A Cloud-based Monitoring and Maintenance Management Service System for Machine Tools

Jo-Peng Tsai\textsuperscript{a,b,*}, Hsin-Yu Cheng\textsuperscript{a}
\textsuperscript{a}Department of Computer Science & Information Engineering, Far East University, No.49, Zhonghua Rd., Xinshi Dist., Tainan City 74448, Taiwan
\textsuperscript{b}Department of Information Management, National Sun Yat-Sen University, No. 70, Lienhai Rd., Kaohsiung 80424 Taiwan
*Corresponding Author: perng@cc.feu.edu.tw

ABSTRACT
Cloud computing and cloud manufacturing have attracted the attention of enterprise and become one of the major enablers for the manufacturing industry. It can elicit many innovative business service models for the enterprise so as to enhance its competitiveness. Though cloud computing and service has great influence to promote product/service innovation for enterprises, however, its development is difficult for small and medium manufacturing enterprises as there are many techniques needed to be integrated such as ICT ability, machine data collection techniques, human-computer interface design. Therefore, in this paper, a system architecture, customer-oriented service model analysis process and related system development process were proposed for system developer to develop a feasible system providing services for small and medium manufacturing enterprises. Based on the proposed architecture and system, a value-added service business model can be realized among information service companies, small and medium manufacturing companies and specific expertise technology service companies. Besides the manufacturing industry, the proposed architecture and method can be also considered as a reference to develop new applications and innovative service business models for other industries.