PERFORMANCE MONITORING AGENT PATENT

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ABSTRACT

A system and method for monitoring and optimizing enterprise system performance through distributed software agents utilizing machine learning and artificial intelligence. The invention comprises an autonomous monitoring framework that deploys intelligent agents across networked computing environments to collect, analyze, and optimize system performance metrics in real-time while adapting to changing operational conditions.

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates generally to enterprise system performance monitoring and optimization, and more specifically to artificial intelligence-enabled software agents that autonomously monitor, analyze, and enhance system performance across distributed computing environments.

Description of Related Art

[0002] Traditional system monitoring solutions rely on static rules and thresholds, lacking the ability to dynamically adapt to changing operational conditions. While existing solutions can collect basic performance metrics, they fail to provide intelligent, predictive optimization capabilities that modern enterprise environments require.

SUMMARY OF THE INVENTION

[0003] The present invention addresses these limitations through an innovative approach utilizing distributed AI-enabled monitoring agents. These agents leverage machine learning algorithms to establish performance baselines, detect anomalies, and automatically implement optimization measures across enterprise systems.

DETAILED DESCRIPTION

System Architecture

[0004] The performance monitoring system comprises:

- A central control plane for agent orchestration
- Distributed monitoring agents deployed across system nodes
- Machine learning models for performance analysis
- Real-time optimization engine
- Secure communication protocol for agent coordination

Agent Components

[0005] Each monitoring agent includes:

- Data collection module
- Local analytics engine
- Optimization execution module
- Secure communication interface
- Configuration management system

Machine Learning Implementation

[0006] The system employs multiple machine learning approaches:

- Supervised learning for pattern recognition
- Unsupervised learning for anomaly detection
- Reinforcement learning for optimization strategies
- Neural networks for predictive analytics

CLAIMS

A computer-implemented method for monitoring enterprise system performance, comprising:

a) deploying autonomous software agents across networked computing environments;

b) collecting real-time performance metrics through said agents;

c) analyzing collected metrics using machine learning algorithms;

d) implementing automated optimization measures based on analysis results.

The method of claim 1, wherein said software agents comprise:

a) local processing capabilities;

b) secure communication protocols;

c) configurable monitoring parameters;

d) automated response mechanisms.

The method of claim 1, further comprising:

a) establishing dynamic performance baselines;

b) detecting system anomalies;

c) predicting potential performance issues;

d) executing preventive optimization measures.

DRAWINGS

[0007] Figure 1: System Architecture Diagram

[0008] Figure 2: Agent Component Structure

[0009] Figure 3: Data Flow Diagram

[0010] Figure 4: Optimization Process Flow

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ASSIGNMENT

All rights, title, and interest in this patent are assigned to Summit Digital Solutions, Inc., a Delaware corporation, including all rights to enforce, prosecute, and collect damages for past infringement.

LEGAL REPRESENTATION

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CERTIFICATION

I hereby certify that this patent document accurately represents the invention as submitted to and approved by the United States Patent and Trademark Office.

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Registration No. 58,XXX

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