Customer scenario

Rugged Rider Auto, an affiliate of Uptick Capital, has acquired a majority equity stake in Overland Motor Group, which operates more than 25 dealerships and related businesses in Seattle, Denver, Salt Lake, and Northern California. The purchase is expected to generate synergies that can help Uptick Capital continue to grow its automotive retail footprint, as well as streamline retail operations, inventory, and optimize business management across all its dealerships.

Uptick forecasts their business will scale by 1 new dealership per month. Each new dealership will require its own instance of the central parts ordering application's front-end consisting of NGINX and HAProxy Load Balancers. The Application layer will share the same Back-end Database.

Overland Motor Group attempted to deploy Horizon View but failed to justify a roll out to the entire business. Rugged Rider Auto has deployed Citrix XenDesktop and wants to leverage the gold image built by the team at Overland. With the addition of each new dealership they anticipate onboarding 5x new users requiring non-persistent desktops and 2x new users requiring a full clone persistent desktop.

As part of the acquisition, Uptick Capital completed an audit of their IT operations and determined they'll need to consolidate and modernize their antiquated data center operations to remain solvent. Uptick's CIO and her staff have put together a comprehensive plan to reduce CAPEX and OPEX by shutting down and consolidating under-performing infrastructure, reduce licensing costs, simplify and streamline application development and deployments, and optimize data center operations by leveraging more automation. The plan also requires adjustments in the company's balance sheet to reflect a +70% TCO reduction, potentially saving Uptick and its investors millions of dollars annually.

Goals

- Automate the migration and consolidation of back-end databases (i.e. automate both the migration and ETL using Xtract and scripts).
- Architect and expedite standing up and configuring infrastructure to support continuous integration and deployment of applications.
- Containerize applications to streamline the scale-out of online ordering workloads.
- Manage and monitor container deployments.
- Orchestration, provisioning, and automation of infrastructure and applications.
- Demonstrate consistent performance under failure conditions.
- Show TCO reduction, in combination with CAPEX and OPEX spend.
- Demonstrate up-stack integration with 3rd platform management stack using REST APIs.
- Automate the provisioning and orchestration of Citrix Desktops.
- Architect for Disaster Recovery and Data Protection for central and remote sites.

Uptick Application – GitHub link

https://github.com/mjastad/uptick

Required Capabilities

Required Capability	Problems / Issues
Overland Motor Group - Migrate SQL Server database and VMs with Uptick IT resources	The cost and overhead to maintain additional installations of the data w/o synchronization is causing issues when generating reports for Inventory, AP, AR, and parts ordering.
Back-end databases must run on Windows Server 2012 R2, using SQL Server instance	Currently the data is sourced from MSSQL. Uptick will continue to use this technology but aspires to eliminate license fees and migrate their data to an OSS database instance(s).
CentOS Application Server + HA Proxy needs to scale during peak hours.	Scaling the parts application is slow and needs a way to scale quickly to meet SLA's.
Containerize Application Stack	Uptick would like to move to a container model.
Deploy, manage, and scale-out containers	Uptick will require instrumentation to manage containers.
Create a CI/CD pipeline between build and source repository. Repository check-ins should trigger auto-build & deployment	A need to streamline application development and move to production is highly desirable.
Automate monitoring with existing 3rd platform	3rd platform monitoring tools are highly desired.
Performance must be demonstrable under fail-over conditions (node loss) as a proof-point.	Performance and uptime is fundamental to meeting their SLAs.
Orchestration and provisioning of Infrastructure and Applications.	Simplification and automation of IT infrastructure is **one of Uptick's top goals**.
Orchestration, Config + Mgmt. Extend to Multiple Clouds - AWS	Uptick's vision is to secure highly sensitive business data and support predictive workloads on-prem, and moving unpredictable, ephemeral workloads off-prem to make better use of their infrastructure.
Backup/DR/Data protection - Lab	Because they're publicly traded, they'll require data protection, with cold archives of +3 years.
File Services	User data currently stored locally or across multiple NAS solutions. Currently no solution for central storage of application logs.
Proposal: Generate report on overall CAPEX and OPEX costs – need to show TCO over next 3 years	Uptick CIO is pressured to transform their data center operations into a profitable business unit.
Citrix XenDesktop workload	Need to migrate existing Overland image. Desire to integrate desktop provisioning into same system as IT application provisioning.

Challenge Mission (Wednesday & Thursday)

Objective: work as a team to develop a creative solution for customer scenario (Uptick Capital) utilizing newly learned required and optional technologies with intention of getting selected as one of the teams to present to coaches for winning top spot

Expectations

1. Create **presentation** (PPT) describing solution and how it relates back to customer's required capabilities
2. Showcase technologies within solution using **video** (e.g. demo). Video should be incorporated as part of presentation (3 min. maximum)
    a. Screenshots may be used as an alternative, but they should capture that the technology is a functioning and integrated part of your proposed solution.
3. Try and incorporate as many technologies into the solution as possible that are relative to the customer's challenges
4. All team participants' **technical artifacts** (e.g. blueprints, containers, docker-files, code, etc.) should be **checked into GitHub**. *Last slide of presentation should include LINKS to GitHub repository.*

Presentations *(only applies to teams selected to present)*

- 10 minutes maximum – (1 min. over-run, then hard stop)
- All Team Leaders must present but can enlist teammates as co-presenters
- Solution must map to customer required capabilities of Uptick Capital
- Teams will drive their own presentations and must be ready to go prior to slot
- Challenge presentations MUST be uploaded to this SharePoint by 8:00AM Thursday
    o *Use naming convention:* TEAM # AMER Tech Summit Final Presentation

Audit points

- Be prepared to present your solution to your Coach 45 minutes prior to the end of the day on Wed. to determine if you made the cut for presenting on Thursday morning.
- Stick around Wed. night until you hear from your coach whether you made the cut.
- If selected as top team to present on Thurs., please send final presentation to Coach by 7:30AM and upload to above SharePoint Thursday morning.

Point Matrix for Labs

	Technology	Status	Points
Tools	XTRACT	**Required**	500
	XRAY	**Required**	500
	SSP	**Required**	500
	AFS	Optional	200
	Calm	**Required**	500
	REST	Optional	200
Config	Ansible	Optional	200
	Puppet	Optional	200
	Chef	Optional	200
Cloud	AWS	Optional	500
	OpenStack	Optional	500
	Google	Optional	500
	Azure	Optional	500
Monitor	Nagios	Optional	200
Database	MySQL	One or more of these databases are **Required**	500
	MongoDB		500
	Casandra	Optional	200
	PostgreSQL	Optional	200
	MS SQL	Optional	200
Data Protection	HYCU	Optional	500
	Veeam	Optional	500
	DR/AHV	Optional	200
Microservice	Kubernetes (K8s)	Optional	500
	Docker	Optional	200
	Docker Hub (Docker Cloud)	Optional	200
	Docker Swarm	Optional	200
	Packer	Optional	200
Develop	Git	Optional	200
	GitHub	**Required**	500
	Jenkins	Optional	200
VDI	Citrix XenDesktop	Optional	200
TCO	TCO	Optional	200
	CAPEX/OPEX	Optional	200
	Sizing	Optional	200