



BRICKBRIDGE
CONSULTING

IT Strategic Assessment Report

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1. Executive Summary

The following assessment was completed by a current employee of Brick Bridge Consulting acting as an external consultant. The aim was to gain a view of the business in its entirety. In this document I will assess Brick Bridge's current state in its market using Porter's Five Forces Model, determine their organizational structure, describe their IT topology, and determine their business strategy using Porter's Generic Competitive Strategies. I will describe how information flows within the organization, the level of employee involvement, and labor characteristics of their IT functions.

We will break down Brick Bridge's core business processes and understand how they accomplish their goals. This will be done by breaking down the functions of their three divisions, innovation, operations, and production. Each division is led by one of the three Brick Bridge Consulting partners, Gilbert Roberts III, Jarett Duker, and Alex Shull. We will also take the impact of the staff members and clients that Brick Bridge serves into consideration.

We will look at the issue that Brick Bridge faces and where leadership sees them heading. We will discuss paths forward through recommendations for the business and their IT functions. In summary, Brick Bridge Consulting can overcome their current hardships, emerge from a period of transition, and be successful well into the company's future.



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2. History and Purpose

2.1 History of Brick Bridge Consulting

Brick Bridge Consulting, LLC was started in late 2016 by graduate school colleagues, Gilbert Roberts III and Jarett Duker. At the time, Roberts and Duker were working together to find a solution for the Navigate Enterprise Center. Navigate was having difficulties with an outdated Customer Relationship Management System (CRM) that tracked their small business technical assistance for low-income individuals, immigrants, and refugees pursuing entrepreneurship in Louisville. Roberts and Duker developed a solution using Citrix Podio, an up-and-coming cloud-based CRM platform.

After a successful implementation, the Louisville Metro Department of Economic Development enjoyed the solution and reached out to the duo. After sensing a business opportunity, they offered to develop a free system for the department. In turn, the department added them to a list of contractors and granted access to work via formal bids or invitation.

One of the users of the department's system had inquiries about Podio and were directed to Roberts and Duker. Community Ventures is a non-profit based in Lexington that offers housing counseling and education surrounding the home-buying process. They had sunk years and capital into developing their own custom system but had been unsuccessful in reaching the end of the project. They invited Roberts and Duker to come pitch ideas about a Podio CRM to manage their housing counseling data.

As Roberts and Duker drove to Lexington, Roberts frantically prepared materials and created a company email and PowerPoint in the passenger seat. It was at this time that Brick Bridge Consulting officially received its name. Roberts had used the name



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Brick Bridge on an assignment in one of his Entrepreneurship MBA classes and tacked on Consulting to sound more official. He also believed they would only be acting as technical consultants for the development team at Community Ventures.

When they arrived, they pitched the system and surprisingly received a contract to build it themselves. In early 2017, they accepted the offer and became business partners. Brick Bridge Consulting was officially in business. In June of 2017, Alex Shull was brought on as the third partner and director of development. He was recruited for his background in infrastructure architecture. Podio has a native workflow manager unofficially known as Globiflow, but it does not have the capability to scale. Shull's expertise allowed Brick Bridge to provide scaling capabilities and new products.

At this point in time Brick Bridge employs a staff of 17 people. The three partners oversee the research and innovation team, operations team, and production team. The production team has two managers who oversee the development and CVAD teams. In addition, three former employees are contracted on an as-needed basis. Outside of the partners and two employees, every staff member is a current university student. Employees traditionally begin their employment as students and are retained past the completion of their degrees. The company's divisional structure can be seen in Figure 2.

2.2 Purpose of Brick Bridge Consulting

Brick Bridge Consulting specializes in software development, virtualization implementations, and organization process consulting for both the private and public sector. Most of their contract-based work is centered around the design and development of customer relationship management systems (CRMs) on the



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Podio platform which is a Citrix CRM that is a low-cost alternative to Salesforce.

Brick Bridge's purpose is to improve sustainability within public-sector organizations by implementing solutions to resource and mission-oriented issues. They workshop strategies to increase evergreen and unrestricted funding while harvesting grant outcomes and reducing overhead expenditures.

When working for for-profit clients, Brick Bridge aims to leverage their innovative products and create custom software solutions as well as introduce new products in the Podio marketplace. Their overall goal is to both increase revenue opportunities and reduce transactional and administrative costs for their clients.

3. Management and Business Processes

3.1 Practice 1 –Podio Builds

Citrix Podio comprises of workspaces, apps, and items. A workspace acts as a database and contains a collection of apps which are data tables. An app is fully customizable and can be related to one or many other apps. Each app is created or modified by the drag-and-drop interface. An app can contain various field types ranging from text, numeric, category, date, photo, currency, and even relational. There are no limits to the ordering and fields can be marked as hidden or required. An item, or record, conforms to the data template dictated by the app. Items are customizable forms that populate records in the app. The data can be filtered, and users can create custom views. Users can also track key performance indicators (KPI) and control the relationships between apps.



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Most clients come across Brick Bridge because they are seeking Podio solutions. Designers collect business requirements on discovery calls with clients and translate them into technical requirements. They then structure Podio CRM systems comprising of platforms, databases, and workflow elements. The focus is on building client solutions with advanced content management. They also use video conferencing software to engage with clients for live feedback sessions concerning projects. Understanding the client's business process is the first step, it is then that integrations and automation can be added.

3.2 Practice 2 – Globiflows

Citrix acquired a third-party workflow engine, which has been renamed to Citrix Podio Workflow Automation. Industry partners still refer to it by its wider-known name, Globiflow, in professional settings. Globiflow developers are able to create dynamic automations within the Podio platform.

An example of a rudimentary Globiflow would be a user clicking a button on an item within an app. This button would be a category field that could say submit. The flow would be triggered on update, and an audit would run. This audit would check that specific fields are filled out and an action would be run. The available actions range in complexity and are specific to the business need of the user. In this case, an item is created in another app and data from the current item is pulled. Once the action is completed, the item logs the event in the comments. This feedback is an essential function of Podio.

Globiflow runs on PHP notation which creates flexible options. It is hidden behind a similar drag-and-drop interface which makes the service user-friendly. Globiflow gives



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the average Podio user a suit of complex actions and functionality. It is used on projects that are small-scale. If a single organization is using the CRM, it is a cost-effective and easily manageable option. This is the tool that Brick Bridge uses to meet the needs of a majority of their clients.

3.3 Practice 3 – SaaSsafras Flow Engine

Historically Brick Bridge has had a team of developers who write flows that demand a higher complexity than what Globiflow can provide. In recent times, there are three developers who fulfill this avenue of business. While Podio builds comprise the largest deliverable on statements of work, C# flows are increasingly being included as bigger organizations seek scalability. These flows are typically triggered in Podio, much like Globiflows. A flow runs when an item is created or updated, but it is possible to implement field level triggers.

The functions do not have to be workspace and app specific like Globiflows. This is why they are more attractive to organizations wishing to scale. Podio builds can be sold to other organizations, and while Globiflows can be copied, there isn't a guarantee they are without error. They must be wired manually, and relationship fields can often reset.

Every client has their own private code repository, which is stored under a Brick Bridge's organization named Saasafras in GitHub. A developer starts by creating a repo in GitHub and clones it into Visual Studio. Once in Visual Studio, a solution can be created. Next, a project file container from a custom template is added. This template contains project setup files, NuGet packages created by Shull that use syntax from the Podio API, methods for local testing, and Amazon Web Services Lambda files. Once



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specific files are renamed and handlers are created, the developer can begin writing in the try block of the source code file. Developers intermittently push their code back up in GitHub, and if more than one person is working in a repo, they can pull and merge changes if necessary.

Each workspace, app, and item have a unique ID that allows for interactions via the Podio API. At their core, functions are interacting with Podio ID's. You can automate almost any business process when writing custom code. Podio's API documentation is poor, but Shull's NuGet packages make interacting with the API easier.

The functions are stored and executed with Amazon Web Services (AWS). Hooks from AWS Lambda are created and stored within Podio Apps. These hooks can be accessed from the developer view of an app. The develop view also contains the app's unique ID and every field's ID. Each field is stored in AWS DynamoDB. Brick Bridge has multiple data tables stored in the cloud. The two tables that developers interface with are the event routing table and the solution dictionary table. The event routing table contains the triggers. Each record points to a workspace and an app. A function can be added to the record so when an event occurs, that function is triggered. The solution dictionary table contains records for every app that Brick Bridge has access to. Each solution dictionary contains a map of every field and its ID. When a field is added to an app, developers can add it to the table manually.

Functions are pushed to AWS Lambda. Aliases are created for production and development environments. The DEV alias always runs on the latest version, while the PROD alias is set to published versions. The Lambda functions are added to the event routing table mentioned above. Each Lambda function has a max run-time and memory



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allocation. Developers typically tag functions as client-work and then add the organization they belong to for easy filtering. Each function follows a naming convention for readability.

AWS CloudWatch provides real time logging that can be used to check for a successful run, or to debug the process. A multitude of exceptions can occur, so learning to read the messages is imperative. A simple WriteLine can be used to manually log messages, and a line can contain data from a Podio field if the metadata is stripped properly using the correct method extensions. Overall, the SaaSsafras flow engine brings in a lot of revenue for the company. Figure 3 outlines the process.

3.4 Practice 4 – SaaSsafras Innovation

The innovation team at Brick Bridge is hard at work rolling out the newest SaaSsafras features. SaaSsafras is a separate entity from the SaaSsafras flow engine. It allows users and organizations to scale on Citrix Podio by deploying, patching, and administering solutions.

A captured SaaSsafras solution using the website contains a set of Podio workspaces. The corresponding applications, fields, all field references via relationships, added help text, created views, calculations, tile preferences, and app level settings and layouts are also captured. If something is built in Podio, it is included in the solution. This captured solution can be deployed to any other client. All clients who have a copy of the solution can be managed within the interface.

If changes are made to a Podio workspace, app, or field, the solution can be recaptured using a Solution Update. This creates a new version of the SaaSsafras Solution. Clients who have a copy of the solution via deployment or the original space



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can receive a patch for the new version.

SaaSsafras is still in beta and is open to alpha testers for free. Brick Bridge production developers use SaaSsafras internally to capture solutions and innovation developers create webhooks and solution dictionaries for them. With upcoming developer tools, developers can have hooks deployed and solution dictionaries created automatically. These dev tools provide new features right inside the SaaSsafras interface. Developers will be able to package their C# functions and upload them to the SaaSsafras website. A Stripe integration provides a paywall for this service. Soon the process of setting up everything on the AWS side will be automated. Developers will eventually lose access to AWS because the loose ends will be tied up for them within the interface. The current and upcoming processes can be seen in Figure 4 and 5.

Providing developers with new tools for data imports and exports, product installations, client onboarding, and interfaces is at the forefront of the innovation team's goals. The Podio GUI does not effectively offer these services. Shull has been spearheading these efforts and will continue to do so as SaaSsafras becomes the core of development projects at Brick Bridge.

3.5 Practice 5 – Consultancy

As the name suggests, Brick Bridge Consulting offers consulting services. Consulting is an integral part of their business model. In the past Duker, the Principal Consultant, managed most of the correspondence with clients. Nowadays, Roberts, the Director of Operations, and the Project Coordinator handle this aspect. The two are involved in initial calls before bringing on staff members once they are sure they can effectively assist the client.



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Brick Bridge works with clients to offer new strategies and proven practices so they get the full potential out of their Podio solutions. In addition, Brick Bridge offers their services if the client does not have the technical understanding to accomplish their goals. The goal of a project is always longevity and success. Successful implementations are dependent on client engagement and understanding. Brick Bridge also belongs to a network of Podio partners who assist each other when faced with a challenging process. Lastly, Brick Bridge does provide standalone consulting to clients who do not have technical needs, and simply need guidance on operational processes.

4. Current IT Environment

4.1 Hardware

Brick Bridge is a bring your own device company. Each developer works off of their own laptop. Staff members are encouraged to take their belongings home with them at the end of the day because Brick Bridge operates in a shared office suite. Employees are responsible for keeping their devices up-to-date and in working order. There are no dedicated workstations in the room, employees rotate, and no desk spaces are assigned. The room contains a large TV and webcam for meetings and general purposes. Each desk has an external monitor, but in total there are nine in the room. There is a printer, a shredder, and a scanner. In addition, there is a professional microphone for audio recordings and foam attached to the walls for soundproofing. There is a Meraki device and Internet manager, and a security camera that faces the door. The camera stores recordings in the cloud and can notify Roberts when movement is detected outside of office hours.



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4.2 Software

Brick Bridge Consulting has a multitude of software subscriptions. Almost every developer is a student, therefore, each uses their own Microsoft subscription to access Visual Studio. For those who are no longer students, the company pays for Microsoft subscriptions. For day-to-day business operations, employees use the following software: Slack, GSuite applications such as Gmail and Google Meet, Atlassian BitBucket, Myget, ProcFu, GoToMeeting, Zoom, GitHub, Zapier, Podio, Globiflow, ShareFile, Workspace with Intelligence, AWS Lambda, AWS DynamoDB, AWS CloudWatch, and SmrtPhone. Directors such as Roberts and Duker use Dropbox, Dux-Soup, Sentry, Screencastify, Lucid Software such as Lucid Charts, HumbleFax, and Webflow. A technology inventory can be seen in Figure 1 which displays software subscriptions.

4.3 Staff IT Skills/Training

Brick Bridge is ultimately comprised of students majoring in Computer Science or Computer Information Systems. Thus, employees do not possess any expertise when they are hired. Some have experience in IT, but few have hands-on development experience. In the past, each employee spent time on the design team before being moved onto the development team. This way they had a well-rounded Podio education and were familiar with its capabilities and limitations. Experienced developers acted as their mentors and allowed them to observe specific projects and doled out tasks.

Nowadays, new hires are focused on gaining Citrix certifications. Each new employee takes a course to become a Certified Sales Professional that can sell Citrix products. In addition, they are able to take a course to become Certified Citrix



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Workspace Microapps Servicers. Brick Bridge is moving towards the Workspace platform, so having developers who can create microapps is a new goal. Entry-level developers do not have a background in .NET in professional settings, so the number of production developers is slimming in size.

The ultimate goal is for employees to receive the Citrix Virtual Apps and Desktops certifications. To date, only one current employee has passed the associate level test. Employees are now given crash courses on virtualization so Brick Bridge can begin deploying virtual desktops and microapp solutions.

4.4 IT Budgeting and Spending

Brick Bridge has purchased premium subscriptions for most of the software products they use. These software subscription expenses are the majority of their IT spending. From the beginning of September to the beginning of November, Brick Bridge spent \$1933.89 on subscriptions as seen in Figure 1. They recently acquired 100 seats of Workplace with Intelligence which was quoted at \$3875.32 as seen in Figure 7.

5. Envisioned IT Capabilities

5.1 Leadership's Vision

Roberts would like to reach the Gold Solution Advisor status. Brick Bridge received its Silver status after winning its first hackathon and had been keenly watched by Citrix ever since. To reach that Gold status, Brick Bridge must reach \$850,000 in sales annually for two years in a row. Roberts was on track to reach that number in 2020, but the pandemic caused project cancellations due to agency budgets being slashed. For now, this goal has taken a seat on the backburner.



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Citrix values companies who hold their certifications. Brick Bridge holds over 50 individual certifications, while there is a high quantity, Roberts is focused on the quality. He wants to see more employees pass their microapps class and is pushing for employees to take on virtualization. He believes transitioning to Workspace with Intelligence is now a necessity, not an opportunity.

Shull is focused on the innovation side of the business. He wants to publish a new suite of SaaSafras Dev Tools within 2021. The new interface and sandbox are widely discussed at Podio Developer conference, and Brick Bridge would like to capitalize on that early interest. Developers want Globiflow integrations, so he will be investing research and development into a ProcFu integration to capture those flows.

Overall, building a closer relationship with Citrix is at the forefront of each partner's mind. SaaSafras could be acquired by Citrix much like Globiflow was in the future. They've enjoyed demos and invited Brick Bridge out to their San Jose headquarters to discuss the technology. As Citrix has been more and more satisfied with Brick Bridge, Brick Bridge has seen an increased portion of their Podio sales pipeline.

5.2 Top 10 Technology Issues

1. Podio was originally founded in 2009 in Denmark and launched in 2011. Citrix, a software company, acquired Podio in 2012. Since then, Citrix has acquired a new platform called Workspace with Intelligence. It could potentially replace Podio which would be detrimental for Brick Bridge. In the present moment, Podio is being used as a system-of-record for the Workspace interface.
2. Podio offers a free plan, a plus plan with Globiflow, and a premium plan with priority



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support. Most of Brick Bridge's customers have plus plans because their business functions surpass an entry threshold. That said, Citrix offers wonderful support despite not paying for the premium plan. This level of support may no longer be offered with more of their attention going to Workspace. A drop-in service response time may push project dates back when the Brick Bridge team needs rate limit adjustments. Brick Bridge must monitor situations and create tickets before user systems fail.

3. Citrix is focused on signing clients up with Workspace instead of Podio. They want to sell seats to their new product and may start providing short-term solutions to newly arising non-critical application problems. This can create recurring or persistent problems within Brick Bridge's client's systems. This could be perceived as poor service by the Brick Bridge team if issues on the Podio side are unable to be cleared up.
4. Workspace with Intelligence has been designed for large corporations with hundreds of seats. These corporations need enterprise solutions that integrate the software they are currently using. Users of the Podio platform are typically small businesses under 50 employees. They cannot afford to upgrade to Workspace with Intelligence and may not even need to when completing their business processes. Brick Bridge could possibly purchase seats on Workspace and dole them out to their small business clients in a more affordable manner, but they may want to abandon Citrix products all together.
5. As previously mentioned, Brick Bridge has a bring your own device policy. This policy creates a liability for the company. If a device is stolen or compromised,



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private data could be accessed and used for harmful purposes. A thief or hacker could access this sensitive information and damage project files. There are several entry points into the system that are at risk.

6. Brick Bridge utilizes software that runs off the cloud. While several cloud providers are reputable, security is always at risk. Cloud computing and cloud storage is never completely secure. Citrix and AWS are unlikely to go down geographically or by means of attack, but there are risks when not operating on-premise.
7. In the past Brick Bridge employees worked in the office every day and worked from home on Thursdays. Since the start of global pandemic, employees have a hybrid location schedule. Until late August, employees were not in the office at all. Now, most employees are only in office one day a week, but several do not come in at all. As there are no restrictions on location, employees could work on public Wi-Fi and compromise sensitive information. Employees are also at risk of a passerby standing behind them and viewing information such as credentials.
8. As previously mentioned, Brick Bridge operates out of a coworking office. In the past they had their own office suite, but cancelled the lease following the pandemic. A coworking office limited the number of employees in-office at one time and reduced costs. Since they do not control the utilities, there is the possibility that the Internet access may be unreliable which would cease business operations.
9. As a software company, Brick Bridge must constantly adapt to the changing industry. Newly emerging technology is at the forefront of the minds and Citrix is always acquiring and rolling out new pieces of software. Adapting to new methods and continuously training staff takes up a fair amount of time. They must also



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integrate them into their previous and future solutions.

10. Brick Bridge uses Intuit QuickBooks Online for all accounting purposes. Brick Bridge would like to use the software for job costing, budget analysis, and to track performance. However, the software does not offer these operations monitoring capabilities.

6. Information Flows

6.1 Internal

At Brick Bridge, communication is informal. Employees have casual workplace relationships with their coworkers and have been encouraged to ask questions. The physical office space is small so receiving general assistance is as easy as calling out someone's name. Each partner is willing to address any concerns with an employee when they are not on a call with a client. Each employee receives a Slack and GSuite account when they are onboarded. This means everyone is reachable during business hours via written communication.

For internal project management, Brick Bridge has a system build out in Podio. Every employee receives a personal Podio account. With it they can access ticketing spaces, HR spaces for punches, the company calendar for meetings and time requests, and a sandbox for testing. Tickets have the project attached to them and display the project status such as new, in progress, completed, cancelled, delayed, etc. Project managers can attach relevant project files and notes from client calls on the tickets. Employees are only able to view projects that are shared with them, this prevents them from accessing projects they are not authorized to.



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6.2 External

Brick Bridge's external communication mainly occurs between project managers, developers, and clients. This correspondence is more formal and takes place on video conferencing software and email chains. Brick Bridge works with remote clients across the country, so meeting face-to-face isn't efficient. Brick Bridge primarily uses GoToMeeting but is beginning to transition to Zoom because of its wide-spread adoption during the pandemic. Brick Bridge sends confidential documents or contracts with DocuSign so they are not compromised over email.

7. Major Projects

Brick Bridge works with a mixture of public and private sector organizations. Priority is typically assigned by taking the project timeline into consideration. As developers have several ongoing projects, the order of completion is determined by project managers.

Brick Bridge often works with those in the real estate industry because their for-profit work is very similar. Their non-profit work is typically centered around products for government agencies. One of their biggest products to date is mPact Pro. It is a CRM that housing counseling agencies purchase copies of. They are able to conduct their business functions for a larger number of clients. mPact Pro is centered around offering home purchase counselling, rental counselling, homebuyer education services, immediate homelessness assistance, and mortgage modification counselling. Podio stores data and facilitates the entire counselling process. Client information is recorded in the intake stage, their counselling sessions are tracked, a record of the funding used



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by the agency is recorded, and a closeout report is created. These reports are essential when agencies are seeking government funding each quarter.

Brick Bridge has created two similar CRM systems for Windsor Chase and Village Capital. Each is centered around the buying and selling of properties and targeted to entrepreneurs. Both organizations are able to sell copies of the software to their own clients, and Brick Bridge uses SaaSafras to deploy solutions. They both have SLAs with Brick Bridge and pay for ongoing development and support on a yearly basis. VilCap's software operates in several business sectors and offers classes which they call accelerator programs. The courses are offered to individuals, firms, and even universities. The courses teach students about entrepreneurial methodologies and help them gain the capital they need to start businesses themselves. Their CRM manages events and allows instructors to prepare materials ahead of classes. Automation fills out class information and pulls data from Google Docs using an API integration.

8. Closing the Gap

8.1 Recommendation 1 - Increased Training

Newly onboarded staff members do not go through a formal training process. There is also no company knowledge base, so employees are spending time figuring out how to solve problems that other staff members already have dedicated processes for. The majority of staff members are either recent graduates or are still completing their degrees. For many, their Brick Bridge position is their first development role.

It is my recommendation that Brick Bridge uses the pair programming method with new hires. Pairing a fresh developer with someone in a junior or senior role will



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acclimate them to the development environment. They would get a taste of the projects Brick Bridge takes on and be able to ask questions in an informal setting. In addition, having opportunities for continued learning through platforms like Udemy and PluralSight would allow them to learn core skills.

8.2 Recommendation 2 - Timeline Adjustments

Duker, the principal consultant, has not been active within the production team for over a year now. Roberts and the project coordinator oversee client intake. The duo manages sales calls, pursues leads, and are ultimately in charge of setting project timelines. At times, the developers have multiple ongoing projects, and since they are not involved in this process, can sometimes miss deadlines. Scope-creep can be an issue because they are not informed of what is in the statement of work when it is not attached to a project. This lack of official consultancy has led to delays, features being implemented without proper payment, and timeline extensions.

Developers have a lot of their plates, so being involved on sales calls is not at the top of their priority list. They should not waste their time with potential clients, as some conversations are dead ends. It is my recommendation that the project coordinator is fully trained to understand the technical requirements, or timelines are set after discovery calls with developers who are present.

8.3 Recommendation 3 - Moving to Workspace

Several clients have stated issues with the Podio platform itself. Brick Bridge recently ended its longtime service-level agreement with mPact Pro because they outgrew the platform. Its popularity with their users quickly faded, and they wanted a new interface. After the departure of Brick Bridge's sole front-end developer, the



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company could not support this request. mPact Pro went back to the drawing board and decided to reinvest in their efforts for a custom piece of software. Similarly, when completing a project for Hoffman & Hoffman, an HVAC company, Brick Bridge was unable to sway employees to use the platform. The project manager at H&H was undermined by an employee on their sales team who refused to start using the system instead of the companies outdated Excel spreadsheet system.

It is my recommendation that Brick Bridge refocuses their efforts into designing applications for Workspace with Intelligence. Podio is seen as a good system-of-record, but larger enterprises who use Workspace may want to store their data on more renowned cloud services such as AWS, Azure, or Oracle. Having alternative database options would be in their best interest. Workspace opens new revenue streams and offers an easier-to-use interface than Podio.

8.4 Recommendation 4 - Increased Accountability

In some cases, a single developer takes on all stages of a project. This lack of company accountability threatened to destroy Brick Bridge's relationship with H&H. A single developer worked on the project for over a year, and when she decided to transition to another company, the documentation she left behind was limited. The new developer in charge of implementation was left picking up the pieces and was unable to contact the old developer unless they were contracted to assist. On meetings with the H&H team to go over training, their employees claimed they didn't understand the system, and Brick Bridge floundered because they didn't either.

It is my recommendation that Brick Bridge's production team adopts the agile methodology. The innovation team has already made the switch and have built up



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personal accountability. When the front-end developer left, the team was still able to carry on and complete SaaSafra updates. With multiple personnel on a project, the likelihood of it being able to carry on in the case of a team member departing or being incapacitated is higher.

8.5 Recommendation 5 - Teams and Roles

Brick Bridge has been through several restructuring periods. In the past, staff members would describe their organizational structure as functional. Employees were grouped together based on their skills, but also completed projects on a multi-disciplinary team. Now, the company has a divisional structure. Staff members are deterred from interacting with colleagues on different teams. Once, employees were encouraged to reach out for support, but they are now expected to solve problems themselves. This can waste time and resources if employees are sitting around without the assistance they need.

It is my recommendation that management determines which structure works best and limits the number of changes. A divisional structure was implemented as the number of staff members increased over a very short time period. However, new staff members are untrained and not being assigned to projects. Thus, having managers who essentially do the same workload as before is not providing any benefit.

I also believe Brick Bridge should also create job descriptions when a new title is assigned. Employees are unsure how to classify what they do exactly, and with titles being updated frequently, a loss of identity strips away job purpose. Employees need to understand their roles.



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9. Conclusions

Brick Bridge Consulting is operating in a time of transition. There has been a rapid growth period, and employees have been scrambling to adjust. Three senior level developers transitioned to other companies within months of each other, and five new entry-level developers were brought on at the same time shortly after. Brick Bridge needs to allocate the attention they need to become successful within the company. Having the capacity for them is imperative to Brick Bridge's short-term success.

I believe Brick Bridge will level out once again, and with the work they have coming down the pipeline, take one step closer towards their goals. With relatively minor changes to company processes, I believe they can move forward without facing these issues ever again. With the recommendations made in mind, Brick Bridge Consulting will be on track once again. They can continue to dominate their market and create innovative solutions that earned them their partner status in the first place. This start-up is on their way to the big leagues.

10. Appendices

10.1 Basis of Analysis

The findings in this IT strategic assessment are supported by a Porter's Five Forces Analysis and an overview of Brick Bridge Consulting's organizational structure and business strategy. Each assist in determining the position of Brick Bridge in its market and offer context on the recommendations I have provided.

Brick Bridge has achieved partner status with Citrix. They are a Silver Level Solution Advisor and have recently been approved to sell applications on the Citrix



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Ready Marketplace. In 2019, they won a Hackathon and were named the Most Innovative Team at Citrix's Converge Conference. They have since won the Citrix 2020 Virtual Hackathon and 2020 Citrix Converge Hackathon. These achievements have pushed them over the edge and certainly captured Citrix's attention. Their initial win in 2019 earned them their partnership status and secured their place in Citrix's sales pipeline.

While there are hundreds of active firms who develop Podio solutions, Brick Bridge is an industry powerhouse. Each firm varies in size and offers varying product scopes. In terms of custom asset development, Brick Bridge is cutting edge. Roberts has certainly invested in the company's strategic advantage, and it has paid off. The threat of industry competition is moderate. Brick Bridge has been able to stay ahead of their competition despite operating in such a large space. Their custom tools differentiate them from the rest.

The threat of substitutes is also moderate. Over 500,000 companies use Podio, notable corporations are Volvo, Deloitte, the NFL, Sony, Time Warner Cable, and Sotheby's. Podio can be used for all or a portion of a business' process. However, Podio isn't the most well-known CRM system. Competitors such as Salesforce and Zendesk are industry giants and are synonymous with customer relationship management. Podio's lower-cost does make it an attractive option, and for clients who aren't willing to shell out for enterprise level solutions are data management offered by a company like Oracle, it's the best option. To-date, Podio is still a great option, and when it's coupled with Brick Bridge's services, clients will continue to choose the company for their business needs.



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There is a low threat of new entrants at this point in time. The barriers of entry are high in the form of capital investments, market share, and the number of existing competitors. At Citrix events Podio developers are rare to come by, and other Citrix product developers have little to no apparent interest in snagging a slice of the market. Anyone with technical or development knowledge could create a new tool to compete in this space, but the likelihood is low. Existing development firms are the ones servicing the Podio market, but it isn't impossible for a startup or small team to swoop in. All in all, the threat is active, but still low.

Customers have little bargaining power with Brick Bridge Consulting. As a company that has been operating for a handful of years, they understand the value of their solutions, and have solved several issues in the past. Brick Bridge offers legally-binding contracts and does not generally negotiate prices. Some clients can receive deals, but there is a standard price for most services. These contracts can include a Statement of Work (SOW) that included a project timeline, a Change Order when necessary, and Service-Level Agreements for continued maintenance and development. Each document also included provisions to mitigate scope-creep. Expectations are clearly laid out in writing, and on direct calls with clients. Each party is held accountable and is locked in until the project is completed or cancelled. Customers can always choose another firm, but Brick Bridge's unique status makes them an attractive option. An excerpt from an SOW can be found in Figure 8.

The bargaining power of Brick Bridge's supplier, Citrix, is high. Brick Bridge has a relationship with a third-party distributor, Arrow, that sells them seats on Citrix products. A quote from Arrow can be seen in Figure 7. They negotiate with Citrix and provide the



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lowest price possible for Brick Bridge. Citrix is still Brick Bridge's primary supplier. Brick Bridge can always negotiate with Citrix directly due to their close relationship, but leaves this up to Arrow. If Citrix changed their pricing model, Brick Bridge has already locked in prices for their existing clients. The change would be felt by newly onboarded clients who may be paying higher prices for the same product.

When asked about the network topology, Shull said, "It's a very simple topology." It can be seen in Figure 6. Podio users have a highly available connectivity process and access the Amazon API Gateway over the internet which gives access to the necessary public facing endpoints.

In its infancy, Brick Bridge Consulting was built around a functional organizational structure. The company was divided by specialty, and staff members worked with each other on projects. There were two teams, design and development. They employed pair programming and worked simultaneously, or each managed an iteration all the way to implementation. After several restructuring attempts and title changes, Brick Bridge now has a divisional structure. This divisional structure groups each organizational function into a division. Each division supports their own goals using their own resources and functions. The three divisions are innovation, operations, and production. Each partner of the company oversees a division.

When analyzing Brick Bridge Consulting using Porter's Generic Competitive strategies, they best fall under the differentiation strategy. Brick Bridge seeks to be unique in its industry. While they operate in the broad business software market, they differentiate themselves by creating solutions using Podio. Clients enjoy its cost-effectiveness and reliability. More specifically, Brick Bridge operates in the Citrix



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development industry. This market is saturated with talent, but Brick Bridge's custom tools and processes add capability to Podio that is unmatched. The partners have discovered what makes Podio great, and what is left to be desired. Using this knowledge, they have capitalized on this market and proven themselves a unique competitor.



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10.2 Technology Inventory

Brick Bridge Consulting

ACCOUNT QUICKREPORT

Since September 1, 2020

DATE	TRANSACTION TYPE	NUM	NAME	MEMO/DESCRIPTION	ACCOUNT	CLR	AMOUNT	BALANCE
Internet & Software								
Software Subscription Expense								
09/02/2020	Expense		Dropbox	DROPBOX	Internet & Software:Software Subscription Expense		11.99	11.99
09/02/2020	Expense		Google	GOOGLE *GSUITE_BRICKCC@GOOGLE.COM CA	Internet & Software:Software Subscription Expense		176.12	188.11
09/03/2020	Expense		Dux-Soup	DUXSOUP* DUX-SOUP ULVENHOUT, BRED A NL	Internet & Software:Software Subscription Expense		55.00	243.11
09/03/2020	Expense		Slack	SLACK TDSRT6B4G SAN FRANCISCO CA	Internet & Software:Software Subscription Expense		152.74	395.85
09/06/2020	Expense		Sentry	SENTRY SAN FRANCISCO CA	Internet & Software:Software Subscription Expense		29.00	424.85
09/07/2020	Expense		Microsoft	MSFT * E0200BXZ7K 00MSBILL.INFO WA	Internet & Software:Software Subscription Expense		66.25	491.10
09/09/2020	Expense		Atlassian	Atlassian San Francisco	Internet & Software:Software Subscription Expense		15.00	506.10
09/10/2020	Expense		Screencastify	SCREENCASTIFY PREMIUCHICAGO IL	Internet & Software:Software Subscription Expense		24.00	530.10
09/11/2020	Expense		Lucid Software	LUCID SOFTWARE 8444658243 UT	Internet & Software:Software Subscription Expense		324.00	854.10
09/14/2020	Expense		Myget.org	FS *MYGET.ORG 877-327-8914 CA	Internet & Software:Software Subscription Expense		9.54	863.64
09/17/2020	Expense		ProcFu	PROCFU CALGARY SOUTH	Internet & Software:Software Subscription Expense		25.00	888.64
09/21/2020	Expense		HumbleFax.com	HUMBLEFAX RIDGEWOOD NJ	Internet & Software:Software Subscription Expense		10.00	898.64
09/29/2020	Expense		Citrix Systems, Inc.	Go To Meeting	Internet & Software:Software Subscription Expense		6.27	904.91
09/30/2020	Expense		GitHub	GITHUB SAN FRANCISCO CA	Internet & Software:Software Subscription Expense		40.00	944.91
10/01/2020	Expense		Google	GOOGLE*GSUITE BRICKBCC GOOGLE.COM	Internet & Software:Software Subscription Expense		234.00	1,178.91
10/02/2020	Expense		Dropbox	DROPBOX	Internet & Software:Software Subscription Expense		11.99	1,190.90
10/03/2020	Expense		Slack	SLACK TDSRT6B4G SAN FRANCISCO CA	Internet & Software:Software Subscription Expense		139.73	1,330.63
10/03/2020	Expense		Dux-Soup	DUXSOUP* DUX-SOUP ULVENHOUT, BRED A NL	Internet & Software:Software Subscription Expense		55.00	1,385.63
10/06/2020	Expense		Sentry	SENTRY SAN FRANCISCO CA	Internet & Software:Software Subscription Expense		29.00	1,414.63
10/06/2020	Expense		Microsoft	MSFT * E0200C7W5N 00MSBILL.INFO WA	Internet & Software:Software Subscription Expense		66.25	1,480.88
10/08/2020	Credit Card Credit		Lucid Software	LUCID SOFTWARE 8444658243 UT	Internet & Software:Software Subscription Expense		-16.32	1,464.56
10/08/2020	Credit Card Credit		Lucid Software	LUCID SOFTWARE 8444658243 UT	Internet & Software:Software Subscription Expense		-212.28	1,252.28
10/09/2020	Expense		Atlassian	Atlassian San Francisco	Internet & Software:Software Subscription Expense		15.00	1,267.28
10/14/2020	Expense		Myget.org	FS *MYGET.ORG 877-327-8914 CA	Internet & Software:Software Subscription Expense		9.54	1,276.82
10/17/2020	Expense		ProcFu	PROCFU CALGARY SOUTH	Internet & Software:Software Subscription Expense		25.00	1,301.82
10/21/2020	Expense		HumbleFax.com	HUMBLEFAX RIDGEWOOD NJ	Internet & Software:Software Subscription Expense		10.00	1,311.82
10/23/2020	Expense		Zoom	ZOOM.US 888-799-8666SAN JOSE CA	Internet & Software:Software Subscription Expense		7.07	1,318.89
10/23/2020	Expense		Dux-Soup	DUXSOUP* DUX-SOUP ULVENHOUT,	Internet & Software:Software		55.00	1,373.89

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Brick Bridge Consulting

ACCOUNT QUICKREPORT

Since September 1, 2020

DATE	TRANSACTION TYPE	NUM	NAME	MEMO/DESCRIPTION	ACCOUNT	CLR	AMOUNT	BALANCE
10/29/2020	Expense		Zoom	BREDA NL ZOOM.US 888-799-9666 SAN JOSE CA	Subscription Expense Internet & Software:Software Subscription Expense		42.40	1,416.29
10/29/2020	Expense		Citrix Systems, Inc.	Go To Meeting	Internet & Software:Software Subscription Expense		29.20	1,445.49
10/31/2020	Expense		GitHub	GITHUB SAN FRANCISCO CA	Internet & Software:Software Subscription Expense		40.00	1,485.49
11/01/2020	Expense		Google	GOOGLE *GSUITE_BRICKCC@GOOGLE.COM CA	Internet & Software:Software Subscription Expense		264.76	1,750.25
11/02/2020	Expense		Dropbox	DROPBOX	Internet & Software:Software Subscription Expense		11.99	1,762.24
11/03/2020	Expense		Slack	SLACK TDSRT6B4G SAN FRANCISCO CA	Internet & Software:Software Subscription Expense		116.65	1,878.89
11/03/2020	Expense		Dux-Soup	DUXSOUP* DUX-SOUP ULVENHOUT, BREDA NL	Internet & Software:Software Subscription Expense		55.00	1,933.89
Total for Software Subscription Expense							\$1,933.89	
Total for Internet & Software							\$1,933.89	
TOTAL							\$1,933.89	

Figure 1 - Software Subscriptions

10.3 Strategic Planning/Visioning Documents

Brick Bridge Consulting				
Research & Innovation	Operations	Production		Contractors
Alex Shull <i>Director of Technology</i>	Gil Roberts <i>Director of Operations</i>	Jarett Duker <i>Principal Consultant</i>		Melissa Spalione, CCA-V <i>Contract Staff Developer</i>
John <i>Senior Innovation Engineer</i>	Dominique Barber <i>Marketing Manager</i>	Chad Critchelow, CCA-V <i>Production Manager</i>		Juan Afable <i>Contract Staff Developer</i>
Ayodeji Oyewumi (Deji) <i>Junior Data Scientists</i>	Bob Muntis <i>Project Coordinator</i>	Sohal Patel <i>Production Engineer</i>		Caleb Hayden <i>Contract Senior Developer</i>
Arjun Subedi <i>Junior Data Scientists</i>		Development	CVAD	
		Emily Wantland <i>Senior Developer</i>	Hasan Mohammad <i>System Analyst</i>	
		Spencer Dee <i>Junior Developer</i>	Alex Edelen <i>Solution Advisor</i>	
		Alex Davis <i>Junior Developer</i>		
		Elena Milan Lopez <i>Staff Developer</i>		
		Queena Lin <i>Junior Developer</i>		

	Department Head
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Figure 2 - Brick Bridge Consulting Divisional Structure



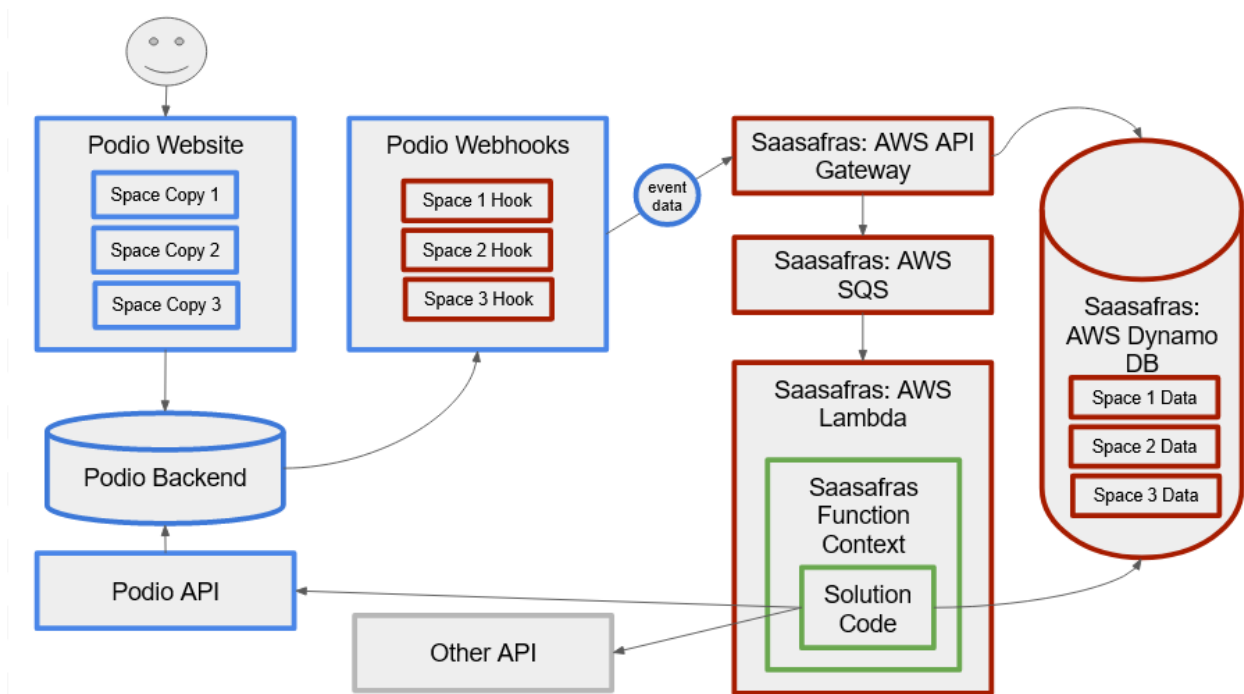


Figure 3 - SaaSafras Flow Engine Diagram

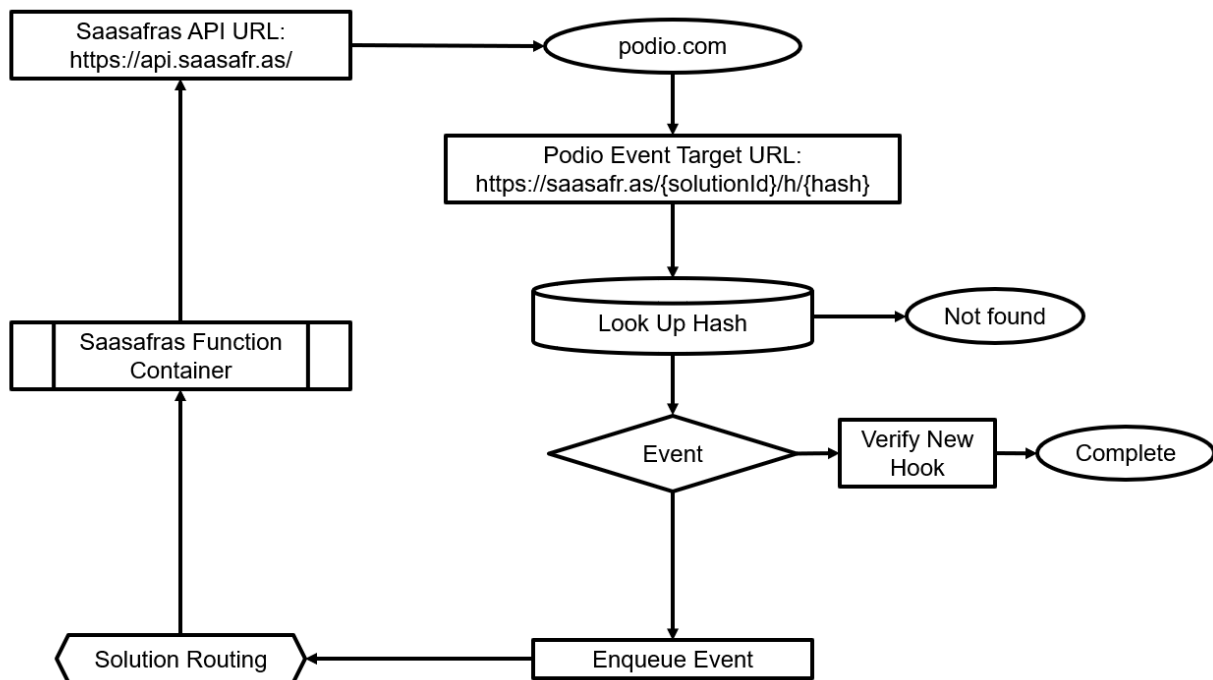


Figure 4 – SaaSafras Diagram

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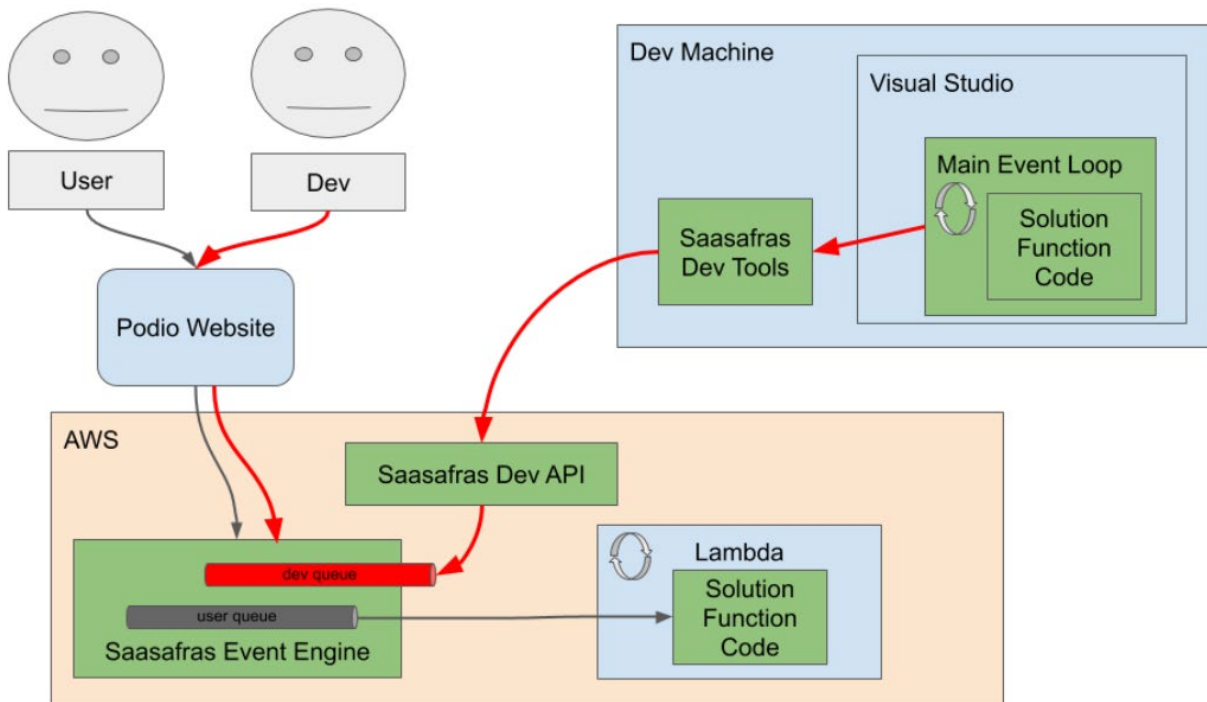


Figure 5 – Upcoming SaaSafras Developer Tools Diagram

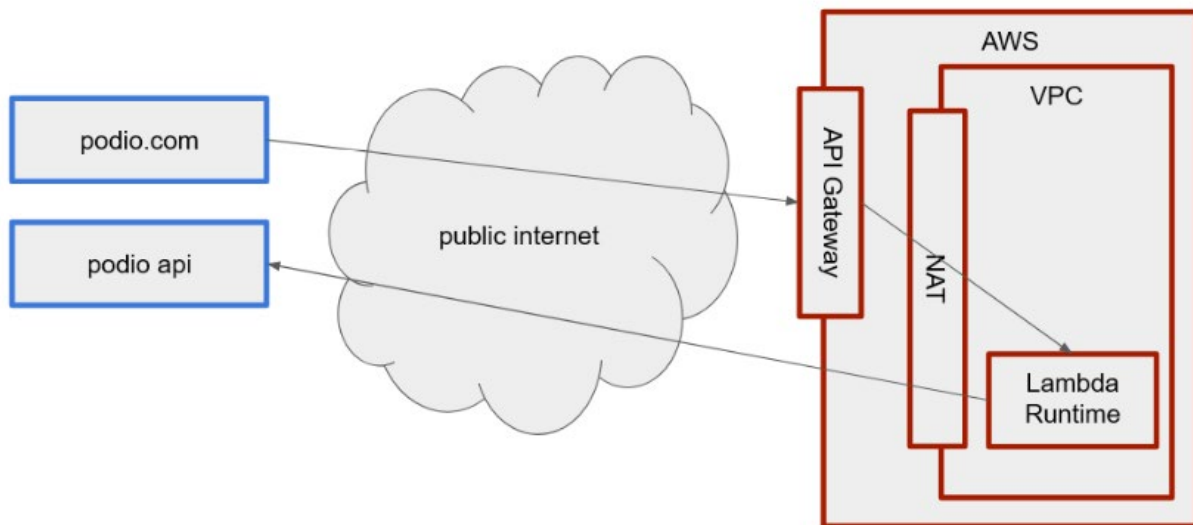


Figure 6 - Network Topology



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10.4 IT Budget/Spending Documents

Arrow ECS Quote						ARROW			
Arrow Quote#: SWS12411094-V0		Reseller: BRICK BRIDGE CONSULTING LLC-3513939		ISR: Bolton, Michael		Supplier Opp#:		Partner Level:	
Quote Name: Brick Bridge Consulting_Citrix_Brick Bridge Consulting_52030611		End User(s): BRICK BRIDGE CONSULTING LLC		ISR Phone: +1 303-824-4107		Supplier Quote#:		Deal Registration:	
Quote Currency: USD		Region: US		End User State:		ISR Email: michael.bolton@arrow.com		Configuration#:	
Quote Expiration Date: 02-DEC-20		Quote Generation Date: 02-NOV-20		Segment:				Earliest Expiration Date:	
Notes:									
Line	Item Number	Description	Supplier	Qty Quoted	Available Stock	List Price	List Price Ext	Reseller Price	Reseller Price Ext
1	3023615	Citrix Cloud Workspace Premium Plus Service User/Device Partner DEMO and USE	CITRIX	1	DS	\$3,999.00	\$3,999.00	\$3,875.32	\$3,875.32
Subtotal							\$3,999.00		\$3,875.32
Estimated Tax									
Estimated Freight									
Grand Total									\$3,875.32
Terms and Conditions:									
Legal Notification: This is a computer generated document, no signature is required.									
PURCHASE ORDER TERMS AND CONDITIONS This order is hereby governed by Arrow's Purchase Order Terms and Conditions located at https://www.arrow.com/en/legal/purchase-order-terms-and-conditions unless there is a signed agreement between the parties, in which case the signed agreement shall govern. The Arrow's Terms and Conditions of Sale can be accessed in additional languages:									
<ul style="list-style-type: none"> English: https://www.arrow.com/en/legal/terms-and-conditions-of-sale Spanish: https://www.arrow.com/es-mx/legal/terms-and-conditions-of-sale French Canadian: https://www.arrow.com/fr-fr/legal/terms-and-conditions-of-sale 									

Figure 7 - Arrow Distributor Quote

PROJECT FINANCES

DELIVERABLE PAYMENTS – How invoices will be issued during the project

DELIVERABLE	GOAL DELIVERY DATE	INVOICE AMOUNT
Retainer	10/6/2020	\$1,000
Phase One and Two	10/30/2020	\$3,250
Phase Three	11/30/2020	\$3,250
	Project Total	\$7,500

Figure 8 - Statement of Work Payments



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[shape-strategy](http://hbr.org/1979/03/how-competitive-forces-shape-strategy).

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