



## An Architected Journey to the Cloud

### The Risk

Our client, a major provider of fixed income portfolio analytics had operational issues with its current environment including:

- Inability to keep software versions current
- Network security issues due to ad hoc network design and firewall rules
- Deployment issues due to differences between production and development environments
- Excessive cloud service provider costs
- Inefficient licensing of expensive products due to system topology

### The Solution

The OpStack solution reengineered and implemented their cloud environment based on a fully software-defined infrastructure (everything built from code) on a major public cloud service to:

- Deploy a properly segmented network controlled by Palo Alto firewalls
- Build all new Windows and Linux servers from cloud provider base images and automatically apply patches to all layered software
- Migrate existing VMs running bespoke application code using cloud provider Site Recovery
- Move Oracle databases across platforms without requiring an upgrade to Enterprise Edition -- lowering ongoing licensing costs -- an immediate six-figure savings
- Provide a same-day BCP recovery capability through replicated storage and automated re-creation of the server environment to a remote separate availability zone
- Provide full monitoring of both operations and security to an MSP's managed NOC and managed SOC
- Reduce licensing costs by five figures per server through right-sized discrete Oracle instances for both production and non-production database servers
- As with all OpStack engagements, the Stack is fully documented in a knowledge management system that was transferred to the client as part of the turnover to production

Notification	Pagerduty	Teams	xMatters	e-mail	Slack	NOC	Manage & Notify
Enterprise Platforms	Office 365	Teams	ServiceNow	ServiceNow	Slack	Atlassian	
Observability	Splunk	Nagios	SCCM	AppDynamics	Azure Log Analytics		Monitor
Security	Cisco	Snort	Tripwire	Qualys	Carbon Black	CrowdStrike	Monitor
Operating Systems	Windows	Linux(Suse)	Linux(RHEL)	Linux(Debian)	FreeBSD	Unix	
Compute	HPE	Cisco UCS	Dell	IBM	Lenovo	White Box	Run
Storage	EMC	Pure	HPE	3PAR	NetApp	White Box	Run
Databases	Oracle	MS SQL	Postgres	MySQL	MongoDB	IBM DB2	Run
Identity & Access	AD FS	Gemalto	Vault	Cyberark	IBM ISAM	SiteMinder	Run
Cloud	AWS	Azure	GCP	IBM	Digital Ocean	On-Premise	Run
Orchestration	Ansible	Ansible	Saltstack	Puppet	Kubernetes	Custom	Deploy / Test
Testing	Locust	Selenium	HP Loadrunner	IBM Rational	JMeter	JUnit	Build
Source Control	Azure DevOps	Gitlab	Gitlab	Bitbucket	SVN	Artifactory	Build
Scripting / Programming	Python	Python	Java	Go	Go	Ruby	Build



## The Result

- In the first 90-days of the engagement OpStack moved 100% of its infrastructure off of it's expensive legacy environment and reduced software licensing costs -- savings that paid for the implementation in less than a year.
- All open infrastructure security vulnerabilities have been closed.
- There have been no production outages on the new infrastructure.
- Monthly batch processing of large data feeds into the analytical system has been sped up by a factor of four.
- The client was able to conduct its first fully successful DR test, recreating its full infrastructure using the stack's automation scripts in a remote region within two hours.