

# Middleware for Digital Insurance Businesses

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Product Whitepaper v4.1.1  
September 2023



# AN INNOVATIVE MODULAR, LOW CODE API GATEWAY AND BUSINESS MIDDLEWARE

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Pylon is an innovative framework that works both as **Insurance Business Middleware** as well as **API Gateway**, that enables insurance businesses transform, extend and distribute their business digitally in a **scalable, maintainable and cost-effective** way.

01

# The Problem

Insurance Businesses

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# Impractical API Gateways

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## Standard & Typical

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While all the available API Gateways in the market are technically great and functionally rich, they are **Technical frameworks only, not Business solutions**. They mostly work as SaaS model, and thus does **not have specific implementation and business requirements**.



## Costly Customizations

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Since available API Gateways mostly **lack business and domain specific use cases**, most of the times these implementations become essential; and these customizations are quite **expensive in terms of cost and time**.



## Restrictive

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In many cases, the API Gateways are **rigid in nature**, and commands the enterprise architecture to be developed following a certain pattern; thus, they are **difficult to adapt practically**, and digital solutions becomes **gradually unmanageable**.

# Gateways Not Business Ready

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## Generic Solution

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API Gateways required by today's Insurance businesses are not mere technical platforms, but also **built-in functionalities related to insurance business are expected in the system.**



## No Default Integrations

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There are number of Government applications and other service providers that any Insurance business needs to be integrated with, such as **UIDAI, NSDL, Vahan** etc. Gateways available in market **do not provide any built-in integrations.**



## Inflexible

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Many Insurance enterprises have number of legacy systems that need to be integrated with the API Gateways. In most cases, this becomes a challenge because of **inability of both the systems.** That makes the **core purpose of API Gateways defeated.**

# Unfitting Middleware Solutions

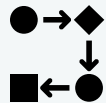
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## Not Pluggable

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Middleware solutions available in the market usually comes with full solution, **not pluggable to any existing PAS or to any existing front-end application**. This essentially makes those solutions **not useful for enterprises already having PAS and digital front-ends**.



## No end-to-end Solution

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Some or the other functionality usually are unavailable in existing middleware solutions. Thus, it is **almost impossible to establish a digital platform without major and costly customizations**.



## Lack of Dynamicity

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With the ever-changing business model of insurance businesses and legal obligations from Govt authorities (IRDA etc.), the middleware should be **dynamic and flexible enough to accommodate changes without much of coding and customizations**.

# Thin Visitor Management

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## Separate System Required

As because most of the middleware solutions are **unable for managing users and visitors**, an altogether **new and separate application is required** for these functionalities, making the overall architecture complex and difficult to maintain.



## No Visitor Identification

Existing middleware solutions do **not come with proper visitor identification**, when the visitor is not logged on and arrives randomly in the website. Separate web **crawling and dedupe system are required** for this.



## No Drop Off Management

For tracking and **identifying the dropped off journeys**, and to **generate alerts and trigger actions**, most platforms need to **rely on CRM systems**. This traditional model makes the whole landscape multipart, unreliable with dependency on multiple systems.

02

## The Solution

for Insurance Businesses

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# In a nutshell

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1

## API Gateway

Pylon is the Enterprise API Gateway that works as the glue between all internal and external applications and systems



2

## Built-in Integrations

Pylon ships with dozens of systems pre-integrated that can be used from day one without any further coding and implementation.



3

## Insurance Business Middleware

Pylon is the only platform available in the market that works as Insurance Business Middleware as well as API Gateway.



4

## Visitor and Drop-off Management

Independent module of Pylon plugs into any front-end application, thereby tracking visitors, corresponding journeys and identifying drop-off incidents.



# Solving problems

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## Practical API Gateway

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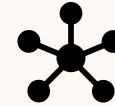
Unlike the existing products, Pylon is practically built with relevant features that are actually useful for **businesses and technologies alike**, such as, API restrictions, workflows, real time logging, automatic server health checkup, API analytics and so on.



## Business Ready

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Pylon is not only a technical framework with high-tech features, it is rather designed focusing on solving business problems such as **data transformation, unifying of business data, insurance specific integrations** and so on.



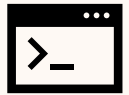
## Built-in Integrations

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Pylon ships with numerous built-in integrations such as **UIDAI, NSDL, CIBIL, GSTin, API Setu, Experion, Fastlane, CoWin, Vahan, Alexa, Google Home, Hunter, Perfios, Salesforce, Dynamics CRM, WhatsApp** and many more.

# Solving problems

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## Easy Customizations

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The **modular architecture** of Pylon makes it easy to customize the framework. In addition, many of the **customizations are done using the control panel** only. Pylon can be deployed in enterprise private cloud, making customizations **less time taking and with no dependencies**.



## Dynamic Middleware

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The middleware can be **dynamically customized and extended using configurations only**. No need for extra development and coding for normal use cases implementation. Thus, **increasing productivity and reducing time to market and cost** to the business.



## End-to-end Solution

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Pylon middleware satisfies almost all the use cases that are essential for insurance businesses. For instance, **managing leads, customers, quotations, documents, proposals, policies, journeys, payments, claims, renewals** and so on.

# Solving problems

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## Journey Management

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As a middleware solution, **Pylon manages all the front-end application flows centrally**. In each step, corresponding data is persisted via Pylon APIs. As the flows are maintained from the back-end, these can easily be **altered and customized without front-end development**.



## Workflow

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Each back-end activities are controlled and maintained by the workflow engine embedded in Pylon. For example, **when to cKYC, when ask for consent, what to do for refund, what actions to be performed in which case** and so on.



## Handling STP/NSTP

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The Pylon middleware solution **handles all the actions required on a case after STP/NSTP/Break-in evaluation** (done by Tailor BRE). **All the API calls, Underwriter activities and NSTP handling steps** are controlled and managed by Pylon centrally.

# Solving problems

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## Drop-off Management

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An independent module of Pylon, named Sentinel, is **responsible for tracking all the user journeys and identifying the break or drop-off in those journeys**. These incidents are dully logged in the system. This module is separate from Pylon and can be used independently.



## Identifying Visitors

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Handling and managing logged-on users are common in all systems. However, **identifying anonymous visitors are more important in business context**. Pylon helps in **detecting those visitors, de-duplicating and classifying them**. These maintained data are used for **marketing activities and campaigns**.



## Triggered Integrations

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The middleware solution has several integrations and these **can be attached to various events and incidents**. For example, **in case of drop-offs, CRM API should be invoked, and corresponding data are pushed to CRM**; in case of **NSTP, TeleMER vendor API should be initiated**; and so on.

03

# Framework Configuration

Pylon Control Panel

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# Pylon – Single Solution for three Business Problems

Three major Insurance business problems are handled by a single solution – Pylon : **API Gateway**, **Visitor & Journey tracking** and **Insurance Business Middleware**. The **Admin Panel interface** enables the user to manage all these sub-systems easily and seamlessly.

### Logon to Pylon

User Name:

Password:

Domain:

- API Gateway Administration
- Visitor Tracking (Attribution Model)
- Business Middleware

Dashboard Gateway Logs Service Accounts Dynamic APIs Configurations **Logout** API Documentation

## Hello, Pylon Administrator!

Welcome to Pylon Admin Panel.

**Dashboard**  
See call logs by APIs, Service Accounts in a particular date range.

**Service Accounts**  
Create and manage Service Accounts (Client Applications).

**Dynamic APIs**  
Create and manage Dynamic APIs - APIs on the fly.

**Aadhaar Configurations**  
Configure Aadhaar Bridge through Signzy or Karza.

Dashboard Visitors **Logout** API Documentation

## Hello, Pylon Administrator!

Welcome to Pylon Admin Panel.

**Visitors**  
See visitor logs for the Web Assets connected to Pylon tracker services.

Dashboard Carts Policies **Logout** API Documentation

## Hello, Pylon Administrator!

Welcome to Pylon Admin Panel.

**Carts**  
See Carts created and generated in various connected channels.

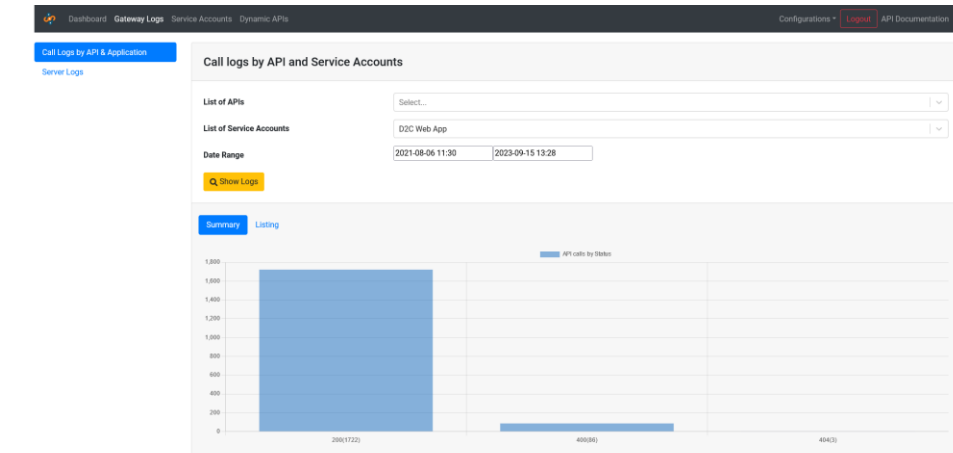
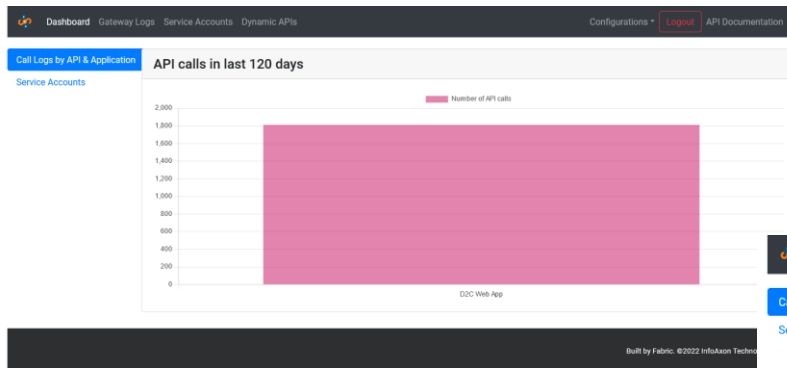
**Proposals**  
Review Proposals and Policies created and generated in various connected channels.

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# API Gateway Logs

Admin Panel shows **real time logs** of all the activities happened in the API Gateway subsystem. That includes API call logs per Service Accounts along with **request and response payloads** of each API call, Pylon **server logs** and so on.



This screenshot shows the 'Pylon Server Logs' section. It features a search interface with 'Select Log level' set to 'Info' and 'Select Date' set to '2023-09-15'. A 'Show Logs' button is present. Below is a table of log entries:

Timestamp	Log message
2023-09-15 05:44:38	Opening the Gates with 'gr' settings...
2023-09-15 05:45:43	ended call log for 6503a679b9dec33f41117bb
2023-09-15 05:45:43	ended call log for 6503a679b9dec33f41117bb
2023-09-15 05:46:00	ended call log for 6503a679b9dec33f41117bb
2023-09-15 05:46:00	ended call log for 6503a679b9dec33f41117bb
2023-09-15 05:46:02	ended call log for 6503a679b9dec33f41117bb
2023-09-15 06:00:02	ended call log for 6503a679b9dec33f41117bb
2023-09-15 06:17:34	Opening the Gates with 'gr' settings...
2023-09-15 06:17:43	ended call log for 6503f7073047116f50a3a1f8
2023-09-15 06:17:44	ended call log for 6503f7073047116f50a3a1f9
2023-09-15 06:17:45	ended call log for 6503f7073047116f50a3a1fa
2023-09-15 07:15:03	ended call log for 65040477566164f9004a2057
2023-09-15 07:34:47	ended call log for 6504091726014c78d104873
2023-09-15 08:15:42	ended call log for 650412ae477e07070e6d2d3

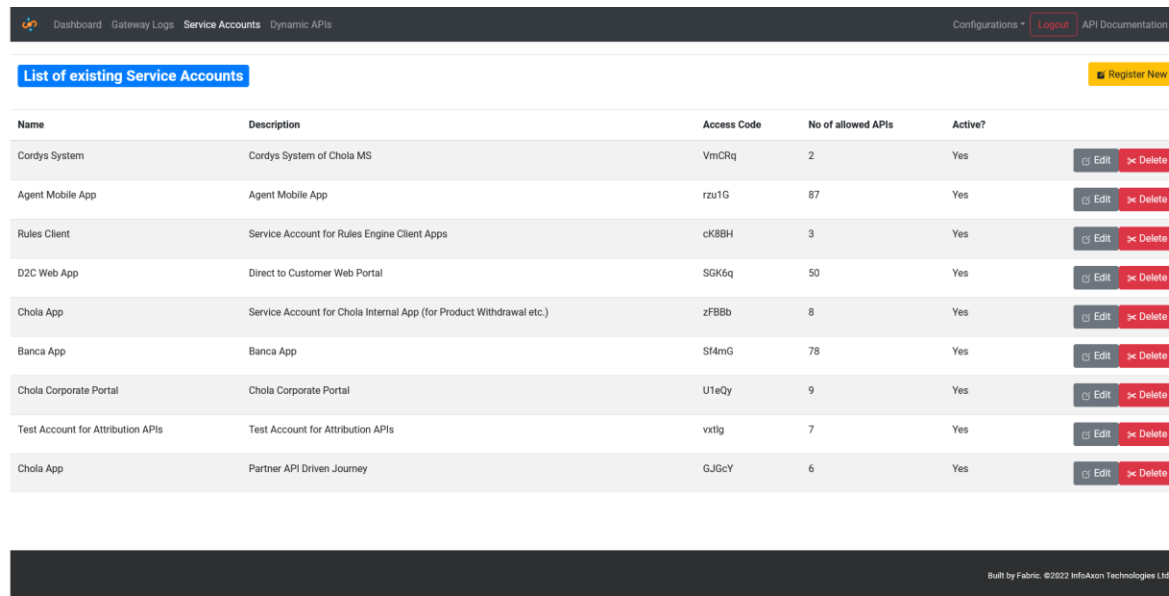
This screenshot shows the 'Call logs by API and Service Accounts' section with a table of log entries. The table includes filters for 'List of APIs' (Select...), 'List of Service Accounts' (D2C Web App), and 'Date Range' (2021-08-06 11:30 to 2023-09-15 13:28). A 'Show Logs' button is visible. The table has tabs for 'Summary' and 'Listing'.

API Name	Service Account	API call started	API call ended	HTTP Status Code	Request Payload	Response Payload
Recommend Insurance Products for a given Cart	D2C Web App	2023-09-14 07:13:31	2023-09-14 07:13:31	200	Show	Show
Manage Insurance Carts	D2C Web App	2023-09-14 07:13:31	2023-09-14 07:13:31	200	Show	Show
Manage Insurance Carts	D2C Web App	2023-09-14 07:13:08	2023-09-14 07:13:09	200	Show	Show
Manage Insurance Carts	D2C Web App	2023-09-14 07:12:37	2023-09-14 07:12:37	200	Show	Show
Manage Insurance Carts	D2C Web App	2023-09-14 07:12:34	2023-09-14 07:12:34	200	Show	Show



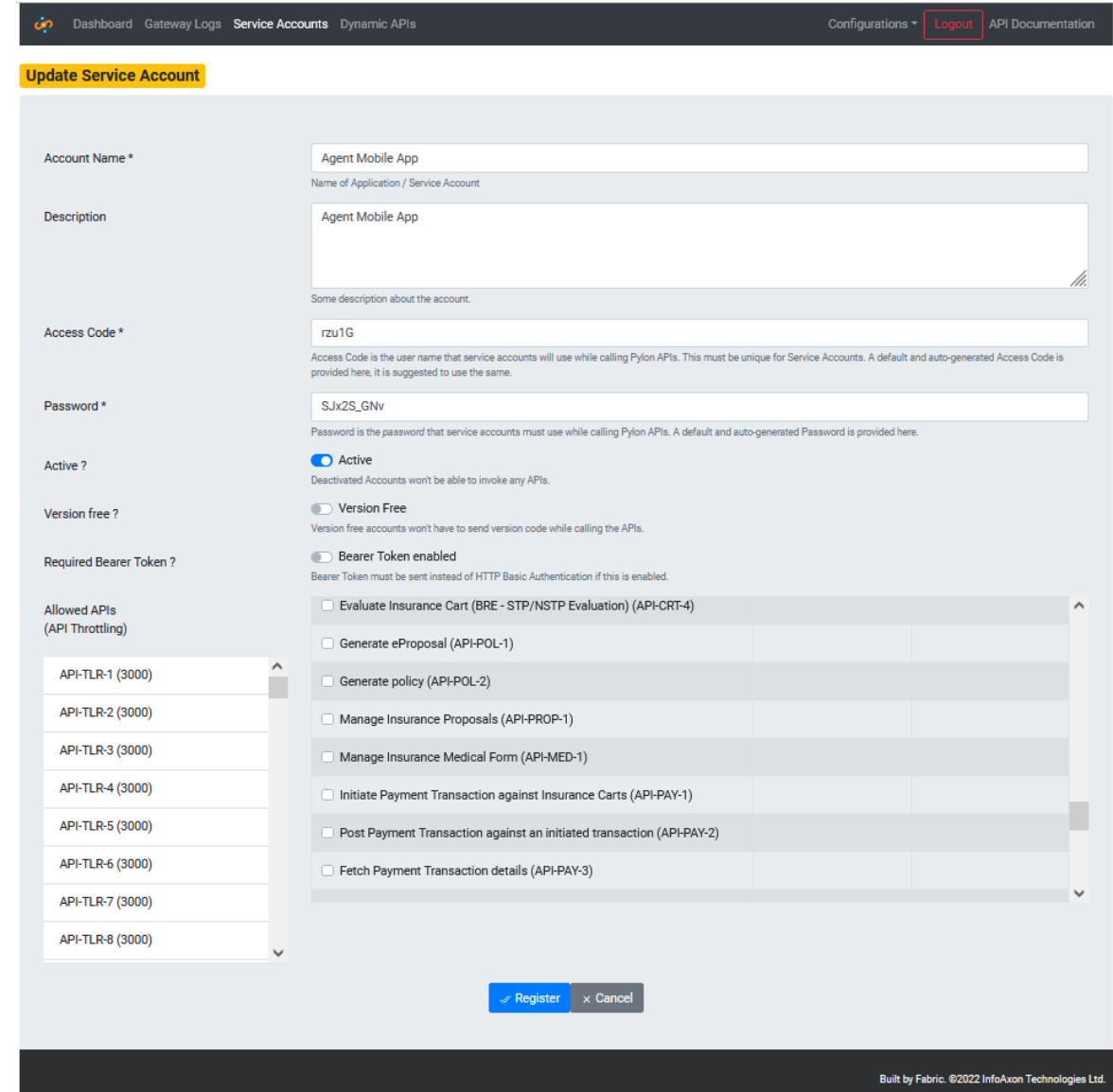
# Service Account Management

Service Accounts are client applications that call Pylon APIs. The Admin Panel enables the administrators to manage these accounts – setting authentication attributes, configuring which APIs are allowed to be called and how many times in a particular time period.



The screenshot shows the 'List of existing Service Accounts' page. It features a table with columns for Name, Description, Access Code, No of allowed APIs, and Active? Each row includes 'Edit' and 'Delete' buttons. A 'Register New' button is located at the top right of the table area.

Name	Description	Access Code	No of allowed APIs	Active?	
Cordys System	Cordys System of Chola MS	VmCRq	2	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
Agent Mobile App	Agent Mobile App	rzU1G	87	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
Rules Client	Service Account for Rules Engine Client Apps	cK8BH	3	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
D2C Web App	Direct to Customer Web Portal	SGK6q	50	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
Chola App	Service Account for Chola Internal App (for Product Withdrawal etc.)	zFBb	8	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
Banca App	Banca App	Sf4mG	78	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
Chola Corporate Portal	Chola Corporate Portal	U1eQy	9	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
Test Account for Attribution APIs	Test Account for Attribution APIs	vxtlg	7	Yes	<a href="#">Edit</a> <a href="#">Delete</a>
Chola App	Partner API Driven Journey	GJGcY	6	Yes	<a href="#">Edit</a> <a href="#">Delete</a>



The screenshot shows the 'Update Service Account' form. It includes fields for Account Name, Description, Access Code, Password, and Active status. There are also checkboxes for Version Free and Bearer Token enabled. A list of Allowed APIs (API Throttling) is shown with checkboxes for each API. The form is titled 'Update Service Account' and has a 'Register' button at the bottom right.

**Update Service Account**

Account Name \* Agent Mobile App  
Name of Application / Service Account

Description Agent Mobile App  
Some description about the account.

Access Code \* rzU1G  
Access Code is the user name that service accounts will use while calling Pylon APIs. This must be unique for Service Accounts. A default and auto-generated Access Code is provided here, it is suggested to use the same.

Password \* SJx2S\_GNv  
Password is the password that service accounts must use while calling Pylon APIs. A default and auto-generated Password is provided here.

Active ?  Active  
Deactivated Accounts won't be able to invoke any APIs.

Version free ?  Version Free  
Version free accounts won't have to send version code while calling the APIs.

Required Bearer Token ?  Bearer Token enabled  
Bearer Token must be sent instead of HTTP Basic Authentication if this is enabled.

Allowed APIs (API Throttling)

- Evaluate Insurance Cart (BRE - STP/INSTP Evaluation) (API-CRT-4)
- Generate eProposal (API-POL-1)
- Generate policy (API-POL-2)
- Manage Insurance Proposals (API-PROP-1)
- Manage Insurance Medical Form (API-MED-1)
- Initiate Payment Transaction against Insurance Carts (API-PAY-1)
- Post Payment Transaction against an initiated transaction (API-PAY-2)
- Fetch Payment Transaction details (API-PAY-3)

API-TLR-1 (3000)

API-TLR-2 (3000)

API-TLR-3 (3000)

API-TLR-4 (3000)

API-TLR-5 (3000)

API-TLR-6 (3000)

API-TLR-7 (3000)

API-TLR-8 (3000)

[Register](#) [Cancel](#)

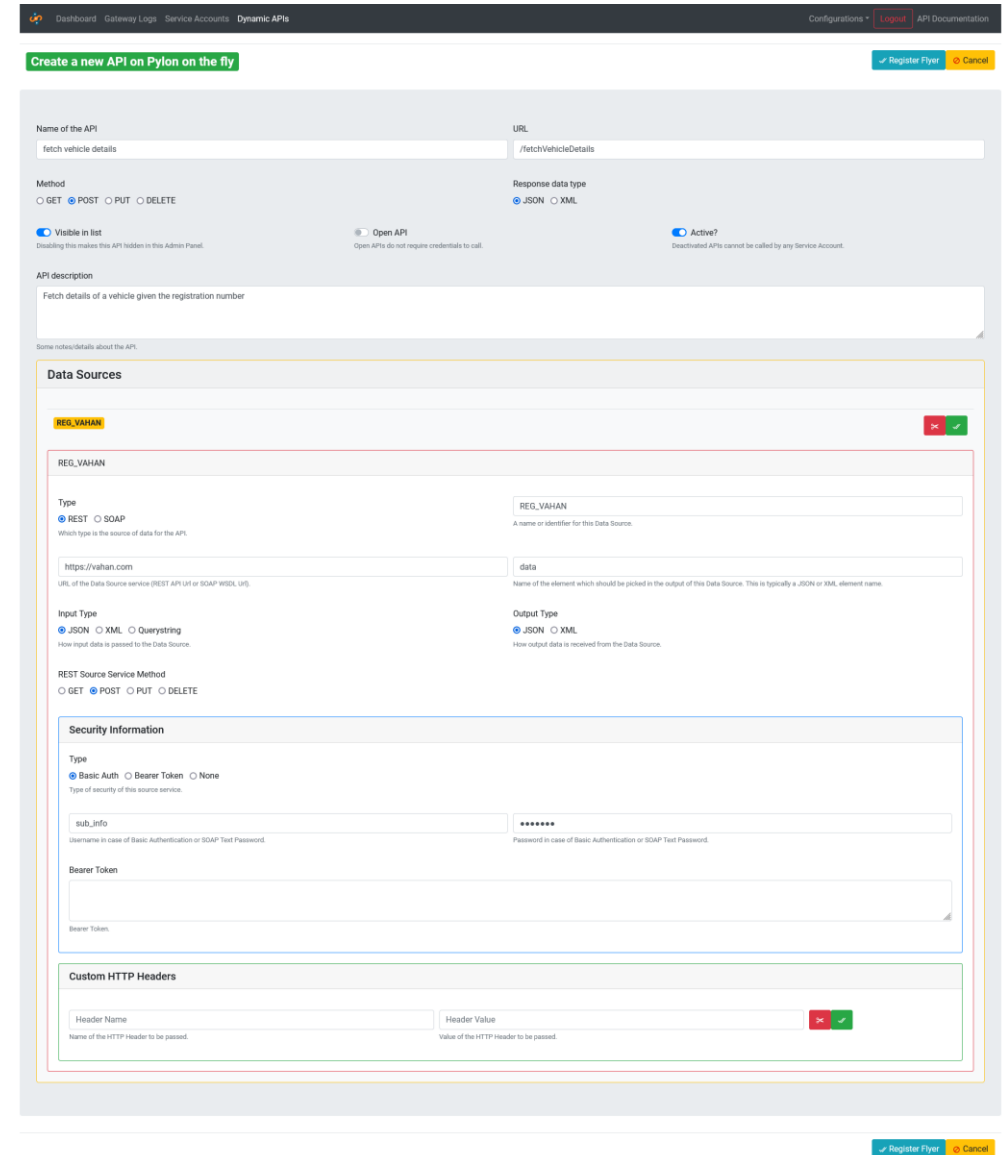
# Dynamic APIs

Not always developers are needed for creating new APIs. Using Pylon Admin Panel, system administrators can register new APIs dynamically on the fly. Multiple data sources can be configured, and Pylon will merge all those retrieved data and will return in a single aggregated payload.



The screenshot shows the 'List of existing Dynamic APIs' page in the Pylon Admin Panel. It features a table with the following columns: 'URI', 'API Name', 'Description', and 'Active?'. There is also an 'Edit' button and a 'Delete' button for each entry.

URI	API Name	Description	Active?
/fetchVehicleDetails	fetch vehicle details	Fetch details of a vehicle given the registration number	Yes



The screenshot shows the 'Create a new API on Pylon on the fly' form in the Pylon Admin Panel. The form is divided into several sections: 'Name of the API', 'URL', 'Method', 'Response data type', 'Visible in list', 'Open API', 'Active?', 'API description', 'Data Sources', 'Security Information', and 'Custom HTTP Headers'. The 'Data Sources' section is highlighted with a red border, showing a single data source named 'REG\_VAHAN' with fields for 'Type', 'Name', 'URL', 'Input Type', 'Output Type', 'REST Source Service Method', 'Security Information', and 'Custom HTTP Headers'.

**Data Sources**

**REG\_VAHAN**

Type:  REST  SOAP

Name: REG\_VAHAN

URL: https://vahan.com

Input Type:  JSON  XML  Querystring

Output Type:  JSON  XML

REST Source Service Method:  GET  POST  PUT  DELETE

**Security Information**

Type:  Basic Auth  Bearer Token  None

Username: sub\_info

Password: \*\*\*\*\*

**Custom HTTP Headers**

Header Name: [ ] Header Value: [ ]

# Built-in Integrations Configuration

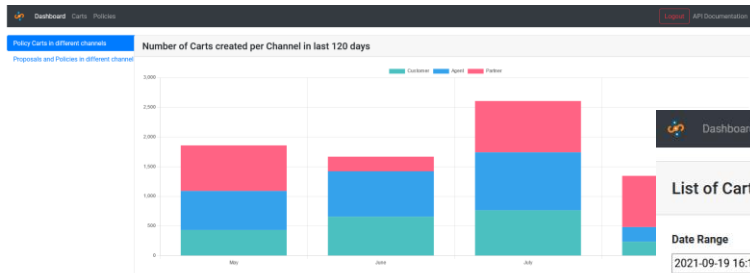
Pylon ships with several integrations already built-in in the system. Using the Admin Panel, these integrations can be configured, and these can be used straight away.

The image displays three screenshots of the Pylon Admin Panel's configuration interface. Each screenshot shows a top navigation bar with links for Dashboard, Gateway Logs, Service Accounts, Dynamic APIs, Configurations, Logout, and API Documentation. The first screenshot shows the 'Fraud Evaluation Services Configuration' page with a 'Hunter' tab and a 'Configure Hunter Bridge' section containing fields for Key File, Certificate File, CA Certificate File, Online Matching Service Url (WSDL), User Name, and Password. The second screenshot shows the 'Aadhaar & KYC Bridge Configuration' page with 'Signzy' and 'Karza' tabs, and a 'Configure Karza Bridge' section with fields for Base Service Url, OCR Service Base Url, KYC OCR Service Url, API Key, OCR API Key, and Validate Aadhaar Service. The third screenshot shows the 'Banks Integrations Configuration' page with a 'Perfios' tab and a 'Configure Perfios Bridge' section with fields for Start Process Service Url, Redirect (Callback) Service Url, RSA Private Key, Organization, and Passphrase. Each configuration section includes a 'Save / Update' button.



# Insurance Middleware

The business middleware subsystem enables the system to manage all the **sell and purchase operations**, **leads and customers**, **journeys and forms**, **proposals and policies**, **payments and failures**, the **STP/NSTP workflows**, and all the other insurance business functionalities.



Dashboard Carts Policies Logout API Documentation

### List of Carts by Channel in a given period

Date Range: 2021-09-19 16:16 to 2023-09-19 16:16

Channel: Select a channel

Show Carts

Dashboard Carts Policies Logout API Documentation

### List of Carts by Channel in a given period

Date Range: 2021-09-19 16:16 to 2023-09-19 16:16

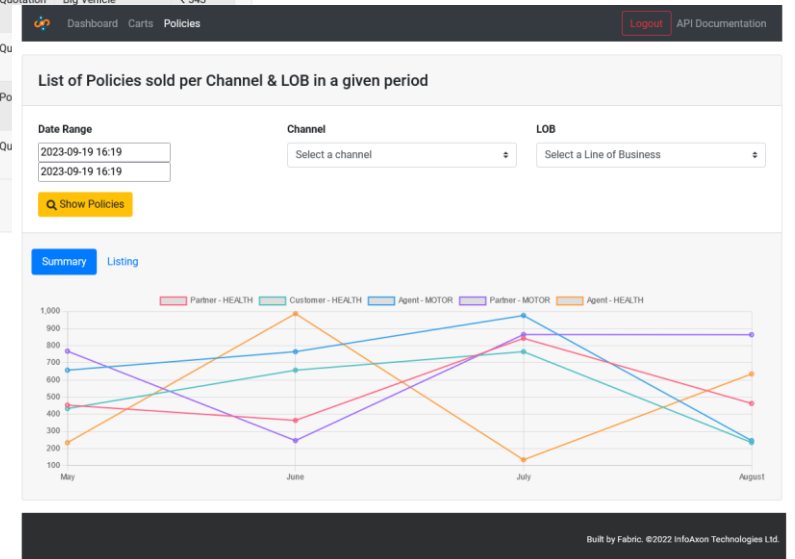
Channel: Select a channel

Show Carts

Summary Listing

LOB	Cart Id	Proposer name	Created	Last updated	Stage	Product(s)	Ticket size
HEALTH	117	Vinod Saxena	2023-07-19 16:16	2023-07-23 16:16	Quotation	Flexi Health	₹ 449
HEALTH	2199	Pooja Sungh	2023-07-19 16:16	2023-07-23 16:16	Initial	Flexi Health	₹
MOTOR	8510	Anshul Mittal	2023-07-19 16:16	2023-07-23 16:16	Quotation	4 Wheeler Private	₹ 8185
HEALTH	29444	David Jones	2023-07-19 16:16	2023-07-23 16:16	Quotation	Flexi Health	₹ 8254
MOTOR	25662	Nisha Srivastava	2023-07-19 16:16	2023-07-23 16:16	Policy	4 Wheeler Commercial	₹ 852
MOTOR	53058	Darpan Bansal	2023-07-19 16:16	2023-07-23 16:16	Initial	2 Wheeler	₹ 7287
MOTOR	16948	Aditya Kaushik	2023-07-19 16:16	2023-07-23 16:16	Quotation	Big Vehicle	₹ 543
TRAVEL	68617	Ankit Tiwari	2023-07-19 16:16	2023-07-23 16:16	Qu		
HEALTH	16120	Prateek Sharma	2023-07-19 16:16	2023-07-23 16:16	Po		
MOTOR	46434	Vishal Jain	2023-07-19 16:16	2023-07-23 16:16	Qu		

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04

# Framework Overview

Pylon Architecture

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# High level logical model

Pylon middleware and the sub-systems are the **supplier of all the functionalities and APIs** exposed from the platform.

The front-end of Pylon is mainly of two types – Admin Panel and Developer Portal. And number of APIs are exposed from Pylon with **JSON payload** via REST APIs using which service accounts integrate with Pylon.

In the back-end, Pylon integrates with **Insurance Company APIs, business PAS systems or any other service/data providers, legacy databases, Government systems** and so on.



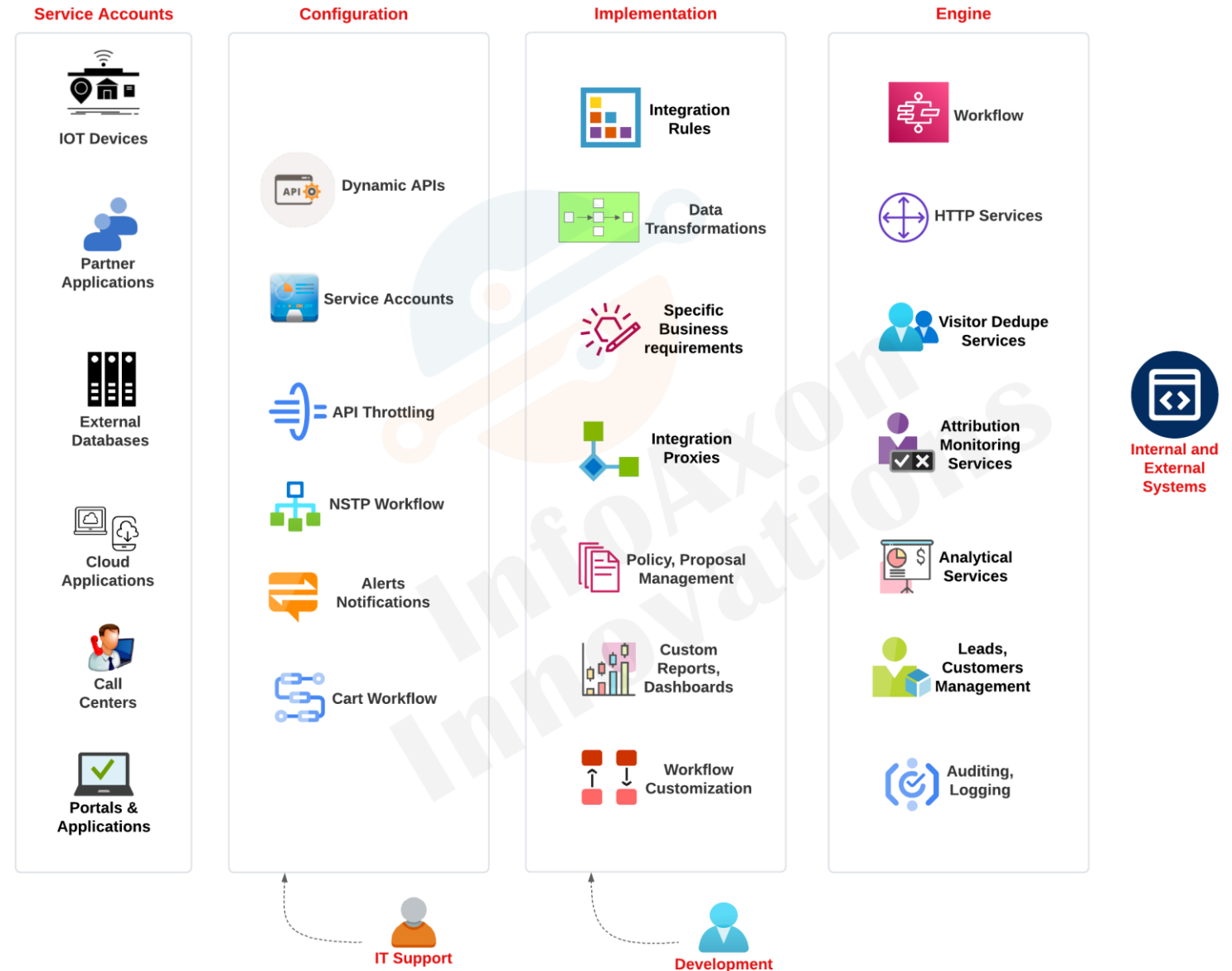
# Application flow

Pylon engines invoke services from several internal & external systems. Along with managing other workflow functions.

Pylon development team is responsible for feature implementation in the framework.

IT support team manages the configurations of Pylon solution using Admin Panel and configurations.

Finally, Service Accounts invoke the services from Pylon system.





# Flexible, Configurable, Scalable, Future Proof



## LOW/NO CODE

Low code fully configurable platform



## COMPREHENSIVE API

Hundreds of fully documented REST APIs ready to be consumed



## INDUSTRY AGNOSTIC

Supports all line of Insurance Businesses



## CLOUD, ON-PREMISE

Deploy anywhere using Kubernetes clusters



## FEATURE RICH

Industry leading features and configurable functionalities



## SECURE

Full security and regulatory compliance ready

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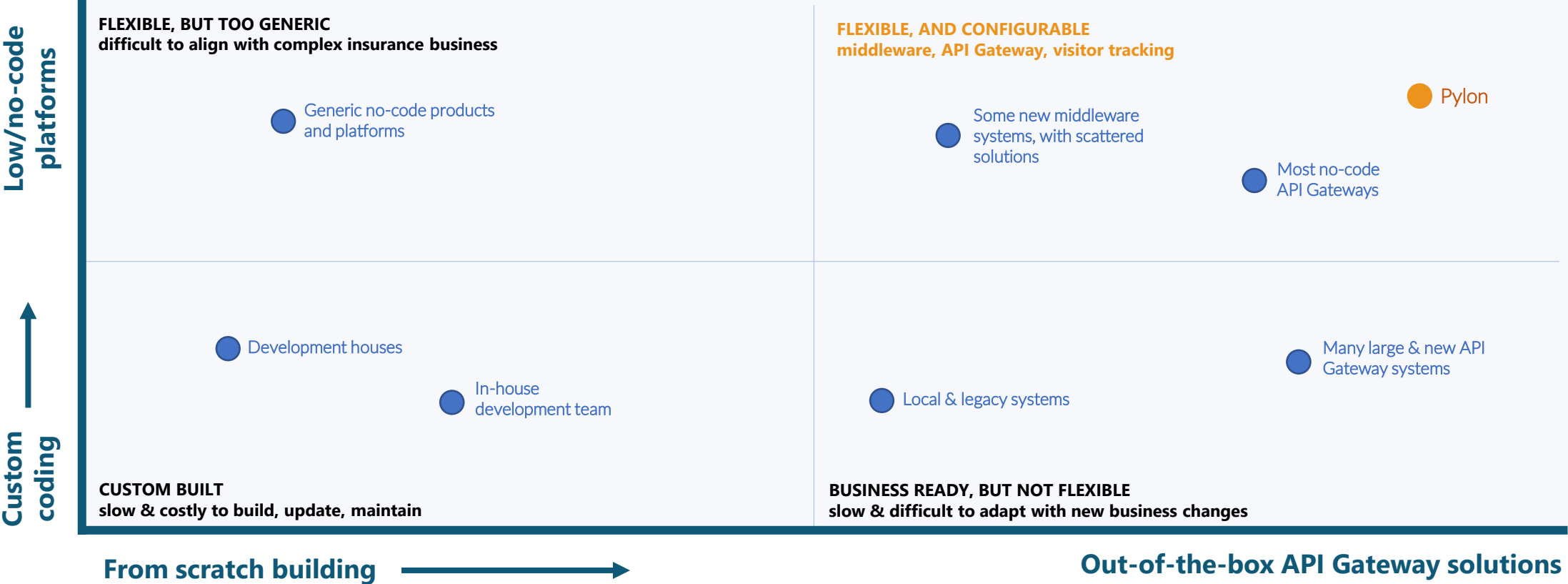
# Product Portfolio

Where We Stand

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# Competitive landscape

Unlike any of the existing products and platforms Pylon brings all the three most important middleware functionalities required for your insurance business in a single package.



# Case studies

Few of our esteemed and satisfied customers.



Chola MS has been using Pylon for managing all the integrations, journey tracking and insurance business middleware for their Health and Motor line businesses. Pylon has been delivering more than thousands of transactions per minute since last three years.



The prime insurance provider across several African countries, Britam, is managing all the external and integrations of the portal and mobile application using Pylon.



Pylon has been the business middleware, drop-off tracker and integration hub of Edelweiss digital channels since last two years.



**for more information**

**[contactus@infoaxon.com](mailto:contactus@infoaxon.com)**