

7 Targets goes Serverless in AWS Cloud to achieve AI-based Email Assistant with scalable and working solution for send and receive emails.



partner network

Client Information

7Targets AI Sales Assistant

7Targets is a SaaS B2B company in the Sales and Marketing domain focused on lead nurturing. It has a flagship product 'AI Sales Assistant' which has the capability to write emails and do follow-ups with the leads. As well, to read the received responses and act accordingly.

Customer challenge

Being an email-based AI Assistant, 7Targets wanted to make sure that a scalable and working solution is created to send and receive the emails. The received email is read, categorized, understood and entities extracted from. So that further action can be taken by the assistant.

Specific project-level challenges were:

- Ability to send email evenly distributed over time to avoid sudden spike
- Ability to read the email received and decide the next action to be taken by the 'AI Sales Assistant' after proper categorization of the received email.
- Extract entities like date, phone number, title, etc from the email received.
- Set up a pipeline for continuous deployment with proper testing in the pipeline.

How the solution was deployed to meet the challenge

Applied AI Consulting worked on a solution

- To create the step functions (state machines process-lead, process-lead-response, etc) with various lambda functions for each step.
- Where the received email is accepted in the s3 bucket using SES.
- Process the received response and categorize based on sentiment and certain properties available in the response like date, etc.
- Handle any bounce and complaint emails responses too

This has helped solve the problem of sending the email and then the follow-up email at the right time too. The right categorization of the received email, based on which lead state was updated and the action ahead was decided by a state machine.

Along with categorization from the email text, there was also a need for entity detection like date, phone number, etc. which was done as part of this implementation. For e.g., if an email was received and categorized to be 'Out of Office' then the return date was identified from the email so that the assistant can follow-up after the leads return to the office instead of following up in the Out of office period.



7targets AI Assistants:

- *AI Sales assistants that help sales teams win more customers*
- *AI assistant automatically follows up with all your leads to convert more leads into Hot leads so that you can focus on closing more deals*

Location:

*Creaticity, Off
Airport Rd,
Yerawada, Pune,
Maharashtra*

Third-party applications or solutions used

- Debounce and Zerobounce API is used to validate the emails of each lead. This is the first step in the process-lead step function
- 3rd party CRM like Hubspot, ZohoCRM is used and the 7Targets AI Assistant solution interacts with those solution

AWS services used as part of the solution

AWS Stepfunctions, AWS Lambda, AWS RDS, AWS Comprehend, AWS S3, AWS SES, AWS ECR, AWS Fargate, AWS SNS, AWS SQS, AWS API Gateway, AWS Cloudwatch, AWS ELB, AWS Cognito, AWS WAF, AWS CloudFormation, AWS DMS, AWS Route53

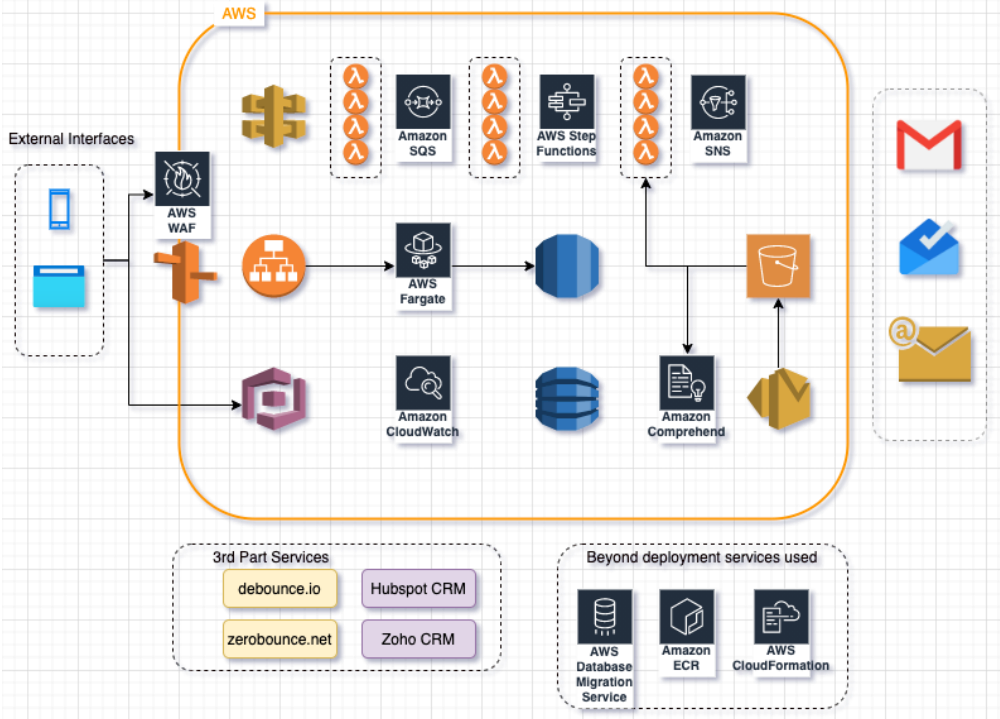
Go Live Date

May 2020

Outcome(s)/results

Able to grow per day email sending from 1K to like 10K and per day and can still grow more with the present solution.
Able to process the response at a similar level but the responses are not as high as email sending.
Will proper limits and thresholds be set and with continuous monitoring of failure for lambda and step functions the limits and thresholds are changed.
The container in Fargate is auto configured to scale up and down.
The Continuous deployment pipelines are helping with automated zero downtime deployments to QA and then production setup

Architecture diagrams of the specific customer deployment



Pipeline for deployment

Pipeline Needs Jobs 28 Tests 212

Quality	Test	Deploy-prod
<input checked="" type="checkbox"/> linter	<input checked="" type="checkbox"/> unit-test	<input checked="" type="checkbox"/> deploy-assist...
		<input checked="" type="checkbox"/> deploy-assist...
		<input checked="" type="checkbox"/> deploy-broad...
		<input checked="" type="checkbox"/> deploy-broad...
		<input checked="" type="checkbox"/> deploy-bulk_...
		<input checked="" type="checkbox"/> deploy-bulk_...
		<input checked="" type="checkbox"/> deploy-cogni...
		<input checked="" type="checkbox"/> deploy-cogni...
		<input checked="" type="checkbox"/> deploy-hubs...
		<input checked="" type="checkbox"/> deploy-hubs...
		<input checked="" type="checkbox"/> deploy-micro...
		<input checked="" type="checkbox"/> deploy-micro...
		<input checked="" type="checkbox"/> deploy-piped...
		<input checked="" type="checkbox"/> deploy-piped...
		<input checked="" type="checkbox"/> deploy-proce...
		<input checked="" type="checkbox"/> deploy-proce...
		<input checked="" type="checkbox"/> deploy-remin...
		<input checked="" type="checkbox"/> deploy-remin...
		<input checked="" type="checkbox"/> deploy-send...
		<input checked="" type="checkbox"/> deploy-send...
		<input checked="" type="checkbox"/> deploy-user_...
		<input checked="" type="checkbox"/> deploy-user_...
		<input checked="" type="checkbox"/> deploy-zoho_...
		<input checked="" type="checkbox"/> deploy-zoho_...

