DELL Technologies

How Dell EMC Used Pega Decisioning to Power a Work Assignment Transformation

Vishwadeep Chawla
Pawan Duddu
Dell Technologies

James Favreau
Accenture

PW 18

PEGA

Limitless possibilities. Real results.

Introductions

Vishwadeep Chawla

Senior Manager
Enterprise Pega CoE
Dell Technologies

Pavan Duddu

Solution Architect
Enterprise Pega CoE
Dell Technologies

James Favreau

Senior Manager
Cloud First - Pega Practice
Accenture

Agenda

1. **Dell EMC, Customer Service, & the Service 360 Program**
   Who we are, what we do, and the case for change
2. **Goals for the Intelligent Matching Solution**
   Review of the specific business objectives for the program
3. **Journey & Decisions Made**
   From PoC to implemented solution, how we faced challenges and pivoted when necessary
4. **Results Generated & Lessons Learned**
   Everything accomplished and learned from a 2+ year journey
5. **Technical Deep Dive or Q&A**
   Time permitting

Dell Technologies is a **unique family of businesses**
that provides the essential infrastructure for organizations to build their digital future, transform IT and protect their most important asset, information.

Dell Technologies consists of 7 brands:

The world's largest privately controlled technology company in numbers:

- $79.9B revenue[1]
- Serving 99% Fortune 500
- >140,000 team members
- 30,000 full time Services and Support team members
- 180 countries

1 1 Non-GAAP net revenue for the fiscal year ended February 3, 2018

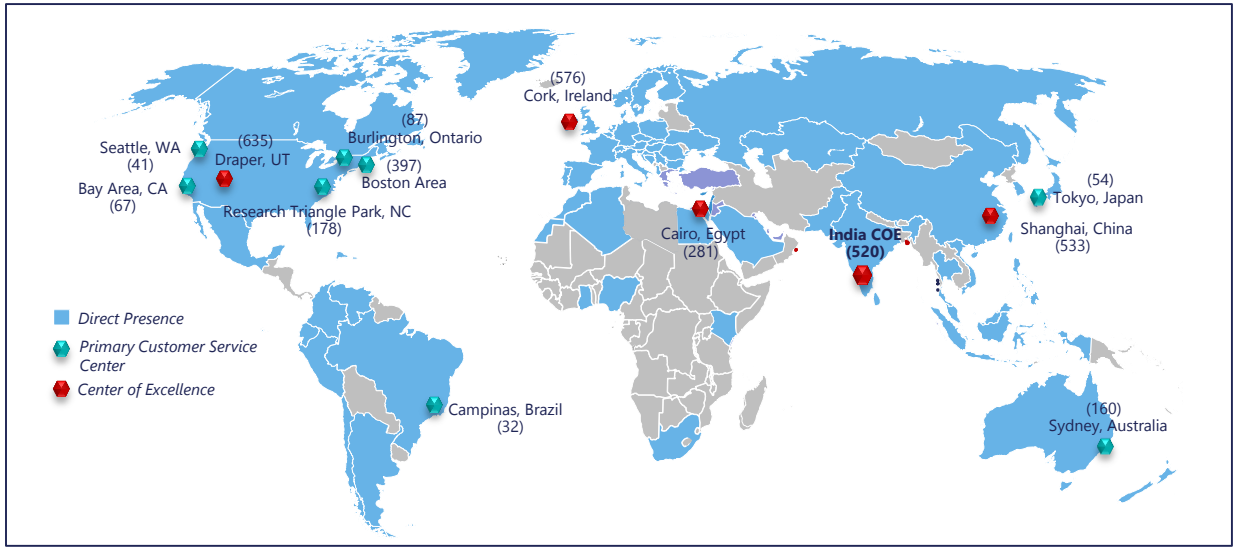
DELL Technologies

This slide represents Dell Technologies' operating structure. Our financial reporting structure consists of three business units: CSG, ISG, and VMware. Our other businesses include the results of RSA, Pivotal, Secureworks, and Boomi.

DELL Technologies

Dell EMC Customer Service – Global Support Centers

- Dell Technologies delivers services from 620 service locations in 152 countries
- Dell EMC maintains a service presence in more than 50 countries in a follow-the-sun model
- Encompassing 7,000 technical support professionals, with an additional 8,000 Dell EMC Global Services professionals



Case for Change

> **BY 2020, CUSTOMER EXPERIENCE WILL OVERTAKE PRODUCT AND PRICE AS THE KEY BRAND DIFFERENTIATOR.**
>
> WALKER INFORMATION, CUSTOMERS 2020 REPORT

FROM	TO
Product / Business Siloes	Customer-Centric Solutions
Reactive / Transactional	Proactive / Predictive
Manual / Exception-Driven	Automated / Personalized
Many Case Management Touchpoints	Simplified Case Handling

EMC FRAMEWORK FOR OUR FUTURE : PROACTIVE, PREDICTIVE, SOLUTIONS SUPPORT

Goals for the Routing Solution

Previous State

Routing of transactions to Queues

Agents would ‘pick and choose’ transactions from aligned queues

Significant monitoring (manual) necessary to ensure all transactions assigned and SLO met

Individual Skills & Skill Levels not considered in routing

Aging and scalability-limited platform

To-Be Vision

Routing of transactions to individual agents, based on Skill & Skill Level

Elimination in ability to “cherry-pick”

Reduction in time spent manually monitoring

Increased ability to classify work

Ability to improve through adaptive learning

Future-ready platform with decisioning capabilities built-in

The Journey

How Dell EMC was able to move quickly from POC to Deployed Software

- Rapid development of interaction model between Pega and Agent Front End (SFDC)
- Proved out viability of integration and interaction model

- Selected 3 product Business Units (BU) to pilot with
- Designed unique and purpose built decisioning models for each BU
- Industrialized the interaction model between systems, data feeds

- Began process of rolling on additional BUs every 2 weeks
- Worked individually with each BU to design a model fit to their needs
- Refined and adjusted methodology as deployments continued

Decisioning Matching Algorithm

Which Type of Decisioning Model to Implement?

Human Understanding Continuum

Simpler → **More Complex**

Deterministic

- Rule-based; decisions remain the same until rules are updated
- Performed natively in Pega

Predictive

- Decisions based on pre-processed analysis; should be refreshed regularly for optimal performance
- Model generation can be performed natively in Pega or third-party predictive models can be imported

Adaptive

- Machine Learning; decisions evolve & change based on feedback (positive/negative) over time
- Self learning model that needs to be monitored for optimal performance
- Performed natively in Pega

How We Implemented

1

- Difficulty with training data and discerning the right predictors
- Ultimately, business realized that it needed more predictability as we launched

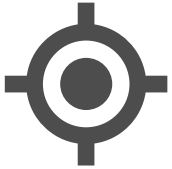
2

- More predictable results were well received, but solution still lacked the ability to adjust at the pace of business change
- Business looking for more transparency into why certain resources were offered a transaction

3

- Provided the ability to give increased visibility to the user on why they were chosen
- Tweaks could be achieved more quickly because rules were native to Pega

Since Initial Deployment…



Priority Based Routing

Deployed Q3 2017

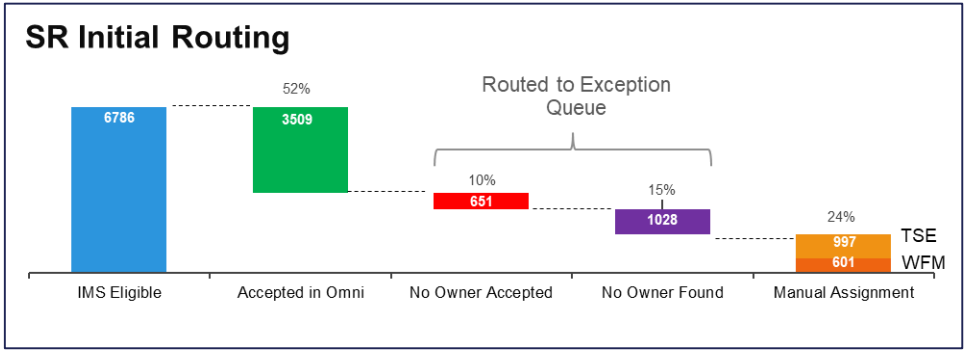
- Business is constantly working to gain new insights and understand how to improve the routing experience
- Largest enhancement request is the need to prioritize transactions based on additional attributes (previously was based only on time/SLO)
- Team developed the ability to weight transactions based on many attributes and offer them out in order – adding an additional level of logic on top of the 'who' – we now also consider the 'when'

Looking Ahead

2018 and Beyond

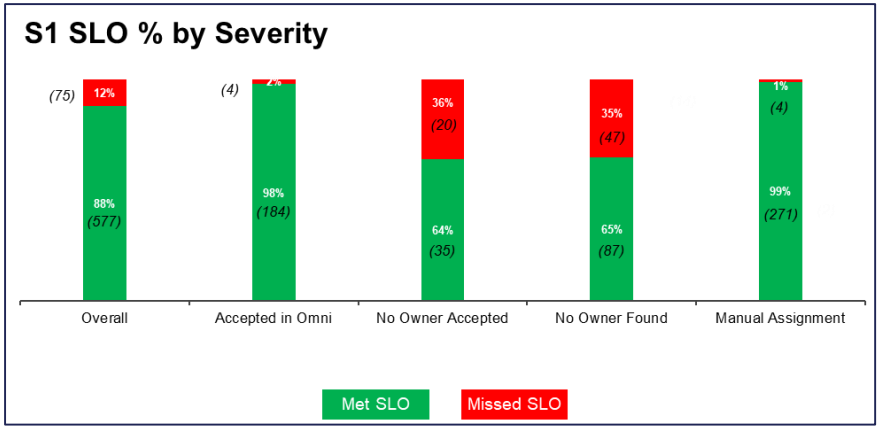
- Solution is being considered for all sorts of automated work assignment use-cases across the combined Dell technologies landscape
- New transaction types such as field transactions (work orders) have been onboarded
- 'Decisioning as a Service' - Routing being elevated to a micro service accessible across the organization and across different contact channels.

Results Generated



> **EPIC performance!**
>
> Business leader

> **Major win! Our highest daily intake during Amer's shift was about 200 SRS a couple weeks ago. Yesterday, you can see that we hit 233 thanks to the automated delivery of work**
>
> Business leader



Decisioning Lessons Learned

Start Simple

- Starting with a simple model allows your team to more deeply understand the result that the business is looking for
- It also puts the least amount of hurdles in your way of success
- The experience with a simple approach will prove invaluable towards later iterations

Know Your Data

- The single most important factor in the success/failure of decisioning will be the quality of your data
- Spend the time getting to know how your business interacts with the data
- 'Dirty' data can rarely be overcome with good decisoning

Define What Success Looks Like

- Agree to a target and how it should be measured
- Have a concrete way to measure of 'correct' and 'incorrect' results

Set the Business Up for Success…

Readiness and Adoption teams should be engaged early and often

Stakeholder Analysis

Identify individuals/groups **contributing to, impacted by**, or **requiring awareness/ influence** around the project

Change Impact Assessment Strategy

Understand and **identify key change impacts, determine impacted stakeholders,** and **degree of change** and define the way in which people will work in the future

Change Network Strategy

Global network of team members who **represent and influence key stakeholders** by contributing and collaborating in **design, development, readiness, and deployment**

Communications Strategy

Provide impacted audiences with information through **consistent, key messages and effective vehicles** in order to achieve change readiness & adoption

Training Strategy

Define approach to drive training development and delivery at the global level to equip impacted end users with the **capabilities to adopt the change and operate in a new way of working**

Readiness and Deployment

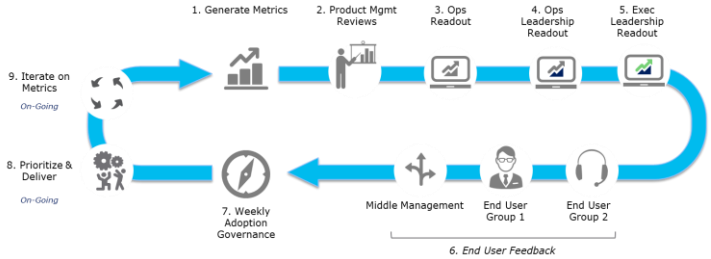
Evaluate **progress towards end user go-live** to ensure the business and IT are positioned to succeed in their transition

Define approach for **deploying** change across end user audiences to ensure the business and IT are positioned to **succeed** in their transition

...and Help Them Adopt the Change

Successful adoption requires structure, measurement, and iteration

Weekly Adoption Governance Cycle



Define Metrics by Audience

Executive (Weekly) — **CSAT**

Leadership (Weekly) — **Throughput**

Middle Mgmt. (Daily) — **Accept Rate**

Tools to Enable Action

Manager Coaching Guides

Actionable Manager Dashboards

Assess the Change Curve

Create a Closed Loop for Feedback

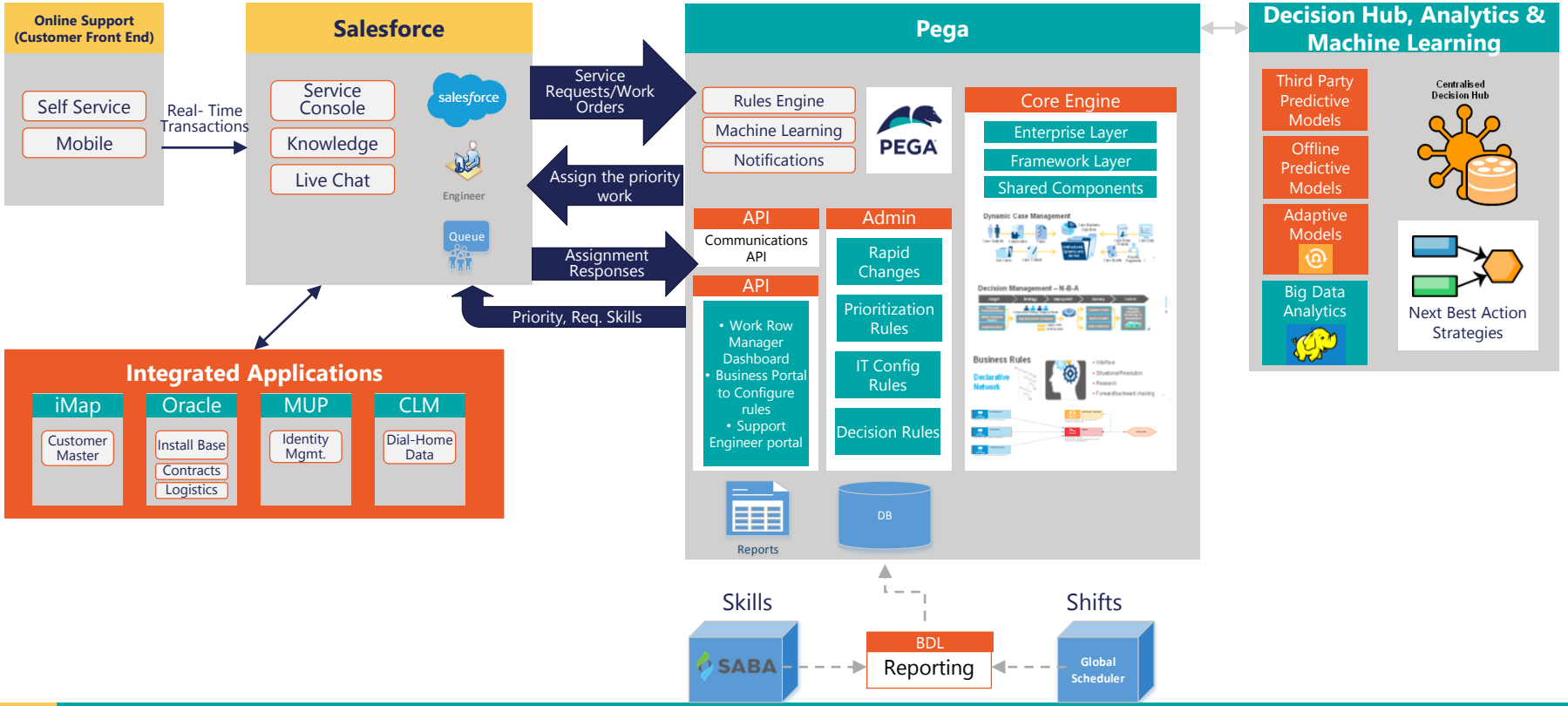
Adoption Team Informs Architecture, Execution, and Steady State Teams

Time Check!

Where should we focus the remaining time?

OR

Architecture



Technical Lesson's Learned

Make Data Pages Thread-Safe

Data Pages loaded at the node level using report definitions are not thread safe and can cause unexpected behavior when being referenced by multiple threads expecting different context

Externalize Reference Data

Initially we stored updates from other systems as part of the work object BLOB – the volume and frequency of these updates caused memory exceptions and huge increase in database size. Externalize for scalability!

ADM Related Issues

Design with contingency in mind if ADM unavailable or inaccessible

Don't Persist Transient Data

Memory issues can be caused by storing data which is only needed for processing and not required for reporting or analytics

Need for Multiple SLA Agents

Due to high volumes and processing time we need more than one SLA agent per node. We were unable to customize this due to the product behavior and this is addressed using a hotfix from Pega


PEGA®
Build for Change®