Abstract

Logistics, as defined by the Council of Logistics Management, “is that part of the supply chain process that plans, implements and controls the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption in order to meet customer’s requirements.” To make this happen, transportation, distribution,
Multi-agent Architecture Design for Supply Chain Logistics

warehousing, purchasing and order management organizations must execute together. Traditional approaches used by any environment using old systems stitched together by spreadsheets and manual procedure could not cope with the exploding complexity. They diverge in maturity and scope of coverage. The traditional Logistics tool is very slow in process execution and they lack of automation and decisions. By the use of multi-agent base architecture for Supply chain Logistics, it over comes the limitation of traditional logistics tools. In this paper we will show how Multi-agent Software ( MAS) architecture interacts in the integrated Logistics architecture with the help of various intelligent agents to overcome limitations of Traditional approaches. Second aim is to design a flexible architecture that can deal with next generation supply chain problems based on a multi-agent architecture. Here in this article, a multi agent system has been developed to simulate a multi supply chain logistics. Each entity is modeled as one agent and their coordination and negotiation mechanism help an organization to control inventories and minimize the total cost of SC by sharing information and forecasting knowledge.

Reference

- Deugo D., Oppacher F., Kuester J., Vontte I, 1999 "Patterns as Means for Intelligent SoftwareEngineering". Carleton University, KISSB6, Ottawa, Canada
- Cabri G., Leonardi L., Zambonelli F, 2002 "Modeling Role-Based Interactions for Agents". Workshop on Agent-Oriented Methodologies at OOPSLA, USA.
- Application Application of MultiAgent system & Agent Co-ordination “ in a National
Multi-agent Architecture Design for Supply Chain Logistics

Conference on Artificial Intelligence conducted by Delhi University, Sept., 2008 by Dr. S. Srinivasan
- Multi-Agent Conceptualization for Supply chain ubiquitous Computing and Communicating Journal, Korea, Volume 3, Number 4, 2008 by Dr. S. Srinivasan
- Multi-Agent System Supply Chain Management in Steel Pipe Manufacturing, IJCSI, Vol 7, Issue 4 Jul 2010 by Dr. S. Srinivasan

Index Terms

Computer Science
Decision Support Systems

Key words

Logistics management
Material management
Supply chain
Production planning
Warehouse