

8

CORE SERVICES OF A
PLATFORM
AS A SERVICE (PaaS)

TOOLS TO BUILD, DEVELOP, AND MANAGE APPS

#1 CLOUD PLATFORM IN THE WORLD

Salesforce is a leader and innovator in PaaS.

In fact, over 4 million apps have been built on Salesforce App Cloud.

Instantly mobile and social, IT departments around world trust Salesforce to deliver apps that drive real business results.

Platform as a Service is here, but not all PaaS is created equal.

Platform as a Service (PaaS) has garnered a lot of interest in the past few years as the tool that will transform how apps are built. It also brings with it amazing potential for business growth.

However, the definition of PaaS and how the technology can help businesses move forward has also brought up a lot of questions, like: What kind of services should one even be sure are included in the “services” of a PaaS solution?

This e-book seeks to make clearer what a true PaaS should deliver. It’s divided into three sections:

- Business Services
- Developer Services
- Infrastructure Services

Examples of the capabilities we will take a look at include: how to determine if current infrastructure supports business growth, the importance of adding a social element, the best way to set up developers and IT departments for success, and how to give mobile access to important data.

Configured

Coded

Managed

Business Services

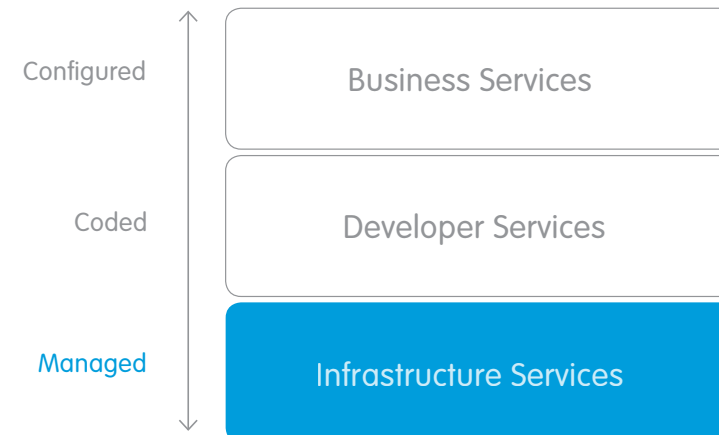
Developer Services

Infrastructure Services

INFRASTRUCTURE AND OPERATIONAL SERVICES

Infrastructure services typically include aspects such as networking, storage, operating systems, patching, upgrades, disaster recovery, and more. You often hear these lower level services referred to as Infrastructure as a Service (IaaS).

The infrastructure services described here are all part of App Cloud and are automatically upgraded three times a year, essentially future-proofing the technology.



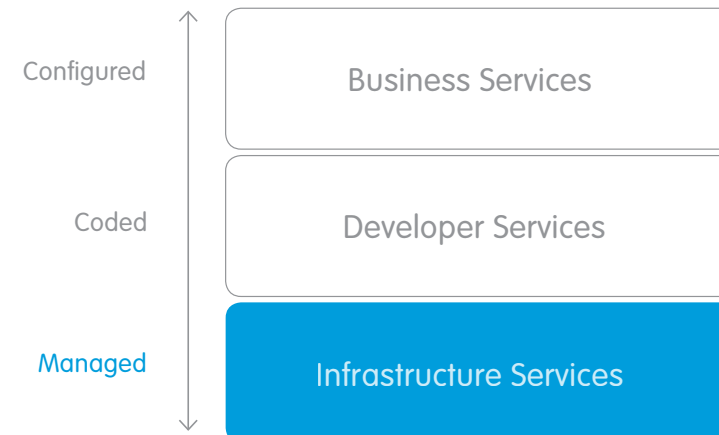
1 Fully Managed Cloud Database

Companies can no longer afford to spend their time on infrastructure. In his landmark book, [Crossing the Chasm](#), author [Geoffrey Moore](#) describes a model of “core vs. context” to help identify what is truly important to a business. Core is defined as what companies invest their time and resources in that differentiates them from their competitors in the minds of customers. All other activities are considered context.

Businesses that embrace a core model do not want to prioritize managing servers and patching operating systems. With this in mind, it is vital that PaaS provide a fully managed, infrastructure that can scale beyond a company’s current needs. True PaaS technology removes worries over virtual servers altogether, freeing up IT departments to focus on their core priority of building apps that deliver value to the business.

Ask yourself these three questions to determine if your current infrastructure will support business growth

1. Can your apps scale to meet future demands without worrying about servers or capacity?
2. Can your data be served close to the end user on any kind of device?
3. Is it trusted by organizations where data privacy and regulatory compliance is mandated?



2 Multi-Tenant Infrastructure

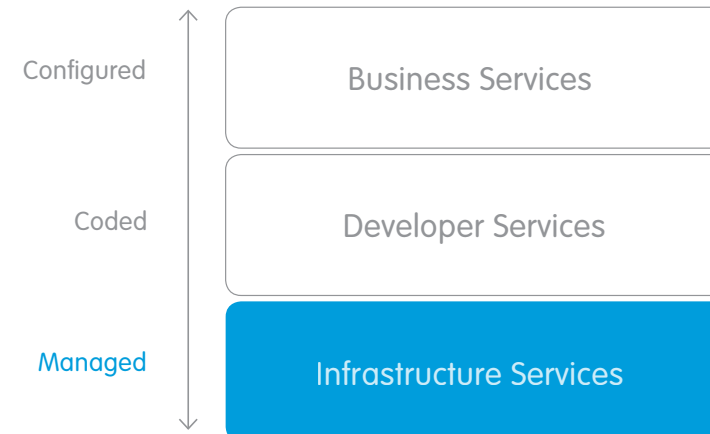
Multi-tenancy is a fundamental technology that true cloud platforms use to share IT resources cost-efficiently and securely. Multi-tenant clouds function just like an apartment building. Tenants cost-efficiently share the common infrastructure of the building (plumbing, electricity, etc.) but have walls, doors, and security that give them privacy from other tenants.

When every customer's apps are built on the same code base, it not only leads to massive savings, but also allows customizations and new apps to be created at lightning speed.

Best of all, a true multi-tenant PaaS is future-proof, limiting risk by ensuring that all your data and customizations are updated seamlessly with all future technology and newly-created features.

Key Benefits of Multi-Tenant PaaS:

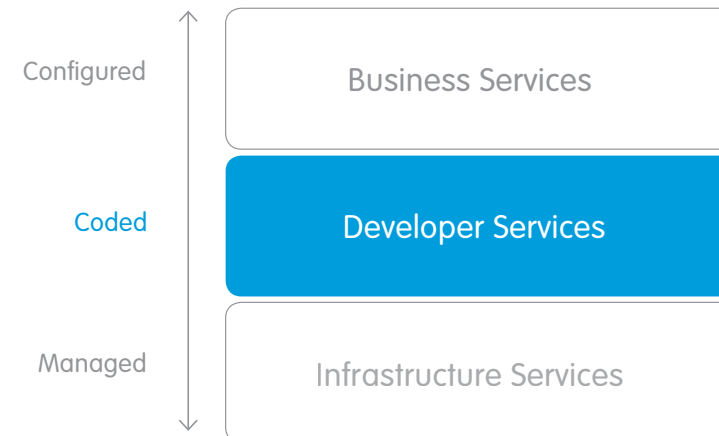
- IT can focus on delivering business value
- Cost savings by removing app silos
- Unbreakable Customizations
- Security standards for the most stringent customers shared by all
- Easy Integration



PLATFORM AND DEVELOPER SERVICES

Platform services include the tools, technology, and APIs designed for developers to build custom apps. Examples of these tools and APIs are: RESTful APIs for mobile apps, geolocation support, metadata, automated testing frameworks, and integration with source code control. Other examples include underlying enabling technologies such as localization, security, and identity management, which are all required for rich business services.

App Cloud provides these services as needed, when you need them. So IT capabilities can keep pace with business, however fast business moves.



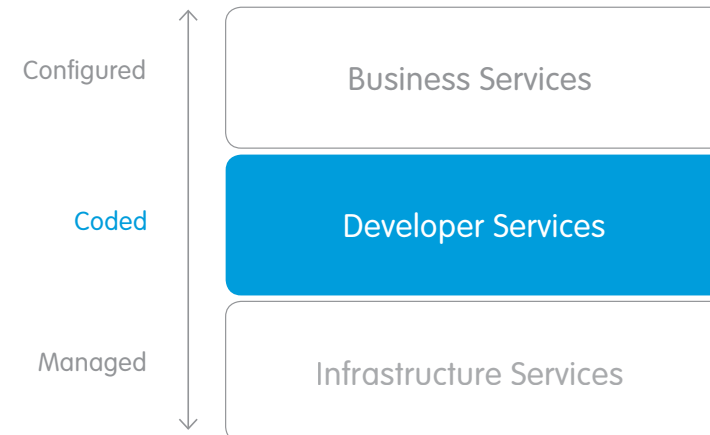
3 Multi-language Development

No organization should have to ignore the investment they've already made in existing technology, both from a system and human capital perspective. A successful PaaS strategy will protect those assets.



Here are the key capabilities your PaaS should include:

- It leverages the existing skillset of developers and the IT department.
- It allows developers to learn new skills while still delivering on the needs of the business.
- It lets apps be written in the language best suited for achieving business/IT goals.
- It takes advantage of the libraries and code created internally or externally.
- It permits layers of innovation to be built atop existing corporate systems.
- It supports modern collaboration and workflow strategies, including Git, Continuous Integration and DevOps.
- It allows for continuous integration with existing development standards and processes.



“Business spending on mobile projects is estimated to grow 100% by 2015.”

(Source: [Forrester Research](#), Mobile is the New Face of Engagement, 2.23.12)

4 Rich Developer Environment

If developers are truly the [new kingmakers](#) (as they've been dubbed in recent days), rich sets of programmatic developer services are critical for delivering the next generation of apps. PaaS developer services must support modern APIs and their approach to application structure.

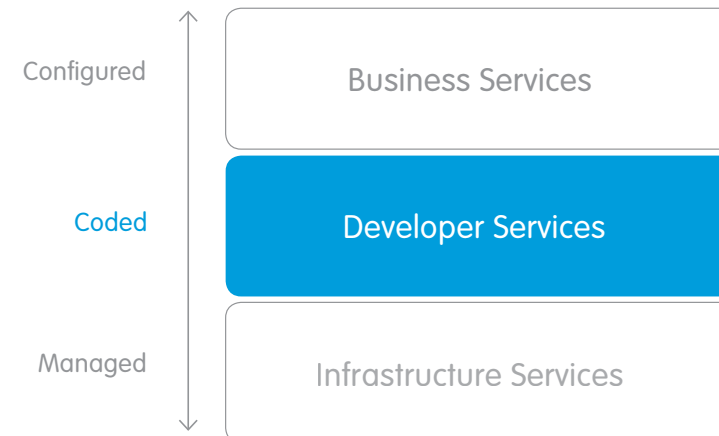
As more and more businesses look to deliver their own "as a service" offerings, a complete PaaS strategy must also include the ability to leverage some form of service add-on ecosystem. This ecosystem, a core part of modern app marketplaces for developer-level services, needs to support not only the ability for developers to leverage existing services, but also allow for organizations to offer their own services for consumption.

A rich development environment should include:

- Complete and open APIs
- Rich technical library
- IDE, Sandbox and ALM tools for app management
- Mobile Services and Mobile SDK

"Developers, with their ability to fire up a cloud platform and code at all hours, get a whole lot done in a hurry, providing the responsiveness business craves. If the objective is to deliver solutions, developers are becoming the new IT without the baggage."

(Source: Infoworld.com, [Now the Developer is King](#), 7.01.13)



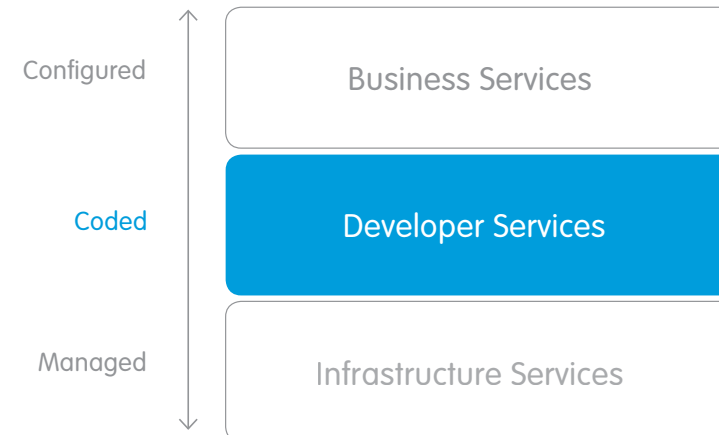
5 Mobile SDK

While core mobile services are table stakes for any full featured PaaS provider, too often an organization's mobile development fails to get started in any meaningful way. This tends to happen when companies fall into the trap that enterprise mobile apps are the same as consumer mobile apps, which is far from true.



Without enterprise mobile services as a capability of PaaS, organizations must invest heavily on the “building blocks” for enterprise mobile apps before a single app can be written. This can include adding secure offline storage, remote management of connected apps, access control, and any number of corporate compliances.

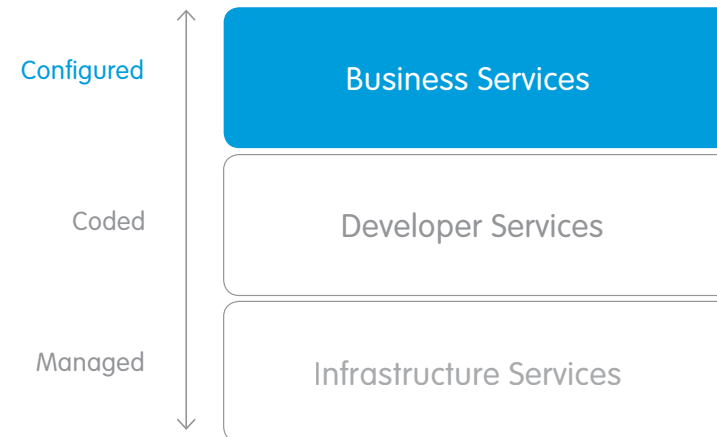
These mobile requirements are complicated, and often beyond the abilities of developers enlisted to write mobile apps for the first time. PaaS must be an enabler for a variety of mobile development strategies.



BUSINESS SERVICES

A core component to a complete PaaS solution is the ability to democratize development beyond the typical programmer. Business services provide a higher level of abstraction so all users can deliver new apps fast. Business services may include search, workflow, reporting, social feeds, and integration with app marketplaces.

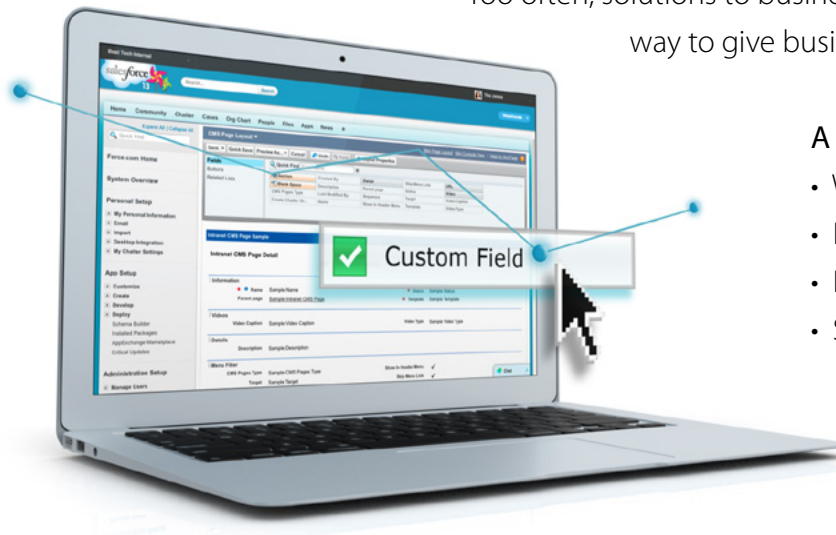
App Cloud gives you the capabilities that provide the building blocks that extract away much of the operational and infrastructure logic, and let IT departments eliminate growing project backlogs. Services like point and click app building, social enablement, communities, and more, are all part of App Cloud.



6 Point and Click App Building

Without a doubt, developers are critical in building and delivering next generation apps, but any PaaS solution must also enable a hugely influential and highly productive part of the organization: the business users.

Too often, solutions to business problems become technical ones. This does not need to be the case. The best way to give business users what they want is to empower them to deliver their own solutions.

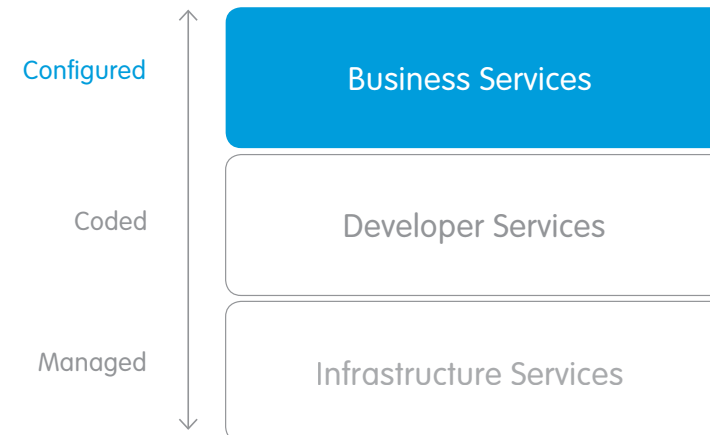


A modern PaaS solution must support business level services including:

- Workflow
- Reporting dashboards
- Drag and drop page layouts
- Search
- Point and click field creation
- Drag and drop schema creation
- Custom actions for mobile

This helps ensure PaaS can be a successful alternative to the creation of unmanaged and ad hoc databases and spreadsheets within the organization.

This ability to support the democratization of app development and delivery must be a core component of the entire PaaS platform. Such an implementation will enable business users to rapidly create apps that do not add to the IT backlog, without sacrificing the need to remain compliant with IT.



7 Social & Mobile Built-in

The need for social and mobile solutions is no longer limited to people's personal life. Both are critical for driving employee productivity and customer engagement. Many organizations struggle to get on the app development bandwagon, either because they lack specialized mobile developers, or the in-house skills to support multiple platforms and devices.

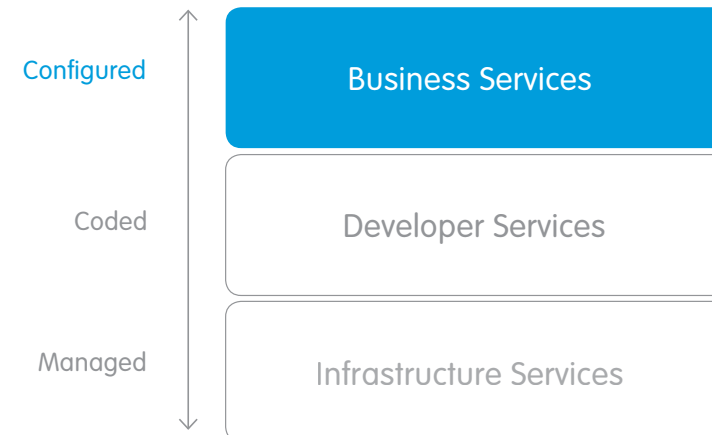
When investigating cloud platform solutions and providers to solve these problems, businesses must verify that the technologies offered easily allow traditional IT departments to deliver mobile apps, by leveraging existing skills. If an organization's developers cannot be immediately

productive on a new technology (like those required for building mobile or social apps) the backlog of IT projects will continue to grow, despite the adoption of modern languages and apps. We have already seen this with Service Oriented Architecture (SOA) and the re-architecting of all apps without sufficient business-level justification.



“By 2016, 350M employees will use smartphones at work.”

(Source: [Forrester Research](#), Mobile is the New Face of Engagement, 2.23.12)



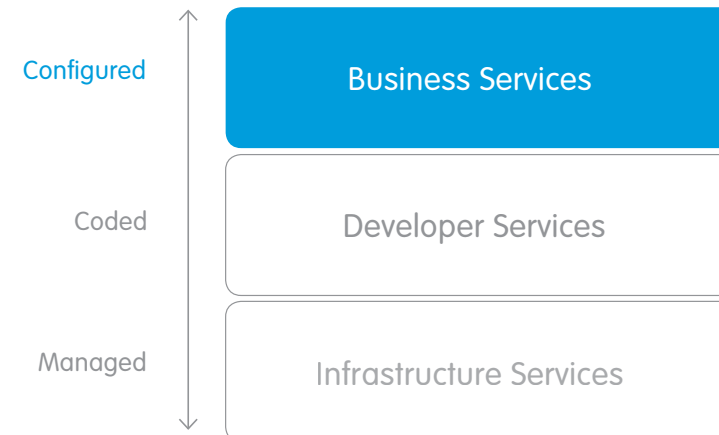
8 Cloud App Marketplace



The need for developer add-on services, as well as business level marketplaces, to discover new apps that extend your business, are a critical part of an organization's ability to deliver quicker time to market via PaaS.

Successful organizations of tomorrow will not only leverage marketplaces, but also internalize some of the capabilities offered by leading PaaS providers to package and distribute their own apps and services, both internally and externally.

Re-use (once the exclusive domain of low level development efforts) will become more prevalent as organizations, and in particular, lines of business, are able to deliver point-of-opportunity solutions which can be easily packaged, customized, and offered to other areas of the business.



A quick checklist

As this book has shown you, there are many facets to a complete Platform as a Services solution. While it is possible to find what you need in many vendors, putting a complete solution together on your own is a time consuming and expensive journey. And some IT departments find that they must re-build for every app project that comes their way.

To start building apps quickly and drive business results faster, keep these 8 core services in mind when considering any PaaS.

1. Fully Managed Cloud Database
2. Multi-Tenant Infrastructure
3. Multi-Language Development
4. Rich Developer Environment
5. Mobile SDK
6. Point and Click App Building
7. Social and Mobile Built-in
8. Cloud App Marketplace



EVERYTHING YOU NEED IN A PAAS SO YOU CAN BUILD ANY APP YOU NEED.

To be successful in today's business world, you need to turn your ideas into apps faster than ever before. Build your apps on App Cloud and transform your business in record time. Already trusted by 100,000+ customers, it's the fastest path from idea to app.

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