



Techwave

Techwave established in 2004, is a global end-to-end IT services & solutions company, which develops long-term relationship with clients by leveraging unique delivery models and expert frameworks.

API Ecosystem Management

Overview:

The client is a global technology distributor of category-leading unified communications, network infrastructure, data center, and security solutions. The client is in more than 70 countries thanks to its extensive global network of specialty dealers. The client extended support in transforming the technology supply chain through its global cloud capabilities, development, and services.

The company has more than US\$ 3 billion in annual revenue and 30+ years of experience, combining industry insight and technical expertise to be the catalyst for vendor and partner success.

Executive Summary

The Client encountered significant difficulties and problems with the extensive API integration (AIM) suite of APIs, which enables an automated end-to-end process for verifying product availability and customer pricing data through the order/quote submission of all order status tracking.

With the assistance of Techwave as a partner to the client designed and the solution adopted by Techwave created a developer portal that supports external and internal applications/portals. It helps customers to integrate their business applications/portals with the API channel. Due to Azure API Manager cloud solutions, we were able to provide high availability with zero downtime.

- Token-based authentication & authorization
- Support Multiple formats for request & response
- Good API Documentation (Swagger etc.)
- Maintain Good Security Practices (HTTPS)

Client Challenges

- Due to technical limitations, seamless integration between the partner portal and the current system was impossible
- The time frame for the product onboarding /offboarding took more than 48 hrs. to reflect on their system due to the manual approval process and index updates
- There were variations in the requirements and business policies for each product and customer
- Due to the manual configuration and approval process, the client faced significant challenges with customer onboarding, which was a more time-consuming process
- There were issues with the availability of regards to the sandbox for testing
- There was a massive restriction on the distribution of products on the region bases platform
- For order flows, there are various integration points
- There are different types of life cycles for different kinds of products
- System failure and protracted maintenance windows lead to poor availability due to average system performance

Techwave's Strategy and Solutions

Techwave, as a part of strategy and solution, created and designed a new approach for the client to utilize a set of secure APIs (Web Services), which provides the customer access to valuable company data. The adopted methodology by Techwave gave a dimension to API Ecosystem Management to deal with the platform directly based on system-to-system connectivity. The partners can automate processes with a reliable real-time data exchange with a significantly decreased development effort.

Multiple business endpoints can be combined into a single access layer using the API Management Platform with the help of Techwave strategy and solution. The end-user-friendly consumption of the APIs is made possible by abstracting the backend implementation URLs into a single set of access points.

The API Management platform is phased on BUILD and RUN design which enables an automated end-to-end procedure for verifying product availability and customer pricing data through order/quote submission and all order status tracking.

In BUILD phase

The architecture, design, and development go through the following steps:

Design & prototype

- Define API "contract"
- Deploy API prototypes
- Mock API client apps

Validate

- Validate API "contracts"
- Target Developers' feedback

Build

- Implement API services.
- Deploy API services.
- Define integration models.
- Define security models.

Publish

- Publish API
- Publish production & sandbox keys for APIs.

In RUN phase

The design and development will go through the following steps.



1. Define Governance of API use

- Define API subscriptions
- Manage API visibility
- Manage API lifecycle



2. Manage API

- Manage API versions
- Customize API lifecycles



3. Control Access

- Apply security policies.
- Block subscription



4. Security & Threat protection

- Configure SSO with SAML 2.0
- Monitoring & token-fraud detection

Business Impact

The API service, platform, and related services have been developed to enable a variety of goods and services, as well as various billing models, such as real-time or offline provisioning.

The target data store can consume authorized goods and services from a variety of data sources and all thanks to the API services.

For the following use scenarios, the client SAP and Partner's apps can share information thanks to the API framework designed and created by Techwave as a solution provider.

APIs Interference

API	DEFINITION
Contract API	Access to contract information from the SIGMA System (Non-AIM API)
Order Status	Based on customer reference or the client's order number, provides the detailed line-level status of multiple orders at once.
Shipment Details	Based on customer reference or the client order number, provides all related shipment information, including tracking, serial number, Mac address, etc., for a given order
Order Create	New order creation API with direct connection to client Order Entry
Availability Check	Provides real-time stock availability for the asset of products.
Pricing	Provides customer standard discount pricing for products (excludes SBA etc.)
Carrier Tracking	Provides access to carrier delivery into post-client shipment
Open Order Lists	Return list of all open orders based on the specified date range
All Order Lists	Return list of all orders based on specified criteria within the specified date range

API

DEFINITION

Freight Estimate

Freight estimation based on the specific SKUs, quantities, and destination

Invoices List

Return information on all invoices based on data range

Quote Check

Provides line-level quote information to the customer

Quote Create

Ability to request, modify/update and approve a quote, then convert to order.

Product List

Product catalogue

Billing and Invoices

Ability to process different types of invoices both for the Resellers and End Customers and including/Excluding Tax, Discounts and Commissions.

Billing automation and process recurring billing (Monthly, Quarterly, Half yearly, Annual etc.)

Digitalized Life cycle management for product and order management modules can be more visible and managed well.

Customers can integrate their business applications/portals with the API channel. With the help of Azure API Manager cloud solutions, we can give high availability with zero downtime.

Additionally, Techwave impacted -



Token-based authentication & authorization



Naming of resources



Support Multiple formats for request & response.



Nesting resources for hierarchical objects



Good API Documentation (Swagger etc.)



Handle errors gracefully and return standard error codes



Maintain Good Security Practices (HTTPS)



Auditing



Allow filtering, sorting, and pagination



Asynchronous



Why Choose Techwave ?

Techwave is a leading global system integrator revolutionizing digital transformations, headquartered in Houston, TX, USA. We believe in enabling clients to maximize their potential and achieve a more significant market with a wide array of technology services, including Enterprise Business Services, Cloud, Product Engineering, Application Modernization and Development, Analytics, Engineering Services, and the Internet of things (IoT). Techwave is a modern, young, and mindful enterprise. The tagline, "Empower success," is a nod to the long legacy of accelerating business outcomes; the brand enables us to unleash a new wave of empowerment in all the 3Cs, i.e., Clients, Colleagues, and our community.

Techwave, with its team of experts, covers API design, build, and implementation of API Management Suite in Azure with extensive integration with SAP and Hybris systems. As reflected in the solutions above, Techwave has provided expertise in Azure, Swagger, and SAP for the client's internal/external applications and innovative solutions to address business-specific needs and build efficiency. This has resulted in productivity gains and optimal use of implemented business applications.



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