**Cloud Migration Strategy**

**1. Assessment and Planning**

* **Current Infrastructure Analysis**: Identify the resources, dependencies, and configurations on both Linux machines (Database and Application server).
* **Data Backup**: Backup all database data and container configurations.
* **Application Review**: Analyze the web application for potential scalability and compatibility issues when migrating to the cloud.
* **Security Considerations**: Implement secure connections, encryption, and ensure compliance with cloud security best practices.

**2. AWS Architecture Design**

* **VPC (Virtual Private Cloud)**: Create an isolated VPC to host resources.
* **Subnets**: Public subnet for the load balancer and NAT gateway; private subnets for the application and database.
* **EC2 Instances**: Use auto-scaling groups for the application server.
* **RDS (Relational Database Service)**: Migrate the database to Amazon RDS (MySQL/PostgreSQL).
* **Elastic Load Balancer (ELB)**: Use an ELB to distribute traffic evenly across instances.
* **Auto-scaling**: Implement auto-scaling policies to manage workload spikes.
* **Route 53**: Configure DNS to point topsurvey.contoso.com to the AWS environment.
* **S3**: Store static content (if any) in S3 with CloudFront for global distribution.

**3. Migration Process**

* **Database Migration**:

Use AWS Database Migration Service (DMS) to migrate data from the on-premises database to RDS.

Ensure proper schema matching and optimization.

* **Application Migration**:

Build Docker containers based on the current application configuration.

Push the Docker images to Amazon Elastic Container Registry (ECR).

Deploy the application using Amazon ECS (Elastic Container Service) or AWS Fargate.

* **DNS Cutover**: Update DNS in Route 53 to point to the AWS Load Balancer.

**4. Post-Migration**

* **Testing**: Test the application for performance, scalability, and user access from different regions.
* **Monitoring and Logging**: Set up AWS CloudWatch for monitoring CPU, memory, and other metrics. Use CloudTrail for logging and auditing.
* **Security**: Implement IAM roles and security groups for restricted access. Use WAF (Web Application Firewall) to protect from web-based attacks.
* **Optimization**: Optimize the environment based on performance results.