Tips and Tricks for Oracle SOA Cloud Service
Customer Panel

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VP & CIO
Subaru of America

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IT Manager Shared Services
AFG

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Sinclair Broadcast Group

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Oracle Cloud Integration

ORACLE
OPEN
WORLD

ORACLE®

Subaru's Connected Vehicle

Brian Simmermon
VP & CIO
Subaru of America, Inc.

An Introduction

What makes Subaru a Subaru

✓ Safe Vehicles – Subaru models with EyeSight receive the highest possible rating for front crash prevention from IIHS

✓ Symmetrical AWD – Subaru has the best-selling all-wheel drive cars in America for the past 10 years

✓ Rally racing legend – The Subaru Rally Team has 10 Overall Rally America Champion Titles

✓ Built to Last – 98% of Subaru vehicles sold in the last 10 years are still on the road today

✓ Loyal Customers – Subaru is the 2017 Top Brand for Residual Value, according to ALG

✓ Great value – Subaru is Kelley Blue Book's 2017 Most Trusted Brand, Best Overall Brand, and lowest 5-Year Cost to Own

SUBARU
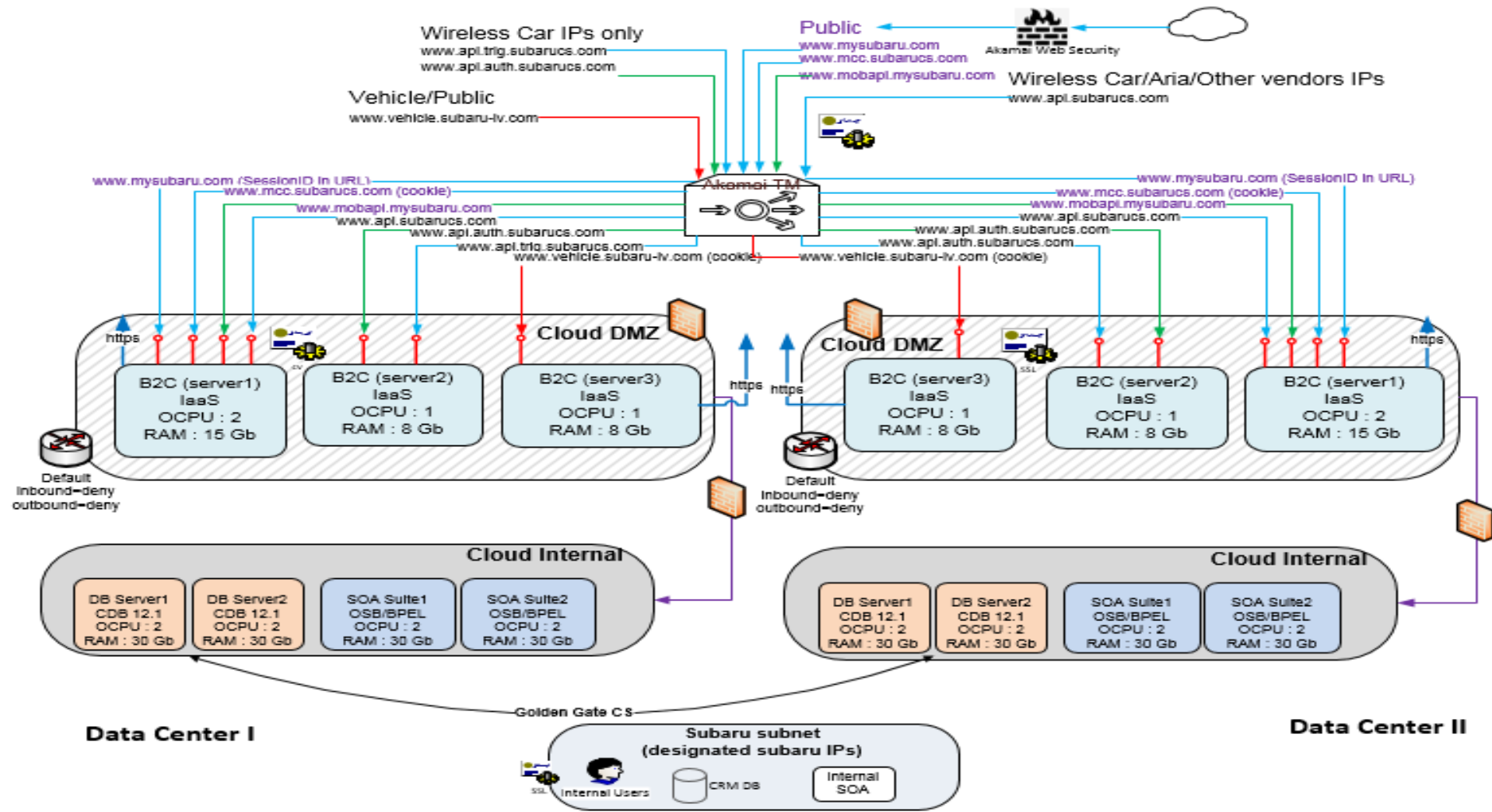*Confidence in Motion*

Subaru Connected Vehicle Platform

Next Generation Connected Car

✓ Compelling new features to increase subscriptions

✓ Seamless user experience between Gen1 and Gen2

✓ Always Connected and Available utilizing HA

✓ Quick to market to meet Evolving Customer needs while supporting on-time vehicle delivery

✓ Enhanced & Affordable Telematics options

  ➢ SOS Emergency assistance

  ➢ Automatic collision notification

  ➢ Vehicle health report

  ➢ Remote engine start …. (to name a few)
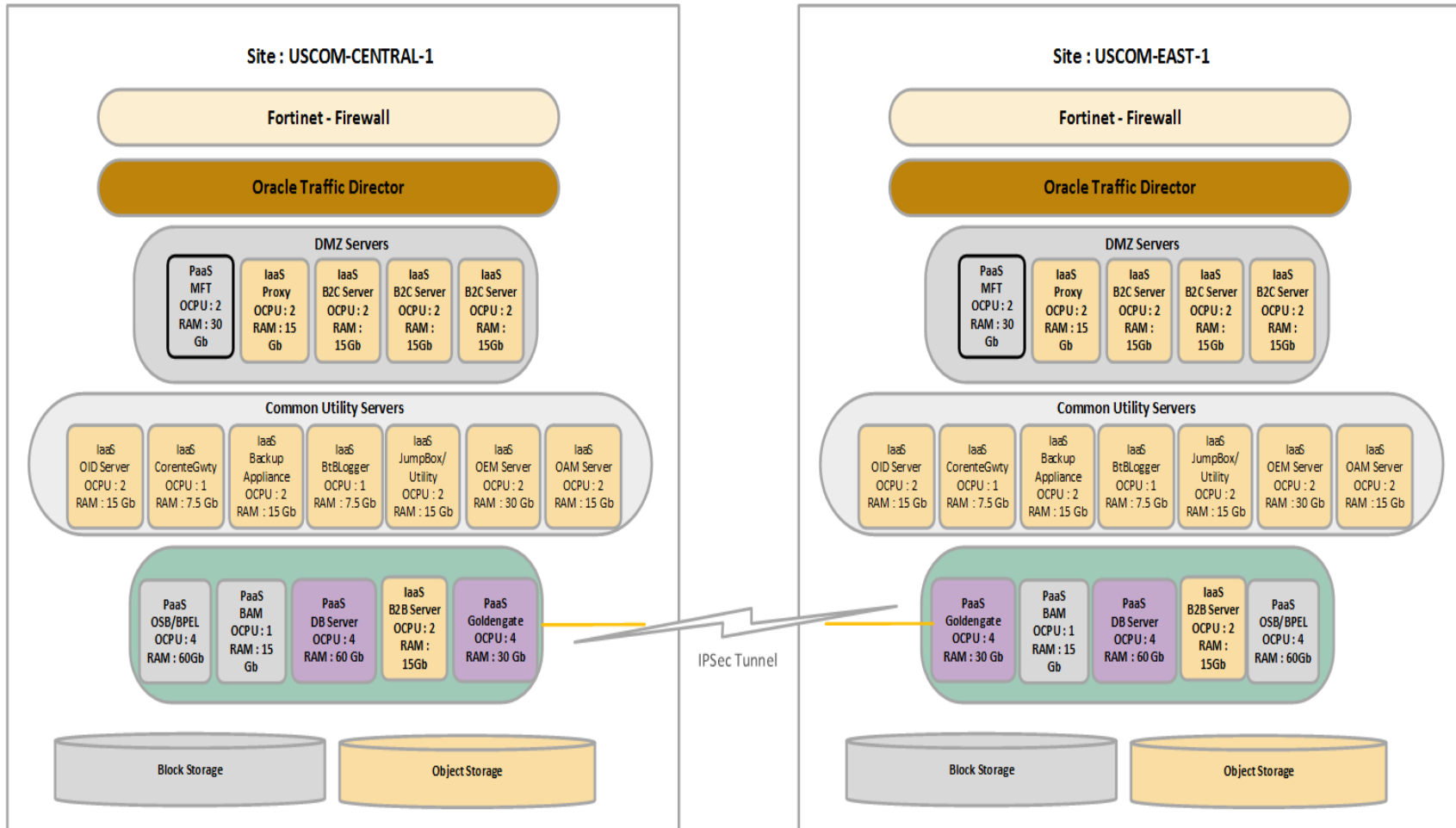
SUBARU
Confidence in Motion
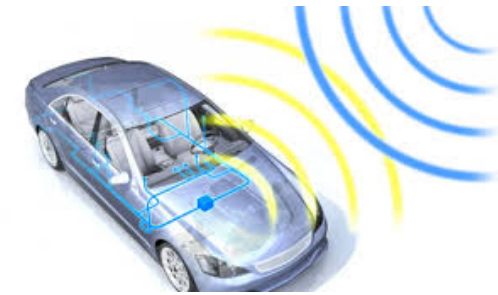
Connected Business Application Blueprints

Subaru B2C Application Architecture - PROD

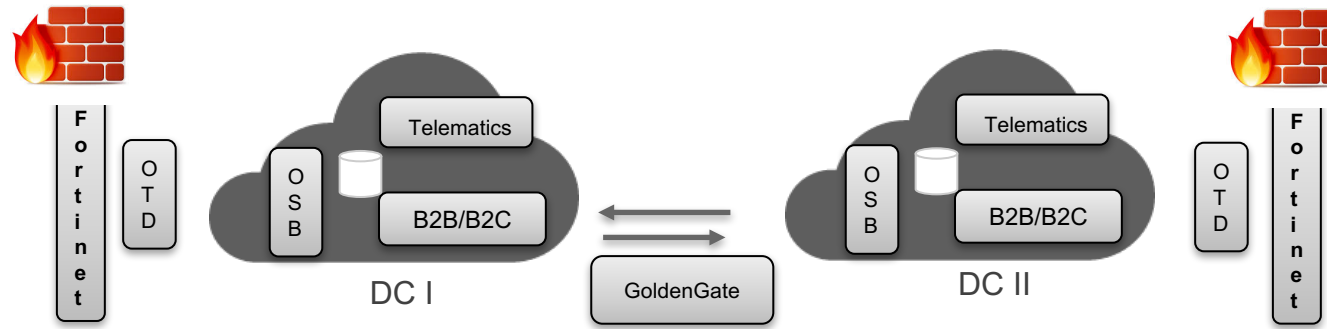# Connected Business Application Blueprints

DYN Services – GTM/GTD

Site : USCOM-CENTRAL-1

Fortinet - Firewall

Oracle Traffic Director

DMZ Servers

| PaaS MFT OCPU : 2 RAM : 30 Gb | IaaS Proxy OCPU : 2 RAM : 15 Gb | IaaS B2C Server OCPU : 2 RAM : 15Gb | IaaS B2C Server OCPU : 2 RAM : 15Gb | IaaS B2C Server OCPU : 2 RAM : 15Gb |

Common Utility Servers

| IaaS OID Server OCPU : 2 RAM : 15 Gb | IaaS CorenteGwty OCPU : 1 RAM : 7.5 Gb | IaaS Backup Appliance OCPU : 2 RAM : 15 Gb | IaaS BtBLogger OCPU : 1 RAM : 7.5 Gb | IaaS JumpBox/ Utility OCPU : 2 RAM : 15 Gb | IaaS OEM Server OCPU : 2 RAM : 30 Gb | IaaS OAM Server OCPU : 2 RAM : 15 Gb |

| PaaS OSB/BPEL OCPU : 4 RAM : 60Gb | PaaS BAM OCPU : 1 RAM : 15 Gb | PaaS DB Server OCPU : 4 RAM : 60 Gb | IaaS B2B Server OCPU : 2 RAM : 15Gb | PaaS Goldengate OCPU : 4 RAM : 30 Gb |

Block Storage
Object Storage

Site : USCOM-EAST-1

Fortinet - Firewall

Oracle Traffic Director

DMZ Servers

| PaaS MFT OCPU : 2 RAM : 30 Gb | IaaS Proxy OCPU : 2 RAM : 15 Gb | IaaS B2C Server OCPU : 2 RAM : 15Gb | IaaS B2C Server OCPU : 2 RAM : 15Gb | IaaS B2C Server OCPU : 2 RAM : 15Gb |

Common Utility Servers

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| PaaS Goldengate OCPU : 4 RAM : 30 Gb | PaaS BAM OCPU : 1 RAM : 15 Gb | PaaS DB Server OCPU : 4 RAM : 60 Gb | IaaS B2B Server OCPU : 2 RAM : 15Gb | PaaS OSB/BPEL OCPU : 4 RAM : 60Gb |

Block Storage
Object Storage

IPSec Tunnel

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Connected Business Application Blueprints

Success defined

- ✓ Secure & Scalable platform for phased rollout

- ✓ Always available utilizing DYN and GoldenGate

- ✓ Application Integration utilizing SOA Suite

- ✓ Utilize a combination of PaaS and IaaS to deliver System components

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Cloud Based Integrations

DC I   GoldenGate   **DC II**

Firewall components: Fortinet, OTD, OSB, Telematics, B2B/B2C

How did we do it?

Apps	Integration Types	Components used
Mobile App	Real-time	SOA – OSB
CWP	Scheduled	MFT
B2B Processing	Triggered Events	BAM
	Files	OTD

- Simplified architecture
- Independent Active-active integrations
- Flexible capacity management

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Cloud Value Statement

Subaru, Centroid & Oracle partnering together to deliver high intensity,
high volume & high Value Connected Vehicle business for all Subaru owners

Scalable capacity including hardware and software to ramp up or down as the business varies

Always available with Active-Active deployment with DYN services and GoldenGate

Enhanced Cloud Security with a certified Fortinet Firewall

Infrastructure/data Go-live on 10/1 – Customer Go-live on 12/1 supporting 2+ million customers

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Cloud and Beyond – APIs and SOA

Andrew McGee

- IT Manager across both the Aggregation Business and Lending Business within AFG

- 17 years in IT, 14 in Financial Services

- Focus on Lending Innovation, Data, Process and Customer Experience

AFG

Who is AFG?

3,400+
individual products
up from 1,450 in April 2015

45+
lenders

FY17 Residential
settlements of
with the Residential
trail book now

$34.3 billion
$126.5 billion

Broker numbers grew to over
2,875 nationally,
up from 2,650 at 30 June 2016

Non-Majors

35%

65%
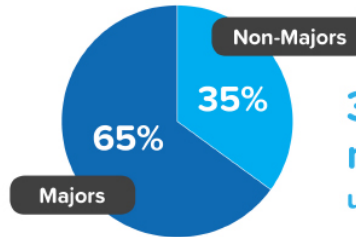
Majors

**35% of flows to
non-majors Q4 2017**
up from 29% Q4 2016

1 in 11
Australian residential mortgages
are arranged by an AFG broker

199
employees

Broker & consumer advocacy

Responsible, strong and
active voice for consumers.
Participating in industry
and regulatory debates
and developments.

AFG wins

• Aggregator of the Year
• Technology Platform of the Year

Australian Broking Awards

AFG

What we do with APIs

- **Pushing invoices from ERP** to Document Management for brokers to consume

- **Sending sales transaction from CRM** to Incentive Compensation for commissions

- **Enabling external parties** to inject information into a running credit process (e.g. valuations, supporting documents, credit checks)

- **Progressing an opportunity in CRM** to be taken through a credit assessment

- **Account for commission and sales** information in ERP

- **Initiating an email campaign send** based on CRM and Process data

- Etc…..

AFG

AFG circa 2013

Strengths

Industry Experience
Industry Relationships
Established Team
Established Channels
Cash Flow

Weaknesses

High Operational Costs
80/20

Opportunities

100+ Projects

Threats

Fintechs

AFG

Fundamental of Fintech Competition

Although Fintechs are not dominating the industry (yet) they are defining the direction and pace across all sectors of the industry.

Driven to improve customer experience

Target CX and engage entire efforts to make it happen
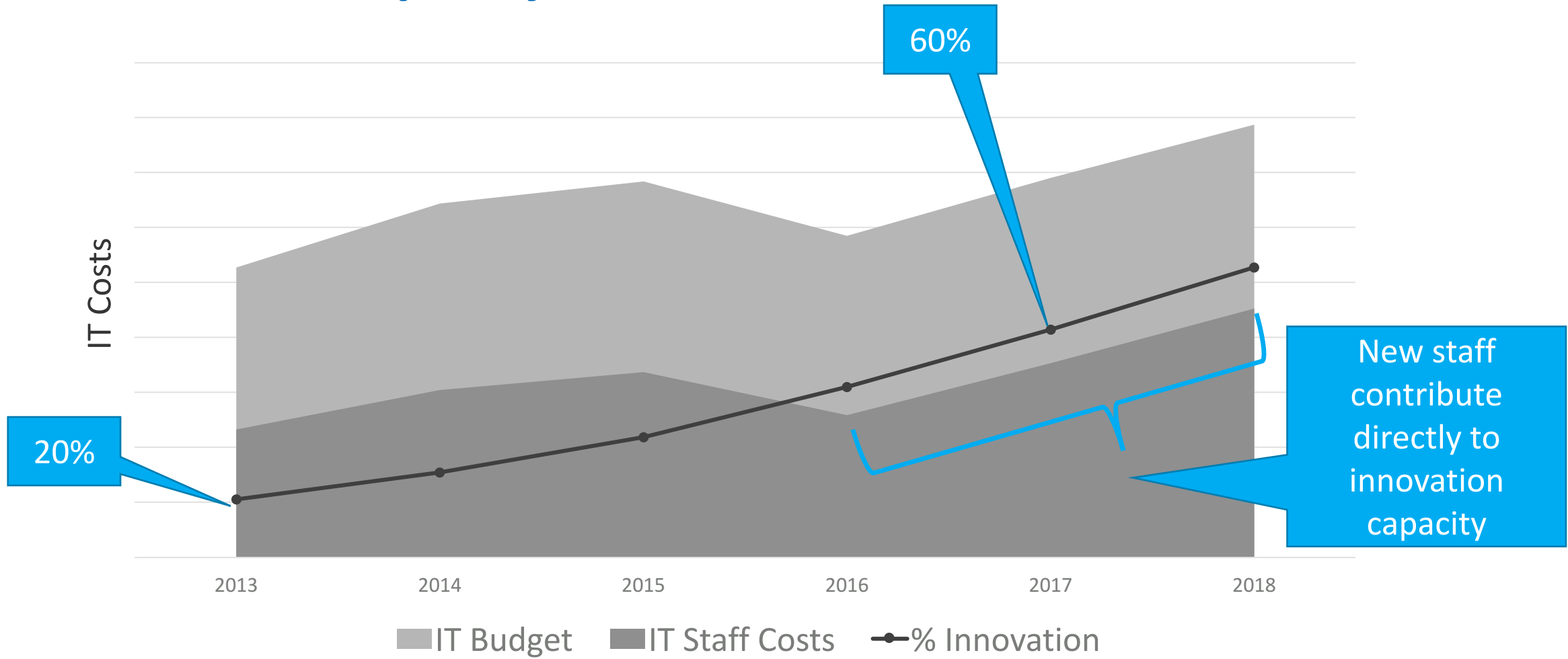
Generally start small but grow quickly

Strongly Leverage the benefits of cloud technologies

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Cloud First

SaaS
APIs *PaaS* IaaS
Remove Big Ticket Costs
Disaster Recovery Modern Features
Security **Change Culture**
Managed Updates Mobile Reduce OPEX
Increase Capacity No CAPEX
Scalable

Innovation Capacity

60%

20%

New staff contribute directly to innovation capacity

IT Costs

2013   2014   2015   2016   2017   2018

IT Budget   IT Staff Costs   % Innovation

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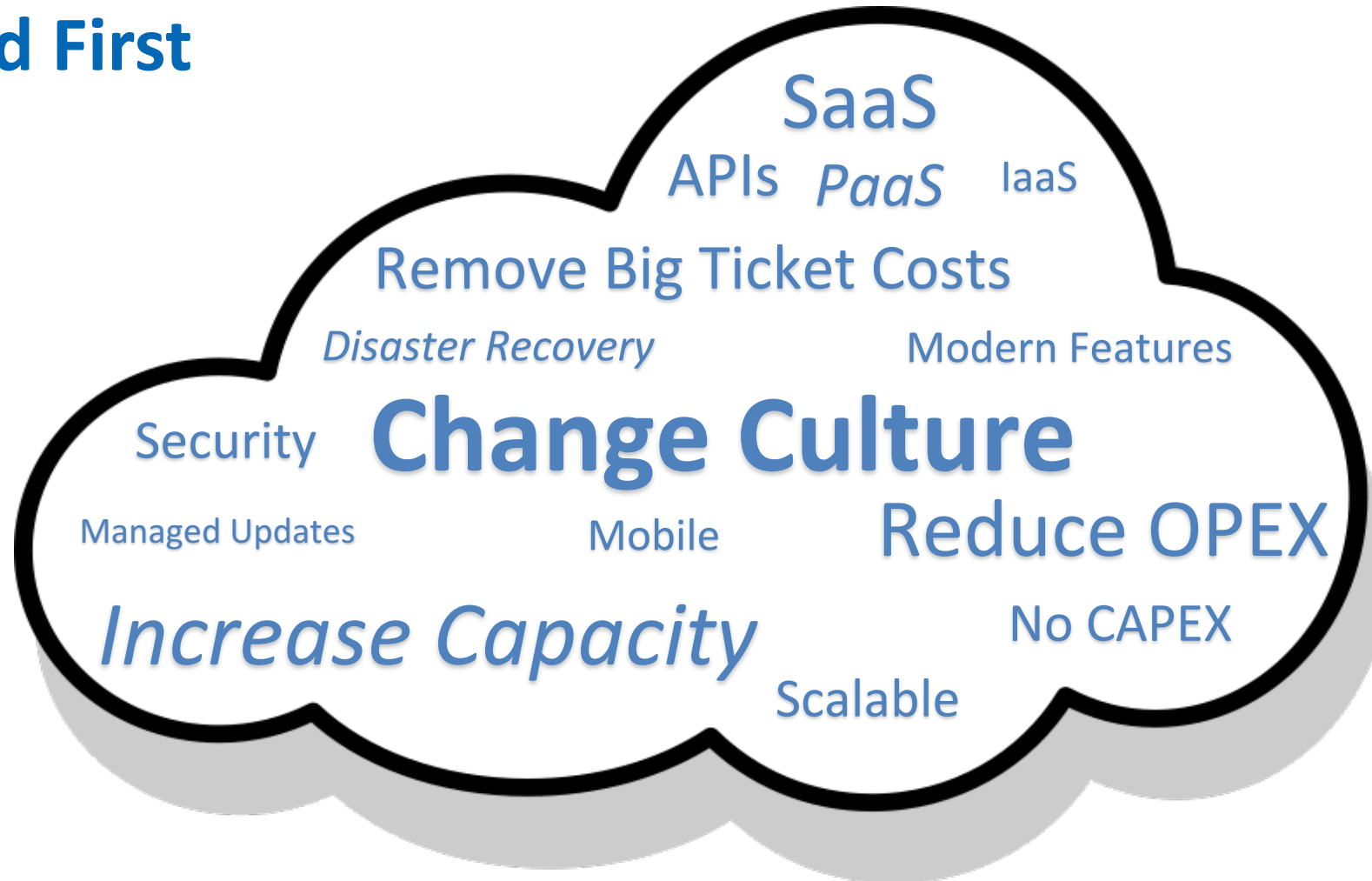
Leveraging the benefit of the cloud – API and SOA

Landscape at AFG

SaaS

Sales Cloud

Oracle ERP Cloud

Planning and Budgeting Cloud

zendesk

IaaS

Database

aws

Compute

Content and Experience

Process

SOA

Analytics Cloud

Database

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SERVICE CLOUD

Microsoft Azure Machine Learning

PaaS

IaaS Hosted/ Other

Informatica

DA

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SOACS as an Enabler

Remove frustrations of having to manage the same thing across systems.

Increase the ability to **manage complex tasks**, abstracting it away from applications

Work with external partners easily. As more entities mature this will become more important

Improve the integrity of processes and data across systems

Improve the speed and response time, improving staff and customer experience

AFG

Tips

- **Look to enable a plug and play approach** - utilise PCS and SOACS to manage the process so that it can be quickly modelled and modified. Utilise Human Tasks if needed.

- **Never miss a beat** – Use SOACS to log all events, manage any faults and retry any issues.

- **Work with the business** - understand what tasks/processes have a friction point because they are manually managed across systems.

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Achievements

4x Faster time to market for key process changes

10% Faster response to customer (aiming for much more)

80% better quality

15% Improvement in **staff satisfaction** with systems and processes

45% Lower Total Cost of Ownership

Engaged team contributing new ideas

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Why Oracle

- **Completeness of cloud offerings** to suit the complex requirements across many functions.

- **Established relationship** and commitment to the project success.

- First cloud applications gave a lot of **confidence** in other applications.

- **Platform as a Service offering is strong** and the combination of Process, SOA, Content and Experience, and Analytics makes an incredibly flexible and compelling combination.

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Third Party OM to Cloud
ERP Invoice Ingest Solution
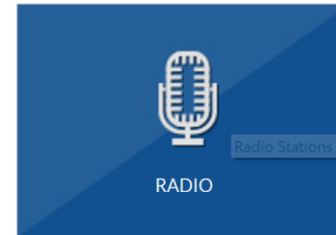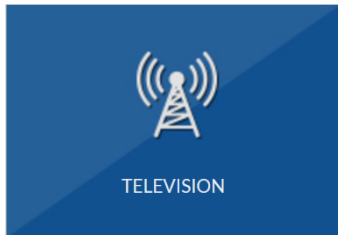
Who is Sinclair Broadcast Group?
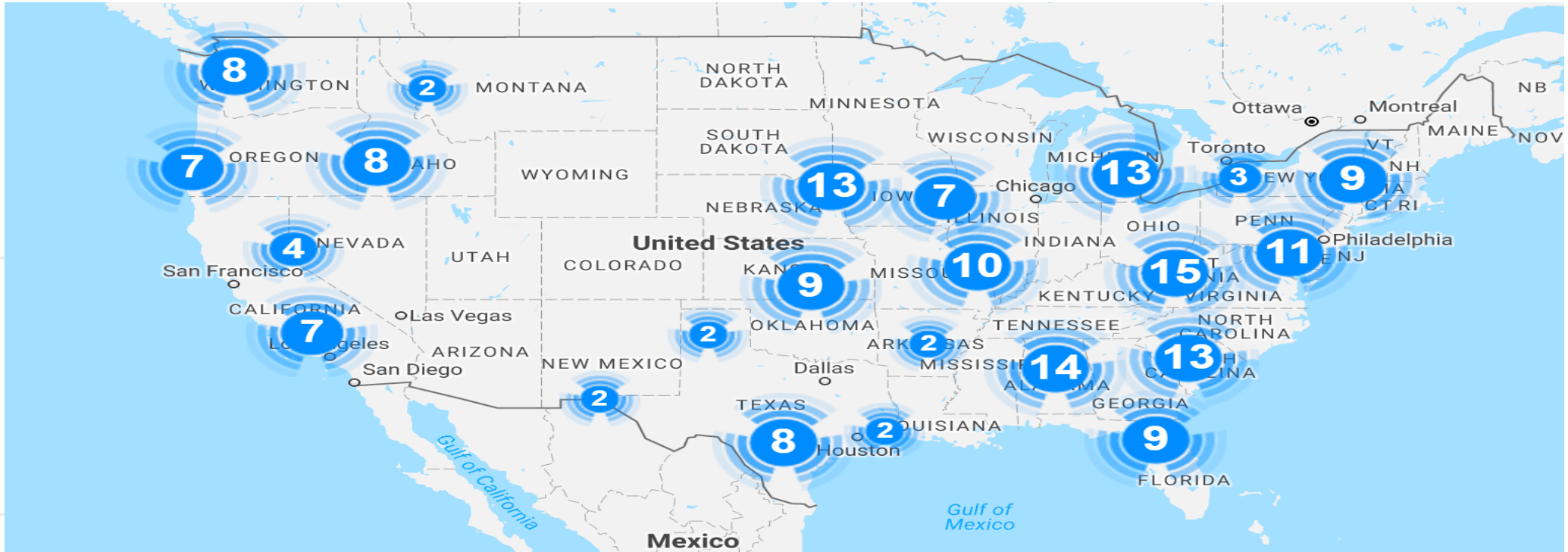

193 TELEVISION STATIONS

575 CHANNELS

89 US MARKETS

TELEVISION

DIGITAL

RADIO

CABLE

Advertising Platforms

LOCAL ADVERTISING

COMPULSE INTEGRATED MARKETING

SINCLAIR NETWORK SALES
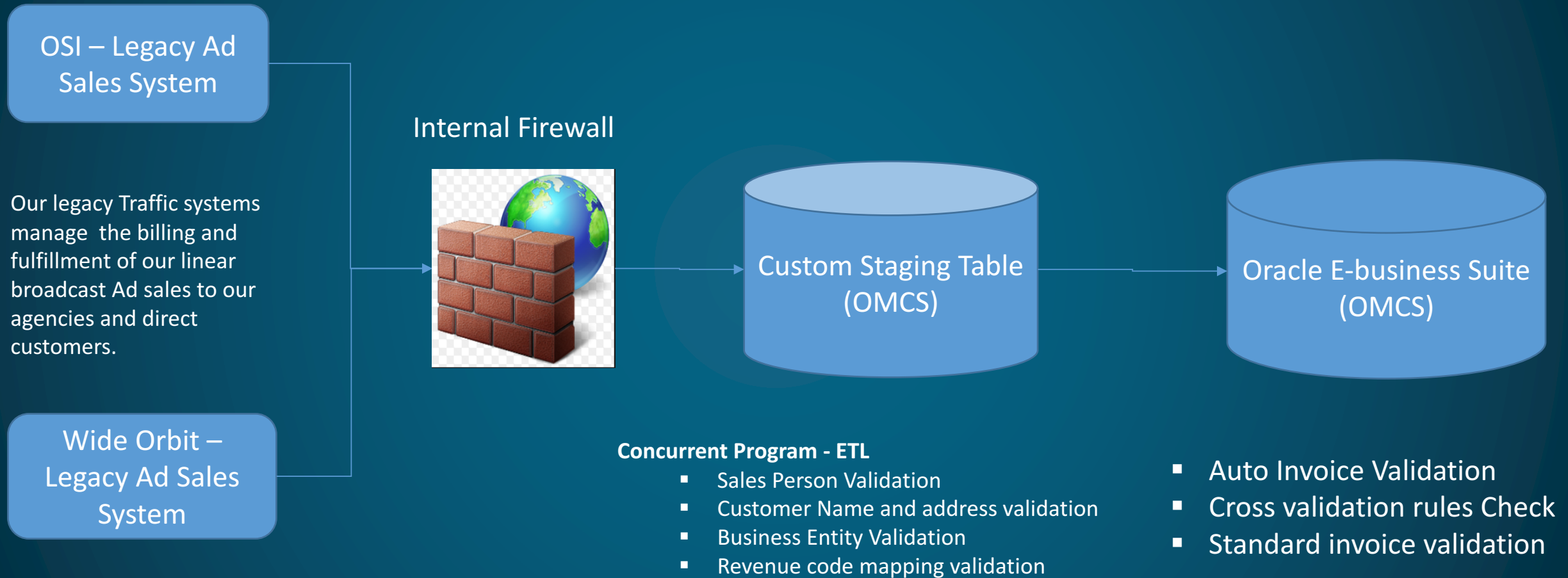

SINCLAIR NATIONAL SALES

LONG FORM

The Bridge Project

In 2015 we were at a cross road trying to determine if we should expand our current footprint in E-Business Suite and upgrade to 12.2. Considering our future plans for expansion and the overall need of our users for new functionality and scalability we decided to make the leap to Cloud.

The Bridge project planning started in Q2 of 2016 and was enormous undertaking for our core internal Sinclair team and our partner KPMG. Our goal was to implement a state of the art Cloud ERP including SOA Cloud Service and MFT including Oracle's PaaS platform in 9 months with HCM and Payroll going live in under 12 months . The ERP team successfully implemented the following modules GL, AP, AR, Projects, Supplier Portal, Purchasing, Procurement Portal and Procurement Contracts. We also consolidated over 90 point to point integrations into roughly 45 SOA composites for ERP/HCM/Payroll.
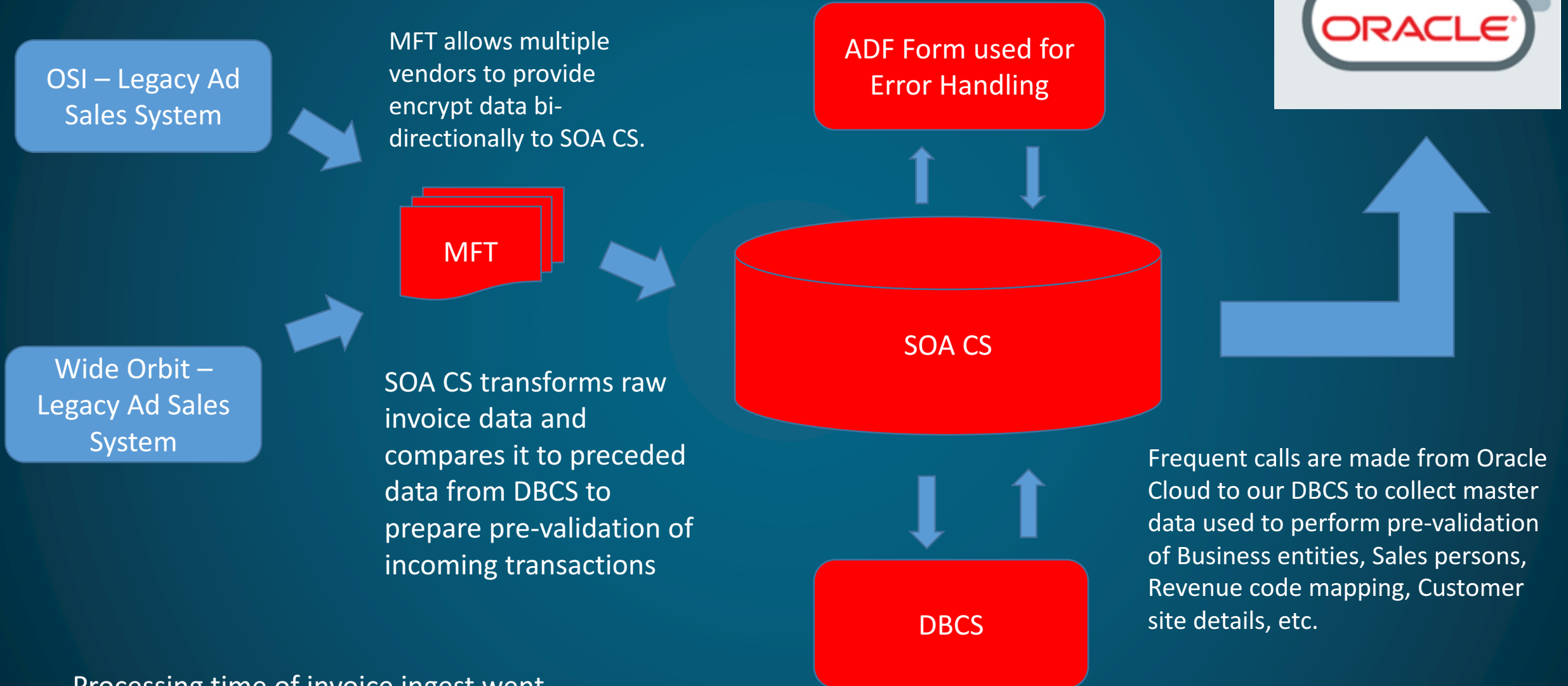

Connecting People With Content Everywhere.

Third Party OM to EBS Invoice Ingest process using Point to Point solutions

OSI – Legacy Ad Sales System

Our legacy Traffic systems manage the billing and fulfillment of our linear broadcast Ad sales to our agencies and direct customers.

Wide Orbit – Legacy Ad Sales System

Internal Firewall

Custom Staging Table (OMCS)

Oracle E-business Suite (OMCS)

Concurrent Program - ETL
- Sales Person Validation
- Customer Name and address validation
- Business Entity Validation
- Revenue code mapping validation

- Auto Invoice Validation
- Cross validation rules Check
- Standard invoice validation

Current process took 18-24 to complete 3 million records. Error handling was done primarily through SQL updates.

Invoice ingest using SOA Cloud Service and MFT

Flexible and Scalable

OSI – Legacy Ad Sales System

MFT allows multiple vendors to provide encrypt data bi-directionally to SOA CS.

MFT

ADF Form used for Error Handling

Wide Orbit – Legacy Ad Sales System

SOA CS transforms raw invoice data and compares it to preceded data from DBCS to prepare pre-validation of incoming transactions

SOA CS

ORACLE

Frequent calls are made from Oracle Cloud to our DBCS to collect master data used to perform pre-validation of Business entities, Sales persons, Revenue code mapping, Customer site details, etc.

DBCS

Processing time of invoice ingest went from 18 Hours Down to 2 ½ Hours.

30

# Before - Performance statistics using EBS R12

| File Size	# of Records
500 MB	1,541,030

Stage	Steps performed	Time in mins
Load	Load Input files to Staging table	10 mins
Validate	Validate data in Staging table in SOA (PL/SQL)	20 hours
Auto Invoice	Interface/Import	4 hours

After - Performance statistics using PaaS

File Size	# of Records
500 MB	1,541,030

Stage	Steps performed	Time in mins	Comments
Load	Load Input file to Staging table in SOA	16 mins	Chunking Logic: 50 records
Validate	Validate data in Staging table in SOA (PL/SQL)	15 mins	
UCM & Load to Interface	Query Validated data from SOA Staging table, Create FBDI format CSV file, Call ERP Integration Service, Upload to UCM, Load the Data into Auto Invoice Interface table	96 mins	FBDI Chunking Logic: 20,000 Records No of Files: 48
Auto Invoice	Auto Invoice with 25 workers	30 mins	1.1 million VALIDATED records.

PaaS SOA CS Architecture – Production

LB
JCS-Suite
1 OCPU

SOA-CS
2 OCPU

SOA – CS
2 OCPU

DBCS SE
2 OCPU
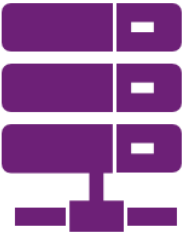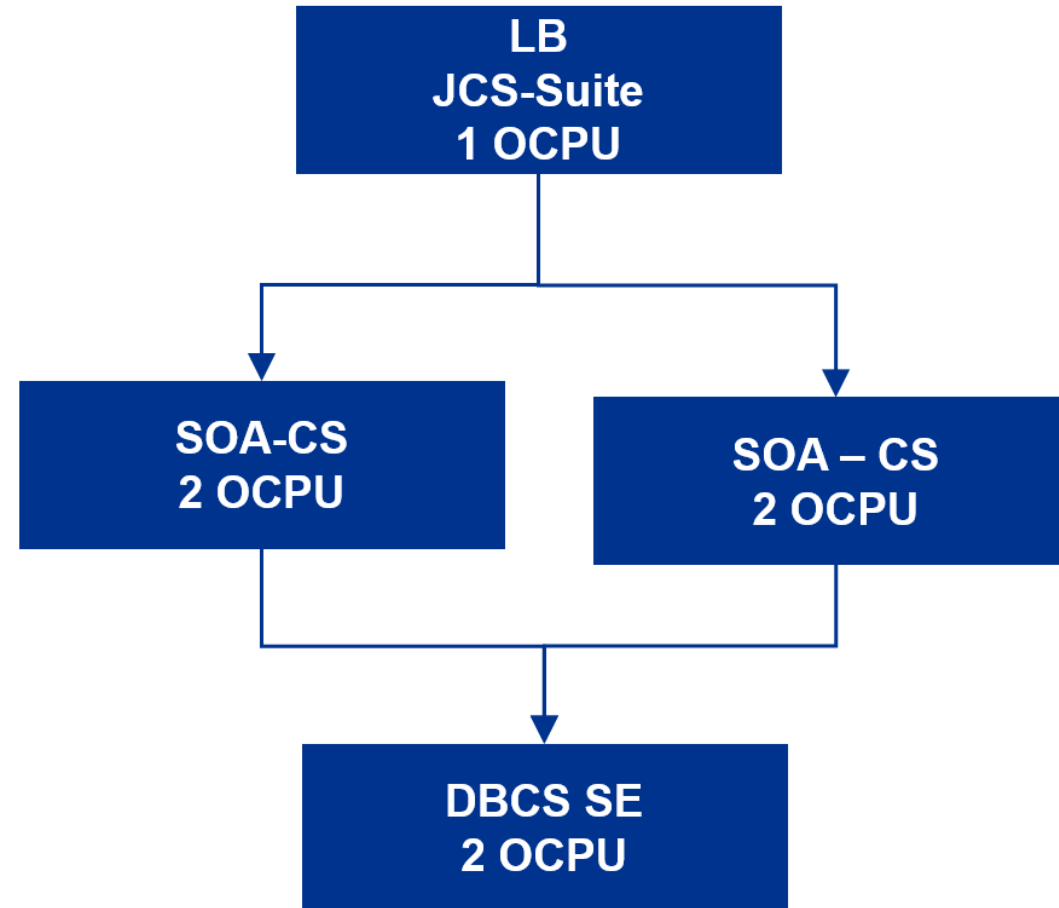
— **2OCPU Compute Store**
— **3TB Block Storage**
— **3TB Object Storage**
— **3TB DB backup Storage**

LB : Load Balancer
JCS : Java Cloud Service
SOA-CS :SOA Cloud Service
DBCS : Database Cloud Service
SE : Standard Edition

Lessons Learned

Use of MFT as a secure File transfer tool for out of box support for preprocessing and post processing of files such as PGP encryption and decryption, Zip compressed/ decompressed of files.

Standardize design patterns to accelerate solution build to handle most critical aspect of Cloud Integration with the internal systems.

Chunking of file is a method used in SOA CS in which large files are divided into smaller size or chunks. Using chunking of file we read the file in smaller size which consumes less memory and improves performance.

Using Routing in Mediator multiple vendors file transfers were connected using single mediator and the file was transferred in one Interface instead of multiple point to point integrations

Potential PaaS Purchases for the Future…

- Expansion of the SOA CS and MFT Platform
- Oracle Process Cloud Service
- Oracle Mobile Cloud Service
- Oracle Documents Cloud Service
- Oracle Application Performance Monitoring Service

Questions