Sierra-Cedar Cuts Costs and Boosts Efficiency by Migrating 1,800+ VMware Instances to AWS Cloud

Sierra-Cedar, a leading cloud infrastructure and application-managed services provider, has over two decades of experience managing enterprise systems, including 500+ Oracle/PeopleSoft and other applications under management. Since 2001, the company has offered secure infrastructure and application services through AWS and on-premises data centers, focusing on high-performance platforms and robust security. Sierra-Cedar provides consulting and managed services, supports client migrations to AWS, and offers ongoing support to achieve business results. In 2016, recognizing AWS's potential as a next-generation data center, Sierra-Cedar launched a scalable PeopleSoft on AWS managed services model, expanding to over 100 AWS services and integrating DevOps technologies like Terraform, Open Policy Agent (OPA), and GitHub/GitLab. In 2022, after its private data center provider declared bankruptcy, raising concerns about the viability of traditional data centers, Sierra-Cedar decided to migrate its remaining on-premises client workloads to AWS.

Challenges Faced with VMware

Sierra-Cedar used VMware for reliable and scalable server virtualization in its private data centers. As its reliance on VMware grew, the company faced several challenges, including:

01   **License Cost Increases:**
Sierra-Cedar anticipated significant licensing cost increases for its 1,800+ VMware instances at the next renewal, and expected no added value or cost recovery options.

02   **Vendor Lock-in:**
Sierra-Cedar's heavy reliance on VMware for large-scale virtualization posed risks due to single-vendor dependence. This limited flexibility to adopt new technologies like AI and data analytics to meet future client needs.

03   **Limited Support for Infrastructure as Code (IaC):**
Sierra-Cedar invested heavily in developing its tools using IaC to create, manage, and maintain cloud infrastructure at scale. Compared to VMware, AWS APIs provided additional flexibility to scale and deploy resources using automation.
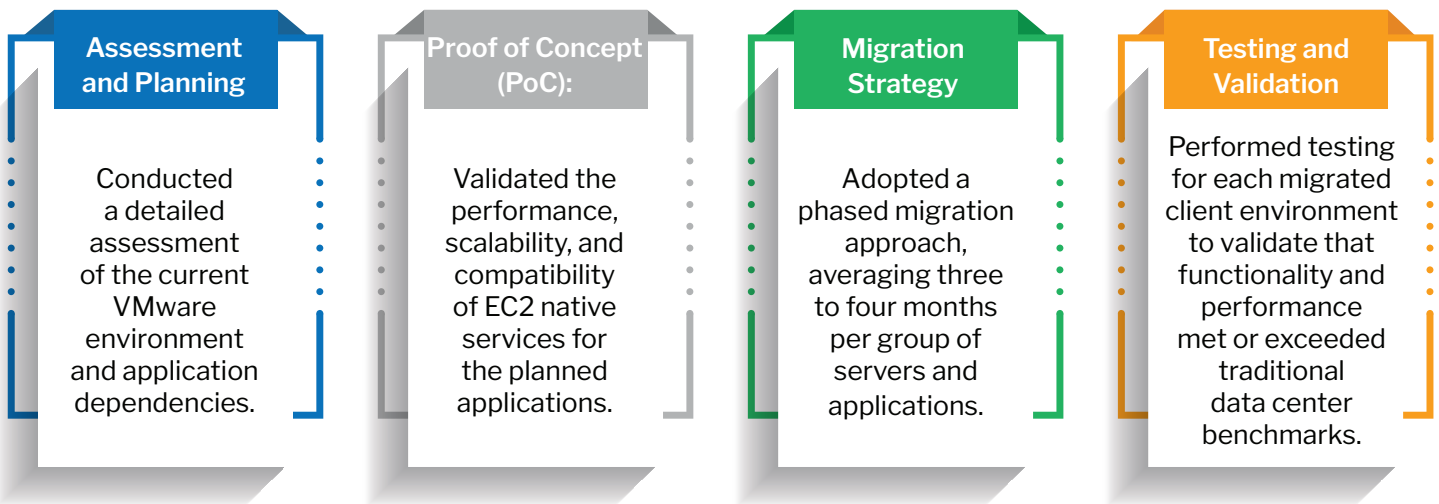
AWS Solution:
Migrate VMware Instances to AWS EC2 Instances and Cloud-Native Services

After thoroughly evaluating cloud-native alternatives, Sierra-Cedar decided to migrate its hosting service clients from VMware hosts to native EC2 instances in AWS. This move aimed to optimize operational efficiency, enhance scalability, and control costs by adopting cloud-native services and reducing dependency on traditional data center software, including VMware.

Implementation Process

Sierra-Cedar meticulously planned and executed the migration of over 1,800 VMware instances to EC2 over 15 months, involving 30+ clients and 400 application instances.

Assessment and Planning	Proof of Concept (PoC):	Migration Strategy	Testing and Validation
Conducted a detailed assessment of the current VMware environment and application dependencies.	Validated the performance, scalability, and compatibility of EC2 native services for the planned applications.	Adopted a phased migration approach, averaging three to four months per group of servers and applications.	Performed testing for each migrated client environment to validate that functionality and performance met or exceeded traditional data center benchmarks.

Benefits Realized

Sierra-Cedar and its clients achieved valuable immediate and long-term benefits post-migration, including:

✓ **Improved Performance**
Applications on EC2 show significantly better performance and responsiveness, especially under heavy loads. Since AWS continuously updates EC2 architectures, performance will continue to improve over time.

✓ **Cost Savings**

- **VMware:** Eliminated VMware licensing costs.

- **Server and Storage Equipment:** Saved costs by eliminating the need for upcoming hardware replacements.

- **Datacenter:** Shut down primary and secondary facilities, cutting monthly operating expenses.

- **Labor Savings:** Reduced labor costs due to the proprietary tools developed by Sierra-Cedar, allowing it to reallocate resources to more value-added projects.

✓ **Scalability and Flexibility**
Enhanced ability to scale applications and leverage native EC2 services, improving agility to meet clients' changing needs.

✓ **Improved Efficiency**
Using IaC to manage and maintain EC2 instances reduced administrative overhead costs.

Conclusion

Sierra-Cedar's migration from VMware to EC2 native services was a strategic move to optimize IT infrastructure and enhance application performance, while achieving significant cost efficiencies. Leveraging EC2's scalability, flexibility, and integration with Infrastructure as Code (IaC), Sierra-Cedar can now better scale its services to meet the growing demands of its clients.