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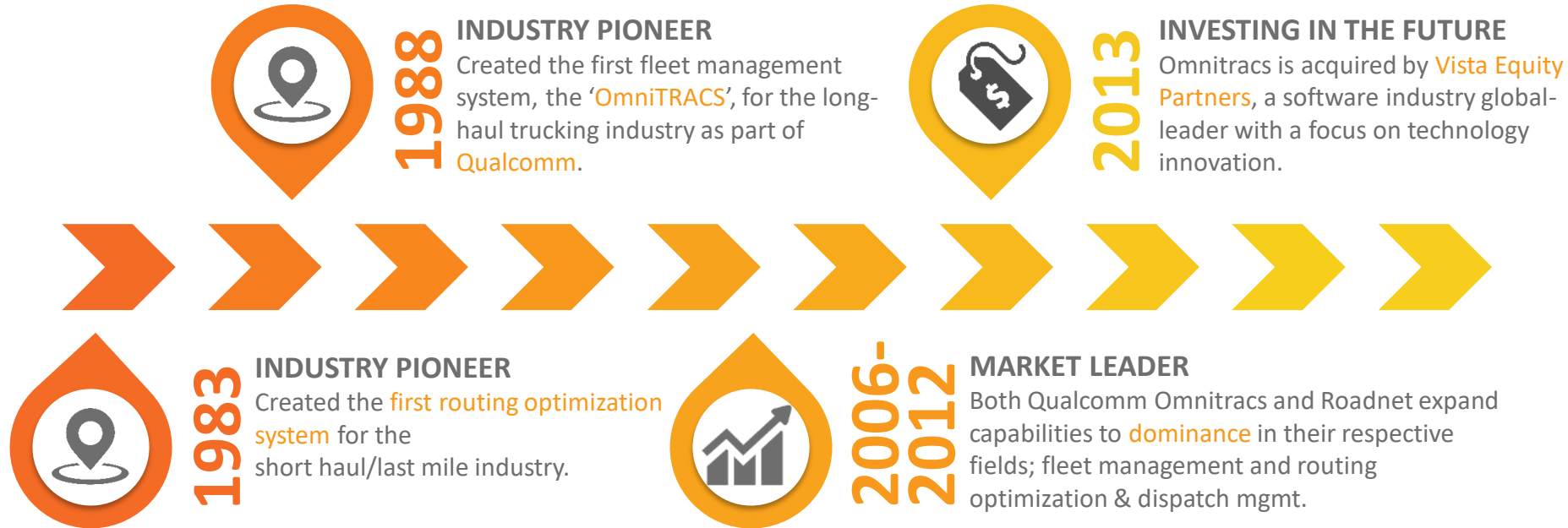
# ***OpenShift @ OmnitracS: A Case Study***

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# *Company Overview*

# History of Omnitrac's

From Industry Pioneer to Market Leader



# History of Omnitrac's

Accelerating Our Commitment to Innovation



2013-  
2014

## MARKET EXPANSION

Omnitrac's adds **Roadnet** award-winning routing and **XRS Corporation's** mobility solutions to the portfolio to increase industry footprint.



2017

**GEOGRAPHIC EXPANSION** **Shaw Tracking**, a long-time Canadian reseller of Omnitrac's products, is acquired to **expand geographic presence** across North America.



2014-  
2019

## FOSTERING INNOVATION

In a few short years, Omnitrac's **innovation engine** rolled out 30 new products and 50 software updates. And acquired workflow and driver experience pioneer **Blue Dot** in 2019.



2020

**Omnitrac's One**  
**First unified platform** for transportation and logistics industry including routing, dispatch, tracking & compliance

# Geographic Footprint



## Direct

**USA, Canada, Mexico, and Brazil**

## Indirect (Channel)

**Worldwide (70+ Countries)**

## Main Offices

- San Diego, CA
- Mexico City, MX
- Dallas, TX (HQ)
- Minnetonka, MN
- Oakville, ON
- Towson, MD

## Satellite Office

- Denver, CO
- Las Vegas, NV
- Windsor, ON
- Tijuana, MX
- Sao Paulo, BZ

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# *What We Had*

# What We Had

## How Did Omnitracs Do It?

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- VMWare
  - vRealize Automation
  - Mix of VCF, vBlock, and Standard hosts
  - 3900+ VMs
- AWS Native
  - Small (<50) EC2 footprint in single region
  - Manual builds, no automation
- Waterfall style
  - Monolithic application deployment
  - Isolated groups
  - Timeline driven



# The Move to OpenShift

## How Did Omnitrac's Do It?

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- OpenShift 3.11 (latest available at Project start)
  - Cost reductions via exclusive deployment in AWS
  - Custom Ansible playbooks
  - Provision & Interact with new infrastructure
  - Reduce environment deployment time from 5+ days to 2 hours
  - Transformation to Agile methodologies greatly reduced release times
- OpenShift 4 release (currently using 4.1.18)
  - UPI installation reduced deployment time from 2 hours to 40 minutes
  - Manage and extend cluster via built-in Operators
  - Further cost reductions via CoreOS model for Master Nodes
  - Direct line to architecture and design teams
  - Further maturity of Agile processes making true CI/CD possible





# Operationalizing OpenShift

## How Did Omnitrac's Do It?

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- Operators
  - Ansible playbooks and roles manage templated CR's
  - Provide easier management of the cluster
  - Operator workflows are simple and fast
  - Built Operator to assist developers with deployments and management of microservices
    - Operator-SDK: Ansible
    - Class 2 Operator (Seamless Upgrades)
    - Helps facilitate GitOps
    - Initial introduction to operators for dev teams
      - They can fork to start Service-Specific operator development



# Operationalizing OpenShift

## How Did Omnitrac's Do It?

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- Ansible
  - Strict adherence to Infrastructure as Code (IaC)
    - "If it doesn't exist in Ansible, it doesn't actually exist"
  - Modular Ansible Project Structure for GitOps
    - Uses git-submodules for logical separation of concerns
    - Wrapped UPI in Ansible
      - From "deploy.yaml" to operational excellence in ~40 minutes
    - Release infrastructure as any other software project
      - Infrastructure is versioned
  - Ops playbooks "Day 2 through day 30"
    - Playbooks submit templated CRs to operators



# Operationalizing OpenShift

## The New Omnitrac's Stack

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- AWS
- Artifactory - SaaS
- XRay - SaaS
- VictorOps - SaaS
  - Integrated with Prometheus Alert Manager
- Splunk - SaaS
  - Fluentd – Heavy Forwarder
- HashiCorp Vault
- Sysdig (Container Runtime Scanning)
- Jenkins (OpenShift Plugin)
  - Deployed on-cluster



# Lessons Learned

## What We Learned

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- Early Adoption of OCP 4 was critical to success
  - How important is being on the bleeding edge to your organization?
  - Did cause blockers as external vendors caught up
- Tightly coupled partnership with Red Hat
  - Made it possible to overcome early adoption issues quickly
  - Drove innovation both within Omnitrac's and Red Hat
  - Transformation of traditional System Administrators in Operations to DevOps Engineers in less than a year
  - Facilitated the shift in skillset that was needed
- Operators
  - Allowed us to offer IaaS to dev teams almost immediately
  - Reduced the need for a large team



***QUESTIONS?***

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