

UNIVERSITI TEKNOLOGI MARA

**EFFECTIVE DATA CENTRE MANAGEMENT VIA
PUPPET - THE CONFIGURATION MANAGEMENT
TOOL**

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The creator of the Internet and Puppet.

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ABSTRACT

Terms like e-learning, virtualization, cloud computing, grid computing and green data centre are the hot topics in the IT world recently. With these technological developments, each organization requires more servers to support their services and organizational operations. Hence, tools for configuration management are important and needed by system administrators for the ease of providing and managing servers in the data centre. Based on several literature reviews, configuration management tools are more practical and effective in automating and centralising server configuration management. In UPSI's environment, the system administrator is required to execute configuration work manually and carry out the repetitive tasks on each server in data centre. Each of system administrators is required to have the necessary skills in creating configuration files on various operating system platforms such as CentOS, Ubuntu, Oracle Sun Solaris and Microsoft Windows. The objectives of this study are; (i) to conduct a study on the configuration management tools available; (ii) to deploy configuration management tools in UPSI's data centre environment; and (iii) to enhance the speed of deployment and provide a recovery environment for the data centre. This solution will produce centralized configuration control and management for servers. From the problem statements, objectives and support from several literature reviews; we have executed and deployed a test bed environment for the configuration management tool named 'Puppet'. To ensure that this research and study meets the objectives, we have used research methodology consisting of five (5) phases which are; (i) Gathering Information; (ii) Literature review; (iii) Implementation; (iv) Result and Discussion; and (v) Documentation. From evaluation of the study and test bed results, configuration management does assist the system administrator in reducing time-consuming jobs and reduces the workload in servers' configuration tasks. Configuration management implementation is therefore helpful in providing central configuration and version-control of all servers in data centre. In conclusion, configuration management is beneficial to the system administrator in managing their servers and data centre and thus translates to their increased productivity.

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