



A Multi-Agent Based Intelligent System for Monitoring the Pipeline of the International Data Centre (IDC)

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Timely and consistent detection of abnormal behaviours of data processing systems is important to efficient operation of complex systems. Our research focuses on enabling the operators and engineers who monitor and maintain such systems to describe process conditions to software agents, deploy such agents to continuously monitor their systems, and receive appropriate notification from the monitoring agents concerning the processes states.

Multi-Agent systems have been recognized as a promising paradigm for solving such problems on distributed heterogeneous systems. Due to the nature of the problem which necessitates having many autonomous entities dealing with heterogeneous distributed resources, we have built the system as a Multi Agent System. This paper presents specification of the multi-agent monitoring system, responsible for monitoring the pipeline of the International Data Centre (IDC). We propose a monitoring approach which aids in automatically detecting anomalies of automatic processing of the data from the International Monitoring System (IMS). The activities of the agents are coordinated based on the concepts of coordination levels and functional organizations. The resulting dynamic population of monitoring agents is managed according to policies that define computing and networking resource restrictions as well as user notification requirements and preferences.