Embedded Systems

Web & Mobile ✔

IoT

Cloud ✔

Wireless Networking

Wireline Networking

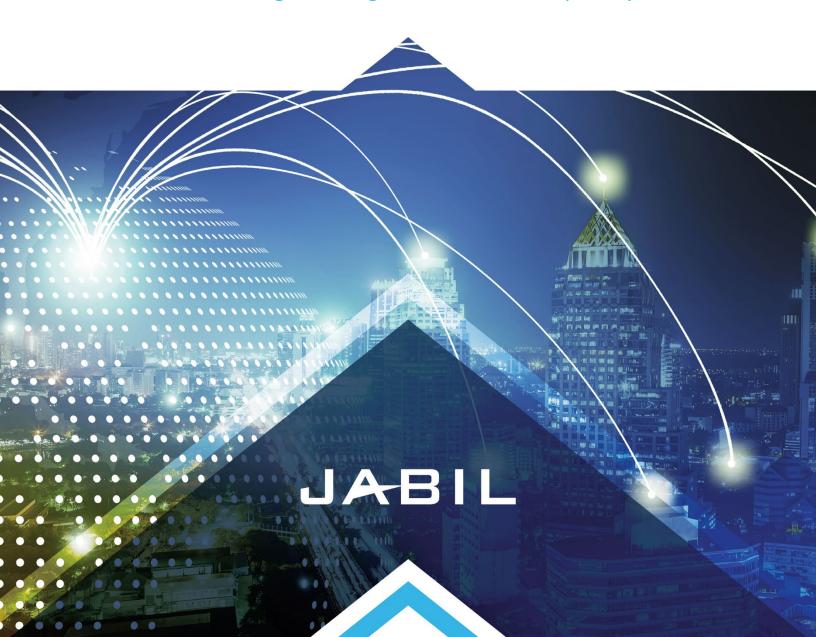**JEAP**
ENGINEERING PARTNERSHIPS

CASE STUDY

Jabil Engineering Alliance Portal (JEAP)

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Customer Needs

The engineering services function (codenamed "HIVE") within Jabil's *Engineering Services Group* (ESG) supports the engineering needs of a large fraction of the Jabil business, across sectors including Smart Home & Appliances, Automotive & Transportation, Print & Retail, Energy Industrial & Building, and Defense & Aerospace. The HIVE team provides services encompassing electronics, software, mechanics, and product validation. Whilst the HIVE team has significant in-house capabilities, it is nonetheless sometimes necessary to engage external partners to provide services to address identified gaps in either capability or capacity.

Historically, these partnerships were managed without a supporting web-enabled framework. The lack of an online mechanism to publish partner profiles and facilitate other aspects related to partner management led to inefficiency and duplication of effort.

HIVE therefore conceived an approach whereby integrated Intranet and Internet portals would be used to streamline all aspects related to partner management. These portals are collectively termed the Jabil Engineering Alliance Portal (JEAP) and allow both staff and partners to facilitate efficient partner engagements and ultimately provide improved end-to-end services to Jabil's customers.

The Intranet portal is leveraged by staff and the Internet portal is leveraged by external partner companies. Both portals are fully integrated with the same back-end database. Both the Intranet and Internet portals contain a consistent and easy-to-navigate user interface, designed with UX design principals in mind.

The JEAP portal is fully cloud-enabled with integrated authentication/authorization features. It is designed to support the myriad of different partners leveraged by Jabil and includes several displays permitting users to manage all data associated with partners, including partner profiles, gap analyses, and partner certification features.

The HIVE team had a limited fixed budget for the development, but nonetheless required a comprehensive and advanced solution to be developed in a short timeframe.

Scope

JSS developed and tested all software components for the JEAP Intranet and Internet portals, and JSS maintains responsibility for all maintenance activities, including periodic functional enhancements and updates.

JSS developed the front-ends for both the Intranet and Internet portals, along with a consistent back-end, a DB API module and SQL server database. JSS also developed several advanced web-enabled displays to manage all portal features, leveraging a

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comprehensive REST API. The platforms were integrated with Azure cloud services and automated testing scripts were developed and executed.

JSS dedicated a team of 15 staff to developing the JEAP portal, including architects, back-end developers, front-end developers, and testers. The project leveraged various tools and frameworks including C#/.NET Core (back-end development), Angular (front-end development), Azure Cloud (WebApp, MS SQL DB, Azure Functions), Azure DevOps, Visual Studio, Git, CI/CD, OATH, OKTA, SharePoint, EF Core, Dapper, TypeScript, Protractor, Swagger, Postman & Newman.

Deliverables

JSS provided a full turnkey solution to the HIVE team, including the delivery of the complete JEAP portal, with the portal running as a certified application within the Jabil Corporate IT environment. Complete source code was delivered, along with debug/test environments, test specifications, test scripts (for automated testing), test results, a deployment guide, and full REST API design document (facilitating future functional extensions).

The project was developed leveraging Agile software development and CI/CD over a period of 6-months, whilst maintaining close ongoing engagement with the project owner in the HIVE team. JSS assigned a dedicated project manager who leveraged a formal project management framework to ensure efficient delivery.

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Strategic Value

The JEAP portal allows Jabil to manage partners in a more efficient manner and to effectively address known gaps in capability and capacity. This ultimately permits Jabil to provide more efficient end-to-end customer solutions, significantly improving Jabil's customer value proposition.

"JSS was selected by the HIVE team to develop the JEAP portal due to their ability to provide rapid, reliable and cost-effective software development services. JSS developed the JEAP portal on-time and on-budget, to the delight of all stakeholders. The portal functions flawlessly and is a credit to the professionalism of the JSS team."

James O'Flaherty, *Engineering Partnership Program Director*

About Jabil HIVE

The Jabil HIVE team provides engineering services for Jabil's *Engineering Services Group* (ESG). HIVE supports the engineering needs for a large fraction of the Jabil business, across sectors including Smart Home & Appliances, Automotive & Transportation, Print & Retail, Energy Industrial & Building, and Defense & Aerospace. The HIVE team provides services encompassing electronics, software, mechanics, and product validation.

About Jabil Software Services (JSS)

Jabil Software Services (JSS) delivers a broad range of advanced software services across several industries, leveraging an experienced team of architects, software developers and quality assurance engineers. JSS specializes in the efficient development of embedded systems, web & mobile apps, IoT solutions, cloud solutions, and networking solutions (wireless/wireline).

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