Nick Murray - Data Product Design at Salesforce

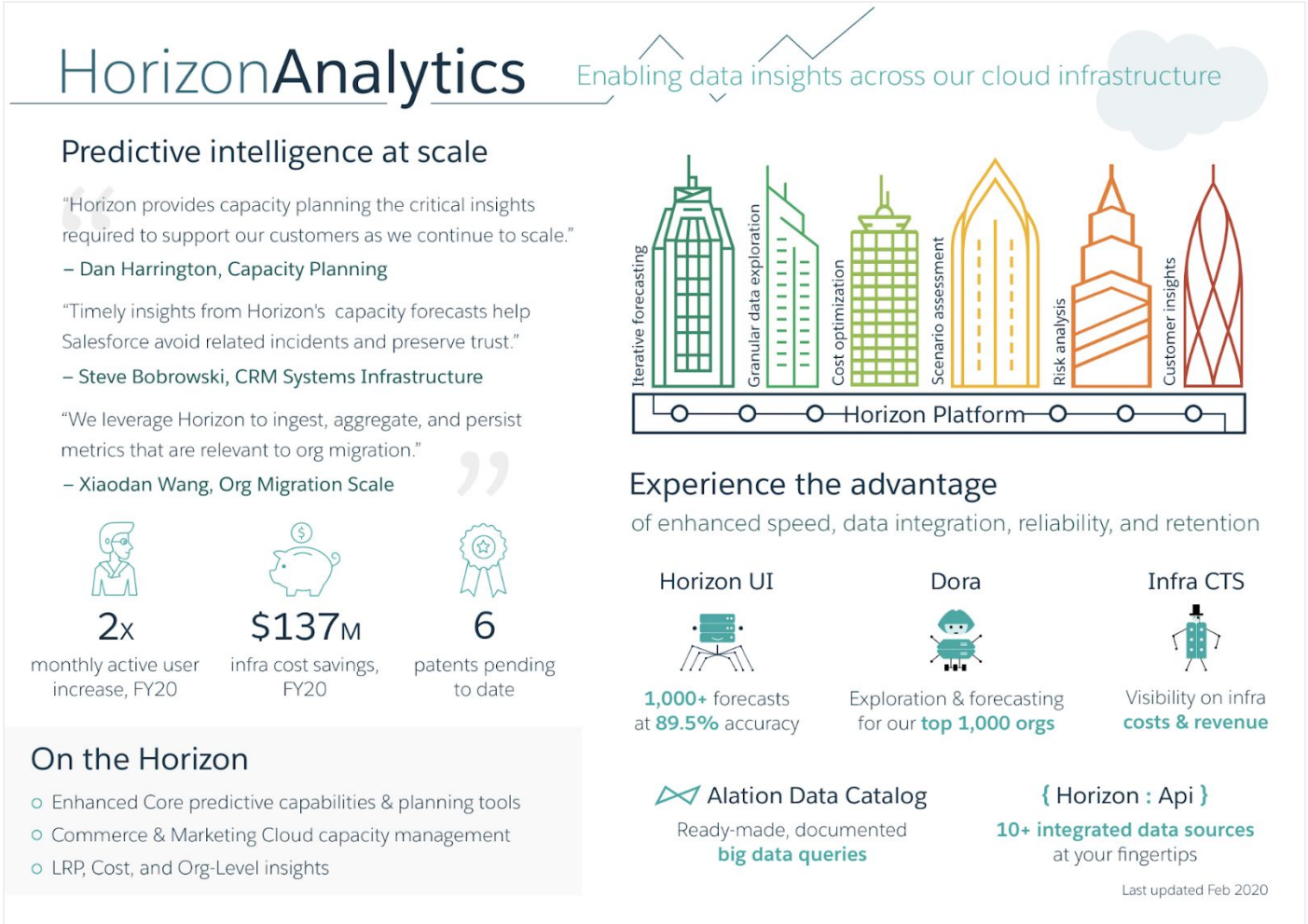
The following screenshots showcase my work at Salesforce from 2019-2020. For any questions, sketches, or other process-related materials, please don't hesitate to contact me directly:

nicholasdmurray@gmail.com
(917)-386-3609
http://nickm.io

Horizon Analytics - My Team at Salesforce

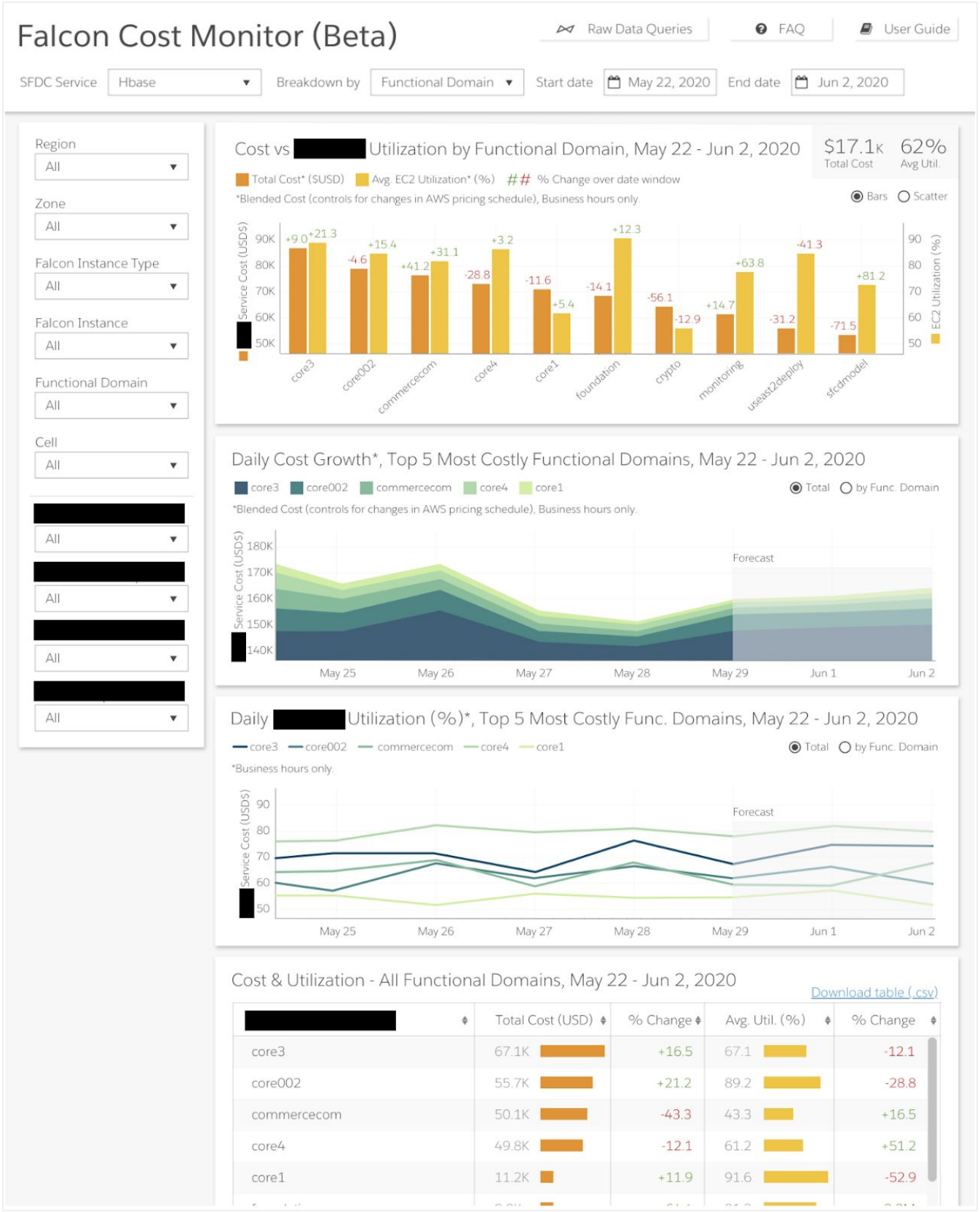
Our team delivers internal data products to thousands of infrastructure planners, executives, and engineers to ensure that Salesforce, its acquisitions, and any customer-developed apps function seamlessly in the cloud.

Team showcase infographic by Nick Murray, February 2020



Falcon Cost Monitor - Actively Managing Cloud Infrastructure Costs, May 2020

Purpose: Enable engineers in partnership with finance professionals to proactively grow the cost-efficiency of our cloud infrastructure fleet.



Falcon Cost Monitor (Beta)

Raw Data Queries | FAQ | User Guide

SFDC Service: Hbase | Breakdown by: Functional Domain | Start date: May 22, 2020 | End date: Jun 2, 2020

Region: All

Zone: All

Falcon Instance Type: All

Falcon Instance: All

Functional Domain: All

Cell: All

[redacted]: All

[redacted]: All

[redacted]: All

[redacted]: All

Cost vs Utilization by Functional Domain, May 22 - Jun 2, 2020

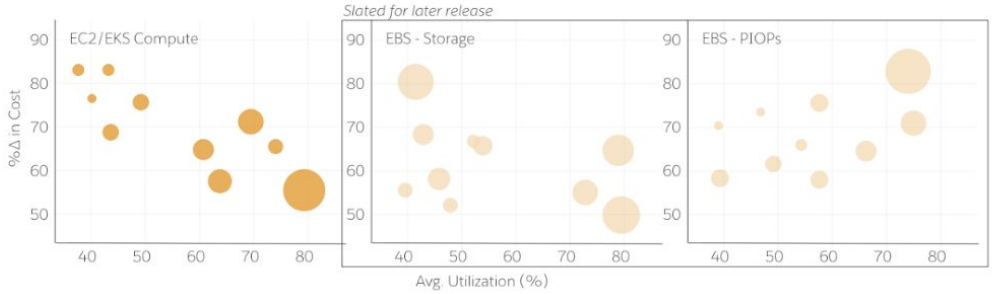
$17.1K Total Cost | 62% Avg Util.

Total Cost* ($USD)

*Blended Cost (controls for changes in AWS pricing schedule), Business hours only.

Bars | Scatter

Slated for later release

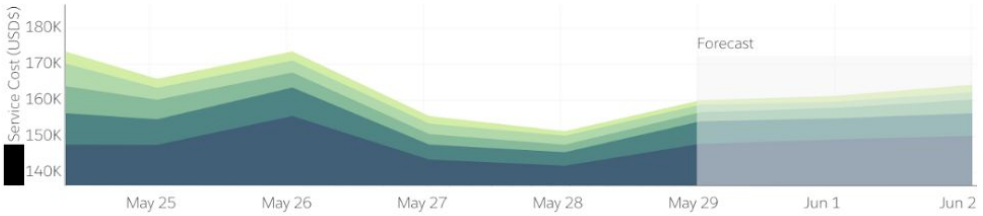


Daily Cost Growth*, Top 5 Most Costly Functional Domains, May 22 - Jun 2, 2020

core3 | core002 | commercecom | core4 | core1

Total | by Func. Domain

*Blended Cost (controls for changes in AWS pricing schedule), Business hours only.

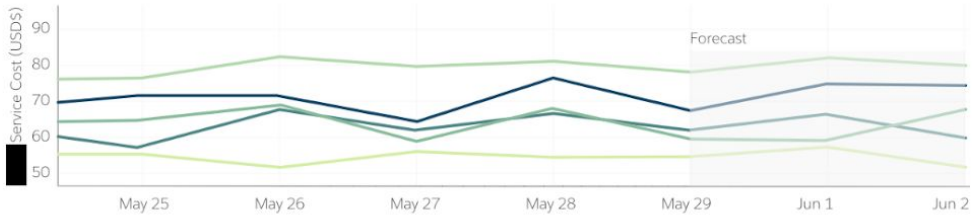


Daily [redacted] Utilization (%)*, Top 5 Most Costly Func. Domains, May 22 - Jun 2, 2020

core3 | core002 | commercecom | core4 | core1

Total | by Func. Domain

*Business hours only.



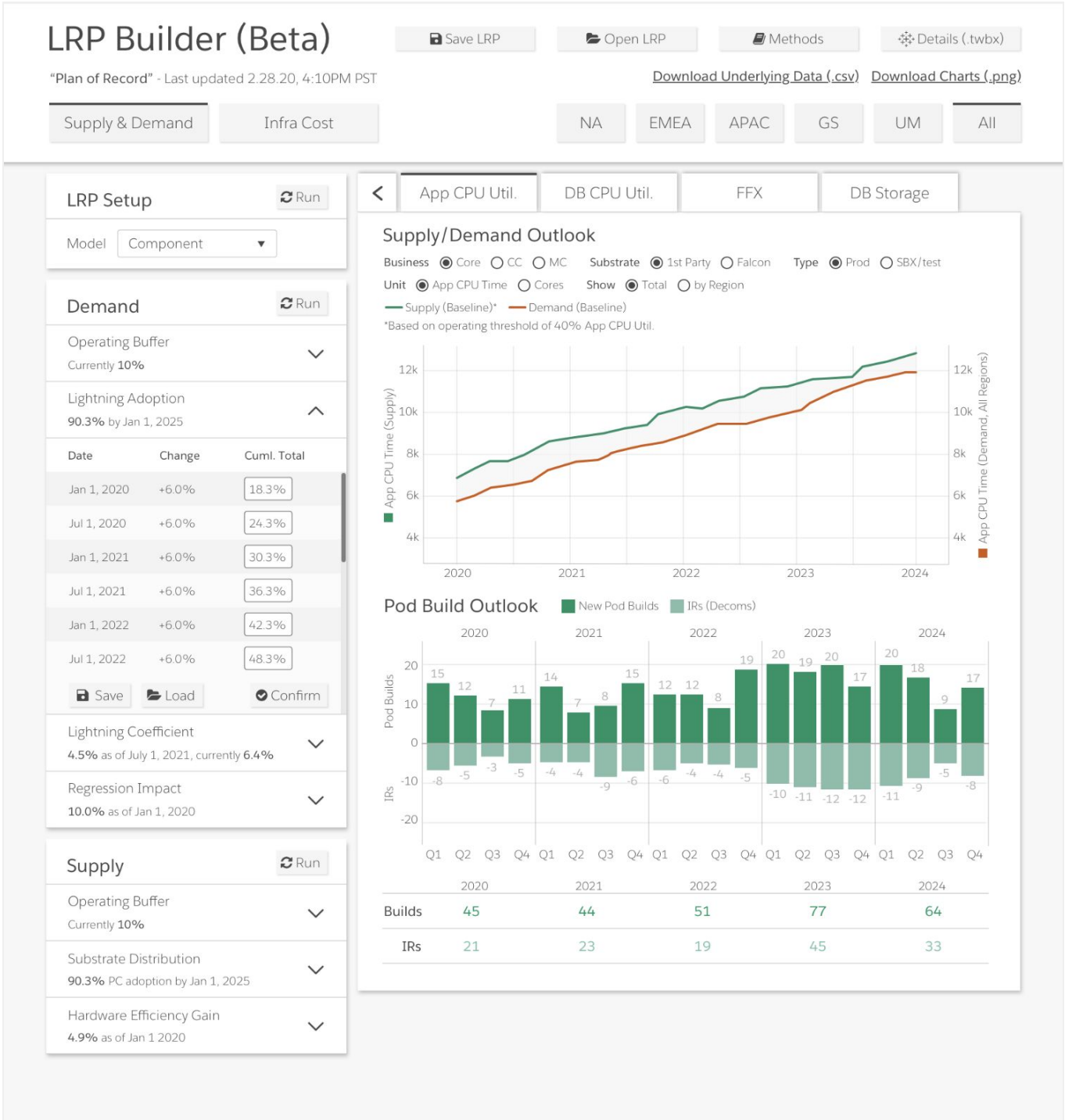
Cost & Utilization - All Functional Domains, May 22 - Jun 2, 2020

Download table (.csv)

[redacted]	Total Cost (USD)	% Change	Avg. Util. (%)	% Change
core3	67.1K	+16.5	67.1	-12.1
core002	55.7K	+21.2	89.2	-28.8
commercecom	50.1K	-43.3	43.3	+16.5
core4	49.8K	-12.1	61.2	+51.2

LRP Builder - Long Term Infrastructure Build Planning, April 2020

Purpose: Enable executives and capacity planners to run infrastructure build scenarios, to support the development of our infrastructure long range plan (LRP).



LRP Builder (Beta)

Save LRP | Open LRP | Methods | Details (.twbx)

"Plan of Record" - Last updated 2.28.20, 4:10PM PST

Download Underlying Data (.csv) Download Charts (.png)

Supply & Demand | Infra Cost

NA | EMEA | APAC | GS | UM | All

LRP Setup

Run

Model: Component

Demand

Run

- Operating Buffer — Currently **10%**
- Lightning Adoption — **90.3%** by Jan 1, 2025
- Lightning Coefficient — **4.5%** as of July 1, 2021, currently **6.4%**
- Regression Impact — **4.1%** as of Feb 1, 2022, currently **10.0%**

Supply

Run

- Operating Buffer — Currently **10%**
- Substrate Distribution — **90.3%** PC adoption by Jan 1, 2025
- Hardware Efficiency Gain — **4.9%** as of Jan 1 2020

Date	Value
Jan 1, 2020	4.9%

Save | Load | Confirm

App CPU Util. | DB CPU Util. | FFX | DB Storage

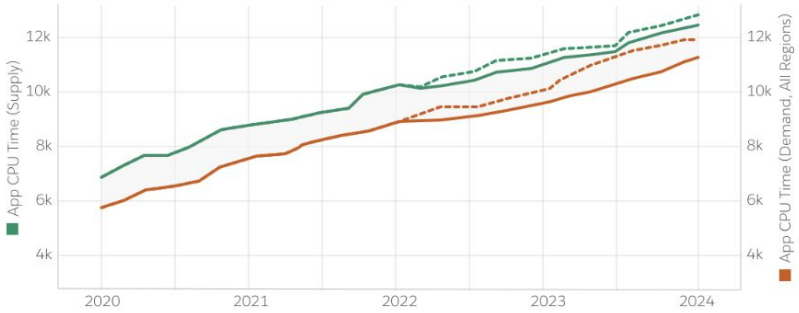
Supply/Demand Outlook

Business: Core CC MC | Substrate: 1st Party Falcon | Type: Prod SBX/test

Unit: App CPU Time Cores | Show: Total by Region

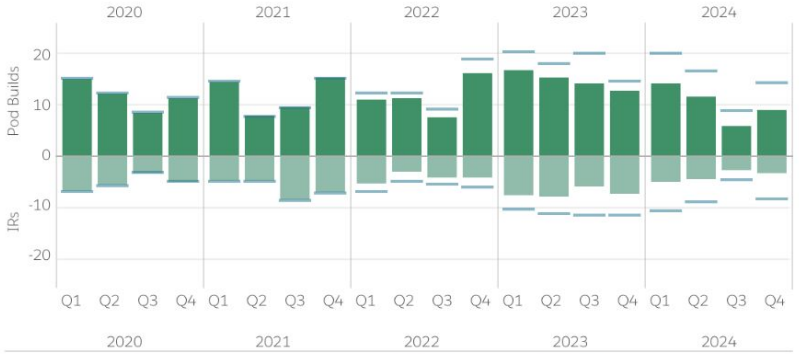
Supply (Baseline)* — Supply (Scenario)* — Demand (Baseline) — Demand (Scenario)

*Based on operating threshold of 40% App CPU Util.



Pod Build Outlook

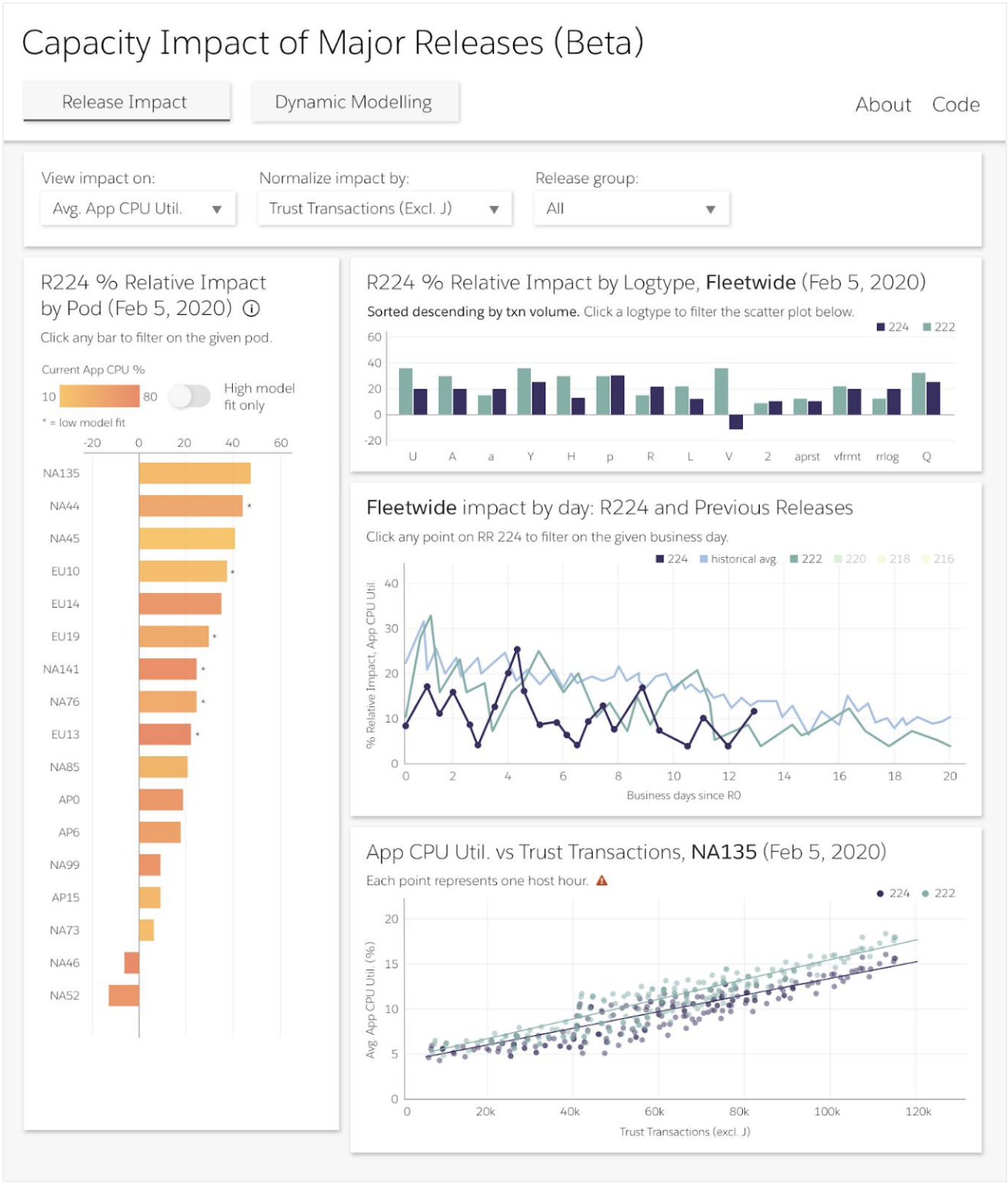
New Pod Builds | IRs (Decoms) | Baseline



	2020	2021	2022	2023	2024
Builds	45	44	46 (51)	58 (77)	45 (64)
IRs	21	23	15 (19)	32 (45)	25 (33)

Automated Release Regression Analysis, Feb-March, 2020

Purpose: Enable performance engineers at Salesforce to monitor the impact of new software releases on our infrastructure fleet, informing real-time performance tuning efforts.



Dynamic Modelling across Date Windows

Release Impact | Dynamic Modelling | About | Code

View impact on: Avg. App CPU Util. ▼

Normalize impact by: Trust Transactions (Excl. J) ▼

Date Window A*: 2/10/19 - 2/24/19 ▼

Date Window B*: 11/2/19 - 11/16/19 ▼

*Business hours only

% Diff in Avg. App CPU Util. per Txn, all Logtypes

Click any bar to filter on the given pod.

High model fit only

% Diff in App CPU Time per Txn, by Logtype, R0

App CPU Time sourced from app logs. Click any logtype to filter the charts below.

App CPU Util. vs Trust Txns, R0

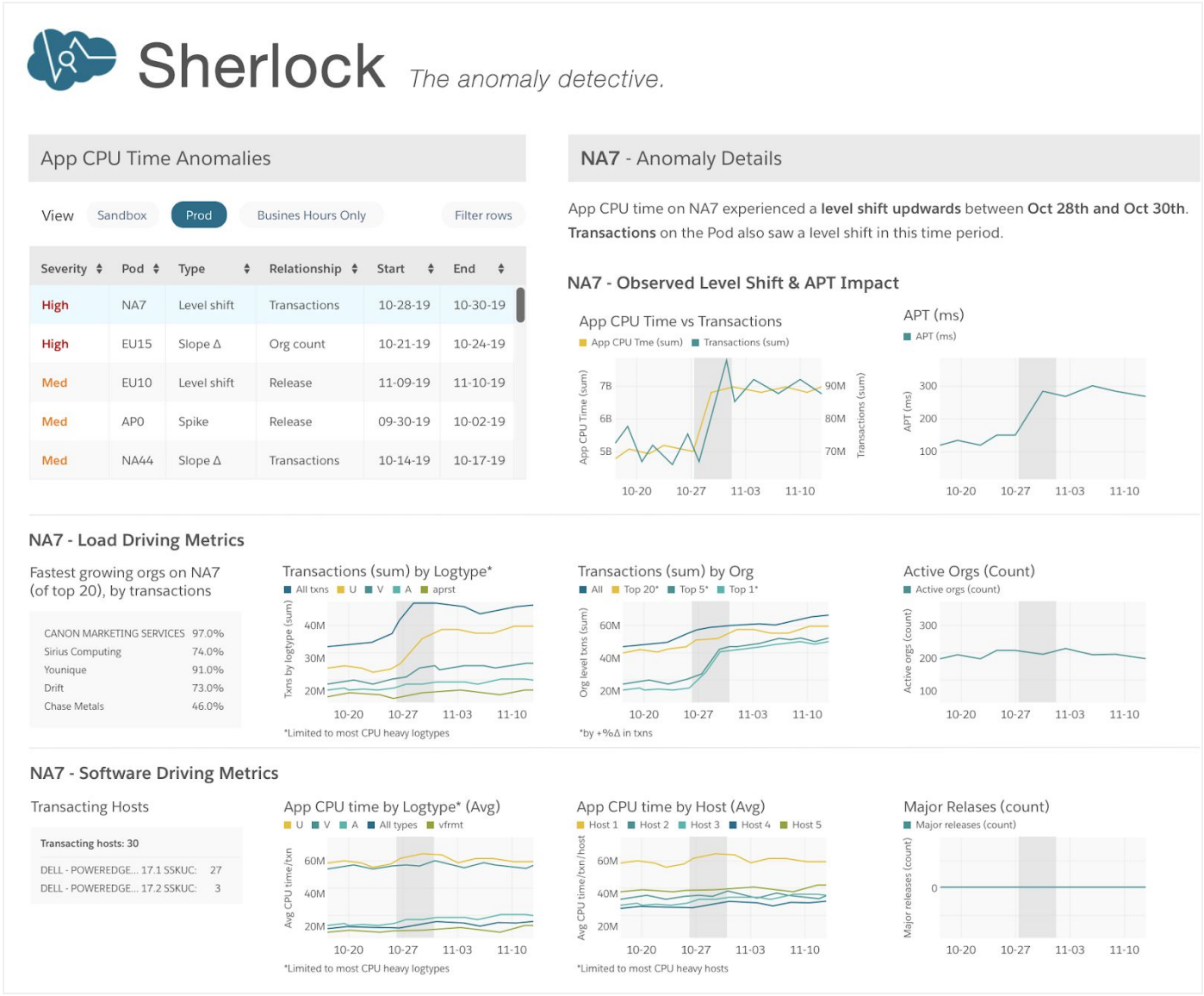
Drag shaded areas to adjust date windows.

App CPU Util. vs Trust Txns, R0

Each point represents one host hour.

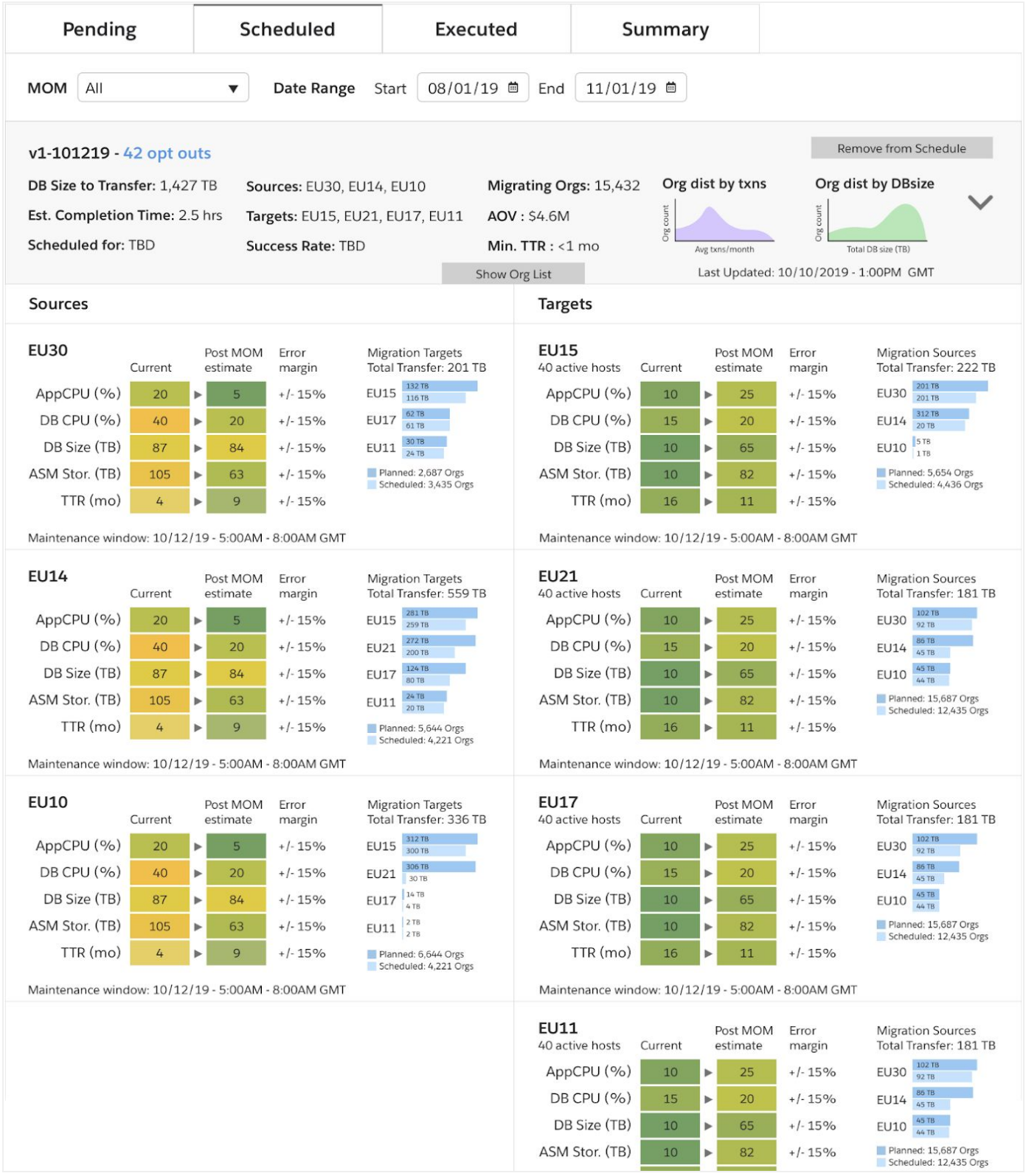
Sherlock - Anomaly Detection and Triage, Dec-Jan, 2020

Purpose: Enable capacity planners to detect, triage, and take action on any customer and/or software driven anomalies occurring across our fleet of infrastructure.



OMASTAR - Managing Customer Cloud Migration, Oct-Nov 2020

Purpose: Enable customer-centric engineers to effectively manage the migration of Salesforce customers to new cloud infrastructure of ever increasing performance, security, and reliability.



Pending | Scheduled | Executed | Summary

MOM: All ▼ Date Range Start 11/01/18 End 10/31/19

MOM Performance Summary

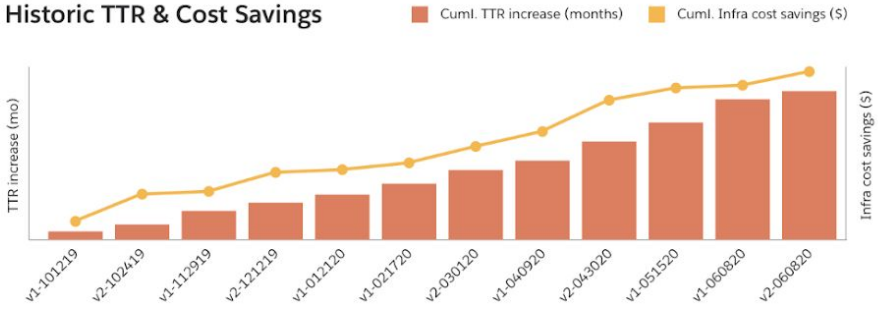
Impact

Cumulative Impact

147 months
Fleetwide TTR Increase

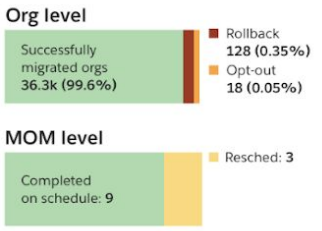
$16.2M
Total Infra Cost Savings

Historic TTR & Cost Savings



Success

Overall Migration Success



Historic MOM Size and Success Rate

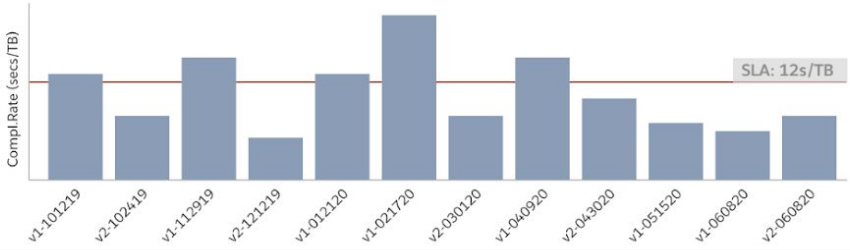
Efficiency

Avg. Migration Efficiency

7.48 secs/TB
Fleetwide Avg. Completion Rate

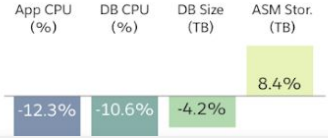
104%
of SLA

Historic Completion Rate



Forecast Accuracy

Avg. Forecast Accuracy (MPE*)



Historic Forecast Accuracy