XORIANT

REMOTELY CAPTURED HARDWARE RELATED INFORMATION TO MANAGE DATA ON CLUSTERS

CLIENT OVERVIEW

Our client is a leading enterprise virtualization and storage company. They provide enterprise cloud platform with a resilient software solution and machine intelligence to natively converge compute, virtualization and storage. Our client' solution helps billion dollar companies to easily deploy any virtual workload, private clouds, big data projects and much more.

KEY REQUIREMENTS

Our client provides infrastructure solution that is used to create virtual infrastructure supporting all popular workloads and meeting stringent enterprise security demands. Their product deploys commodity computing servers called as nodes each of which runs on its own operating system and a standard hypervisor. Each of these nodes is required to aggregate storage resources into a single storage pool when added into a cluster. Nearly 100+ computing clusters were installed remotely at client' customer locations. This required monitoring the capacity of the computing cluster and extending it by adding a new node to it. Keeping track of the hardware information of each node in the cluster was necessary to monitor the clusters capacity and take necessary action.

- Develop a robust and a secured application to capture hardware information from cluster nodes
- Application was required to have following features to ensure reliability and consistency:
    - Distinguish hypervisors
    - Platform independence (hardware and operating systems)
    - Store historical data for future purposes

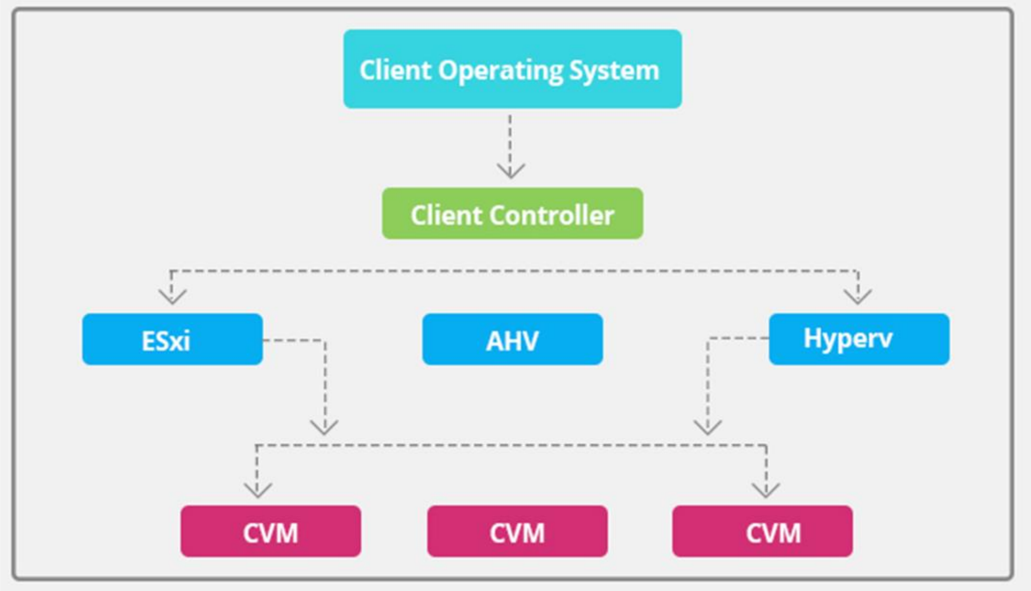
KEY CONTRIBUTIONS

- Developed a robust, platform and operating system independent application to gather data from cluster nodes
- Captured hardware information like processor details, disk, controller, interface, memory and fan specifics through various OS commands
- Used Apache ZooKeeper to store current and historical data centrally on various nodes in a cluster
- Developed a configurable scheduler process to capture the data in ASCII text format on a daily basis
- Defined data structures using Google Protocol Buffers. This made the application scalable and easy to maintain.
- Developed unit test cases to validate the application from end-to-end using Pytest framework
- Tracked the code quality using Pylint
- Predefined a text template to support context based training using Machine Learning algorithms for increasing the scanning accuracy

KEY BENEFITS

- Application helped client to manage hardware wear-and-tear conditions before-hand and take corrective actions. This in-return reduced the customer service turn-around time by 35%
- Client' support engineers could remotely maintain and respond to any hardware grievances or increasing demands within a short period of time

ARCHITECTURE DIAGRAM



TECHNOLOGY STACK

- Python
- PyCharm
- Pylint
- Pytest
- Git
- Jira
- Centos
- Google Protobuf
- Apache ZooKeeper

About Xoriant:

Xoriant Corporation is a Product Development, Engineering and Consulting Services Company, serving technology startups as well as mid-size to large corporations. We offer a flexible blend of onsite, offsite and offshore services from our eight global delivery centers with over 2000 software professionals. Xoriant has deep client relationships spanning over 25 years with various clients ranging from startups to Fortune 100 companies.