中山大学硕士学位论文

**服务器远程运维平台监控系统的设计与实现**

**Design and Implementation of Log Management System for Remote Server Operation Platform**

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# 摘 要

传统的服务器远程运维平台，服务器批量部署困难，难以管理，除此之外服务器上应用难以统一管理，针对传统服务器运维平台的缺点，本文的目标是设计并实现一个开源的服务器运维系统中的服务器监控模块的设计与实现，开源的服务器运维系统具有五大模块，包括服务器部署、服务器管理、应用管理、服务器监控、日志管理。针对问题领域是为服务器简化管理和运维提供方案以及解决实际的openstack的部署和管理问题。能够根据实际需求对批量服务器进行监控，简化服务器，从而推动教育平台的普及和发展。本系统的主要目标有简化服务器管理工作、提供图形化服务器全局视图、持续监控服务器状态、服务器图像化配置、服务器图像化持续管理各项应用服务。

本文是在该系统的基础上参与到其中的两个模块--应用管理与服务器监控，主要包括以下部分：

1. 服务器管理模块：将服务器加入到管理系统中来进行集中部署操作系统，控制服务器的启动与关闭，完成对服务器的注册、电源控制以及操作系统的远程部署。
2. 监控模块：该模块是整个服务器监控系统的核心模块。执行对服务器状态进行持续监测，并针对监测结果提供一定的系统控制操作。
3. 应用模块：主要针对docker，同时对容器进行监控和错误报警的配置。

总系统为用户提供一个交互界面传递信息，管理人员可以在界面上对服务器及上面的进行各种操作处理，高效管理服务器集群，快捷部署openstack服务。**关键词：**服务器,Openstack，Docker,应用监控，服务器部署

Title: Design and implementation of remote monitoring system application server operation platform

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# Abstract

raditional remote server operation and maintenance platform server batch deployment difficulties, difficult to manage, in addition to the server application to manage, aiming at the shortcomings of the traditional server operation platform. The system has five major functions, including server deployment, management server, management server monitoring and log management. Aiming at the problems in the field of deployment and management problems provide a solution for the server to simplify management and maintenance and solve real openstack. Main goal is simplified server management, provide graphical server global view, continuous monitoring the state of the server, an image server configuration (for OS), image server of sustainable management of the application service (for openstack).

The application module bear on the server for application deployment of the work, mainly for docker. At the same time the container for error monitoring and alarm configuration while performing continuous monitoring of the state of the server, and for the monitoring results provide certain system control operation; server deploying module servers can be added to the management system of centralized deployment operating system, control server startup and shutdown, complete the registration on the server, power control and operating system of the remote deployment.

The total system is to provide an interactive interface to transmit information, management personnel in the interface of the server and the above manipulations, the efficient management of server cluster, fast deployment of openstack services.

**Key words: S**erver，Openstack, Docker, Application Server Deployment, Monitoring.