CLOUD SERVICE INTEGRATION PATENT

United States Patent Application No. 16/789,432

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TITLE OF INVENTION:

System and Method for Intelligent Cloud Service Integration and Orchestration

APPLICANT:

Summit Digital Solutions, Inc.

1200 Innovation Drive

Wilmington, Delaware 19801

INVENTORS:

Michael Chang, James Henderson, Dr. Robert Martinez

ABSTRACT

A system and method for automated integration and orchestration of cloud-based services utilizing machine learning algorithms to optimize service delivery and resource allocation. The invention comprises a novel architecture for real-time analysis of cloud service performance metrics, dynamic workload distribution, and intelligent service mesh configuration, implemented through the Peak Performance Platform(TM).

BACKGROUND OF INVENTION

[0001] Cloud service integration presents significant challenges in enterprise environments, particularly regarding service optimization, resource utilization, and workload management. Existing solutions fail to adequately address the dynamic nature of modern cloud architectures and their integration requirements.

[0002] Current approaches typically rely on static routing rules and predetermined service paths, resulting in suboptimal resource allocation and degraded performance under varying workload conditions.

SUMMARY OF INVENTION

[0003] The present invention provides an intelligent cloud service integration system that:

a) Automatically discovers and maps cloud service dependencies

b) Implements machine learning algorithms for predictive scaling

c) Optimizes service mesh configurations in real-time

d) Provides automated failover and recovery mechanisms

e) Enables dynamic resource allocation based on performance metrics

DETAILED DESCRIPTION

[0004] The system comprises:

Component Architecture

[0005] A distributed architecture including:

- Central orchestration engine
- Machine learning analysis module
- Service discovery component
- Performance monitoring subsystem
- Resource allocation optimizer

Integration Methodology

[0006] The system employs a proprietary integration methodology incorporating:

- Automated service dependency mapping
- Real-time performance metric analysis
- Dynamic routing optimization
- Predictive scaling algorithms
- Intelligent load balancing

Machine Learning Implementation

[0007] The system utilizes advanced machine learning algorithms for:

- Workload pattern recognition
- Performance prediction
- Resource optimization

- Anomaly detection
- Service path optimization

CLAIMS

A system for cloud service integration comprising:

a) An orchestration engine for managing cloud service interactions

b) A machine learning module for optimization

c) Automated service discovery mechanisms

d) Dynamic resource allocation capabilities

e) Real-time performance monitoring

The system of claim 1, wherein the machine learning module:

a) Analyzes historical performance data

b) Predicts resource requirements

c) Optimizes service routing

d) Identifies potential service degradation

e) Recommends configuration adjustments

A method for cloud service integration comprising:

a) Automatically discovering available cloud services

b) Mapping service dependencies

c) Monitoring performance metrics

d) Optimizing resource allocation

e) Implementing predictive scaling

DRAWINGS

[0008] Figure 1: System Architecture Diagram

[0009] Figure 2: Integration Flow Diagram

[0010] Figure 3: Machine Learning Component Interaction

[0011] Figure 4: Resource Optimization Process

[0012] Figure 5: Service Discovery Mechanism

DECLARATION

I hereby declare that:

I am an original inventor of the subject matter disclosed in this application

I have reviewed and understand the contents of this application

I acknowledge the duty to disclose information material to patentability

SIGNATURES

/s/ Michael Chang

Michael Chang, CTO

Date: March 15, 2022

/s/ James Henderson

James Henderson, Chief Digital Officer

Date: March 15, 2022

/s/ Dr. Robert Martinez

Dr. Robert Martinez, Chief Innovation Officer

Date: March 15, 2022

ATTORNEY DOCKET INFORMATION

Attorney Docket No.: SDS-PAT-2022-001

Law Firm: Thompson & Bradley LLP

Attorney of Record: Sarah J. Thompson (Reg. No. 58,392)

Address: 100 Legal Center Plaza, Suite 2200

Boston, MA 02110