CALIFORNIA STATE UNIVERSITY, FRESNO
Position Description Form

Overview

Under the general direction of the Senior Director, the Technology Services Systems Administrator provides advanced level technical support, implementation and administration of central servers and applications/services used by the campus community. Server platforms are hosted both on premise and in the cloud, they include Linux, VMware, and Windows Server.

The position is primarily responsible for varying levels for the analysis, modification, maintenance, and installation of operating systems, utilities, and related software and systems, including physical databases, to meet campus needs. Responsibilities include ensuring the availability, integrity, security and reliability of assigned systems.

As an OSA expert level, the position works almost completely independent on the most complex problems and work assignments and possess an advanced and comprehensive knowledge of the areas assigned. The position functions in a proactive manner by understanding problems from broad, interactive perspective and develops solutions that combine information and ideas in new, unprecedented ways. Incumbents at this level are capable of leading teams and implementation efforts for assigned projects using advanced communication and listening skills.

The position is reasonably expected to have the majority of its ongoing work assignments in one or more of the core functions defined below; however, work assignments from a related core function in any of the IT classifications within the information technology series may also be included. The incumbent serves as a subject matter expert on all assigned topics and for multiple systems and is expected to participate in meeting the requirement to have staff on-call to respond to critical systems issues and to perform needed maintenance after hours and on weekends as appropriate. Server platforms used for centrally supported services currently include Linux, VMware, and Windows Server.

The employee shall allocate priority and time to the duties mentioned below based upon direction from the Senior Director to whom this employee reports. The Senior Director will communicate these priorities and time allocation at least annually and when necessary.

General Responsibilities:

All members of the Technology Services staff must perform their work in accordance with the principles below. Specific service levels and procedures associated with these responsibilities will be defined by the employee's manager and may vary depending on the duties, tasks and projects assigned.

- Maintain positive working relationships and appropriate interpersonal interactions with colleagues and members of the university community. For example:
  - Show courtesy and respect towards others.
  - Communicate in an effective and timely manner and take steps to ensure proper understanding.
  - Collaborate willingly with others to help advance the goals of the department and university.

- Interact with customers, and those supporting services to customers, in a manner that ensures that we deliver the best possible service. For example:
  - Respond quickly and affirmatively to ensure that customers and support staff are aware that their issues are being addressed and know when they have been resolved.
  - Complete work of a quality that helps ensure ongoing customer satisfaction with the capability, performance and timeliness of services provided.
○ Provide timely communication to customers and support staff to so that they are kept up to date on progress of their Incidents, Service Requests and Problems.

● Communicate appropriately to internal and vendor support teams regarding operational matters.
● Work towards the stated goals and outcomes of the department and university and take an active role in maintaining your understanding of these goals and outcomes.
● Comply with university and departmental policies and take an active role in maintaining your understanding of these policies.
● Comply with university and departmental procedures and practices as defined by the employee's manager and take an active role in maintaining your understanding of these procedures and practices.
● Maintain regular attendance and respect your colleagues’ time by arriving promptly for work, shared tasks and meetings.
● Maintain appropriate security and confidentiality according to University policies and industry best practices.

Major Duties

Cloud Duties:

● The SysOps role is responsible for providing operations support for cloud services through monitoring, incident response, and incident resolution for production applications and infrastructure deployed in the cloud environment.
● Monitors the virtual infrastructure and provide support when issues occur. Monitors the cloud infrastructure to ensure the availability and performance SLAs are met. Conducts performance tuning when needed.
● The Cloud SysOps role responds to incidents and escalates them to the appropriate teams as required.
● Performs root cause analysis on incidents.
● Follows incident, change, release, and problem management processes.
● Reviews and modifies documentation.
● Provide backup and recovery support for cloud resources. This includes executing disaster recovery procedures to support disaster recovery testing.
● Responsible for monitoring and reporting on compliance programs.
● Use standard AWS infrastructure features such as Amazon Virtual Private Cloud (VPC), Amazon Elastic Compute Cloud (EC2), Elastic Load Balancing, and Auto Scaling line.
● Use AWS CloudFormation and other automation technologies to produce stacks of AWS resources that can be deployed in an automated, repeatable fashion.
● Architecting, designing, and building applications using cloud platform services (Amazon, EC2, AWS Elastic Beanstalk, and OpsWorks).
● Architecting highly available systems that use load balancing, horizontal scaling, and high availability.
● Configuration management platforms (Chef, Puppet, and Ansible) and Scripting.
- Operating System Programming/Modification: Customize and upgrade operating and related systems to meet ongoing user needs.

- Operating Systems Performance and Capacity Analysis: Evaluate level of systems operation and recommend measures to improve overall performance. Evaluate utilized and available capacity of systems and recommend measures to ensure adequate capacity for operations and growth. Research and identify system expansions to meet anticipated future workload.

- Operating Systems Maintenance: Monitor and maintain operating and related systems to ensure minimal interruption of production systems and to maintain maximum system availability.

- Storage Administration: Design system storage capacity to provide for efficient and timely response and operating time.

- Problem diagnosis and resolution: Diagnose and resolve operating system, hardware and program failures.

- Systems Integration: Plan and implement fully integrated systems; operating systems, network and database systems and applications.

- Operations Support: Provide technical support to computer support and applications programming staff to ensure availability of production and on-line systems. Consult with department staff and other members of the University community on technical issues.

- Technology evaluation: Evaluate and recommend hardware, system software and third-party software procurement.

Secondary Duties

- Database Maintenance/Management: Design, create, manage and maintain physical databases including database storage management, procedures and tools for access, database security, and monitoring and tuning the database to ensure ongoing operation and access.

- Security Management: Ensure safety and security of information system assets and protect systems from inappropriate access or destruction. Maintain appropriate security and confidentiality in working with data, including PeopleSoft views.

- Virtualization
  - Optimize network hardware and software for VMware.
  - Develop and deploy VMware solutions.
  - Virtualize Windows and Linux servers.
  - Troubleshoot and resolve VMware environment issues.
  - Technical support and document VMware processes

- Perform other duties as assigned.

Minimum Requirements: Knowledge, Skills and Abilities

Knowledge of:
- Understanding and Experience with Chef, Puppet, Salt, or Ansible in production environments.
- Familiarity with CloudFormation and JSON.
- Knowledge of networking VPNs, DNS, load balancing, and firewalls.
- Knowledge of and experience with the following cloud services and tools.
- Knowledge of baseline and operations inside a cloud environment.

Skill/Ability to:
- Strong scripting skills (PowerShell, Python, Bash, Ruby, Perl, etc.)
- Ability to deploy Amazon EC2 instances and troubleshoot the most common problems with instances.
- Ability to monitor the health of Amazon EC2 instances and other AWS services.
- Ability to select and implement the best strategy for creating reusable Amazon EC2 instances.
- Ability to configure a set of Amazon EC2 instances that launch behind a load balancer, with the system scaling up and down in response to demand.
- Ability to edit and troubleshoot a basic AWS CloudFormation stack definition.
- Ability to collect, aggregation, and visualization metrics.
- Ability to collect aggregate, and correlate logging information.
- Ability to clean up and decommission unused or noncompliant resources.

**Education and Experience:**
- A bachelor’s degree in computer science, engineering, industrial technology, telecommunications or a related technical field, or equivalent training and experience.
- Sufficient directly related professional work experience to demonstrate the required knowledge, skills and abilities.
- Experience building sophisticated and highly automated infrastructure in the cloud.
- Experience with seamless/automated build scripts used for cloud release management.
- Experience with cloud object tagging to assist with cost management.
- Hands on experience with Azure, AWS, Google Cloud or other major IaaS providers.
- Hands on experience in load balancing solutions, including knowledge of SSL certificates.
- Experience developing automation solutions and working in a highly automated environment.
- In-depth experience with Windows Server and/or Linux operating systems.
- Experience with data storage and data backup technologies.

**Preferred Knowledge, Skills and Abilities**

- Demonstrates an understanding of the cloud developer role in the organization and its impact on realizing IT’s cloud-based services strategic direction, goals and on meeting its key performance indicators.
- Demonstrates an understanding of the company's IT cloud-based strategic direction, goals, and objectives.
- Knowledge and experience using VMWare.
- Knowledge of data communication network architecture, configuration, protocols, and interfaces.
- Ability to use performance-monitoring software and interpret results.
- Knowledge of operating systems and storage capacity, including ability to perform capacity planning.
- Ability to develop and execute disaster recovery plans.
- ITIL certification
- Familiarity and experience with using Agile project management.
- Familiarity with an Agile/DevOps environment
**CALIFORNIA STATE UNIVERSITY, FRESNO**

**Position Description Form**

Employee Name: 
Position: OSA-Expert, Systems Administrator
Department: Tech Services
Date Prepared: 7-2021

### WORKING ENVIRONMENT

Check the appropriate box which most accurately describes the extent of the specific activity performed by the employee on a daily basis. If the activity is performed less than one (1) hour each day, check the N/A box.

#### PHYSICAL EFFORT

<table>
<thead>
<tr>
<th>Activity</th>
<th>N/A</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
<th>7+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Standing</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Walking</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Bending Over</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Crawling</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Climbing</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Reaching overhead</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Crouching</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Kneeling</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Balancing</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Pushing or pulling</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

12. Lifting or carrying
   - A. 10 lbs. or less ☐
   - B. 11 to 25 lbs. ☐
   - C. 26 to 50 lbs. ☐
   - D. 51 to 75 lbs. ☐
   - E. 76 to 100 lbs. ☐
   - F. Over 100 lbs. ☐

13. Repetitive use of hands/arms ☒

14. Repetitive use of legs ☐

15. Eye/hand coordination ☐

16. Driving cars, trucks, forklifts and other equipment ☒

17. Being around scientific equipment and machinery ☐

18. Walking on uneven ground ☒

### MENTAL EFFORT

<table>
<thead>
<tr>
<th>Activity</th>
<th>N/A</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
<th>7+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directing Others</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Writing</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Using math/calculations</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Talking</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Working at various tempos</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Concentrating amid distractions</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Remembering names</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Remembering details</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Making decisions</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Working rapidly</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Examining/observing details</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>Discriminating colors</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

1. Inside ☒

2. Outside ☒

3. Humid ☒

4. Hazards ☒

5. High places ☒

6. Hot ☒

7. Cold ☒

8. Dry ☒

9. Wet ☒

10. Change of temp ☒

11. Dirty ☒

12. Dusty ☒

13. Odors ☒

14. Noisy ☒

15. Working With others ☐

16. Working around others ☐

### ENVIRONMENTAL FACTORS
17. Working alone ☒