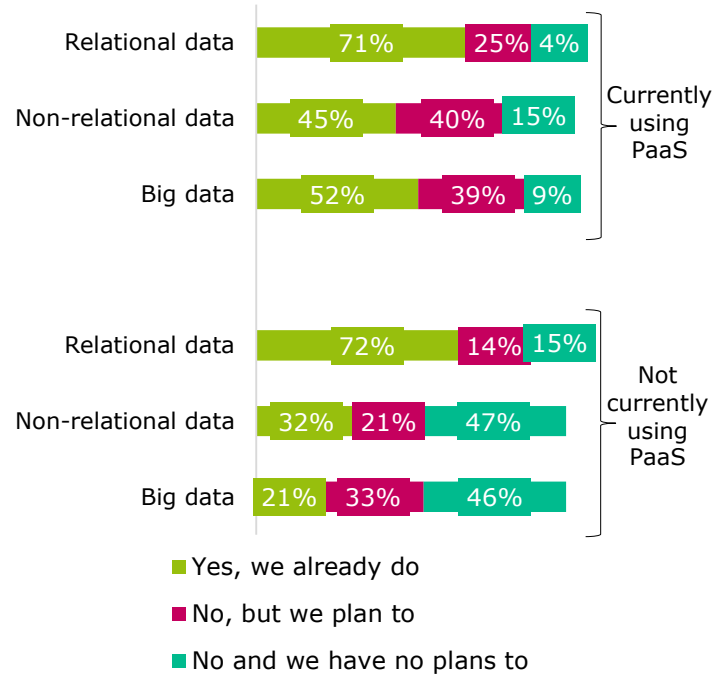- ■ No, but we plan to
- ■ No and we have no plans to

Figure 19: *Asked to all respondents (700), split by PaaS users vs. non-PaaS users*

81% have at least some cloud data sources and on average, 27.5% of surveyed organization's data sources are in the cloud. This proportion rises to 38.3% amongst existing users of PaaS for applications.

Organizations using PaaS are deriving benefits

Importantly, not only are PaaS users more likely to have a higher percentage of data sources in the cloud, those sources are typically more integrated with on-premise data sources as well. 71% of respondents using PaaS for development claim their cloud and on-premise data sources are either fully or significantly integrated, versus just 31% of those without (figure 20).

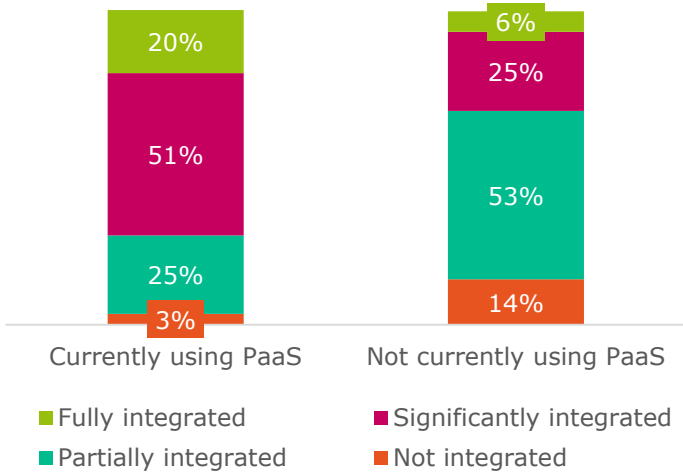**"Currently, how integrated are your cloud-based data sources with on-premise data sources?"**

Figure 20: *Asked to respondents with data sources in the cloud (538), split by PaaS users vs. non-PaaS users*

These all point to PaaS as being a key facet of a better approach to application development, or simply, organizations that are more advanced with building data sources into applications are more likely to be using PaaS.

PaaS users are more mobile aware

The phenomenon of 'mobile first' applications is a recent trend where developers are focusing on the mobile device user instead of desktop. It is shown to be increasingly common among respondents; the percentage of new applications being built as 'mobile first' is predicted to increase by an average of 15% over the next three years.

Both PaaS users and non-users expect to see significant increases in the proportions of applications created this way, although those using PaaS are more likely to be doing this and will be in future too (figure 21).

Analysis showing average percentage of new applications built as 'mobile first' now and in three years' time
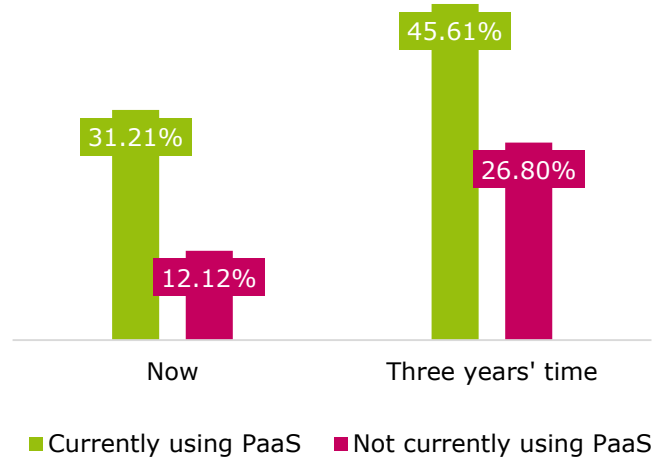
Figure 21: *Asked to all respondents (700), split by those who do or do not use PaaS*

Although some respondents believe that developing better mobile applications is a customer-driven strategy (for example, 32% say there is increased customer demand to interact via mobile), employee factors are more commonly reported reasons for focusing on mobile applications. Half of respondents (51%) say 'mobile first' development is a response to demand for increased employee mobility and just under half (46%) say that their organization wants to increase productivity through 'mobile first' applications.

Smartphones, tablets and other mobile devices have a number of features that respondents think will enhance the user experience, such as the ability to initiate calls through an app (43%) and GPS (37%).

On average, respondents believe three different types of application would benefit from being 'mobile first' and the vast majority (91%) name at least one. Some of the applications that respondents think would be most likely to benefit from becoming 'mobile first' are CRM (39%), conferencing (35%) and SQL databases (33%).

Organizations using PaaS are deriving benefits

However, there are still some reservations. Only 13% think that their organization's accounting and finance applications would be better as 'mobile first', likely due to such applications containing more sensitive information (figure 22).

"What types of business applications do you believe would most benefit from becoming 'mobile first'?"

Customer relationship management (CRM)	39%
Conferencing software	35%
SQL databases	33%
Content management systems	29%
Big data	27%
Business process management	25%
Business intelligence/data warehousing	24%
ERP	21%
HR applications	19%
Batch processing applications	13%
Accounting and finance applications	13%
None of the above	9%

Figure 22: *Asked to all respondents (700)*

they expect to be a 'mobile first' organization at some point in the future (figure 23).

"When do you expect to be a 'mobile first' organization?"

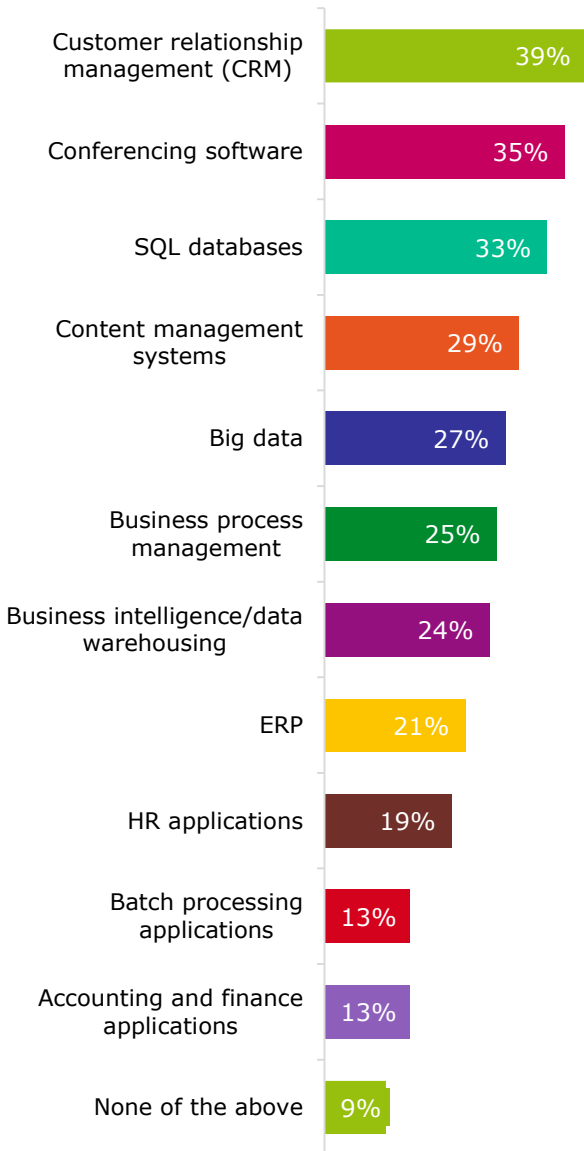|	
We already are	9%
Within the next six months	16%
Within a year	19%
Within two years	21%
Beyond two years	21%
Never	15%

Figure 23: *Asked to all respondents (700)*

Currently, only a small minority (9%) say their organizations are already 'mobile first' in the sense that they build more applications with mobile devices primarily in mind than desktops. However, it is an aspiration for most as 76% say
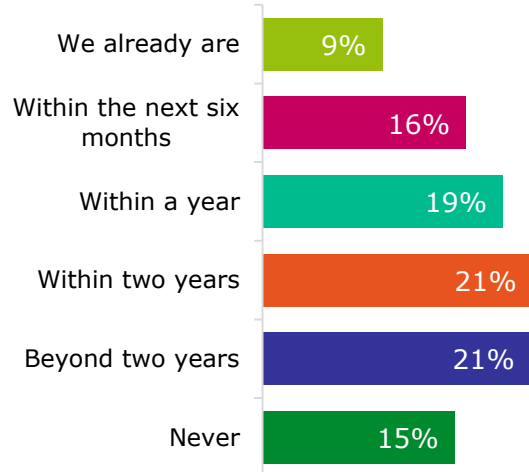
Organizations using PaaS are deriving benefits

Despite numerous advantages to being able to develop applications as 'mobile first', there are also obstacles. Security concerns (42%), higher costs (39%) and lack of specialist skills (34%) are all reported as barriers to this type of development (figure 24). 88% claim that their organization faces at least one of these challenges, explaining why such a relatively small proportion of respondents' organizations consider themselves 'mobile first' at this point in time.

"What barriers does your organization face when developing 'mobile first' applications?"

Barrier	%
Security concerns	42%
Higher costs	39%
Lack of specialist skills	34%
Increased development time	31%
The marketplace is moving too quickly	24%
Risk to business continuity/loss of critical applications	19%
Resistance from internal stakeholders	18%
More difficult to maintain control over the applications	15%
There are no barriers	12%

Figure 24: *Asked to all respondents (700)*

Respondents whose organizations use PaaS for application development currently create almost three times as many 'mobile first' applications (31% vs. 12%, on average). Over two-thirds of PaaS users (69%) claim that they will be 'mobile first' organizations within a year, compared with just 20% of those without PaaS.

PaaS users are more likely to use new languages

There are a huge number of programming languages in existence; the most commonly used by respondents' organizations are JavaScript (59%), Java (57%) and C# (37%). As well as the more common ones, 8% of respondents say that their organization uses niche or industry-specific languages.

Development of web-based (60%) and server-based (56%) applications are programming language use-cases for the majority of respondents. One sign that organizations are looking to push their application development into the future is that a higher proportion claims mobile (40%) is a main use-case for programming languages, compared with only a quarter for legacy infrastructures (23%).

Around half (52%) say that their organization will start using new programming languages over the next three years. This rises to three-quarters (75%) among those surveyed with PaaS, suggesting a greater flexibility for new languages to be introduced (figure 25).

"Which do you plan to deploy in the next 3 years?"

	Total	Currently using PaaS	Not currently using PaaS
We plan to deploy new languages in the next 3 years	52%	75%	32%
We do not plan to deploy any new programming languages in the next 3 years	31%	16%	45%
Don't know	17%	9%	23%

■ We plan to deploy new languages in the next 3 years

■ We do not plan to deploy any new programming languages in the next 3 years
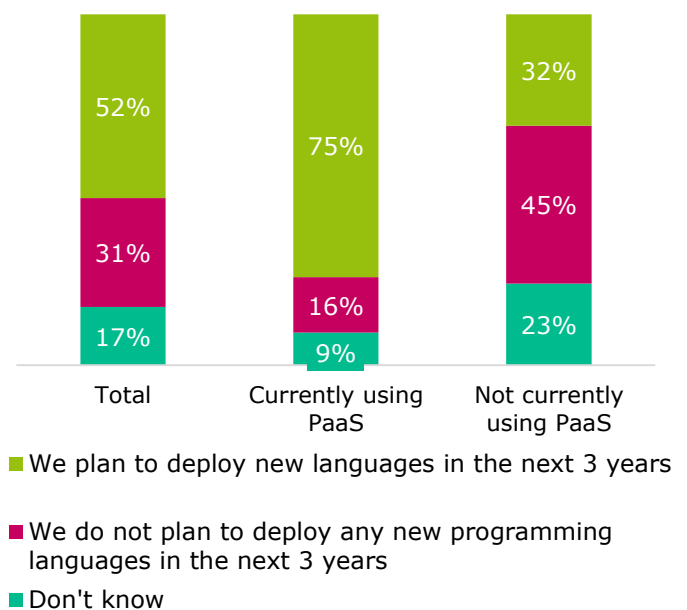
■ Don't know

Figure 25: *Asked to all respondents (700), split by those who do or do not use PaaS*

Organizations using PaaS are deriving benefits

While there is no one dominant language being adopted, there is intent shown by respondents' organizations to diversify their programming and take advantages of new opportunities. For example, 5% currently use the programming language Node.js, but 8% plan to start using it in the next three years. This goes up to 12% of respondents who are planning to use Node.js among those that already use PaaS. Similarly, use of JavaScript is also set to grow – among those using PaaS, 13% are planning to use JavaScript, in addition to the 68% already using it.

Deciding which language(s) are best for any one organization's application development is no simple task and is dictated by many variables. As previously discussed, legacy infrastructures are given less priority when selecting new languages, but when looking to the future, the difference is even more pronounced. More respondents consider wearable technology (36%) and mobile (53%) when selecting a new language than consider legacy infrastructure (24%) (figure 26).

"When selecting future programming languages, which of the following are primary considerations?"

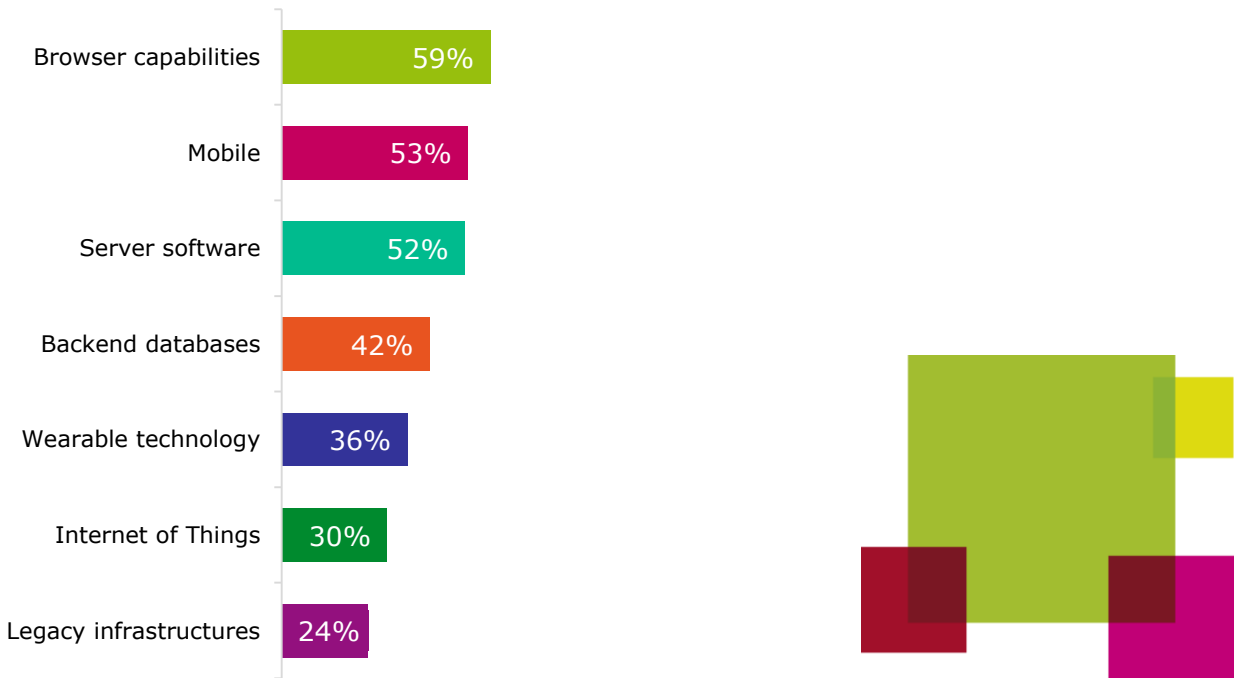| Category	Percentage
Browser capabilities	59%
Mobile	53%
Server software	52%
Backend databases	42%
Wearable technology	36%
Internet of Things	30%
Legacy infrastructures	24%

Figure 26: *Asked to all respondents (700)*

Key regional differences

The use of PaaS for application development and deployment is not equal across all countries and sectors. Some are more likely to have adopted it than others – for example, respondents' organizations in USA, Brazil and Singapore are most likely to be using PaaS, and Benelux and UK are least likely.

In much the same way that there is a correlation between PaaS use and an organization's success (confidence in their agility, having a single development UI, meeting demands for faster development etc.), there is a link between those countries who are more likely to be using PaaS and those same metrics of success.

In particular, US, Singapore and Brazil (countries with high use or intended use of PaaS) are among the most likely to have confidence in their agility, have a single UI and meet demand, whereas respondents in UK and Benelux scored relatively poorly. This gives further evidence to suggest that PaaS enables organizations to develop applications in a stronger position.

As well as being the most likely to use PaaS for applications, respondents in the US have by far the greatest proportion of cloud-based data sources; an average of 40% of their data sources are in the cloud, compared with 28% globally.

US organizations also have the highest level of integration with on-premise sources. Two-thirds of US respondents (67%) report that their organization's cloud-based data sources are at a significantly or fully integrated with on-premise data sources, compared with 55% globally.

The countries more advanced with PaaS for development also show increased likelihood to integrate cloud data sources and use API management. For example, the US and UK are the most and least likely regions to use PaaS for application development, respectively. This is also matched by the use of API management platforms, where just 20% of UK-based respondents use one, compared with 42% in the US.

The US and Brazil are ahead of many other countries in terms of current advancement with 'mobile first' and forecasting for being 'mobile first' in the future. To some extent, this does mirror the other regional trends as UK and France are least likely to be embracing 'mobile first', and also least likely to be using PaaS for development.

Conclusion

The majority of respondents say that their organizations are facing challenges associated with internal application development and deployment. There is a high demand from both internal and external groups to increase application building productivity, but only 18% believe that their organization's existing infrastructure is always agile enough to meet these requirements. These high expectations are dictated by wider business objectives such as responding to market needs more effectively (61%) and taking advantage of new opportunities (51%).

There is a clear divide between the experiences of two different types of mid-sized organization: those using PaaS to develop and deploy applications and those that are not.

48% of respondents say that their organization uses PaaS for the development and deployment of new applications, and a further 22% are planning to start. Nearly all existing users are seeing direct benefits; some of the most commonly experienced are reduced timescales (54%), reduced development costs (51%) and increased capacity for innovation (47%).

Compared with respondents that do not yet use PaaS for application development, PaaS-using organizations are already more likely to:

- See other departments outside IT involved in the development process

- Have the agility to match the productivity demands of their organization

- Have a single, overarching development UI

- Integrate new data sources more quickly into existing applications

- Plan to or already integrate non-relational data and big data sources into application development

- Have a higher percentage of data sources in the cloud, with better levels of integration with on-premise data sources

- Produce applications as 'mobile first'

- Plan the adoption and deployment of more new programming languages over the next three years

Overall, considering that enterprise applications are increasingly likely to be built as 'mobile first', organizations that use PaaS for development are in a stronger position than those that do not.

Scope of the research

Research methodology

Progress commissioned independent technology market research specialist Vanson Bourne to undertake the research upon which this report is based. 700 IT decision-makers from organizations with between 100 and 1000 employees were interviewed between April and June 2014. Interviews were performed in a total of eight regions:

- US – 200 interviews

- UK – 100 interviews

- France – 100 interviews

- Germany – 100 interviews

- Benelux – 50 interviews

- Australia – 50 interviews

- Brazil – 50 interviews

- Singapore – 50 interviews

These interviews were conducted using both online and telephone methodologies. Respondents were interviewed in the following size bands:

"How many employees work in your organization?"

101-250 employees	165
251-500 employees	226
501-1000 employees	309

Figure D1: *Asked to all respondents (700)*

Interviews were collected from the following sectors (including public):
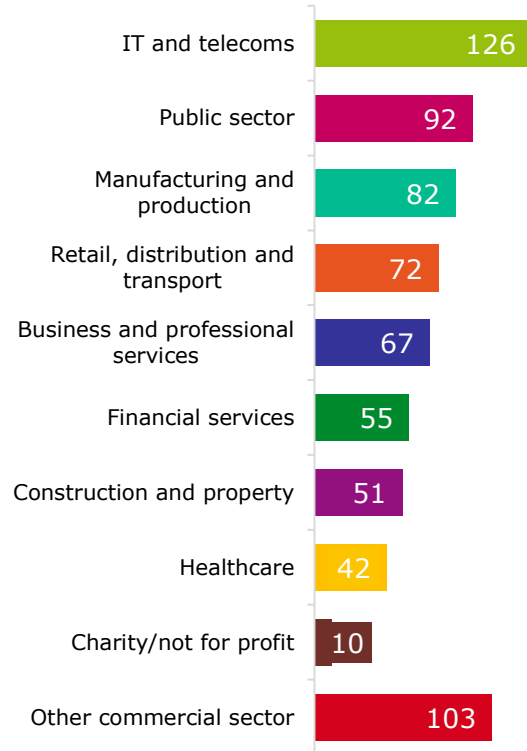
"Within which sector is your organization?"

IT and telecoms	126
Public sector	92
Manufacturing and production	82
Retail, distribution and transport	72
Business and professional services	67
Financial services	55
Construction and property	51
Healthcare	42
Charity/not for profit	10
Other commercial sector	103

Figure D2: *Asked to all respondents (700)*

About Progress:

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

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Vanson Bourne is an independent specialist in market research for the technology sector. Our reputation for robust and credible research-based analysis, is founded upon rigorous research principles and our ability to seek the opinions of senior decision makers across technical and business functions, in all business sectors and all major markets. For more information, visit www.vansonbourne.com