MACHINE-TO-CLOUD MANAGEMENT SYSTEM OF DISTRIBUTED HETEROGENEOUS DEVICES

PATENTED TECHNOLOGY

EXCLUSIVE LICENSED

CONTACT DETAILS:

Research Results Transfer Office-OTRI
University of Alicante
Tel.: +34 96 590 99 59
Email: areaempresas@ua.es
http://innoua.ua.es

ABSTRACT

The Specialized Processors Architecture Laboratory (SPA-Lab group) research group from University of Alicante has developed a system which improves remote control systems processes of different kind of devices geographically spread, through the Cloud. This suggested system provides independence between application layer and remote-controlled devices.

Its main advantage is the homogeneity of mechanisms and functions for their interaction with the devices no matter their nature and the scope of the application. The supplied technology may be used in sectors needing monitoring and controlling a wide range of devices.

The research team supplies the companies both the "know-how" for the necessary adaptation and implementation of the system and the possibility of licensing this technology.

TECHNOLOGY ADVANTAGES AND INNOVATIVE ASPECTS

MAIN ADVANTAGES OF THE TECHNOLOGY

- The system facilitates the management of different devices, even from different sectors, using a standard method and a common architecture.
- The system provides more flexibility to basic Machine-to-Machine (M2M) architecture to solve, at lower cost, problems of interaction between devices of different nature and to take advantage of synergies of a distributed environment based on cloud computing.
- By moving the management processes to the cloud, the system enables ubiquitous administration of distributed machines. These processes can be implemented through web applications or other Internet services.
- The system allows to configure distributed resource management structures to improve quality of service and business productivity.
- The system improves operational efficiency and reduces communication costs with devices since it is not necessary that they are permanently connected.
- The system facilitates and accelerates the integration of high level management applications and the interaction with machines using Internet communication protocols.

INNOVATIVE ASPECTS

- The system allows remote management of the heterogeneous machines through a communication protocol which is independent of the communication, machine and business sector types.
- The system overcomes the disadvantages resulting from incompatibility between protocols and communication schemes.
- The system implements a flexible communication protocol that meets the demands of information in both directions. The interactions with devices are restricted to those necessary for the tasks of management and control.
- If need be, the system can adapt the message format to the specifications of each sector or can use a standard format to joint characteristics.
- The system simplifies the coordination of the transaction between devices and applications through a high-level management system in the cloud.
- The system provides a management system of massive transaction schemes.

MARKET APPLICATIONS

The system can works in several environments and it is especially useful in software companies and industrial sectors characterized by management needs of a machines fleet geographically distributed. For example, the following sectors:

- Food industry (vending machines network)
- Office machine sector (printers and photocopiers network)
- Elevators industry
- Car rental companies
- Traffic Control elements, street lighting and furniture for Smart City contexts providers.
- Health Telecare providers.
- Intelligent metering systems providers.
- Domotic and Smart building sector.

COLLABORATION SOUGHT

The group is interested in:

- Patent licensing agreement.
- Research and Development (R&D) project for technical cooperation in order to adapt and implement the technology to company applications.
- Subcontracting project for technical assistance and training in order to adapt or deploy the technology into the company customer environments.
- Transfer project for knowledge cooperation or patent license in order to use, manufacture or marketing the technology.
- Spin-off partners.