BEZNext Hands-On Workshop on Cloud Data Platform Selection and Dynamic Capacity Management for Hybrid Multi-Cloud Environment

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Overview

Organizations in virtually every industry are using software innovation to differentiate and avoid disruption. Simplicity and Cost are significant drivers accelerating the migration to the Cloud.

Clouds have practically infinite capacity and additional resources can address most performance-related problems, but the budget required to meet the organization's Service Level Goals is limited.

So how do you select the Cloud that will be able to meet SLGs for all growing and changing analytics workloads with the lowest cost?

We will review the Cloud selection process based on usage of our software, including Data Collection, Workload Characterization, Applying Modeling, and Optimization to find the minimum configuration and Cost required to meet SLGs for different Clouds.

Cloud selection is a strategic decision affecting the ability of organizations to cost-effetively support growing business demand for IT resources, reduce time to market for new business initiatives, and meet Service Level Goals for the line of business with the Lowest Cost.

IT Managers, Architects, DBAs, and Systems Analysts involved in Cloud Selection often perform POC projects to compare clouds performance, scalability, security, and other criteria.

After finishing the POC project, they realize that they still can't determine the minimum cloud configuration and the budget required to meet Service Level Goals (SLG) for business workloads.

Application Development and Operations often select Cloud platforms for new applications. As a result, many organizations have complex Hybrid Multi-Cloud

environments and face challenges of preventing cost escalation when the number of users and volume of data is growing.

Making decisions of where to place data and applications in this environment brings uncertainty and risk of performance and financial surprises.

Transaction-oriented applications, analytics applications, and big data applications have different demands for resources, different performance requirements, and they scale differently on different platforms.

Operations can influence resource allocation and workload management rules, but which options will meet Service Level Goals for all business workloads with the lowest cost?

During this workshop, we will review the methodology. You will do exercises covering a broad spectrum of tasks related to cloud selection and management of hybrid multi-cloud environments.

The workshop includes data collection, workload characterization, performance analysis, workload forecasting, Modeling, and Optimization, focusing on determining the minimum configuration and cost required to meet Service Level Goals for all workloads. You will learn how to determine anomalies and root causes.

You will learn how to determine seasonality and modify workload management and resource allocation rules for the most effective management of the complex hybrid multi-cloud environment.

Your Instructors

- Dr. Boris Zibitsker
- Dr. Alex Lupersolsky
- Pavel Pratasevich
- Justin Bleuel

About BEZNext

- Experts in Modeling and Performance Optimization
- Our History
- The Need
- Our Direction

Outline

Chapter 1. Introduction

1. Introduction to Cloud Selection and Hybrid Multi-Cloud Dynamic Capacity Management
2. Cloud selection criteria
3. Limitations of selection based on TPC, POC, Similar environment,
4. Value of Modeling and Optimization approach
   - Reduce time and efforts of cloud selection
   - Reduce uncertainty and risk of performance and financial surprises

Chapter 2. Understanding Workload
1. Data Collection
2. Workload Characterization
3. Workload Forecasting
   - Existing production workloads
   - New applications before deployment

Chapter 3. Problem Determination
1. Performance Analysis
   - Determine performance problems, anomalies, and root causes
   - Determine the pattern of resource utilization

Chapter 4. Applying Modeling and Optimization for Appropriate Cloud Selection
1. BEZNext modeling basics
2. Evaluate the impact of expected changes, including:
   - Workload growth, volume of data growth, and new applications implementation
   - Moving workloads from one platform to another
3. Recommend workload management and resource allocation settings to continuously meet SLGs for all workloads with the lowest cost for each cloud data platform,

4. Predict the minimum configuration required to meet SLGs for all business workloads
5. the cost/budget needed to meet SLG for the growing number of users, the volume of data, and new applications
4. Select appropriate cloud platform and set realistic performance and cost expectations
5. Verify results after moving workloads to the Cloud
6. Summary of Cloud Selection

Chapter 5. Dynamic Capacity Management of Hybrid Multi-Cloud Environment
1. Continuously analyze performance and Cost of Hybrid Multi-cloud environment
2. Apply Modeling and Optimization to define measures necessary to meet SLGs for all workloads and set realistic performance and financial expectations
3. Compare actual results with expected and recommend corrective actions - feedback control process
4. Summary of Dynamic Capacity Management

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