



Peak Performance: Optimizing Your Apptio Environment

Your Guides:



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Agenda

- Introduction
- Optimizing Data Loads for Efficient Processing
- Reducing Calculation Times and System Lag
- Best Practices for Scaling Apptio Efficiently
- Tools Overview
 - Analyze Performance Component
 - Configuration Insights
 - Usage Project
 - Tools Overview

Introductions

- Take 5 Minutes
- Turn to a Person Near You
- Introduce Yourself
- Business Cards

Quick Poll

- ❓ How many of you have run into performance issues with your Apptio environment?
- ❓ Are any of you still having issues?



Optimizing Data Loads for Efficient Processing

Techniques for Streamlining Data Imports



Incremental Loading

Load only new or changed data to avoid full refreshes and cut processing time.



Event-Driven Automation

Trigger imports on data availability to improve timeliness and reduce manual errors.



Upfront Validation

Validate data before import to prevent costly reprocessing downstream.

Efficient Data Import and ETL Strategies

01

Incremental Loading

Import only new or changed data to minimize load times and resource usage.

02

Data Filtering

Exclude unnecessary records and columns before processing to streamline ETL.

03

Parallel Processing

Run multiple ETL tasks simultaneously to accelerate data import.

04

Batch Loads (Off-Peak)

Schedule large data loads during low-traffic periods to reduce system contention.

05

Validation & Cleansing

Pre-load data checks and cleaning ensure quality and prevent downstream errors.

06

Native Connectors & APIs

Use Apptio's built-in connectors and APIs for faster, more reliable imports.

Managing Data Volume and Complexity



Challenge

Large, complex datasets strain Apptio processing; volume control is essential.



Reduce Volume Before Import

Partition data, archive historical, and filter non-essential records.



Simplify Structures

Flatten hierarchies and reduce dimensional granularity where feasible.

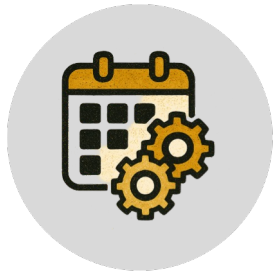


Govern for Lean Databases

Audit regularly to remove redundant or obsolete data and sustain performance.

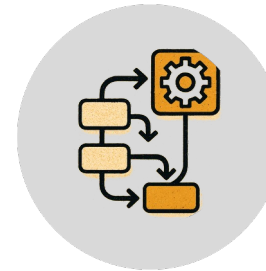


Best Practices for Scheduling and Automation



Off-Peak Scheduling

Schedule data loads and calculations during low-traffic hours to minimize system contention and optimize performance.



Automated Dependencies

Ensure jobs execute in the correct sequence, reducing idle time and preventing errors through automation.



Monitoring & Alerts

Use alerts to detect failed or delayed runs, enabling prompt corrective actions and maintaining reliability.



Dynamic Workload Balancing

Adapt schedules based on real-time data processing demands to enhance throughput and efficiency.

Discussion

- ❓ Do you have any specific environmental challenges you are facing right now?
- ❓ Have you had any environment challenges you were able to overcome? How?



Reducing Calculation Times and Enhancing Responsiveness

Optimizing Model Logic and Calculation Rules



Conditional Logic

Apply calculations only when necessary, reducing wasted processing and improving efficiency.



Rule Simplification

Streamline calculation rules to avoid redundant transformations and minimize complexity.



Execution Alignment

Order rule execution to match data refresh cycles, ensuring optimal performance and timely updates.

Strategies to Minimize Calculation Delays

01

Prioritize Tasks

Assign higher priority to critical calculations to ensure timely completion.

02

Parallel Processing

Leverage multi-core systems to run calculations concurrently.

03

Pre-Materialize Results

Store intermediate results to avoid redundant computations.

04

Monitor Resources

Continuously track CPU, memory, and I/O usage.

05

Dynamic Allocation

Adjust resource distribution based on task urgency and workload.

06

Careful Scheduling

Implement smart scheduling to minimize bottlenecks and idle time.

Best Practices for Scheduling and Automation



Regular Benchmarking

Ensures performance standards are met. Highly effective but requires moderate implementation effort.



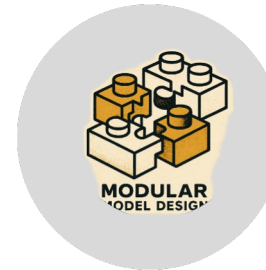
Continuous System Tuning

Optimizes system health. Effective and moderately complex to implement.



User Training

Empowers users to prevent issues. Moderate effectiveness, low complexity.



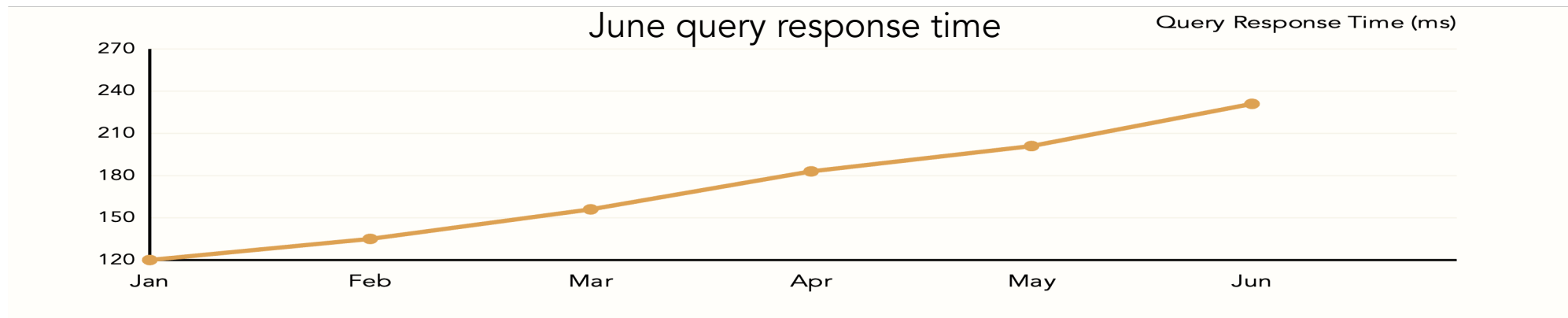
Modular Model Design

Facilitates scalability and quick fixes. High effectiveness, higher complexity.

Best Practices for Scaling Apptio Efficiently

Maintaining Performance as Data Grows

250ms



Techniques include periodic data archiving, incremental load strategies, and scaling compute resources dynamically.

Continuous performance monitoring with threshold alerts aids in preemptive scaling decisions.

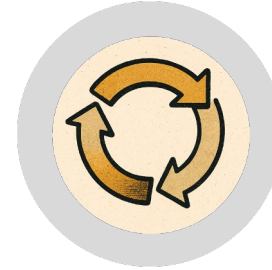
Cloud-native features, such as elastic storage and on-demand compute, maintain responsiveness.

Continuous Improvement and Ongoing Monitoring



Root Cause Analysis

Identify and analyze underlying issues using monitoring data to prevent recurrence and drive targeted improvements.



Optimization Updates

Regularly revise optimization rules based on performance metrics and new insights.



Stakeholder Feedback

Integrate feedback from stakeholders to refine processes and address evolving needs.



Performance Monitoring

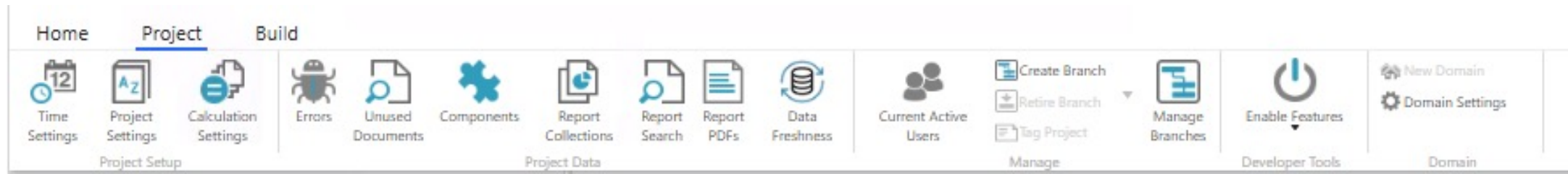
Continuously track key metrics to ensure sustained gains and rapid incident resolution.

Analyze Performance Component

Analyze Performance Component - Installation

The Performance Component is available in the 12.5 Version of the R12 Platform. It is part of the v1.05 Content Version. Steps to install the component:

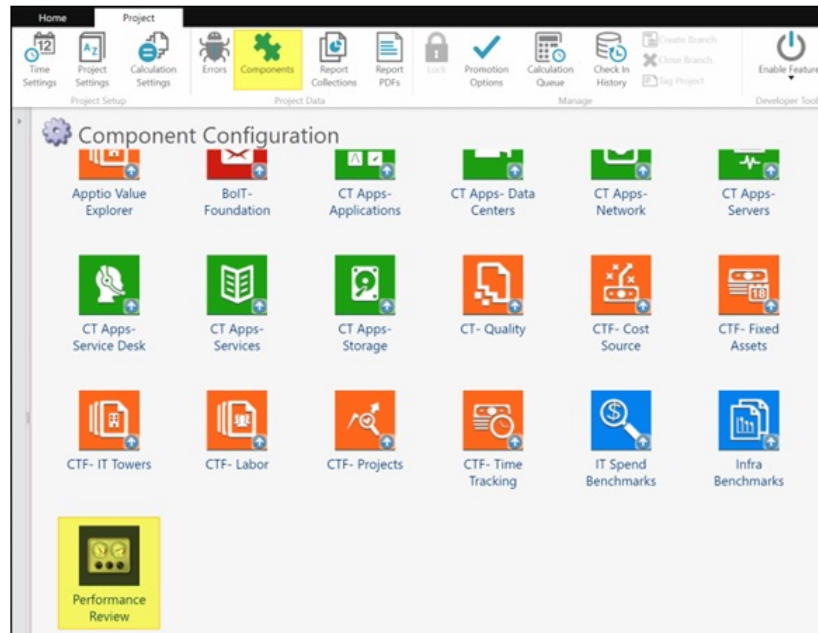
- In your workspace, verify the content version that is configured for your project
 - Click Project Settings



- Validate that Content Version is 105 (if it not, instructions for installing from other versions follow)

Analyze Performance Component - Installation

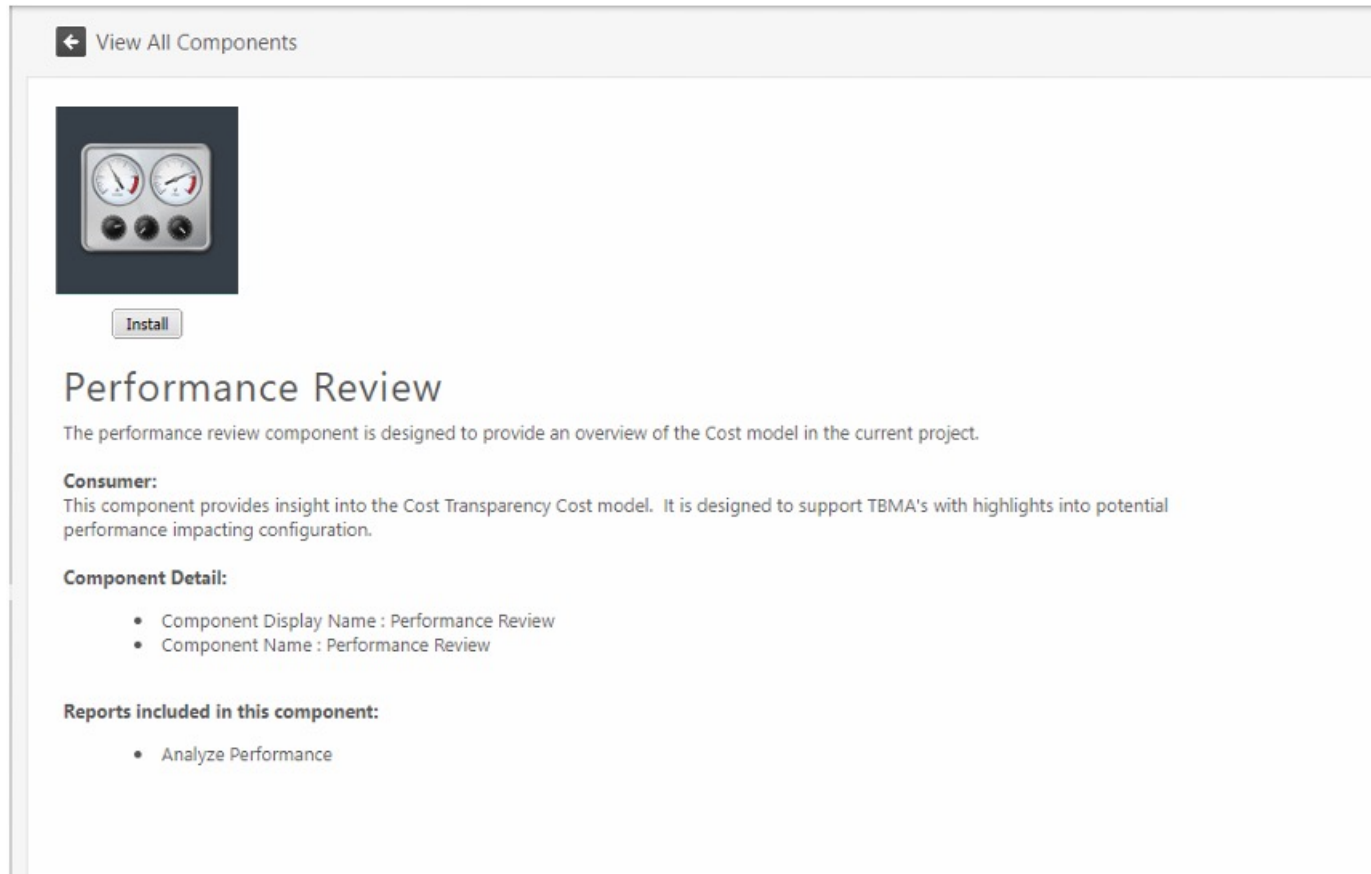
- Close the Edit Project Settings Dialog by clicking the Cancel Button
- Click the Components Button on the Project Ribbon



- Click the Performance Review component tile


Analyze Performance Component - Installation

- Click Install on the Component Installation interface



The screenshot shows a web interface for installing a component. At the top left, there is a back arrow and the text "View All Components". Below this is a dark square icon containing a white panel with two gauges and two buttons. Underneath the icon is a button labeled "Install". The main heading is "Performance Review". Below the heading is a paragraph: "The performance review component is designed to provide an overview of the Cost model in the current project." This is followed by a section titled "Consumer:" with a paragraph: "This component provides insight into the Cost Transparency Cost model. It is designed to support TBMA's with highlights into potential performance impacting configuration." Next is a section titled "Component Detail:" with a bulleted list: "Component Display Name : Performance Review" and "Component Name : Performance Review". Finally, there is a section titled "Reports included in this component:" with a bulleted list: "Analyze Performance".

← View All Components



Install

Performance Review

The performance review component is designed to provide an overview of the Cost model in the current project.

Consumer:
This component provides insight into the Cost Transparency Cost model. It is designed to support TBMA's with highlights into potential performance impacting configuration.

Component Detail:

- Component Display Name : Performance Review
- Component Name : Performance Review

Reports included in this component:

- Analyze Performance

Analyze Performance Component - Installation

Once the installation process completes, you should see the Analyze Performance Reports in the Project Explorer under Reports à Service Costing

The screenshot displays the Apptio Project Explorer interface. The top navigation bar includes 'Home', 'Project', and 'Build' tabs. Below this is a toolbar with various icons for actions like View, New, Save, Check Out, Check In, Rename, Delete, Undo, Redo, Cut, Copy, Paste, Update Document, Update Workspace, Auto Calculate, Create Version, Remove Version, Export, 3s, Recommendations, and Anomalies. A 'Date Range' dropdown is set to 'December F'. The left sidebar shows the 'Project Explorer' with a tree view under 'Reports' > 'Service Costing' > 'Analyze Performance'. The main content area shows the 'Analyze Performance' report overview, titled 'Understand Key Performance Metrics'. The report content includes an 'Overview' section with the following text:

Overview

This report is designed to help highlight some configuration pitfalls that are common in Apptio modelling.

The tables on the following tabs can be resource intensive, and can cause system slowness.

The components on the report are intended to be viewed in TBM Studio Development Mode only, and should not be added to report collections or marked as active.

The following reference information is additive to this report. [Improving Performance in your R12 Projects](#)

Top Use Case -

- Identifying Inefficient Allocations
- Small Rows (Model Granularity)
- Data Set Sizes
- Data Set Size Trends
- Review Preloaded Reports
- Model Path

Usage Project

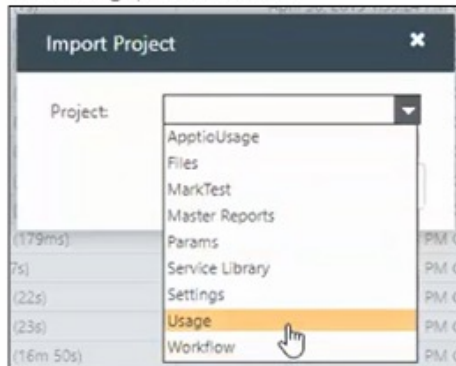
Usage Project - Installation

- <https://help.apptio.com/en-us/studio/admin/monitor-engagement-apptio.htm>

Enable the Apptio Usage dashboard

Apptio Usage is available in TBM Studio versions 12.7.1 and later. Once you have upgraded, you must import the **Usage** project to your environment.

1. In TBM Studio, from the **Settings** (⚙️) menu, click **Import**.
2. Click **Usage**, then click **OK**.



Wait for the project to calculate. Calculations might take more than an hour, depending on the complexity of your project.

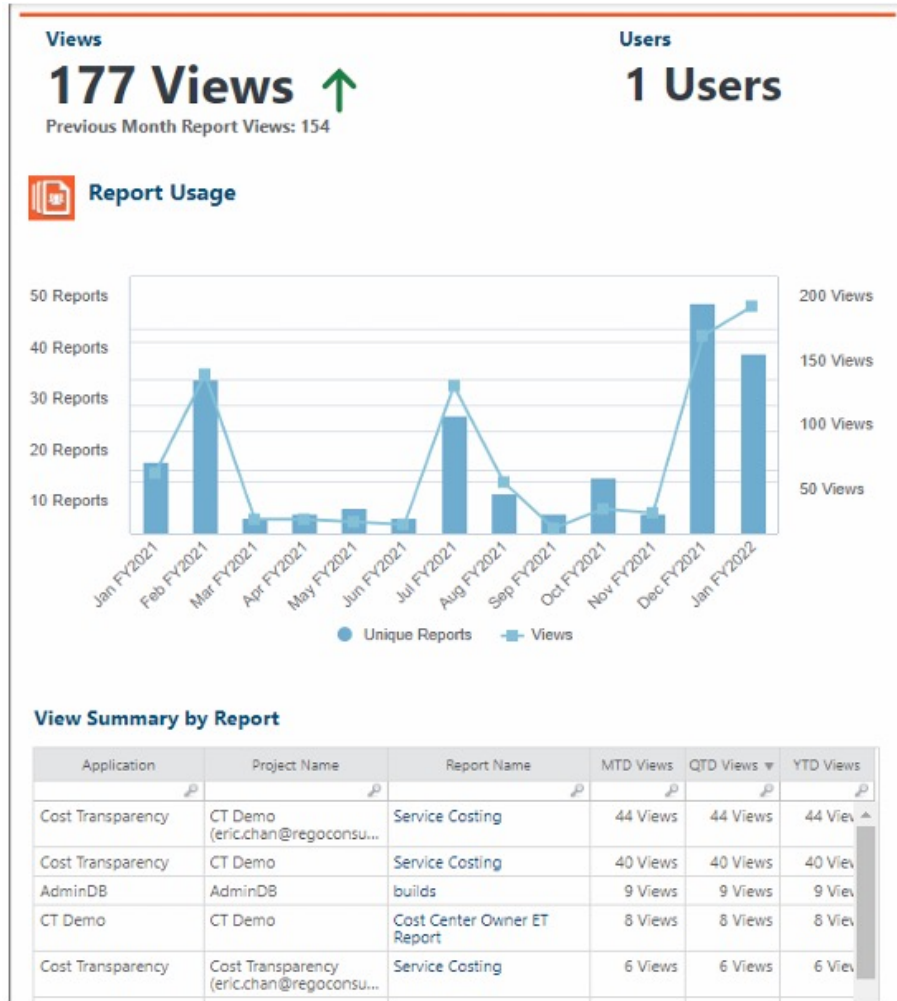
3. After calculations are complete, on the **Settings** menu, click **Access Administration**. Alternatively, you can log in to Frontdoor, and navigate to **Access Administration**.
4. In the **Applications** tab, next to **Usage**, click **Show** to make it visible.



If you want to further modify role access, click **Edit Visibility**.

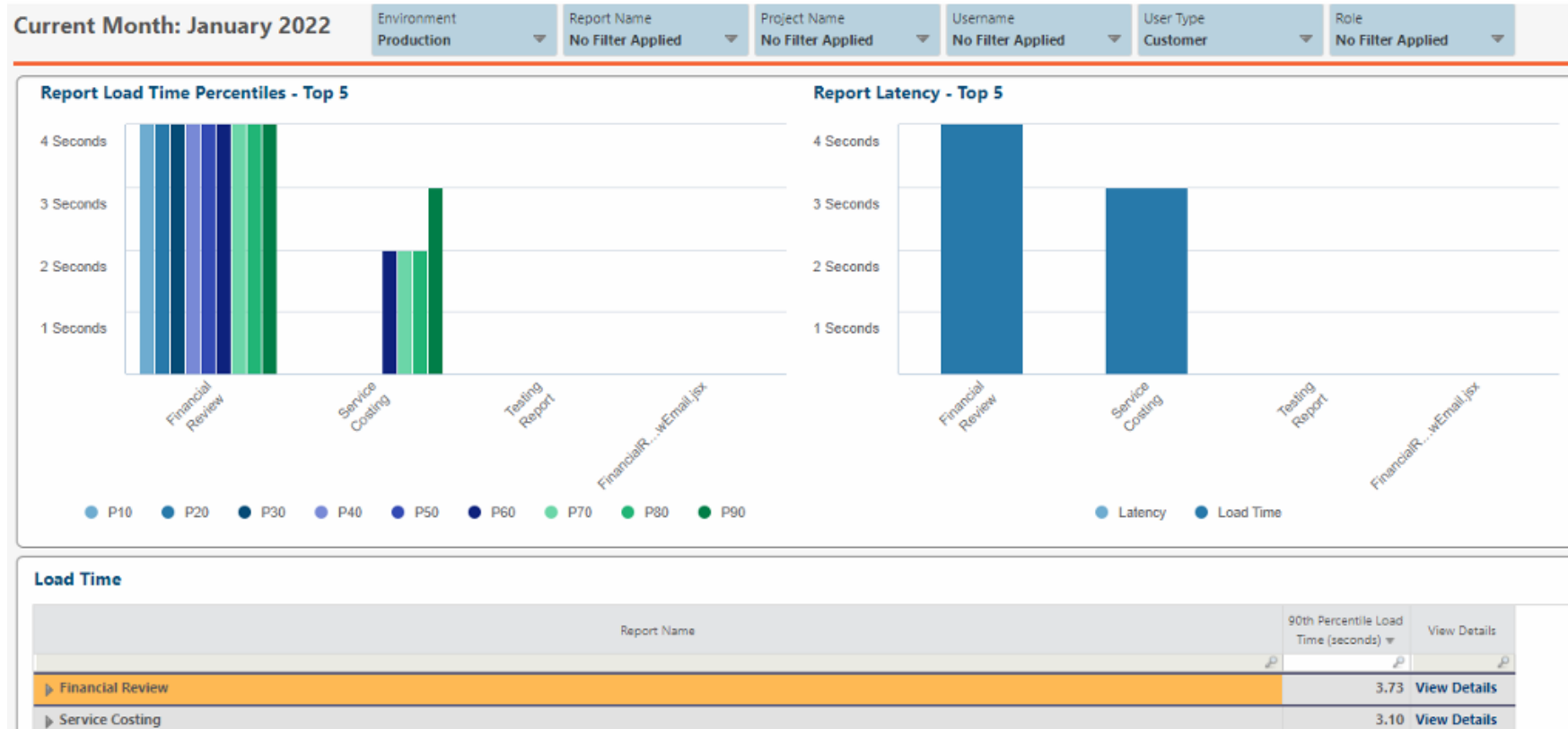
Use Cases -Report Usage

- Identify Important Reports



Use Case – Report Performance

- Review Load Times for Reports



Configuration Insights

Review Configuration Recommendations

The screenshot displays a software interface with a top navigation bar and a main content area. The navigation bar includes icons for 'Auto Calculate', 'Create Version', 'Remove Version', 'Export', '3s', 'Recommendations' (with a red notification badge showing '4'), and 'Anomalies'. Below the navigation bar is a large grey rectangular area, likely a placeholder for a table or chart. To the right of this area is a sidebar titled 'Configuration Recommendations' with a close button (X). The sidebar contains several filters: 'Build' set to 'All', 'Status' set to 'Unresolved', and 'Recommendation Type' set to 'All'. Below the filters, there are four expandable sections, each with a downward arrow: 'Zero Unit Allocations (39)', 'Found Positive And Negative Weights (3)', 'Unused Reports (1)', and 'Base Data Columns Unused (1)'.

Auto Calculate | Create Version | Remove Version | Export | 3s | Recommendations (4) | Anomalies

Versions

Configuration Recommendations

Build: All | Status: Unresolved | Recommendation Type: All

- Zero Unit Allocations (39)
- Found Positive And Negative Weights (3)
- Unused Reports (1)
- Base Data Columns Unused (1)

Discussion

- ❓ Do you have any specific environmental challenges you are facing right now?
- ❓ Have you had any environment challenges you were able to overcome? How?



Configuration Recommendations

Common Performance Impacting Items

- *Allocation rowcount above 100,000 rows*
- *Missing object identifier*
- *No data relationship for allocations*
- *High object granularity with low relationship granularity*
- *Nested formulas*
- *Same step Formula dependencies*
- *20+ columns selected for object identifier*
- *Branch with bad config*
- *Inference in R12*
- *Multiple lookupex/splitex in same formula step*
- *Inefficient lookups*
- *"Send only remaining values"*
- *Excessive Report Granularity*
- *All in One" reports rather than "Purpose Built" reports*
- *Transform Pipeline with excessive steps and/or data manipulation*
- *Project with over 3 years open*
- *Specific object causing entire model to slow down*
- *Nested double sumif() formulas*
- *Multiple tablematch() formulas in same formula step*
- *Modeled Tables with excessive data manipulation*
- *Cost Source object above 10k row count*
- *Very high cell count tables (rows x columns)*
- *Excessive amount of modeled metrics*
- *Excessive unused allocations*
- *Validation reports in PROD*

Summary of Tuning Apptio Performance



Analyze Performance Component



Leveraging Usage Report for Performance



Configuration Insights



Configuration Recommendations

Conclusion

Enhancing Apptio Performance Through Informed Strategies



Optimize Data Loads

Streamline ingestion schedules and sizing to reduce queues and spikes.



Increase Calc Efficiency

Simplify rules, batch heavy jobs, and tune dependencies to cut run time.



Find Bottlenecks Early

Use metrics and logs to pinpoint slow models, datasets, and jobs.



Scale & Monitor Continuously

Apply best practices, track performance, and adapt proactively to sustain reliability.

Surveys

Please take a few moments to fill out the class survey.
Your feedback is extremely important for future events.



Thank You For Attending Rego University

Instructions for PMI credits

- Access your account at pmi.org
- Click on **Certifications**
- Click on **Maintain My Certification**
- Click on **Visit CCR's** button under the **Report PDU's**
- Click on **Report PDU's**
- Click on **Course or Training**
- Class Provider = **Rego Consulting**
- Class Name = **regoUniversity**
- Course **Description**
- Date Started = **Today's Date**
- Date Completed = **Today's Date**
- Hours Completed = **1 PDU per hour of class time**
- Training classes = **Technical**
- Click on **I agree** and **Submit**



Let us know how we can improve!
Don't forget to fill out the class survey.



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