

# **PATENT APPLICATION**

## **System Integration Method and Apparatus for Enterprise Digital Transformation**

USPTO Application No. [DRAFT]

### **BACKGROUND OF THE INVENTION**

[0001] The present invention relates generally to systems and methods for enterprise digital transformation, and more specifically to an automated system integration methodology utilizing artificial intelligence and Internet of Things (IoT) sensors for optimizing complex business processes.

[0002] Traditional approaches to systems integration in enterprise environments often require manual configuration, extensive custom coding, and significant operational disruption. Existing solutions fail to adequately address the challenges of real-time process optimization across disparate legacy systems while maintaining business continuity.

### **SUMMARY OF THE INVENTION**

[0003] The present invention provides systems and methods for automated enterprise system integration utilizing machine learning algorithms and distributed IoT sensor networks to enable seamless digital transformation of business processes. The invention includes a novel architecture for dynamic system mapping, automated compatibility analysis, and intelligent process optimization.

### **DETAILED DESCRIPTION**

[0004] In one embodiment, the system comprises:

- A distributed network of IoT sensors for real-time process monitoring
- An artificial intelligence engine for pattern recognition and optimization
- A compatibility analysis module for legacy system integration
- A dynamic process mapping interface
- An automated deployment orchestration system

[0005] The method includes the following steps:

- a) Deploying IoT sensors at critical process nodes to collect operational data
- b) Analyzing collected data using proprietary machine learning algorithms
- c) Generating dynamic system integration maps based on identified patterns

- d) Automatically configuring integration parameters for legacy systems
- e) Implementing optimized workflows with minimal operational disruption

[0006] The artificial intelligence engine employs:

- Neural network architecture for pattern recognition
- Reinforcement learning for optimization
- Natural language processing for system documentation analysis
- Computer vision for process monitoring
- Predictive analytics for performance forecasting

## **CLAIMS**

What is claimed is:

A method for automated enterprise system integration comprising:

- a) deploying a network of IoT sensors;
- b) collecting real-time operational data;
- c) analyzing said data using machine learning algorithms;
- d) generating dynamic integration mappings;
- e) automatically configuring system parameters.

The method of claim 1, wherein said machine learning algorithms include:

- a) neural networks;
- b) reinforcement learning;
- c) natural language processing;
- d) computer vision.

A system for enterprise digital transformation comprising:

- a) distributed IoT sensor network;
- b) artificial intelligence engine;
- c) compatibility analysis module;
- d) process mapping interface;
- e) deployment orchestration system.

## **ABSTRACT**

A system and method for automated enterprise digital transformation utilizing artificial intelligence and IoT sensors. The invention provides seamless integration of legacy systems through dynamic mapping, automated compatibility analysis, and intelligent process optimization. The system employs distributed sensor networks and machine learning algorithms to enable real-time monitoring and optimization of complex business processes.

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## **ASSIGNMENT**

The inventors hereby assign all right, title, and interest in this invention to:

Summit Digital Solutions, Inc.

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## **DECLARATION**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Signed this 9th day of January, 2024

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Dr. Robert Martinez

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