

Powering Global Financial Inclusion Programme Through **API Enhancements and Portal Development**

Mobile phones have become the go-to avenue for financial transactions globally. Our customer, an EU-based telecom association and a financial inclusion enabler, wanted to build an ecosystem for the billions worldwide to get access to safe, secure and affordable financial services. Client partnered with DigitalAPICraft to enhance their APIs and build a new developer portal to securely expose their APIs. Their end goal was to support telecom members and industry stakeholders to transform the financial lives of underserved people and increase financial inclusion.

Technologies

- Apigee
- Drupal 7
- AWS
- PagerDuty

About the Customer

Our customer, a leading tech firm in the telecommunications space, has millions of daily users interacting with their systems for business needs. As a front runner in the space, our customer aims to shape the future of communications through innovative products and solutions. One of their key missions is to create an ecosystem that enables both financial inclusion and profitability for telecom providers.

Business Challenges

Our customer, an EU-based telecom association and a financial inclusion enabler, wanted to build an ecosystem to enable billions worldwide get access to safe, secure and affordable financial services. A key step in the programme was to create a developer portal and securely expose APIs for members and industry stakeholders to consume. Our customer wanted a partner to analyse their existing APIs setup and bring in enhancements across security, rate limiting, quotas and analytics, etc. They also wanted to develop a portal for end users to consume APIs pertaining to their mobile money ecosystem and build cutting-edge apps.

Our Solutions

DigitalAPICraft (DAC) took on the challenge and performed a complete analysis of the customer's current APIs and setup. The customer's programme of building a global ecosystem needed DAC to consider complexities involving security and other regulations of different countries. Some of the key solutions and security enhancements offered were:

- ▶ Sensitive data being encrypted to while sending the response
- ▶ JWS and JWE used for encryption

DAC used security best practices to protect the services. A few are mentioned below:

- ▶ Spike Arrest
- ▶ Json threat protection
- ▶ XML threat protection

DAC also built custom analytics reports that helped the customer understand business use cases and outcomes better.

Building the Developer Portal

As the second phase of the solution offered, DAC created a developer portal on Drupal 7 through which the developers could register and try the mobile money APIs before creating their apps. DAC also created custom theme for the site, which included different designs for different pages using JQuery libraries to meet the requirements. All the customized pages were made responsive for various devices. DAC also built custom modules to support the theming for Swagger pages. The "Contact Us" page was developed with extensive feedback tracking to help internal teams pull reports of various formats to generate feedback insights. DAC paid attention to various UI elements like filters and sidebar navigation that helps users with easy navigation.

Integrating Swagger UI for different versions of API specification

One of the primary requirements was to integrate Swagger UI for different versions of API specification. A configuration form was created where privileged users can configure Swagger API specification file path along with its version information. Web pages and menus will be generated

dynamically for each version of Swagger API specification configured. API documentation will be displayed using Swagger UI. Users get a structured documentation for APIs and the “try out” option which allows users to test responses of the APIs for a given request.

DAC also built custom user workflows for the client and a few are listed below.

- ▶ Appended Google re captcha to registration and login form for security reasons.
- ▶ Added honey pot module which uses methods of deterring spam bots from completing forms on Drupal site.
- ▶ Activated administration approval for user account registration for secured registration.

Key Highlights

10

Number of APIs
Handled

2-day

Hackathon in
Rwanda

99%

Uptime
Ensured

- ▶ Apigee installation in customer private cloud.
- ▶ API Gateway Design and Implementation.
- ▶ Successfully assisted customer's 2-day hackathon in Rwanda. DAC worked on VPN setup and dev portal support for the event.
- ▶ Set up a secure infrastructure for the customer on AWS and for the last year and a half have been maintaining and supporting through our world class support services team.
- ▶ The complex migration for customer's setup from one AWS account to another was another critical highlight that DAC executed to perfection.

Security Highlights

- ▶ NW layer security - Configured Trend Micro (Intrusion Detection and Prevention System) and Amazon GuardDuty (Intrusion Detection System), DMZ & Non DMZ Architecture and Sec groups (port access).
- ▶ Instance layer - Implemented Bastion host and Multifactor Authentication using TOTP.
- ▶ Application layer - configured Clam AntiVirus. Entire Monitoring and Alerting system was implemented by DAC which included system resource and API monitoring with alerting integrated to SMS, Slack, mail and PagerDuty.
- ▶ Secured the APIs through OAuth 2.0.

Technology and Tools

- ▶ Apigee
- ▶ AWS
- ▶ Drupal 7
- ▶ Amazon GuardDuty
- ▶ PagerDuty
- ▶ Clam AV
- ▶ Trend Micro

Interested in talking to our experts?
Drop us a note!

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DigitalAPICraft, through its products and services, helps global brands establish their API Ecosystem and transform into a truly Experience Enterprise. As a leading end-to-end digital transformation partner, our API-led approach enables retail, banking, insurance, telecom, and media companies to offer delightful customer experience, transform business processes and boost operational efficiency.

DigitalAPICraft has been awarded “Delivery Partner of the Year for APAC 2017 – Google Cloud” and is a Premier Google-Apigee partner. Over three consecutive years (2020, 2019 & 2018), DigitalAPICraft is recognized as one of the fastest-growing technology companies by Deloitte in its Technology Fast 50 India and twice (2019 & 2018) in Technology Fast 500 Asia Pacific rankings.

Located in USA, UK and India, and with customers across the globe, DigitalAPICraft brings extensive product and platform experience to help enterprises with digital strategy and consulting, disruption engineering, end-to-end DevOps, experience engineering and much more.

For more information visit www.digitalapicraft.com