Sapho Architecture Overview

Traditional enterprise systems are failing employees because they are hard-to-use, offer a poor user experience, and there are simply too many of them. While employees eventually learn the few systems they use daily, they struggle with those they use periodically. Employees need a better way to complete their tasks and access the data in all the business systems necessary to thrive in their jobs.

Many organizations have tried to address the challenge by building new applications. However, these projects often become bloated, expensive, and never ship. While large-scale "macro" projects around implementing large-scale systems are ongoing, businesses are now searching for fast, turnkey solutions to meet existing business needs.

The "micro" trend in application development is focused on delivering simple solutions to complex problems – it weaves existing systems together in modern, organic ways in order to deliver solutions immediately. We believe that micro services, micro apps, and micro flows will support this future by building on each other to deliver the next generation of employee apps.

By going micro, developers now have an opportunity to offer new workflows and smart information retrieval on top of existing systems. SaaS and on-premises apps are incredibly siloed and difficult to tie together. Micro services can easily integrate multiple systems, micro apps can present them as easy-to-consume user interfaces, and micro flows allow users to complete tasks across systems.

Sapho allows you to connect directly to your various SaaS, legacy, and on-premises systems of records, monitor for changes, and then notify relevant employees. Through a modern portal experience, micro apps from all systems are presented to employees so that they can quickly review information and complete any associated workflows.

Overview

Sapho empowers employees to improve their productivity and be more effective with a Modern Portal Experience (MPX) that surfaces relevant tasks and data using micro apps. Sapho micro apps – built by IT on top of existing systems and delivered to any device, intranet, or messenger – simplify workflows and data access, allowing employees to complete work faster and make better decisions.

There are three components that make up Sapho: Sapho Server, Sapho Builder, and the Sapho App.

- **Sapho Server** – A services layer that integrates and orchestrates all of the services required to deliver high-quality micro apps into a single software layer.

- **Sapho Builder** – A micro application development tool that allows organizations to build and deploy cross-platform micro apps.

- **Sapho App** – A software client that gives employees access to their micro apps from any mobile device. Micro apps are also available from any browser, intranet, or messaging client.

Why Sapho?

Sapho provides customers a single solution to transform existing business systems into secure micro apps that connect workers and execs with important data and critical workflows.

This solution enables organizations to:

- **Improve employee productivity:** Provide employees personalized system data and current tasks wherever they, are on any device
- **Enable smart decision-making:** Ensure employees have relevant information at their fingertips so they make better informed business decisions
- **Streamline enterprise workflows:** Simplify work by preventing employees from moving between multiple different systems to complete one basic task
- **Remove system bottlenecks:** Prevent delays in task completion because it's too time-consuming for employees to log in and figure out a system
- **Reduce helpdesk calls:** Decrease support costs for password resets and interface guidance from employees working in a system they use four times a year
- **Decrease licensing costs:** Monitor software usage to prevent spending money on expensive licenses that never get used

SAPHO ARCHITECTURE

Sapho Server

The Sapho Server deploys on a Java application server such as Tomcat or WebLogic, and stores its metadata on a SQL 92 database such as MySQL. It uses well known Java connectors such as JDBC and web services to connect to an organization's infrastructure. The Sapho Server completes the extract, transform, notify (ETN) process to ensure changes in the source systems are detected for the notifications engine.

Sapho channels, such as the Sapho App, web browsers, and messenger clients, access the Sapho Server using existing VPN technology, and all interactions are logged into the existing logs and integrate with an existing log management system. The Sapho Server also authenticates users and authorizes access to apps using Active Directory, LDAP, or a Google for Work account.

Sapho Builder

The Sapho Builder allows IT to customize, build, prototype, and deploy micro apps for employees. It includes pre-built micro app templates and system connectors to business systems, including homegrown internal software, SaaS apps, web services, databases, and data warehouses.

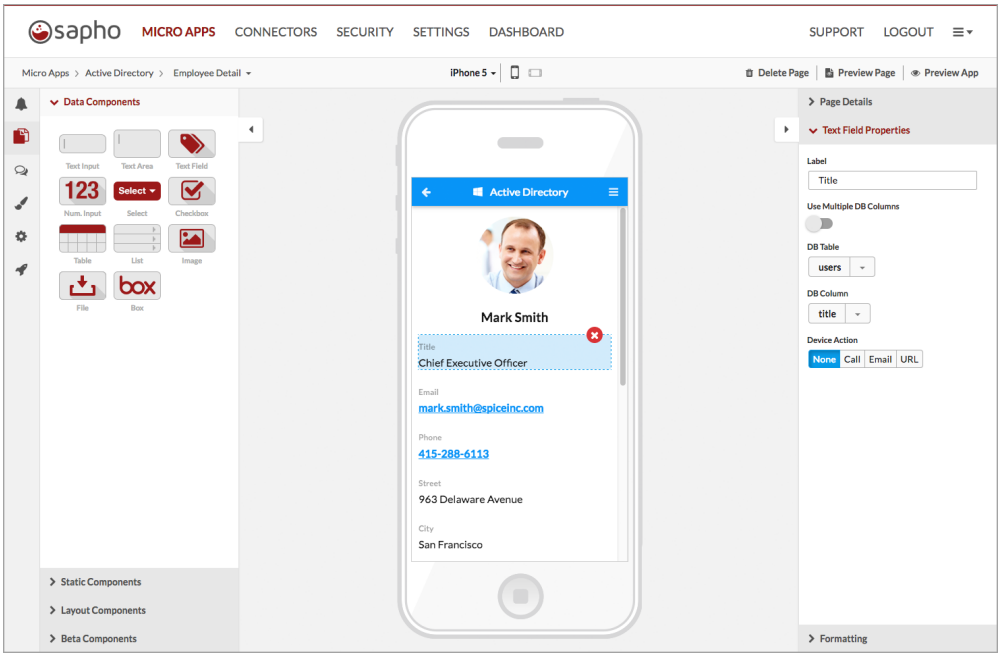
Wizards and a drag-and-drop page builder make it easy to build and iterate on an app design – more advanced app developers have the option to add JavaScript business logic. An easy-to-use rules engine simplifies information delivery to employees using mechanisms such as push notifications and feeds that contain actionable cards.

Sapho App

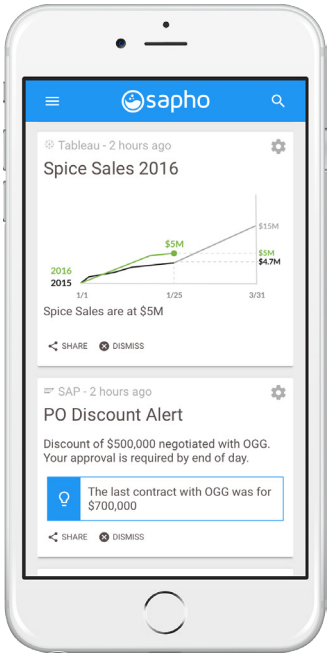
The Sapho App is easy-to-install client software for mobile devices that gives employees access to the micro apps created by an organization. It uses Apache Cordova to wrap an HTML/ HTTP app and is available on the Apple iOS and Google Play app stores, or it can be accessed via a browser on any mobile, laptop, or desktop device.

The Sapho App can also be customized and branded – when this is done, it is packaged and deployed through Apple B2B, Google Play Private Channel, or through a mobile application deployment tool so only the organization's employees can access them. The Sapho App accesses the corporate network via a VPN or using certificates, just like a web application. On iOS8 or greater, it can be configured to automatically connect via VPN.

Micro apps can also be accessed from an intranet, any browser, and on messenger clients such as Microsoft Teams, Watson Workspace, or Slack.



Sapho Builder



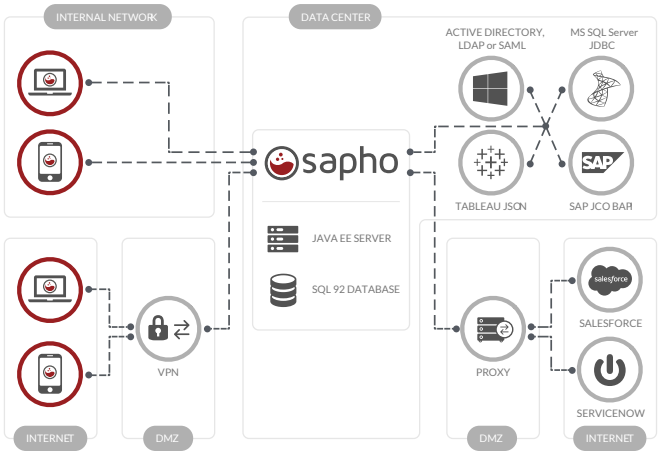
Sapho App

DEPLOYMENT OPTIONS

Sapho is designed to run in your data center as a Java application or deploy cloud native into Amazon, Google, or Microsoft private clouds. In addition, Sapho can run a single tenant managed cloud on Amazon Web Services on your behalf. These three options give you the flexibility to make the deployment decision that best fits your IT requirements and capacity.

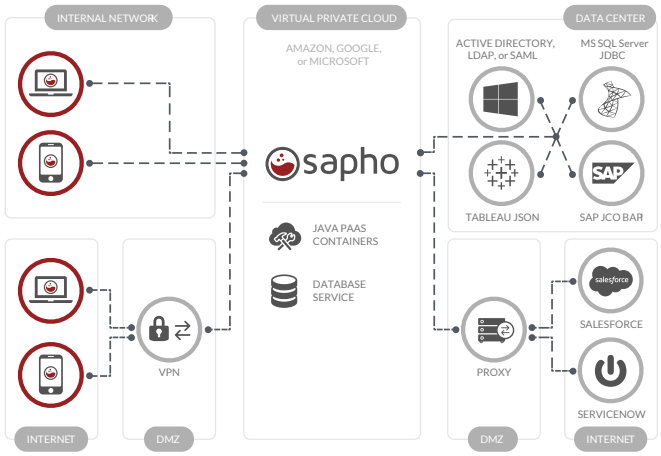
On-premises

Sapho deploys directly into your data center as a native Java application and uses a SQL 92 database to store metadata and cached data. Sapho operates as a standard Java EE application and is very easy to manage, upgrade, and scale.



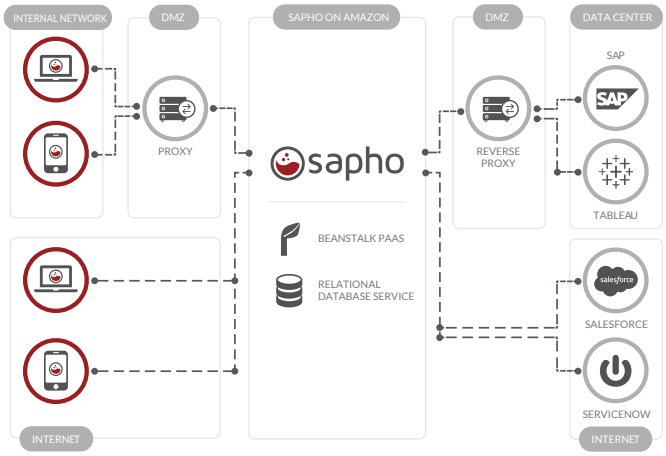
Virtual private cloud

Sapho offers a cloud native application with a step-by-step wizard to deploy into Amazon AWS, Google Cloud, and Microsoft Azure. On Amazon AWS, Sapho uses Amazon Beanstalk and Relational Database Service to auto-scale and provide database snapshots. On Google Cloud, Sapho uses Kubernetes and CloudSQL to auto-scale. On Microsoft Azure, Sapho is offered as turnkey Marketplace instance. From a virtual private cloud, Sapho can access your internal systems via a secure connection.



Managed Cloud

Sapho can manage a single tenant instance on your behalf in Amazon AWS using Amazon Beanstalk and Relational Database Service to provide scalability and resilience. We manage data snapshots for recovery and can offer multi-region hot-hot failover.



SYSTEM REQUIREMENTS

Software requirements

Since Sapho is a web-based application, it runs within a Java Web Application Server, and is accessed via a web browser. Sapho stores its metadata in a MySQL-compatible database server.

Minimum Version Required	
Browser	Internet Explorer 10+ Chrome 35+ Safari 4+ Javascript
Java	Oracle Java 8 Open JDK 8
Web Application Server	Apache Tomcat 6+ Jetty 9.4
Database	MySQL 5.1+ MariaDB 10.0+

If you run Sapho Server on Red Hat Enterprise Linux, a current subscription to download Yum packages is required.

Hardware requirements

Sapho and its required server can run on Linux, Windows, or macOS server with at least 8GB RAM and 1TB drive.

To deploy Sapho in an enterprise, a scalable Java Web Application Server infrastructure is required, including server machines and a load balancer. Sapho is deployed as a standard Java web application server and can therefore be load tested and measured like any other Java web application.

SUMMARY

Sapho empowers employees with a Modern Portal Experience (MPX) that surfaces relevant tasks and data using micro apps. Micro apps are built on top of existing systems and can be delivered to any device, intranet, or messenger. Now, you can provide employees simple workflows and data access to allow them to work faster, make smarter decisions, and be more productive on the job.

Sapho is a good fit for organizations that have multiple systems of record that need to be more accessible or have many legacy systems that need to be modernized. It is also a great solution for organizations that have been struggling to get employees to use the applications that have already been implemented to help them do their job. In each of these cases, Sapho will make it easy to transform your existing systems into micro apps that drive employee engagement and improve productivity.

sapho

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