Unlock full potential of Pega on Azure with Cognizant's pre-defined blueprints

Setup Pega-based CRM platform on Azure with a 2-stage process, to achieve, a scalable, highly available solution on Azure while gaining control over cost, time and implementation uncertainties.

Our approach leverages Cognizant's pre-defined, proven architectural blueprints and enables end-to-end automation for provisioning infrastructure and configuring Pega-framework on Azure based IaaS/PaaS resources.

Pega Architecture Blueprint Details

Following diagram depicts the production environment of Pega hosted on Azure connected to customer's datacenter(s).
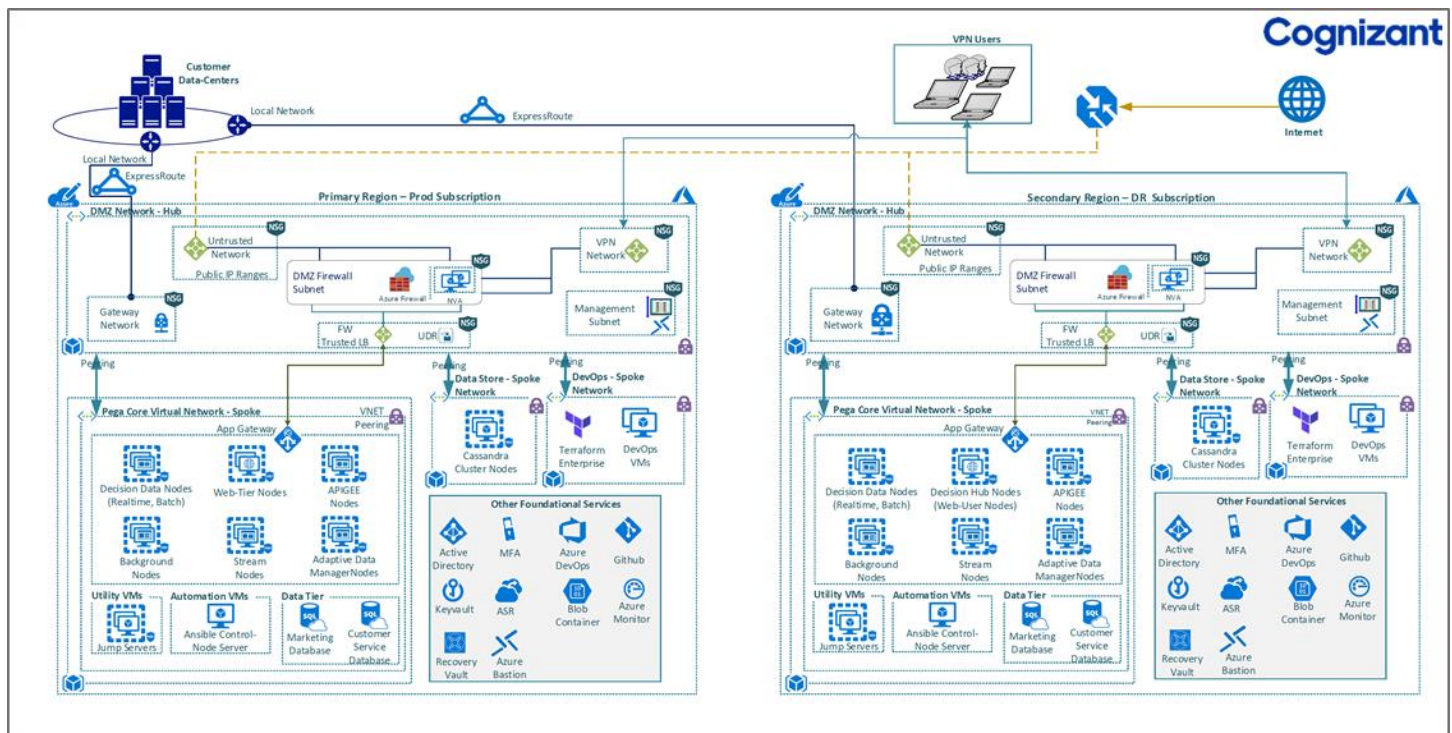

Figure 1 : Pega Architecture - Azure based Blueprint

As per Cognizant's Pega Blueprint, Pega can be hosted with infrastructure on Azure with following design considerations.

- Connect customer's datacenters to Azure environment via secured channel either via ExpressRoute (for private connectivity), VPN, or web with MFA (Multi-factor authentication) enabled.

- Hub-and-spoke model is a recommended option for network design with a goal to achieve better security governance and automated provisioning of spokes. Cognizant expects Azure network foundation architecture to be in place to start implementing or customizing Azure-Pega-Blueprint.

  Cognizant can provide required support to customer to finalize and customize network design based on application needs as a foundational activity.

- Pega infrastructure components will to be hosted using Azure IaaS (VM's) and PaaS (Azure SQL) resources.

- The Pega nodes to be provisioned using Terraform scripts are generally classified as listed below:
  - Web Tier nodes
  - Decision Data nodes / Realtime, Batch nodes
  - Stream nodes
  - Background Processing nodes
  - ADM / Adaptive Data Management nodes
  - Pega Framework components / Data tier nodes as database-nodes for Marketing and Customer Services

- Cassandra Cluster nodes as NoSQL repository to store business data-sets (as primary system of records) in tabular and columnar formats is assumed to be made available by customer to integrate with classified Pega nodes.

- All the Pega nodes will be configured with Azure Availability Sets for high-availability design as an ideal solution.

  Any change to high-availability design in the blueprint can be decided and customized based on customer's SLA need.

- Azure Keyvaults per subscription will be maintained to store customer's sensitive data including VM's credentials and Pega-configuration specific credentials.

- Azure VM sizing will be done based on customer-workload-centric capacity planning for various environments and usage.

- Recovery Vaults will be provisioned per subscription basis, to enable backup of VM's with scheduled replication.

- Pega-Azure-Blueprint can be customized and implemented based on various DR design considerations related to RPO and RTO based on feasibility and customer's Azure foundation readiness.

Pega IaaC Setup Details

- Cognizant will provide Terraform and Ansible based automation scripts to setup Pega on Azure.
- Terraform will be used for infrastructure provisioning which consists of separate modules for IaaS (Azure VM's) and PaaS resource (e.g. Azure SQL, Keyvaults, Recovery Vaults, etc) provisioning.
- All the environment specific configurations will be maintained at module level, which are extendable and configurable.
- DevOps pipeline will be created by integrating provisioning-code in Terraform with Terraform Enterprise (TFE) platform and hooking the versioning of code to Github Enterprise.
- Ansible is leveraged for configuring post provisioning tasks like resizing Azure SQL databases, hardening Azure VM's, installation and configuration of Pega components and frameworks.
- Ansible based automation is modularized by implementing multiple roles for various functional tasks.