

Ahasa - "Sky is the limit"

Powered by Wavenet



About Wavenet



About us: Taking the Journey

- Incorporated in 2000 in Australia
- 20 years global telco software engineering and consultative experience
- Pioneer in core Network communications technology for Mobile Network operators

Our Reach: Local Expertise Global Experience



Customers across 4 continents
23 Countries

Our People 20 Years developing talent



Offices in Singapore,
Australia, Sri Lanka, Kenya
and Colombia
180+ Employees

Our Customers: Fulfil the human need for communication



Trusted to deliver
critical infrastructure to
multinationals

The Journey...

VAS Applications

- SMS Services (Cricket, News)
- Voice services (Funkey, Voice portal)
- Video Services (Video Games)

VAS Platforms

- STP
- MMSC
- Voicemail
- SMSC
- USSD
- MCA

IT Transformation

- Compose – Business Process Orchestration
- WN SCM – digital and legacy, service, subscription, consent management
- Big Data Engineering

Cloud Native

- Containerisation
- Cloud orchestration



Our Technology Stack



Mobile Technology

GSM and IMS



Supporting Protocols

Sigtran/SMPP/SIP/Diameter/Camel/O
Auth 2.0/ SAML / HL7 / IoT



User Interfaces

Web/Mobile App/ PWA



Databases

Mnesia/ MySQL/MariaDB/Oracle, Cassandra,
Postgres



Containerization

Docker/ Kubernetes/Helm/
Prometheus/GKE/EKS/Rancher/Tanzu



Artificial Intelligence

Chatbot/ NLP/ Intent matching/ Voice recognition/Text to
Speech & Speech to Text/NBO & NBA/ML/Churn detection



Micro service architecture

Service mesh/Message brokers/API
gateway/Service Discovery/API Discovery



Programming Languages

Erlang/Java/Angular/Yaws/PHP/ NodeJS



CICD

Aha/ Jira/ Jenkins/ Bitbucket/ Sonarqube/
Selenium/eUnit/Junit/ Nexus/Maven/Docker



IT Infrastructure

Openstack/OSM & ONAP/VMware



Big data

Spark/Hadoop/ Cassandra/ Mongo
/ Kafka/ Flume/Flink



Cloud Technologies

AWS/GCP/Azure

Global Industry Award: 2020 Catalyst Awards

Joint Winner: Outstanding Catalyst – Innovation

Awarded by The TM Forum

Wavenet was a part of one of 7 winning projects out of 32 Catalyst projects in 2020.

We provided the channel orchestration technology for the 'Business Operating System (BOS) – an implementation of ODA Core Commerce Management ' project which included champion CSPs and partners below:

Champions



Participants

The 'tmforum' logo, with 'tm' in grey and 'forum' in red.

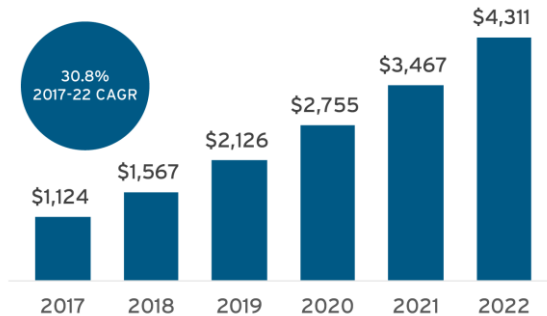
Table of Content

- Industry facts on containerization
- What is Ahasa?
- Solution overview
- Core capabilities
- Business Use Cases
- Feature Overview - Design Studio
- Feature Overview – Catalog
- Feature Overview – Multi Tenant Support & Automatic DNS
- Feature Overview – Integration configuration
- Feature Overview - Shared tools and services
- Feature Overview - Security and authentication
- Feature Overview - K8S Management layer
- Feature Overview – CI/CD
- What's next - Roadmap

Industry Facts on Containerization

Containerized application adoption is on the rise...

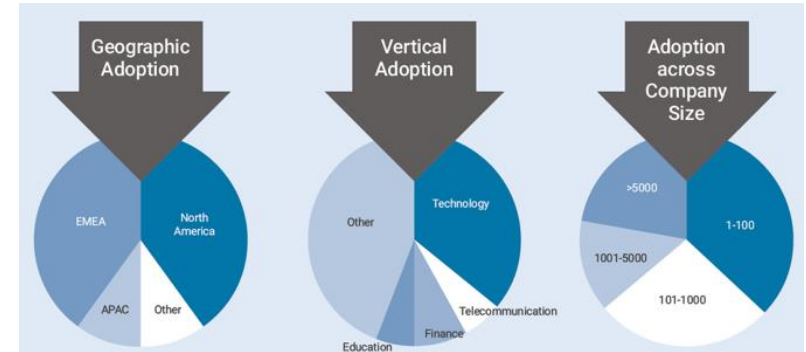
Application Containers: Total Market Revenue (\$M)



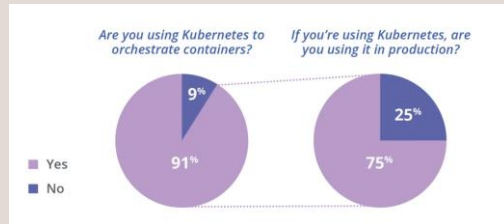
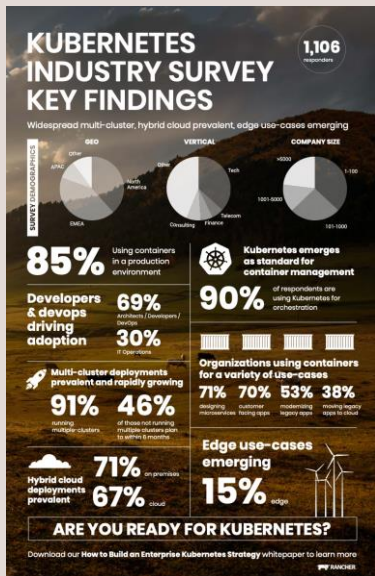
184
vendors included
in analysis with
individual estimates
and forecasts



Source: 451 Research's Market Monitor: Cloud-Enabling Technologies - Application Containers, November 2018

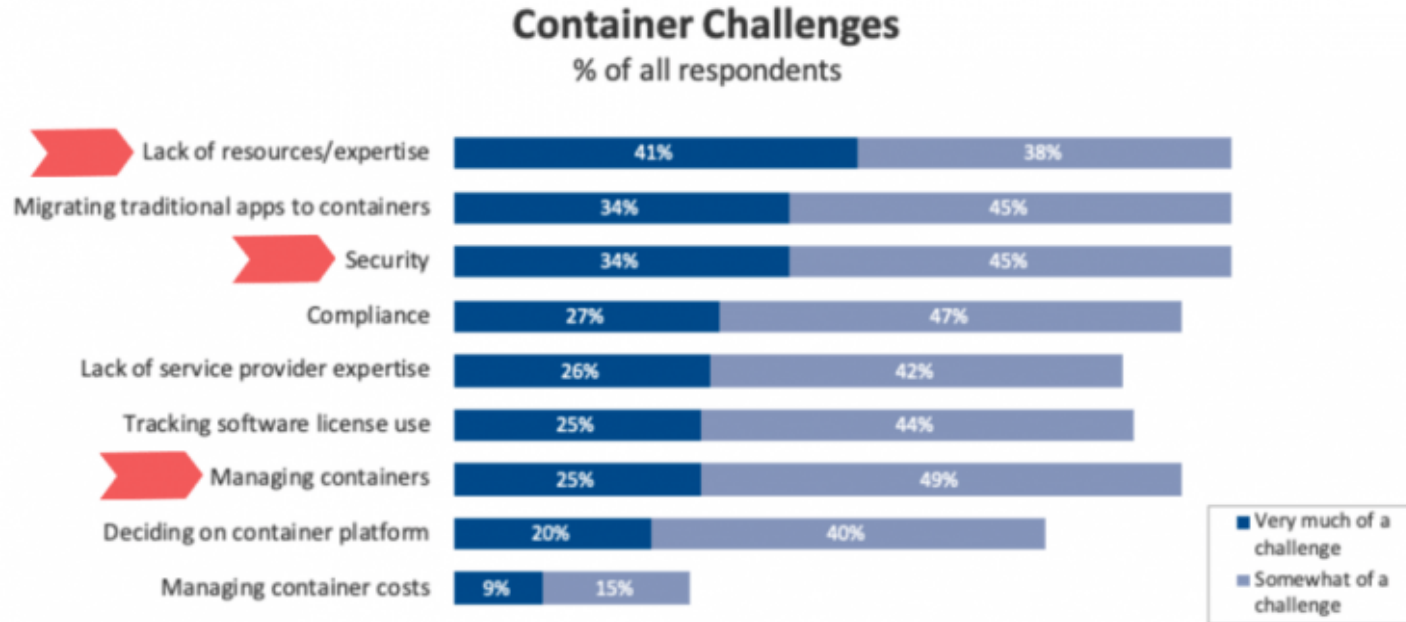


And Kubernetes is a clear leader...



- According to 451 Research, 76 percent of enterprises will standardize on Kubernetes within the next three years

What are some of the challenges with adoption?



Benefits of Kubernetes

- Control and automate deployments and updates
- Save money by optimizing infrastructural resources thanks to the more efficient use of hardware
- Orchestrate containers on multiple hosts
- Solve many common problems deriving by the proliferation of containers by organizing them in “pods” (see the last post!)
- Scale resources and applications in real time
- Test and autocorrection of applications

Features of Kubernetes

- **Automates various manual processes:** for instance, Kubernetes will control for you which server will host the container, how it will be launched etc.
- **Interacts with several groups of containers:** Kubernetes is able to manage more cluster at the same time
- **Provides additional services:** as well as the management of containers, Kubernetes offers security, networking and storage services
- **Self-monitoring:** Kubernetes checks constantly the health of nodes and containers
- **Horizontal scaling:** Kubernetes allows you scaling resources not only vertically but also horizontally, easily and quickly
- **Storage orchestration:** Kubernetes mounts and add storage system of your choice to run apps
- **Automates rollouts and rollbacks:** if after a change to your application something goes wrong, Kubernetes will rollback for you
- **Container balancing:** Kubernetes always knows where to place containers, by calculating the “best location” for them
- **Run everywhere:** Kubernetes is an open source tool and gives you the freedom to take advantage of on-premises, hybrid, or public cloud infrastructure, letting you move workloads to anywhere you want

Benefits of Microservice

1. Improved Scalability
2. Better Fault Isolation for More Resilient Applications
3. Programming Language and Technology Agnostic
4. Better Data Security and Compliance
5. Faster Time to Market and “Future-Proofing”

Power-up Your Cloud Operations

Design, Integrate & Operate Containerized Applications



What is Ahasa?



Ahasa is a cloud service that enables you to design, integrate and orchestrate containerized applications



It comprises of a powerful design studio which allows DevOps teams to integrate applications in a low code/no code Environment



It's built to support any K8S Engine to provide operational capability of deploying multiple Kubernetes clusters across any infrastructure



It Provides DevSecOps teams with integrated tools for monitoring and running containerized workloads

Ahasa Value System

1 Purpose of Existence

We want to create a **Peace of Mind** for businesses by taking care of the software they release.

2 Vision

We envision a World where people have a complete peace of mind and focus on building Great Products that would move the World Forward while Ahasa takes care of launching and managing them.

3 Should be known for

Worlds Easiest Container Deployment Tool (Known for Ease)

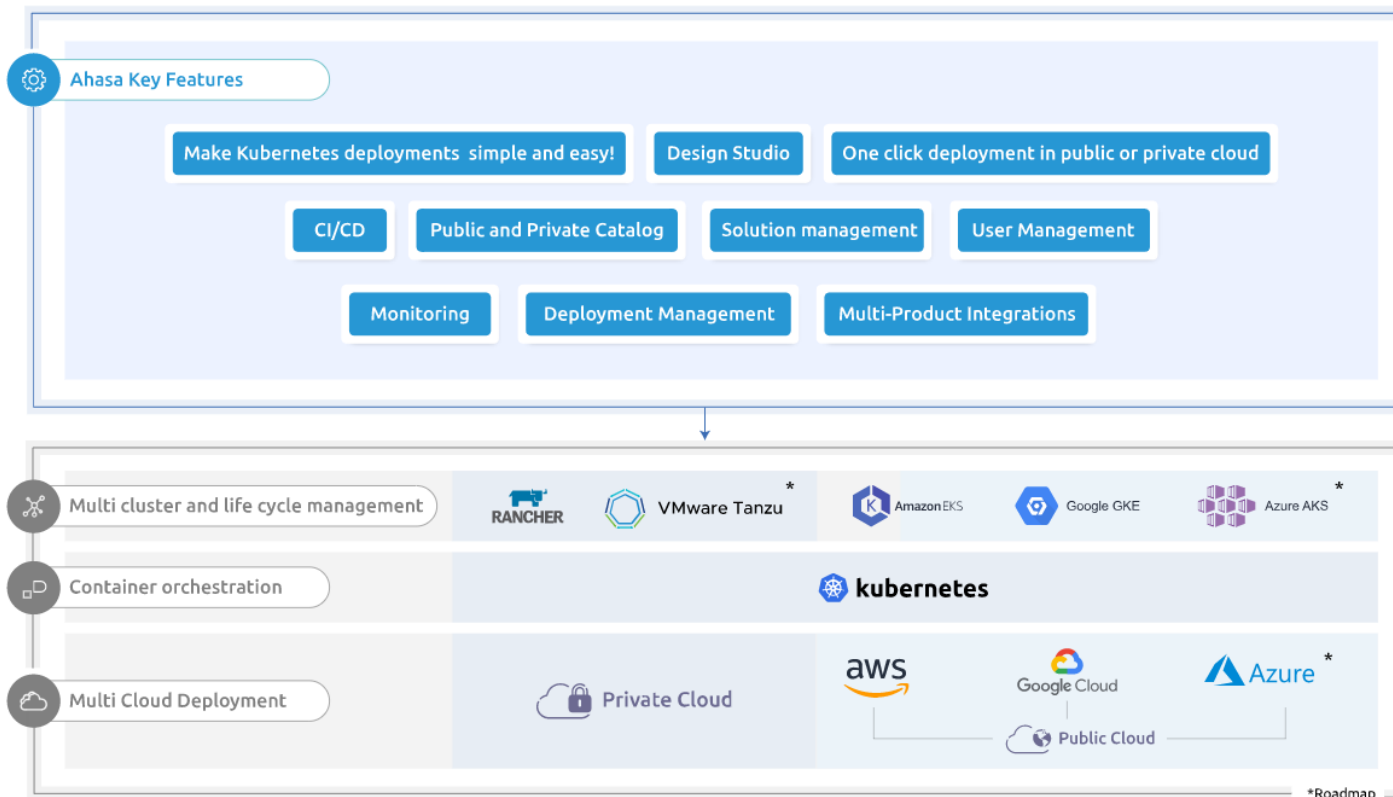
4 Mission

Building tools that DevOps Love

5 Core Values (DevOps Vertical)

Trust | Excellence | Family | Accountability | Green

Solution Overview





Core Capabilities



Discover

Pick & Choose the product required



Design

Drag & Drop products to a low code / no code canvas



Integrate

Connect multiple compatible products using pre-integrations



Deploy

One click deployment



Manage

Monitor & Maintain deployed solutions

Commercial Drivers

1. Technology Agnostic K8S Management Layer
 - More flexibility to customers by providing them to pick between Public or On-Prem. Ahasa does not limit the user only to a specific category.
2. Expand public product catalog with more opensource products
 - Use of a variety of products to cater solution orchestration that can be used by individual developers or SME's.
3. Enhanced & improved continuous integration and delivery layer
 - Ability to onboard & maintain multiple versions of products and support product upgrades on solutions.
4. GUI based low code / no code product onboarding & integration
 - Onboard any Kubernetes based product.
 - Add pre-integrations so the customer can perform solution level interactions seamlessly through a GUI based canvas.
5. Private catalog to support individual client profiles for solution orchestration
 - Maintain their own private catalog or product portal.
 - Re-use existing solutions and deploy without having to spend time or money on designing solutions again.

Use Case 1



Title – Private Catalog



Description – Ability for the user to onboard and maintain their own set of products.



Actor - Businesses using their own products or other vendor products.



Value Proposition - Pre-integrations which will allow the user to design solutions and deploy clusters.

Use Case 2



Title – Public Catalog



Description – Products onboarded by Ahasa which will be available publicly with pre-integrations.



Actor – Individual developers, SME's or enterprise businesses expecting to design tech solutions to solve business issues using publicly available products in both opensource and other commerical vendor products.



Value Proposition - A variety of products that would cater multiple industries to design and deploy solutions.

Use Case 3



Title – Centralized Monitoring



Description – Global organizations with OpCo's located in multiple locations require to manage & monitor clusters



Actor – COO, Key operational stakeholders in large organizations with multiple OpCo's



Value Proposition – Capability to monitor and manage deployed clusters in multiple geographical regions related to different OpCo's using a centralized account.

Use Case 4



Title – Sharing & Re-using of Common Product Assets & Solution architectures



Description – With the capability of Private Catalog, A group level stakeholder can re-use the same set of product assets across different OpCo's and the same can be applied for already designed solution architectures.



Actor – Group COO, CTO, Group solution teams.



Value Proposition – All OpCo's can be in unison to use the same product assets across the entire group. This will save so much time & money spent on multiple vendors.

Use Case 5



Title – Technology Agnostic



Description – Support both public & private cloud (on-premises). Public – AWS, GCP & On-Premises – Rancher, VMWare (Roadmap)



Actor – SME's or independent users using public cloud or Enterprise grade telcos using private cloud.



Value Proposition – Pick your poison. Ahasa is not restricted to a specific technology. Instead Ahasa becomes a value addition to all cloud service providers.

Use Case 6



Title – Monetize Infrastructure



Description – Ability for Data Centers to use Ahasa to monetize the infrastructure. Data Centers can use Ahasa as tool to create multi tenant accounts to deploy the customer solutions.



Actor – Data Centers



Value Proposition – Ability to monetize On-Premise infrastructure to third-parties.

Wizard based Product Onboarding



The 'Configure Endpoint' dialog box shows a form for configuring a new endpoint. The 'Name' field is filled with 'TestEndpoint'. Below it, there are tabs for 'Endpoint', 'Method', 'Headers', and 'Authorization'. The 'Endpoint' tab is active, and the 'Endpoint' field is filled with 'Endpoint'. A green 'ADD' button is at the bottom right. Below the form, there is a table with columns 'Name', 'Endpoint', 'Method', and 'Action'. The table is currently empty. A 'CANCEL' button is at the bottom right of the dialog.

The 'Product Version' dialog box shows a form for adding container 1 - Environment Variables. The 'Key' field is filled with 'key' and the 'Value' field is filled with 'Value'. A 'Read Only' checkbox is checked. A green 'NEXT' button is at the bottom right. Below the form, there is a table with columns 'Name', 'Endpoint', 'Method', and 'Action'. The table is currently empty. A 'CANCEL' button is at the bottom right of the dialog.



Product Logo



General Information



Product Information

☐ Onboard product using helm chart repository

Product Type ⓘ

- Select -

Product Name *

Product Name

Description *

Description

Document Link *

Document Link

Category *

Category

Tags

Please enter a tag

Vendor *

Vendor

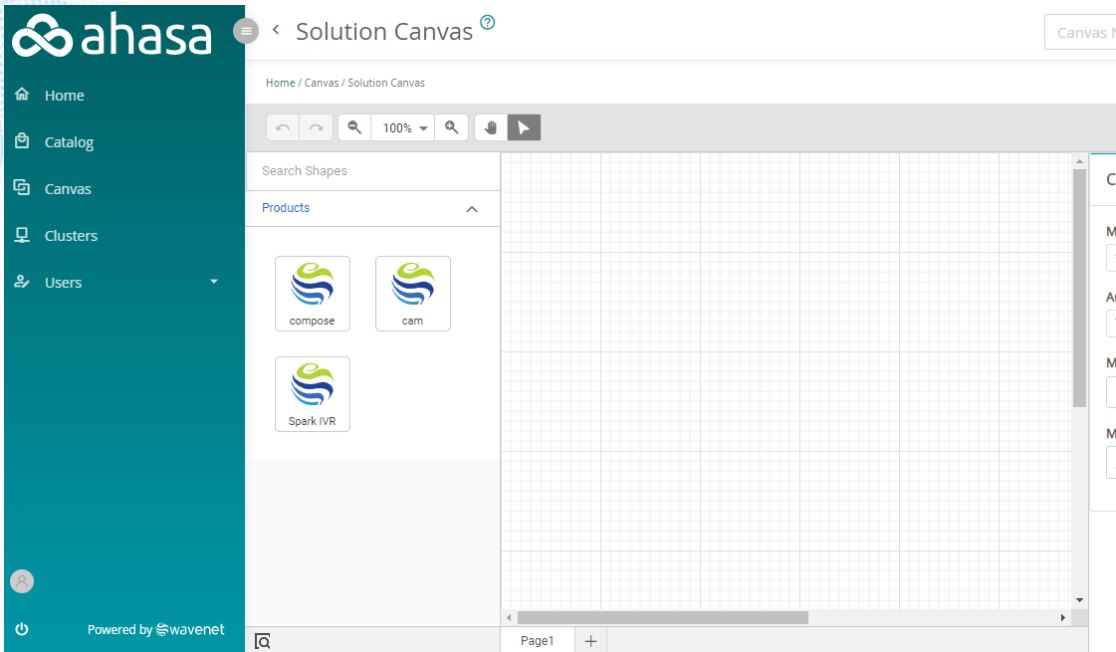
Vendor profile link *

Vendor profile link

Support link

Support link

NEXT



Design **Y**our solution...
our way...

Design Solution Canvas



The Ahasa Canvas is an easy to use GUI with intuitive drag and drop capability.

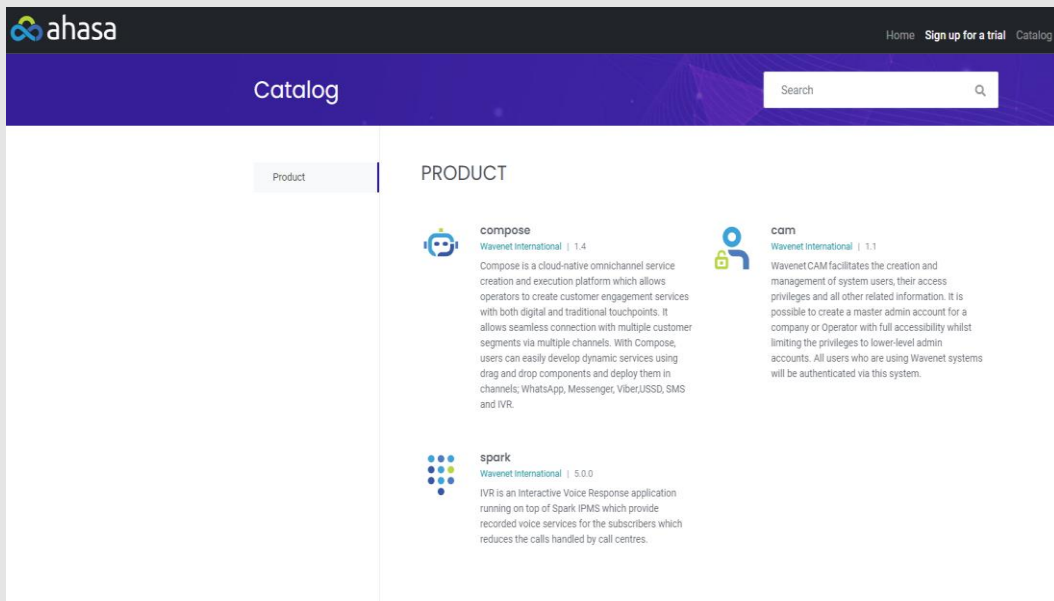


Drag and drop the application of choice and configure granular cluster parameters.



Visualize the architecture and design the solution of your choice with multiple applications.

Private and Public Catalogue



Explore & Discover what you need require to solve a business requirement

Access the product catalog to find out products listed on Ahasa

Explore the capabilities of the products that would allow to pick and choose

Integration made simple!

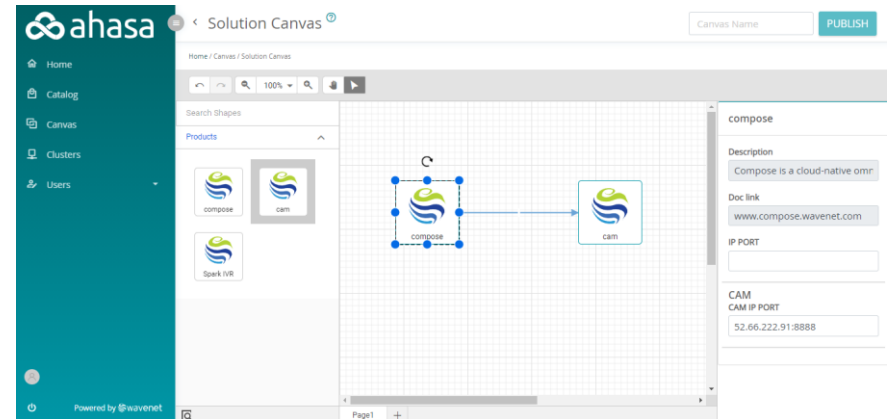
Ahasa offers a no code approach to integration

Simply connect the applications on the canvas to see the available integrations.

Use the GUI to configure the integration parameters and you are ready to run.

The 'Configure Endpoint' dialog is titled 'Configure Endpoint' and contains the following elements:

- INTEGRATION COMPOSE/CAM**: A header with a small icon showing a robot and a person.
- From Environment Variable**: A dropdown menu.
- To Type**: A dropdown menu.
- ADD**: A green button with a plus icon.
- Items per page**: A dropdown menu set to 5.
- 0 of 0**: A status indicator.
- From Env Variable**, **To End Point / Env Variable**, **Value**, **Action**: A table with columns for configuration.
- CANCEL**: A button at the bottom right.



Deployment & Cluster Management

Configure public cloud clusters to cater the requirement.

Deploy clusters on preferred infrastructure, Public or On-Prem.

Manage existing clusters.

Template Configurations

Select Customer

Customer Name *


Customer

Template Configurations

Template Name *

Template Name

Provider *

aws 

Configurations

Location Type *

- Select -

Specify a location for your cluster. This can be done by considering whether the cluster is regional or zonal.

Machine Series *

Machine Series

Machine series is a group of machine types.

Create Cluster

Cluster Name *

Name

Canvas Name *

Canvas Name

Environment Type *

- Select -

Cloud Type *

- Select -

Customer

Name

Description

Description

Select Deployment Type *

- Select -

DEPLOY

Cluster Management

CREATE

Home / Cluster Management

Available Clusters

Grid **Card**

Select Customers

- Select -

demoapp4



1 Master 1 Work

CPU	9%	0.5 / 8 Cores
Memory	24%	2.8 / 12 GB
Disk Space	2%	12.6 / 584 GB

demoapp2



1 Master 0 Work

CPU	0%	0 / 8 Cores
Memory	0%	0 / 12 GB
Disk Space	0%	0 / 584 GB

Multi Tenant Support

Individual tenant management to use along side with tools such as Rancher and AWS for data centers.

This creates the option for data centers to resell to tenants with the capability to manage, billing and individual tenant management.

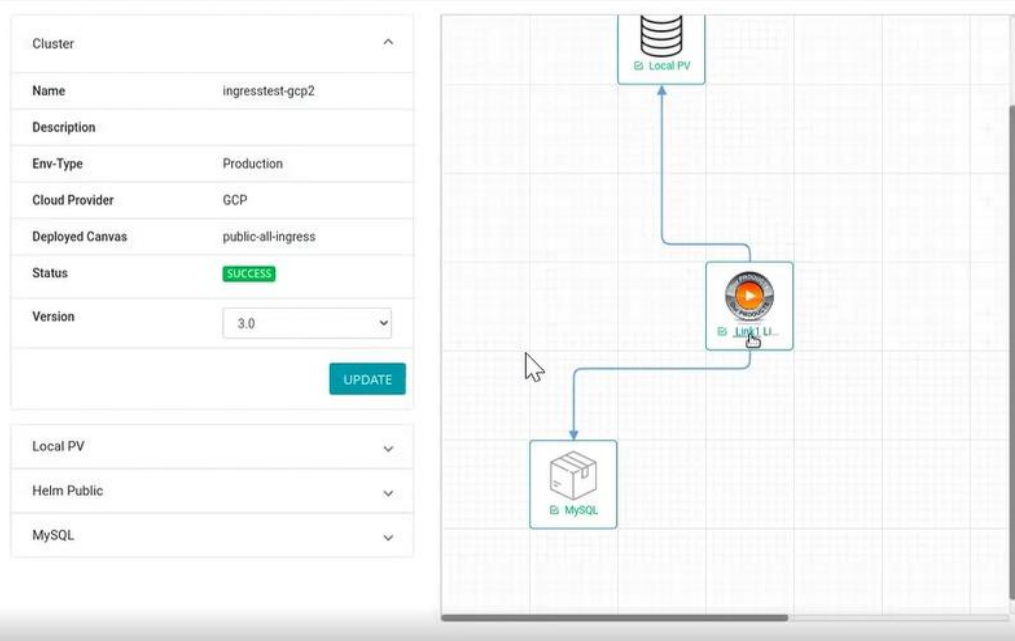


Automatic DNS Configuration

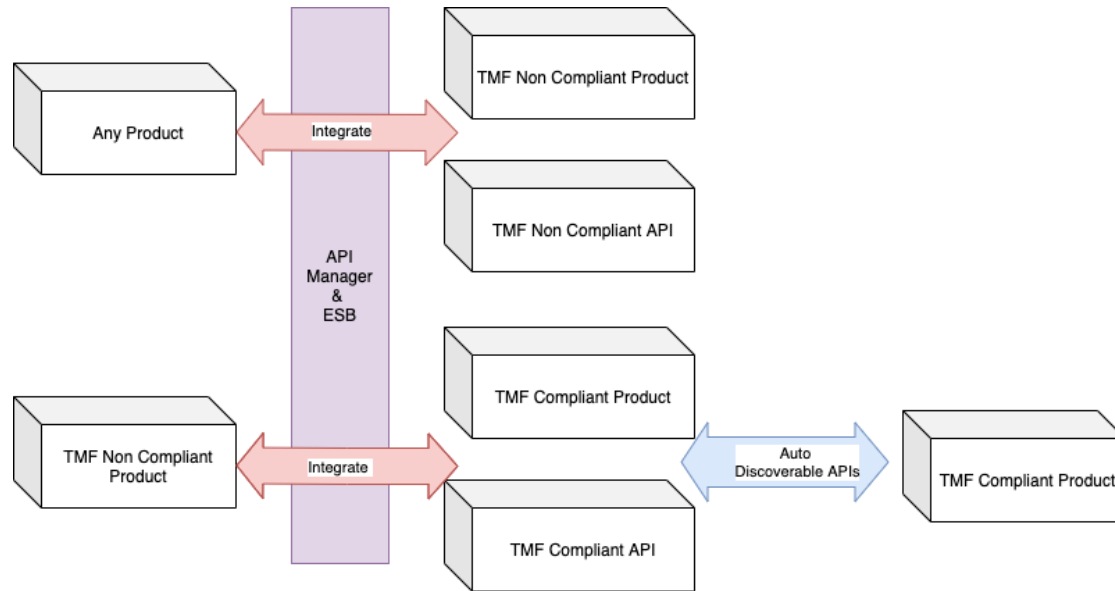
After successfully deploying your Cluster to any of the providers by Ahasa, you can directly access the deployed URL without manual configurations.

Ahasa will be automatically configuring the DNS with the selected deployment provider.

Cluster View



Integrated Solution Design



- TMF compliant components will be integrated automatically.
- Ahasa DevOps develops Integration for TMF non-compliant components.
- Built in Enterprise integrator is used for the integrations.
- Design canvas allows to pick and use the available integrations between the components.
- Endpoints will be set as Environment variable at the Runtime

Shared Tools & Services



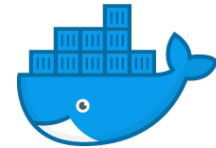
For Monitoring Purposes



Alerting



K8S Package Management



docker

Kubernetes Distribution



Jenkins

Deployment Automation



Support



Business Process Automation

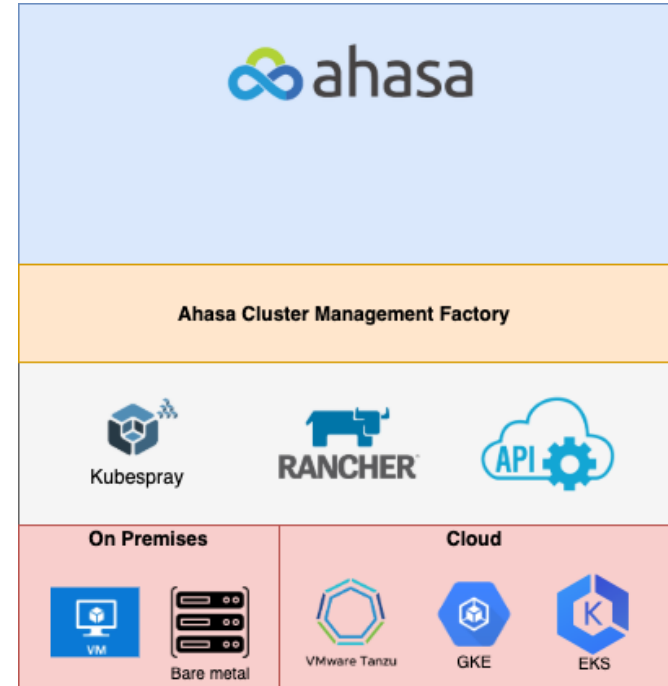
Security & Authentication



Authentication & Authorization

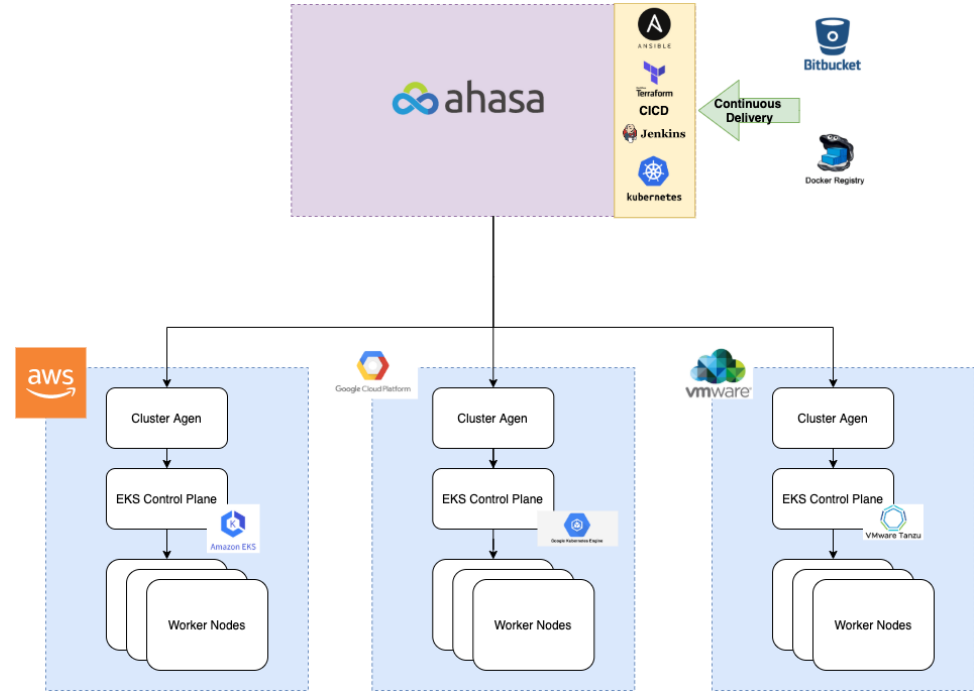
Managed Kubernetes Clusters

- Ahasa has the capability of managing Kubernetes clusters in on prem and cloud.
- Cluster Management Factory has on prem provider using Kubespray and cloud provider using cloud APIs
- Rancher Kubernetes Engine (RKE) will be available to manage the On-Prem clusters.

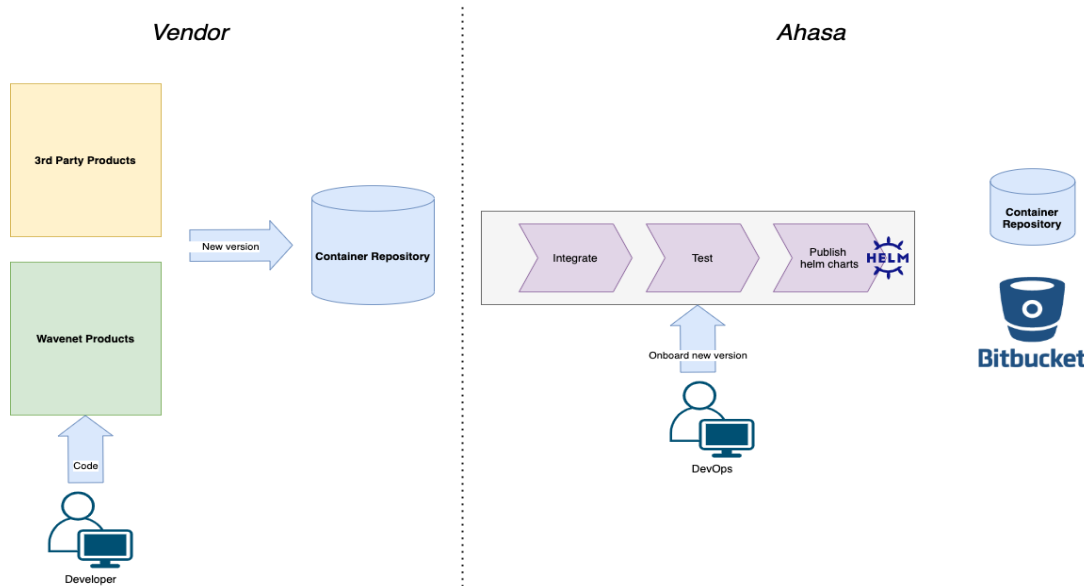


Empower DevOps with the Power of CI/CD

- Ahasa simplifies operations with true CI/CD integration for applications.
- Be notified of application updates in real time
- Update application clusters with a click of a button



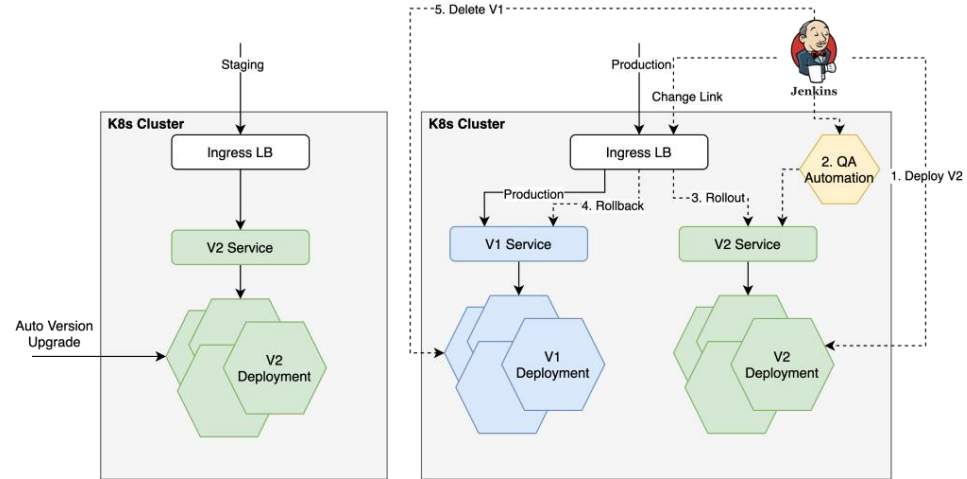
Continuous Integration



- Vendors publishes their containers versions using their CI pipeline.
- Ahasa DevOps works on Integration, Testing on the new version to verify.
- Ahasa DevOps publishes as helm charts.
- Accessing vendor's private helm chart repositories is in roadmap

Continuous Delivery

- Clusters will receive the notification of new updates.
- To avoid down time, Blue green deployment strategy is used in production cluster updates.



What's Next - Roadmap

1. Technology Agnostic K8S Management Layer
2. Expand public product catalog with more opensource products
3. Enhance & improve the continuous integration and delivery layer
4. Cluster configuration to cater the exact user cluster requirement
5. GUI based low code / no code product onboarding & integration
6. Private catalog to support individual client profiles for solution orchestration
7. Billing and subscription automation

Questions





www.globalwavenet.com



info@globalwavenet.com



[company/globalwavenet](https://www.linkedin.com/company/globalwavenet)



[GlobalWavenet](https://www.facebook.com/GlobalWavenet)



[GlobalWavenet](https://www.twitter.com/GlobalWavenet)

THANK YOU