



# Next Generation Viya

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# SAS Platform & Cloud

## Portfolio Themes

1

**Cloud-Native** – Loosely-coupled, independent, interchangeable, scalable. All with support for continuous delivery.

2

**Open** – Standards-based integration for authentication, other services. REST APIs for interoperability. New MVA for multi-cloud.

3

**Automation** – Deployments of the SAS Platform can fit into GitOps/DevOps processes. SAS compute uses AI/ML to optimize infrastructure resource usage.

# Why Viya 4

- Containerization of all Viya 4 components
- Cloud Native and API-First Design

# Why Viya 4

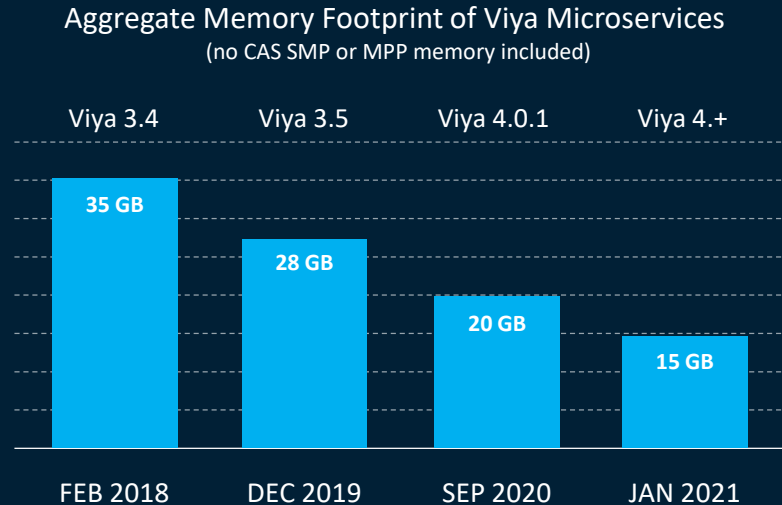
- Containerization of all Viya 4 components
- Cloud Native and API-First Design
- Customer Portal for Self Service

The screenshot displays the SAS My SAS customer portal. The top navigation bar includes the SAS logo, a user profile for 'Bryan', and icons for search, help, and settings. Below the navigation bar, there are tabs for 'My Account Overview', 'My Services', 'My Viya 4.0 Orders', and 'My Cloud'. The main content area shows a table of orders with columns for Tech Support Site Number, Customer Site Name, Order Number, Order Date, Update Ready, and User Access. A search bar is located to the right of the table. Below the table, there are two panels: 'Bryan H' with details for 'SAS Viya on Linux for x64' and 'SAS Visual Analytics (on SAS Viya)', and 'Order Assets' for 'Stable 2020.0.1 R/P' with buttons for 'View Documentation', 'Download Deployment Assets', 'Download Certificates', and 'Download License'. A dropdown menu for 'Select a different version:' is also visible.

Tech Support Site Number	Customer Site Name	Order Number	Order Date	Update Ready	User Access
70180938	Bryan H	09RN7J	May 19, 2020		

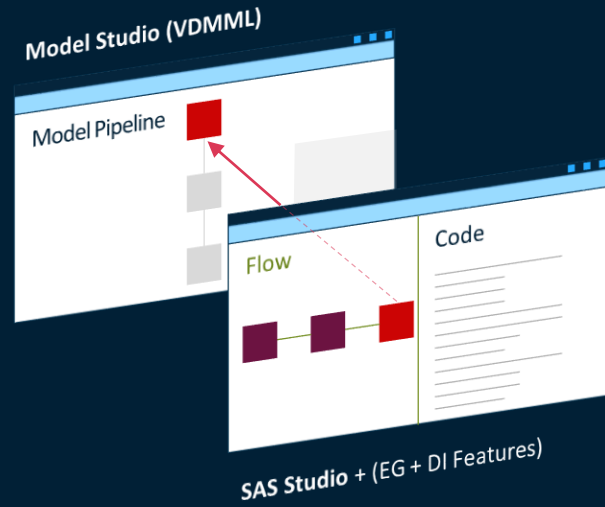
# Why Viya 4

- Containerization of all Viya 4 components
- Cloud Native and API-First Design
- Customer Portal for Self Service
- Footprint and startup time reduction of microservices



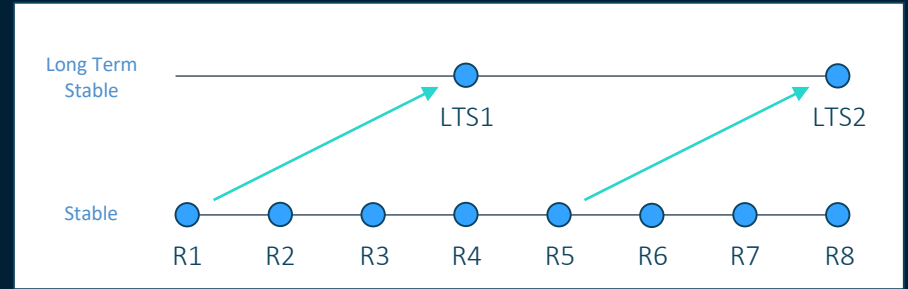
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- Unification of SAS 9 / Viya platforms
- Seamless Migration from Viya 3.x to Viya 4
- Continuous delivery supported by all SAS teams



# CONTINUOUS DELIVERY CADENCE

	Stable releases	LTS releases
Frequency	Once a month	Every 6 months
Release includes	New features, changes to features, bug fixes, removal of features, etc.	Based on the stable release from two (2) months prior, which forms the basis of the LTS release candidate.
Support	Current stable release plus three (3) previous stable releases (or four months total)	Current LTS release plus three (3) previous LTS releases. Enables a Technical Support policy of “two years minus a day” which means customers must update at least once every two years.



# CONTINUOUS DELIVERY CADENCE (continued)

	Stable releases	LTS releases
Target customers	<ul style="list-style-type: none"><li>▪ Customers willing to always operate with the most up-to-date features and bug fixes.</li><li>▪ Customers looking to take advantage of the full value that SAS products have to offer.</li><li>▪ Software-as-a-service customers</li></ul>	<ul style="list-style-type: none"><li>▪ Customers who are not yet comfortable with SAS's continuous delivery.</li><li>▪ Customers only willing to upgrade to get new features less frequently, such as once a year.</li><li>▪ Customers who need to validate their environment(s) or who operate in a regulated domain.</li></ul>

# NAMED VERSION NAMES

LONG-TERM SUPPORT RELEASE

2020.1

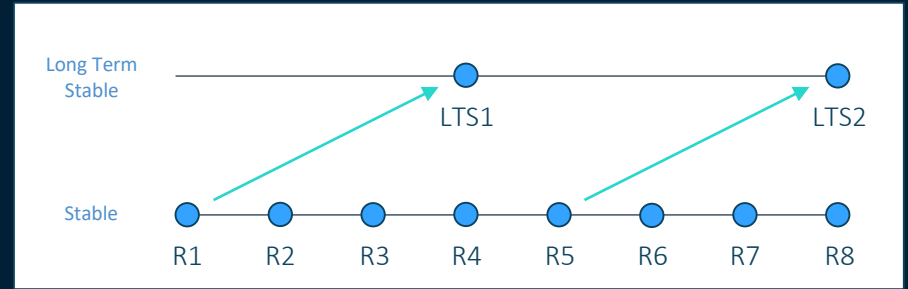
STABLE RELEASE

2020.1.1

- Year-based version name – more “calver” name than semantic number
- Easy-to-understand numbering
- **All versions are aligned.** Instead of Visual Analytics 8.4 and Model Manager 15.3, now Visual Analytics 2020.2 and Model Manager 2020.2.
- Fits into SLAs for critical fixes
- Items in roadmap become items in release notes

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- Seamless Migration from Viya 3.x to Viya 4
- Continuous delivery supported by all SAS teams
- Infrastructure as Code (IaC)
- Multi-tenancy as the default configuration



# Simplifying Customer Experience for Viya 4

1

Provision Cloud Infrastructure

Terraform

2

Configure Kubernetes (K8s)

Ansible

3

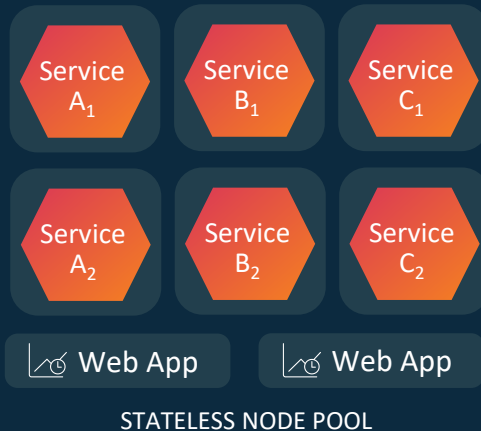
Deploy Viya 4 Software

Ansible

- Secure software defined network
- VM Compute Configuration
- Provision Cloud Services
  
- Map cloud infrastructure to K8s
- Configure Persistent Volumes
- Define Ingress/Egress Routing
  
- Download containers
- Assign customer properties
- Deploy into Kubernetes

# SAS Viya deployed in Kubernetes

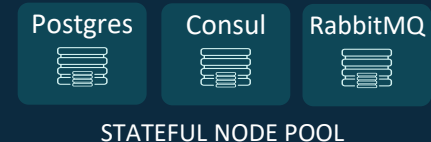
## Microservices and Web Apps



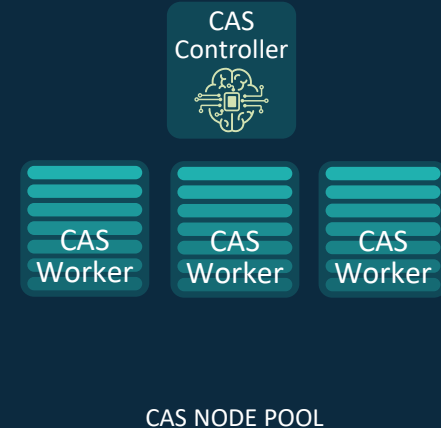
## SAS Compute Services



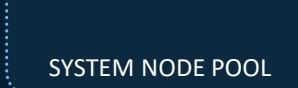
## Commodity Services



## CAS Cluster



## Ingress



## Monitoring + Logs



## Microservices and Web Apps



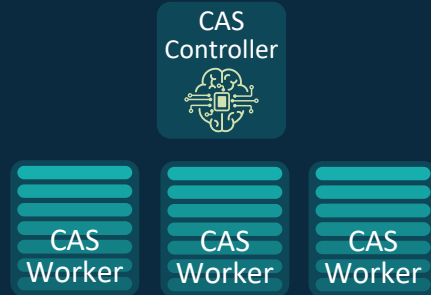
STATELESS NODE POOL

## SAS Compute Services



COMPUTE NODE POOL








## CAS Cluster



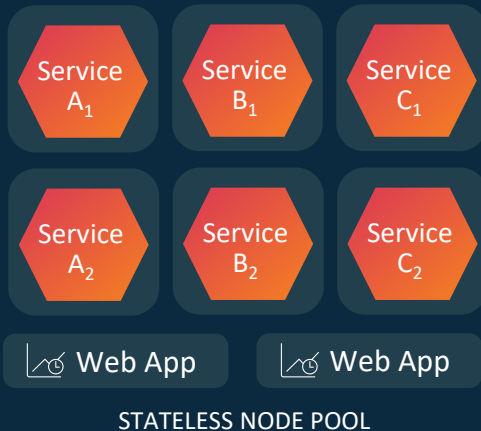
CAS NODE POOL



Azure Kubernetes Service (AKS)

-  Active AD
-  DNS
-  Load Balancer
-  Monitor
-  Service Bus
-  Cosmos DB
-  DB for PostgreSQL

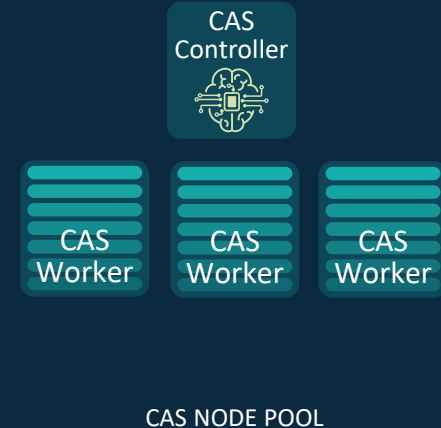
## Microservices and Web Apps










## SAS Compute Services



## CAS Cluster



Elastic Kubernetes Service (EKS)

-  AWS IAM
-  Route 53 DNS
-  Elastic Load Balancing
-  CloudWatch
-  Simple Queue Service
-  Dynamo DB
-  AWS RDS for PostgreSQL

## Microservices and Web Apps



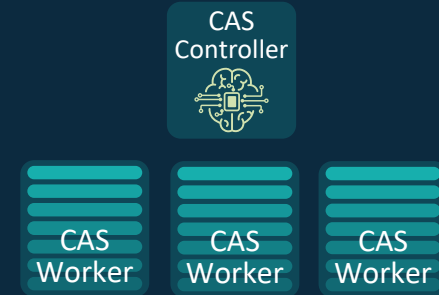
STATELESS NODE POOL

## SAS Compute Services



COMPUTE NODE POOL








## CAS Cluster



CAS NODE POOL



Google Kubernetes Engine (GKE)

-  Cloud IAM
-  Cloud DNS
-  Cloud Load Balancing
-  Monitoring
-  Cloud Pub/Sub
-  Cloud Datastore
-  Cloud SQL for PostgreSQL



A series of horizontal bars of varying lengths and colors (teal, blue, and dark blue) are arranged on the left side of the slide, creating a decorative, layered effect.

Questions?