Software Design Document

DXC Technology Managed Services For Workloads On Public Cloud

SE 4485.001

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Abstract

Service providers are constantly challenged to accept customers' workload as-is and manage it on behalf of the customer. The management can range from monitoring, patching, and security aspects of the workload.

- The security could be shut off certain ports or setup security scans for Denial of Service attack, etc.
- The monitoring could leverage the cloud provider monitoring but would alert based on certain rules
- The patching could use cloud providers specific to patch from vulnerabilities, routine service packs, etc.

Initially, the workloads may be untouched as in refactored (7 R's) to reduce the timelines but over time it might get refactored over time to reduce costs or increase stability/performance

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Introduction

Our team has been tasked with implementing a makeManaged script for DXC Technology to monitor, make patchwork, and manage security aspects of their workload. This project management plan will include all of the aspects from beginning to end on how our team will create and implement DXC Technology's goal from our script. Even though the requirements list out three different phases of this project, our sponsor has made clear that the minimum viable product will only need to contain the monitoring aspect of our project and if time permits move onto patchwork as well as security, load balancing, and firewall monitoring.

Purpose and Scope

The purpose of monitoring software through Infrastructure as a System (IaaS) is to benefit many different companies that require help desk support, patchwork, and security. Since SaaS and PaaS are already managed by cloud providers, we will only be using IaaS. The scope will range from a working monitoring script able to communicate with a cloud service and relay information, notifications, and patchwork to DXC Technology. This will lighten the workload of their employees by automating a lot of tasks and opening up free time to allocate resources elsewhere.

Overview

A brief overview of the makeManaged program will be to use a virtual machine (VM) to communicate to AWS, Azure, and/or GCP cloud services over IaaS to monitor and the help desk and send notifications and email alerts or patch any necessary fixes.

Requirements/Specifications-based system level test cases

- Monitoring tool is able to receive events from the cloud provider
- Monitoring tool uses a secure connection to connect to cloud provider and LAMP stack
- Monitoring tool is able to receive events from LAMP stack
- Monitoring tool is able to load balance multiple events from the cloud provider or LAMP stack
- Monitoring tool does not reveal data from ServiceNow to developers or non-admin staff.
- Monitoring tool is able to send an incident to ServiceNow when it receives an event
- Monitoring tool is able to send an incident within 1 minutes

Traceability of test cases to use cases

Test No.	Test Case	Use Case
1	Monitoring tool is able to receive events from the cloud provider	Client uses monitoring tool to monitor their cloud provider
2	Monitoring tool uses a secure connection to connect to cloud provider and LAMP stack	Client uses monitoring tool to monitor LAMP stack
3	Monitoring tool does not reveal data from ServiceNow to developers or non-admin staff	Alert customer support with notifications or (patches) with a servicenow integration
4	Monitoring tool is able to send an incident to ServiceNow when it receives an event	Client uses monitoring tool to monitor LAMP stack
5	Monitoring tool does not reveal data from ServiceNow to developers or non-admin staff.	Alert customer support with notifications or (patches) with a servicenow integration
6	Monitoring tool is able to send an incident to ServiceNow when it receives an event	Alert customer support with notifications or (patches) with a servicenow integration
7	Monitoring tool is able to send an incident within 1 minutes	Alert customer support with notifications or (patches) with a servicenow integration

Techniques for Test Generation

We would want to do black box testing to ensure that the functional requirements are met. These are pretty straightforward to test the functionality of the product. But we also need white box testing as some of the test cases like hiding data means the code needs to be tested.

Document under configuration management

References

N/A