



HR Platform Technology and Component Assembly

By John Macy, Competitive Edge Technology

The HR technology world is currently experiencing a change that will impact on the nature of markets, define the meaning of technology platforms, and alter the way HR systems are designed, constructed, and delivered. The change is being driven by new Platform-as-a-Service (PaaS) technology and led by products such as Cornerstone Edge and Salesforce for HR, but there are other products waiting in the wings to come on stage once the market is reshaped.

In this article, I will describe the new HR platform technology and explain how new methods of assembling flexible HR applications will replace the current method that has been in place for over 30 years.

The Nature of the Current HR Software Market

At least 80 percent of HR software products sold today are built for the “top end” of the HR software market? The “long tail” is the end of the distribution with the highest number of occurrences. The products are all very similar and consist of mainly core functionality, including payroll, person data, and more recently, talent management solutions. The “far end” of the market’s long tail is illustrated in the diagram below, and although servicing only 20 percent of the market, contains a far greater number of niche products. However, they are generally considered not commercially viable because the needs are so varied and often company-specific. The neglected far end will become commercially viable with the advent of highly flexible HR platform technology and component assembly techniques, enabled by the two products mentioned earlier, but there are dependencies.

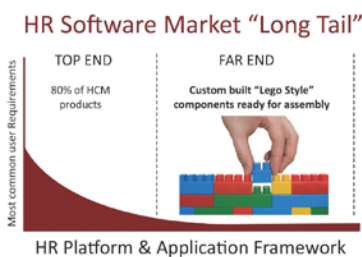
The potential customers in the *far end* of the *long tail* market are mainly people managers and specialist HR professionals, and they currently rely on spreadsheets to build custom solutions and solve immediate problems. They are the new target market for the emerging HR platform providers and component developers, and there are 10 times more potential customers in that segment of the market than the *top end*, where the customer is the company and not the individual.

Spreadsheets – the Current Preferred Method for Solving the Long Tail

There was a time when the only way to get around the product deficiency of the *long tail* of the HR software market was to build your custom solution with the Microsoft Excel tool. The tool was very flexible and there was a lot one could do, such as build formulas in cells to manipulate data, reference cells between worksheets to create a form of integration, build pivot tables, export worksheets in comma-separated values (CSV) file format for data exchange, and import data in different formats. But, there was also a lot you couldn’t do, such as real-time integration with the company’s HRIS corporate product or network a spreadsheet to a global community and allow real-time input in a secure environment. However, it was the only option for people managers, and the company’s marketing team, to address the *long tail* problem.

Technology Innovation led by the Marketing Function

Even after the arrival of cloud computing, people managers were left to do the best they could with spreadsheets. The marketing and sales teams saw the cloud as an opportunity and recognized an immediate benefit in capturing customer information within their customer relationship management (CRM) software, and sharing it on any device to anyone within their team with an Internet connection, irrespective of where they were. With an immediate favourable return-on-investment (ROI) the CRM business applications pioneered Software-as-a-Ser-



vice (SaaS) and now lead the PaaS innovation. The core CRM product was able to store basic data about customers and support processes during the sales cycle, such as converting leads to prospects to customers. Along the way, it captured contact details and unique information about prospects that increased the likelihood of closing a deal.

Custom development became invaluable to the sales cycle, which can be very compressed, and there is not time to send off requirements to company developers to make enhancements to the CRM product: The response must be immediate and the best person to build the extra customisation is the sales person who knows the requirements. There is a lot of similarity with employee data, the HR function, and the need to quickly respond to changes in the business.

The Trend to Business-User Development

The CRM products were the first to be adapted to business-user development and these products simplified the process to the point where no programming was required and customisation could go straight into production without going through a prolonged testing, sandbox development, and migration to production process. Of course, the main workings of the CRM were protected, and nothing the business developer could do would harm the core system. The model for HR platform development, application frameworks, and component assembly has grown out of the CRM innovation.

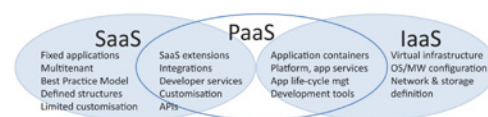
The obvious target for HR platform technology was the *far end* of the HR software *long tail*. Custom developed components addressing an HR functional need, and built to a standardized application framework, could compensate for the absence of commercial HR products in the market. The person closest to the supporting application need was the right person to build the HR platform solution, whether it was an HR person or a line manager with people responsibilities. Many of the needs are short-term, making them ideal for a custom solution, but they must be built and put into use quickly or the benefit is lost.

What Business Problems are solved by an HR Platform?

From the business perspective HR platforms address:

- Integration;
- Custom development;
- Easy workforce information reporting on a unified database; and,
- Reliable information source for HR metrics and strategic decision-making.

Human Resources platforms are based on PaaS. Platform-as-a-Service is an amalgamation of the features from the earlier SaaS and Infrastructure-as-a-Service (IaaS), as shown in the diagram below.



Based on similar diagram by Forrester Research

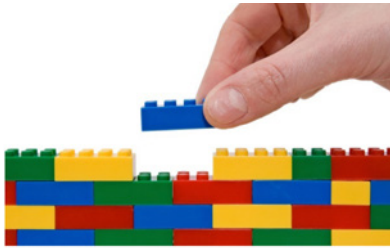
Whilst the SaaS model delivered fixed applications, usually with multi-tenant architecture, and applied a best practice model, it did not expose the underlying infrastructure to support customisation. The SaaS model had the capability to offer integration facilities with application programming interface (API) and allowed limited customisation, but the business model relied on having all clients on the same version of their software for cost-efficiency purposes, and to allow upgrades without disturbing client specific customisations.

On the IaaS side, the capability existed to allow clients access to their underlying infrastructure and database storage layer, and for development tools and application services.

Platform-as-a-Service could borrow from both models to create a development environment suited to HR business technology needs and allow open customisation and application extension. For the novice HR user, some companies offer a pre-built application framework to accelerate custom development. Products currently built as SaaS solutions can still be delivered through a PaaS environment, but with the added advantage of extensibility.

The Component “LEGO®” Analogy

Components are the building blocks for HR applications. Human Resources applications can be assembled from a collection of components.



When explaining components, the analogy that is often used compares technology components to LEGO building blocks. Just as LEGO blocks are clipped together to form structures, components can be joined together to similarly make technology structures. If the builder wishes their LEGO structure to change shape, then they swap blocks to construct the desired form. The same process applies to HR interchangeable components.

“Physical” Components Described

Components can be many things, but fall into two groups: large grain objects and fine grain objects. In the new HR platform era, one of the two leading products mentioned earlier, Salesforce for HR, provides a good example to describe what physical components are.

Salesforce for HR (a product of Salesforce.com Inc.) is built on the Force.com platform. In the Force.com world, the principal unit of assembly is an object. An object encapsulates all the development pieces such as data, fields, logic code, and screen presentation. They are the “fine grain” components. Additionally, reports, dashboards, workflows, data validation rules, and system logic code can also be packaged as components and made available to developers. In the case of code, the component is an open document with copy and paste capability that can be taken from a “code store” to a developer’s application. Reusable code is usually free and available from communities, and has been the Holy Grail of software developers for decades.

Components can also be working applications using a collection of objects with their own sub-menus and tabs and deployed to support an HR function or process. They are the “large grain” components. App stores will list “large grain” component applications as either a commercial plug-in or a free download.

The Ecosystem and how to find Components

When developers are building applications, a good ecosystem is essential, especially one with

code stores to leverage off pre-built components and avoid reinventing the wheel each time. There must be a reliable method of finding components, otherwise there is no benefit to anyone if developers build components and no one can find them. Components must be catalogued according to the business functions and processes they support.

There are many different methods of component discovery, but without a structure, components are like a box of LEGO pieces and the piece you want is always hard to find. Commercial component registries are the best way of presenting components to the market, and internal component repositories are the best method for storing reusable code and interchangeable components for later.

Component Catalogue Design Standard

Most existing HR products are built according to a proprietary structure, and it is not shared with the public. To publicise a standardized structure that will be universally accepted, it must be independently created and maintained and not follow any one particular vendor’s existing product. The human resource component software application standard (HR-CASAS) was designed and developed in the early 2000s to enable component exchange. Today, it serves as the model for the Commercial Component Registry and the Force.com application framework from HR Cloud Solutions.

The Transition to HR Platforms and Reshaping the Market

There are challenges ahead for the new PaaS HR products. Before HR platforms and component assembly can achieve universal adoption, there are many things that need to change, from the way software is designed to the way it is sold or licensed. Unfortunately, the existing HR software vendor community does not have a compelling reason to change. There is so much investment tied up in current products, that any shift in purchasing patterns in the market would have a massive impact on everything from jobs to share price, as well as the ability to raise market capital.

In the medium to short-term, it is envisaged that the role component applications will play in a company’s application architecture is to provide a platform to extend current HR management systems, rather than replace them. The only way HR platform products will com-

pletely take over from the current generation of on-premise and hosted (SaaS model) systems is through commercial opportunity. There is no technical reason why component applications cannot scale up to address a high data volume and over 100,000 records. The breakthrough will come when one major software house decides to go to market with a component designed core product, similar to what the Dutch company MPlayer is currently doing.

About the Author



John Macy is a thought leader in the HR technology world and an experienced HR practitioner. He has held senior HR management positions in the airline industry

and has led a global HR technology consultancy for the last 21 years. In 2013, he was awarded the Australian Human Resource Institute's highest honour and made a Life Fellow as recognition for his services to the HR industry. He has been a long-time advocate for component-based technology for HR and has published books and presented at conferences around the world on the subject. He can be reached at john.macy@cet-hr.com.

What is Happening Now?

We are just beginning to see the recognition of a commercial opportunity take place. The obvious leader would be those products with a background in CRM, and Salesforce.com has been the leader in that area for many years, and is renowned for their ability to innovate. They have been voted the most innovative company in the world for the last three years by *Forbes*, so they had to be favourites in the early market. With their Force.com application development tools, access to underlying infrastructure and open database design, they have a huge advantage. But, my experience tells me they know very little about HR and have stumbled through some earlier attempts at the market before recently announcing their Salesforce for HR product.

The most recent entry to the HR platform market is Cornerstone OnDemand with their Cornerstone Edge product announcement and scheduled delivery in July 2015. It is similar to the Salesforce for HR concept, but is not as open, and custom development on Cornerstone's platform is not as simple. It is truly intended for professional developers, using a proprietary tool set, and not designed for the business user – at this stage. But, that could change.

What to Expect in the Future

- Products will no longer be built as one complete system; products will consist of multiple components residing on an open platform that will supply all of the tools and infrastructure needed to build and install additional components.
- Databases will become the foundation layer and will not change as component applications come and go. That will eliminate the need for costly system replacements every five years or so.
- Reports, workflows, logic code, objects, and fields will all become replaceable components of the platform architecture.
- Downloadable report components will largely eliminate the need for in-house expertise to write reports and remove one of the most costly items associated with system replacement – that is, rewriting the library of reports.
- Systems will no longer be replaced with a Big Bang approach. The replacement will be an iterative process driven by the business owner.
- The transition to HR platform component assembly will start with a platform provider and an application framework, replacing the old method of HR systems from one supplier.
- Systems will be assembled from multiple components rather than built to a siloed structure.
- The traditional request for proposal (RFP) will be the first major change. When shopping for the right component, it would be impractical to send out RFPs to hundreds of vendors and then evaluate every response. The person wanting the new component will be the person sourcing the product from the market.
- The software market will include app stores and code stores. Components will be listed as products. Some will have a commercial value and others will be crowd-sourced, and reusable code will be shared between like industries and colleagues with a common need.
- Licensing – HR platforms will be licensed to individuals, in addition to companies. The pricing model will change to make ownership by people managers and HR professionals affordable from both a company and personal perspective.
- Component portability – Bring your own application (BYOA) will be possible if a person goes to a company that has the HR platform infrastructure and database design standard their component application was built for. This will make a massive difference to the way we currently perceive the employer/employee engagement model as the HR professional in the future arrives with their own technology tool kit and intellectual property. Companies will be contracting an entity, rather than a person.